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BRACELET CLASP ASSEMBLY

3,365,760

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FIG. 1

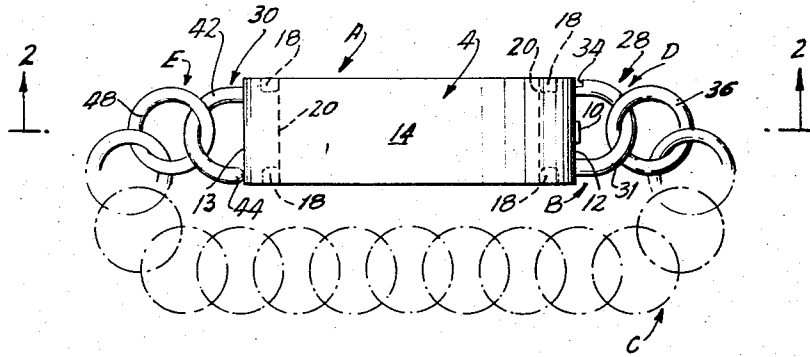


FIG. 2

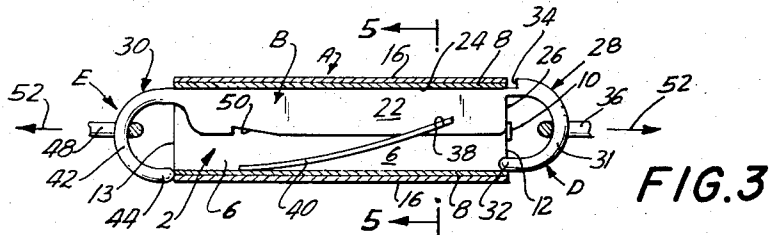
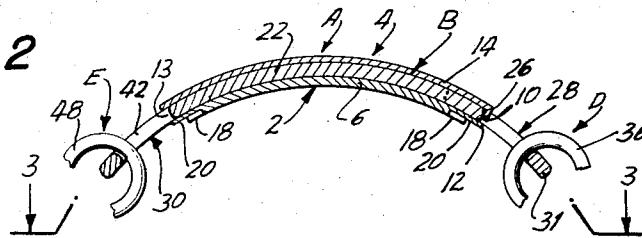


FIG. 3

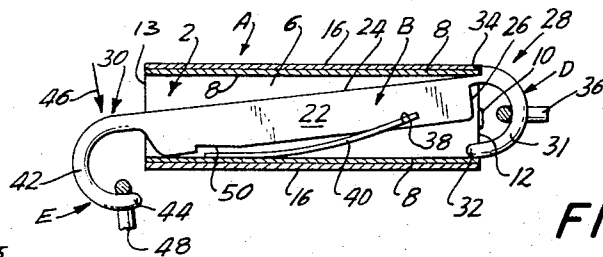


FIG. 4

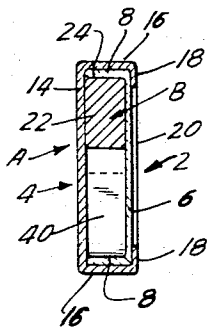


FIG. 5

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BRACELET CLASP ASSEMBLY
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ABSTRACT OF THE DISCLOSURE

A clasp assembly comprising a housing through which a member longitudinally extends and from both ends of which that member projects, one of the projecting member ends defining an open loop, the member being laterally movable relative to the housing between operative positions in which the housing closes the open loop and in which the open loop is exposed beyond the housing.

The present invention relates to a clasp assembly especially, but not necessarily exclusively, adapted to reliably secure together the two ends of a bracelet or the like. The construction in question is further particularly well adapted for incorporation as an identification plaque or the like.

Bracelets are normally of a circumference such as to encompass the wrist of the wearer but to be smaller than the hand of the wearer, thereby to prevent the bracelet from falling off from the wearer's arm. A clasp is customarily provided in the bracelet assembly so that the bracelet can be opened, thereby to permit it to be removed from or placed on the wrist of the wearer. These clasps must be so constructed as to be readily manually manipulatable, preferably by one hand, since when the bracelet is worn on the left wrist, for example, the left hand cannot reach it for manipulation. In addition, the catch must be so constructed that such manipulations as are required to disengage the bracelet ends will not occur under normal conditions of use.

Many different types of clasp constructions are known which are suitable for this purpose. While most of those constructions cannot be characterized as complex, they nevertheless usually present problems of manufacture and assembly which render them relatively troublesome and expensive to fabricate. Moreover, since the clasp structures are such as to detract from the ornamental appearance presented by the bracelet, they are generally made as small and unobtrusive appearing as possible. This not only adds to manufacturing and assembly problems, by reason of the small size of the parts involved, but also tends to produce essentially weak clasps, incapable of withstanding any appreciable external forces.

It is a prime object of the present invention to provide a clasp structure which is exceptionally strong, sturdy and reliable. It is a further prime object of the present invention to devise such a clasp which may inherently be incorporated into some other portion of the bracelet assembly, such as an identification plaque, thereby to avoid detracting from the appearance aspects of the bracelet.

A further object of the present invention is to devise a bracelet clasp which may be manufactured of a minimal number of inexpensive parts, and which may be assembled with an optimum degree of facility, the assembly operations being virtually foolproof even when carried out by essentially unskilled personnel. Thus manufacturing costs are minimized not only because of the inexpensiveness of the parts but also because of low assembly cost.

To these ends the clasp comprises an essentially hollow housing open at its ends, through which housing a structural member extends, that member being strong and

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sturdy and having parts extending out beyond the ends of the housing. The member is movable laterally within the housing against the action of a spring, the spring normally urging the member to a first position and the member being manually movable to a second position. One of the member ends, preferably not movable laterally relative to the housing to any appreciable degree, is provided with means such as a ring to which a bracelet end or the like is adapted to be permanently secured. The other end of the member comprises an open loop. When the member is in its first position relative to the housing the housing closes the loop, while when the member is in its second position relative to the housing the open loop is exposed, thereby permitting a bracelet end to be engaged therewith or disengaged therefrom. Since the movement of the member between its first and second positions is lateral rather than longitudinal of the housing, the normal dislocative forces active upon the clasp, such as pulls exerted thereon by the bracelet, will not be effective to permit the bracelet ends to become disengaged from the loop.

The two bracelet ends are, as will be seen from the above, connected to opposite ends of the member, that member therefore carrying virtually all of the tension produced by pulls on the bracelet, and since that member is a sturdy structural piece, preferably of integral construction, it is well capable of containing those forces. Simple structural means are provided between the member and the housing so as to limit the relative movement of the two, the housing therefore remaining in position on the member and imparting thereto a desired ornamental effect, while being subjected to virtually none of the stresses exerted on the clasp. As a result the ornamental portions of the clasp may be made of materials appropriate thereto, usually relatively expensive but of low strength, whereas the force-containing member may be made of strong but nonprecious material.

The housing and member may be elongated, so that the housing can function in a manner other than merely a clasp housing; for example, it may be of a size and shape such that it can function as an identification plaque, having an appearance virtually identical to that of a standard plaque of that character. As a result the identification bracelet which it produces appears not to have a clasp in it at all, thus adding greatly to its ornamental appeal.

To the accomplishment of the above, and to such other objects as may hereinafter appear, the present invention relates to the construction of a bracelet clasp or the like, as defined in the appended claims and as described in this specification, taken together with the accompanying drawings, in which:

FIG. 1 is a top plan view of one embodiment of the clasp of the present invention, a chain bracelet being shown attached thereto;

FIG. 2 is a cross sectional view taken along the line 2-2 of FIG. 1;

FIG. 3 is a cross sectional view taken along the line 3-3 of FIG. 2 and showing the clasp in its closed condition;

FIG. 4 is a view similar to FIG. 3 but showing the clasp in its open position; and

FIG. 5 is a cross sectional view taken along the line 5-5 of FIG. 3.

The clasp comprises a housing generally designated A through which a structural member generally designated B extends to points beyond the housing ends, a bracelet generally designated C being more or less permanently secured at D to one end of the structural member B and being readily detachably and attachably secured, at E, to another end of the structural member B.

The housing A, which may be formed of appropriate

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sheet material, may comprise a bottom part 2 and a top part 4, the bottom part 2 having a bottom wall 6 and upstanding side walls 8, and with a tongue 10 extending up from one end 12 thereof. The top part 4 comprises a top wall 14 and depending side walls 16, the latter being received snugly over the upstanding side walls 8 of the bottom part 2 and having tabs 18 bent under the bottom wall 6 of the bottom part 2, preferably at raised end portions 20 thereof, in order to secure the parts 2 and 4 together. The bottom part 2 may be formed of stainless steel, while the top part 4 may be formed of gold- or silver-plated base metal. The housing A thus produced is essentially an elongated tube having ends which are open at the ends 12 and 13 except for the tongue 10 at the end 12.

The structural member B comprises a body portion 22 received within the housing A and of essentially the same length as the housing A but of a narrower width than the housing A. It has a side surface 24 adapted to conform to, and be received against, the inner surface of one of the side walls 8 of the housing A. It has an end surface 26 which registers with and is adapted to be received against the tongue 10 when the member B is received within the housing A.

The member B also comprises end portions generally designated 28 and 30 which pass through and extend out beyond the open ends 12 and 13 respectively of the housing A. The portion 28 is, as here specifically disclosed, in the form of a loop 31 the tip 32 of which is received inside the housing A, thereby to be permanently closed. It is also provided, at its side opposite from the loop tip 32, with a shoulder 34 adapted to register with and engage an end edge of the housing A at the corresponding end 12 thereof. Engagement between the shoulder 34 and the housing end edge positively limits movement of the member B toward the other end 13 of the housing A (to the left as viewed in the figures). Engagement between the member surface 26 and the housing tongue 10 limits movement of the member B relative to the housing A toward the housing end 12, to the right as viewed in the figures. A slight degree of freedom of longitudinal movement of the member B relative to the housing A is permitted, but at all times the tip 32 of the loop 31 is received inside the housing A. An end link 36 of the bracelet C is engaged with the ring 30 comprising the first end portion 28 of the member B, and is therefore, to all intents and purposes, permanently secured to the clasp.

The body portion 22 of the member B, within the housing A, is provided with a slot 38 which extends angularly toward the right hand end and toward the upper side of the housing A as viewed in FIGS. 3 and 4. Received in the slot 38, and extending out therefrom in essentially the same direction, thereby to constitute in effect a prolongation of the slot 38, is a resilient strip 40 the free end of which engages the other or lower side wall 8 of the housing A, thereby constituting a resilient means tending to urge the member B to its position shown in FIG. 3, with the member surface 24 engaged with the housing side wall 8.

The other end portion 30 of the member B comprises an open loop 42 the tip 44 of which is located longitudinally outside the housing A. When the member B is in its spring-urged position as shown in FIG. 3, the tip 44 of the loop 42 is closely opposed by the corresponding end 13 of the housing A, thereby closing or blocking the loop 42. When lateral pressure is applied to the member end portion 30, as indicated by the arrow 46 in FIG. 4, the loop 42 comprising the member end portion 30 is moved laterally, bringing its tip 44 beyond the housing A, thus opening or unblocking the loop 42 and permitting an end link 48 at the other end of the bracelet C to be freely engaged with or disengaged from the loop 42. When the member end portion 30 is acted upon by a lateral force 46, the effect of the spring 40 will

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be such as to cause the member B to pivot within the housing A substantially about its upper right hand corner. The lower surface of the member 22 may be relieved, at 50, to provide clearance for the end of the spring strip 40, thereby permitting as extensive a pivotal movement as possible of the member B within the housing A in order to facilitate attachment or detachment of the bracelet end link 48 by providing a large opening in the loop 42. It will be noted that even when the member B is pivoted to its position unblocking the loop 42, the tip 32 of the loop 31 is still received within the housing A, so that the loop 31 remains closed and the bracelet end link 36 cannot escape therefrom.

When the laterally acting force 46 is removed, the spring 40 causes the member B to return to its normal position shown in FIG. 3, thereby closing or blocking the loop 42 and ensuring that the end link 48 will not become disengaged therefrom.

When tension is exerted on the bracelet, as indicated by the arrows 52 in FIG. 3, that tension is transmitted directly from loop 31 to loop 42 through the body 22 of the member B, and since all of those parts are of strong and sturdy construction, and preferably are integral with one another, the clasp can reliably withstand even very large tension forces. Moreover, such forces will not cause disengagement of the end links 36 or 48 from their respective loops 31 and 42. Even if the left hand end of the bracelet should be obliquely tensioned so as to cause the member B to pivot within the housing A to its position shown in FIG. 4, the clasp will still not become disengaged, since such tension will tend to retain the end link 48 in the bight of the loop 42. It is only when, as indicated in FIG. 4, the bracelet C is slackened and at the same time the member B is pivoted to its FIG. 4 position that the end link 48 can be disengaged from the loop 42, and that type of action can, as a practical matter, only occur designedly through purposeful manipulation.

It is significant that although the member B is pivotally mounted within the housing A, no pivot pin or other comparable structure is provided. To assemble the device all that one need do is place the spring 40 within the slot 38, put the member B with the spring 40 assembled therewith into the bottom part 2 of the housing A, and then place the top part 4 of the housing A over the bottom part 2 thereof and bend the tabs 18 inwardly to complete the assembly. The bracelet end link 36 may be attached to the loop 31 before this assembly if desired.

Thus, by means of a structure formed of parts which are exceptionally simple to manufacture and even more simply assembled, a clasp has been produced which is not only exceptionally sturdy, reliable and easy to manipulate, and of remarkably low cost of manufacture, but which also is very readily incorporated into the ornamental scheme of the bracelet, can impart its own ornamental characteristics thereto, can be used as an identification plaque or the like, and disguises its functionality so that the bracelet appears to have no clasp at all, thereby greatly adding to the desirability of its appearance.

While but a single embodiment of the present invention has been here specifically disclosed, it will be apparent that many variations may be made therein, all within the scope of the instant invention as defined in the following claims.

I claim:

1. A clasp comprising a housing having side walls and having openings at first and second ends of said housing, a member at least in part narrower than said housing slidably received within and extending through said housing, being movable laterally and longitudinally within said housing, and having first and second end portions projecting out beyond said first and second housing ends, respectively, said end portions normally forming with the housing closed loops, said member and said housing having parts engageable so as to define a first stop

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means on said first end portion of said member limiting movement of said member toward said second housing end, said closed loop formed at said first end portion of said member comprising means to which an external element may be attached, said housing having a part partially blocking said opening at said first end thereof, engageable by said member, and defining a second stop means limiting movement of said member toward said first end, said second end portion of said member comprising an open loop slidably and pivotally movable between first and second positions laterally of said housing, resilient means in said housing active on said member to retain it in said first position, said housing closing said loop when said member is in said first position, said open loop being exposed when said member is moved to its second position against the action of said retaining means, and said member has a limited degree of longitudinal movement between said first and second stop means so as to prevent the loop formed by the first end portion of the member from opening when the member is manipulated to cause the loop formed by the second end portion of the member to open.

2. A clasp comprising a housing having side walls and having openings at first and second longitudinal ends of said housing, a member at least in part narrower than said housing slidably received within and extending longitudinally through said housing, being movable laterally within said housing and having first and second end portions projecting out beyond said first and second housing ends respectively, said member and said housing having parts engageable so as to define a first stop means on said first end portion of said member, limiting movement of said member toward said second housing end, said first end portion of said member further comprising means to which an external element may be attached, said housing having a part partially blocking said opening at said first end thereof, engageable by said member, and defining a second stop means limiting movement of said member toward said first end, said second end portion of said member comprising an open loop movable between said first and second positions laterally of said housing, and means in said housing active on said member to retain it in said first position, said housing closing said loop when said member is in said first position, said open loop being exposed when said member is moved to its second position against the action of said retaining means.

3. The clasp of claim 2, in which said member has a

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limited degree of longitudinal movement between said first and second stop means.

4. A clasp comprising a housing having side walls and having openings at first and second longitudinal ends of said housing, a member at least in part narrower than said housing slidably received within and extending longitudinally through said housing, being movable laterally within said housing, and having first and second end portions projecting out beyond said first and second housing ends respectively, said member including the end portions thereof being substantially rigid so that all of the parts thereof move simultaneously, said member and said housing having parts engageable so as to define a first stop means limiting movement of said member toward said second housing end and a second stop means limiting movement of said member toward said first housing end, said first end portion of said member further comprising means to which an external element may be attached, said second end portion of said member comprising an open loop movable, along with the other parts of said member when said member moves laterally, between first and second positions laterally of said housing, and means in said housing active on said member to retain it in said first position, said housing closing said loop when said member is in said first position, said open loop being exposed when said member is moved to its second position against the action of said retaining means.

5. The clasp of claim 4, in which said member has a limited degree of longitudinal movement between said first and second stop means.

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