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BRACELET WITH ARTICULATED LINKS

The present invention relates to a bracelet
5 with articulated links comprising longitudinally offset
elements which interpenetrate one another, connected by
pivot members, designed to engage in transversely
aligned housings formed through said interpenetrating
elements.

10 DE-A-36 03 850 has already proposed the
connecting of articulated links of a bracelet of the
aforementioned type by articulation pegs housed
partially in the housing of the longitudinally
projecting part of one link and pushed out of this
15 housing by a spring, thus engaging the articulation peg
in an adjacent housing that opens into the adjacent
faces of two offset lateral parts of the adjacent link,
which are located one on each side of said
longitudinally projecting part. These pegs slide freely
20 in their housing and can be ejected therefrom by the
force exerted by the spring so that an arrangement such
as this makes the links tricky to fix together because
there is a risk that the pivot pegs will be thrown out
while they are engaging in the nearby housing of the
25 adjacent link.

US 2 518 163 and US 1 751 792 have also
proposed invisible articulations between links, but
these relate, one of them, to hollow two-part links
assembled after the introduction of the pivot pin which
30 is thus trapped, and the other, to a link obtained by
bending a sheet of metal, two tabs being bent around
the pivot pin. In neither instance are the links
machined from solid.

The object of the present invention is to allow
35 the articulating of links which are easy to manufacture
and to assemble. The bracelet thus obtained may be
compact and thin and have an attractive esthetic
appearance.



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This objective is achieved by virtue of the subject of the invention as defined by the claims.

One embodiment of the invention will be described. This embodiment is illustrated
5 diagrammatically and by way of example by the appended drawing, in which:

- Figures 1a and 1b show a view from above and from the side, partially in section, of a detail of a preferred embodiment of a bracelet according to
10 the invention.
- Figures 2a and 2b show a view from above and from the side, partially in section, of another detail of the preferred embodiment of a bracelet according to Figures 1a and 1b.
- 15 - Figures 3a and 3b show a view from above and from the side, partially in section, of another detail of the preferred embodiment of a bracelet according to Figures 1a, 1b, 2a and 2b.

The bracelet according to the invention
20 comprises links 1,1',1'' joined together in an articulated fashion via pivot pins 2,2'. The pivot pins are invisible from the outside. As a preference, the bracelet is very flat and thin, thus representing a particularly esthetic and desirable appearance.

25 One embodiment of a bracelet is shown by way of example. Figures 1a to 3b show a bracelet with links joined together by pivot pins, 2,2', one end 2a, 2'a of which is cone-shaped. The person skilled in the art, with awareness of the invention, may produce other
30 forms of embodiment of pivot pins. As a preference, the pivot pins are truly invisible from the outside, which means that by turning the bracelet over and observing it from the top, from the bottom and from the side, the pivot pins cannot be seen.

35 Highly varied materials may be used to manufacture the bracelet, such as plastics, synthetic fibers, carbon fibers and, of course, metals such as steel, for example steel of the type 316L in the form

of metallic powders coated with a thermoplastic binder (MIM), etc. As a preference, the embodiment according to Figures 1a to 3b is made of steel.

As a preference, the links are manufactured by
5 known molding methods applied to the most diverse materials. Such molding methods are economical and quick. Thus, the links can be manufactured with housings 4,4' for the already premolded pivot pins so that all that is required later is for the pivot pins
10 to be introduced into these housings for the links to be premanufactured for the assembly of the bracelet.

As a preference, the bracelet is assembled by joining the links together by clipping the pivot pins thus arranged on one of the links directly into
15 corresponding openings 3,3',3'',3''' in an adjacent link. Assembly in this way is quick and easy.

The bracelet illustrated in Figures 1-3 comprises links 1,1',1'' comprising two lateral parts 1a, 1b and a central part 1c which is offset in the
20 longitudinal direction of the bracelet.

As shown in particular in Figure 2a, the projecting portion of the central part 1a of each link 1,1',1'' enters the set-back portion of the central part 1a of the adjacent link 1,1',1''.

25 Figure 3a provides a clear understanding of the method of assembly and of articulation of the links 1,1',1'' etc. These links are joined and articulated together by pivot pegs 2,2' of which one end 2a,2'a is conical. These pegs are arranged in roughly transverse and coaxial housings 4,4' formed in the projecting
30 portion of the central part 1c of the links 1.

Each transverse housing 4,4' opens onto a lateral face oriented in the longitudinal direction of the bracelet and faces the entrance of a housing
35 3,3',3'' etc. opening into the parallel lateral and adjacent face of a lateral part 1a,1b of the adjacent link.

The other end of this transverse housing 4,4' opens into a roughly longitudinal housing 4" and 4"' respectively, one end of which opens into the lateral face of the set-back portion of this central part 1c.

5 As Figure 1a shows, two other pegs 2", 2"' are introduced into the longitudinal housings 4", 4"'. One of their ends 2"a, 2"'a is conical. In this Figure 1a, a link 1 is depicted before the fitting of the pegs 2-2"', while the link 1' is depicted with the pegs 2-2"
10 introduced into their respective housings 4-4"'. It may be seen that the conical ends of the pivot pegs 2,2' are engaged in the longitudinal housings 4", 4"' and that their other ends do not protrude from the transverse housings 2,2', while the conical ends 2"a, 2"'a of the pegs 2", 2"' butt against the conical ends
15 2a, 2'a of the pivot pegs 2, 2' and project out of their respective housings 4", 4"'.

When the projecting portion of the central part 1c of the link 1' of Figure 1a is arranged in the set-
20 back portion of the central part 1c of the adjacent link, the openings of the transverse housings 4, 4' face the openings of the housings 3,3' of the lateral parts 1a,1b of the adjacent link 1 (Figure 3a).

By pushing the pegs 2", 2"' into their
25 respective longitudinal housings 4", 4"', the movements of the conical ends 2"a, 2"'a of the pegs 2", 2"' cause movements at 90° of the pivot pegs 2, 2' in opposite directions to one another, causing these pivot pegs to protrude from their respective housings so as to make
30 them enter the housings 3,3' of the adjacent link. To enter these housings, the pivot pegs 2,2' may have a certain amount of clearance in the housings 3,3'. The ends of the pegs 2,2' can pivot with clearance in these housings 3,3'.

35 As shown by Figure 3a, at the end of travel, the pegs 2", 2"' are completely embedded in their respective housings 4", 4"' and the ends of the cones 2a,2'a of the pivot pegs are pressing against the

cylindrical part of the pegs 2'', 2''' so that these pegs 2'', 2''' prevent the pivot pegs 2, 2' from moving longitudinally, locking them in the position illustrated in Figure 3a.

5 As a preference, there are four pegs 2-2''' per link. An upper part 10,10',10'' of each link covers the pegs 2-2''' and the housings so that they are invisible. The person skilled in the art, with awareness of the present invention, may vary the shape of the upper
10 parts 10,10',10''. Thus, he may foresee highly varied shapes such as, for example, squares, half-moons, double half-moons, etc. This assembly by the engagement of pegs 2,2' is irreversible, that is to say that the bracelet cannot be taken apart.

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CLAIMS

1. Bracelet with articulated links (1, 1', 1'',
5 etc.) comprising lateral parts (1a, 1b) and a central
part (1c) which interpenetrate into one another,
connected by pivot pegs (2, 2') designed to engage in
the roughly transverse housings (4, 4') formed through
said central part (1c), characterized in that said
10 roughly transverse housings (4, 4') of said central part
(1c) communicate with a longitudinal guide housing (4'',
4''') which houses a push peg (2, 2'') equipped with one
conical end (2''a, 2'''a) in contact with one of said
pivot members (2, 2') to convert the movement of said
15 push peg (2, 2'') in its guide housing (4'', 4''') into a
transverse movement of said pivot peg (2, 2') so as to
engage the latter in another housing (3, 3') adjacent
to said roughly transverse housings of the other of
said lateral parts (1a, 1b) of the adjacent link.
- 20 2. Bracelet according to claim 1, characterized in
that once moved into the other (3, 3') of said roughly
transverse housings, the surface of said push peg (2'',
2''') in contact with said pivot member (2, 2') is
roughly perpendicular to the axis of articulation of
25 said interpenetrating elements.
3. Bracelet according to claim 1, characterized in
that said push peg (2'', 2''') has a length which does
not exceed that of said longitudinal housing (4'', 4''')
so that, in the locked position, it is completely
30 inside said longitudinal housing (4'', 4''').
4. Bracelet according to claim 1, characterized in
that each of said links (1, 1') is formed of a lower
part comprising said lateral parts and said central
part (1a, 1b, 1c) which interpenetrate into one
35 another, and an upper part (10, 10', 10'', etc.), the
shape of the upper surface of which differs appreciably
from that of said lower part.