(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 222 977 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
17.07.2002 Bulletin 2002/29

(51) Int Cl.[7]: **B21L 11/00**

(21) Application number: **02000382.8**

(22) Date of filing: **07.01.2002**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **12.01.2001 IT VI010013**

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(54) Method for the manufacture of ornamental chains

(57) Regards a process for the manufacture of jewellery chains, which is characterised in that the chain links are manufactured with small rings consisting of at least two portions or semi-small rings, previously formed in a definitive way, which are firstly aligned in order to manufacture the linking together and therefore mutual welding at their corresponding ends.

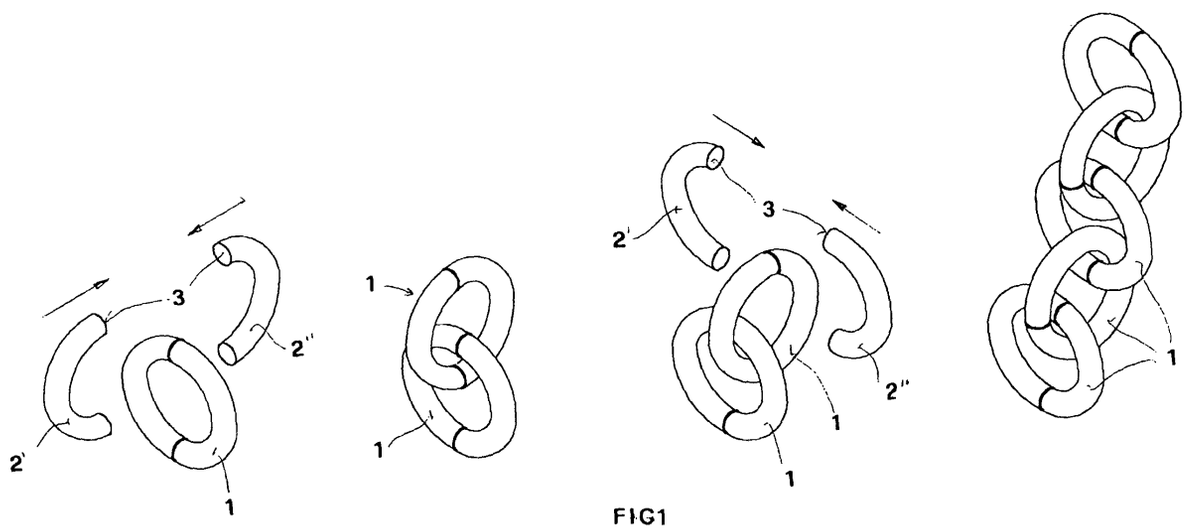

FIG1

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Description

[0001] The finding relates to a procedure for the manufacture of chains used for jewellery, as well as chains manufactured with the aforementioned procedure.

[0002] As it is well known, one of the techniques for manufacturing chains used by goldsmiths and the makers of costume jewellery consists in the manufacture of shaped small rings, which come to be mutually chained to one another, manufacturing a chain which presents a different aesthetic aspect according to the shaping and the type of linking together of the small rings themselves.

[0003] The individual small rings are obtained from a tubular semifinished product, comprised of a core made of iron, copper or any other material which is not noble, required for allowing the bending without the deformation of the small rings themselves, which is coated by a foil made from a noble material.

[0004] The wire thus obtained is then wound like a spiral on a mandrel of round, oval or other geometric shape, the cross section of which corresponds to the internal width of the chain rings that one is going to manufacture.

[0005] Then this spiral is sawn lengthwise, in order to obtain individual rings with slightly opened opposite ends, such to enable their linking together to form the chain.

[0006] Thus the small rings are closed again and individually welded at the point of junction of the opposite ends.

[0007] The chains thus obtained are then brought into contact with aggressive substances such as hydrochloric acid, nitric acid and caustic soda and the like which provide for dissolving, through a corrosive process, the internal metallic core of the individual small rings.

[0008] The removal of the corroded metallic core occurs through openings provided in the noble metallic foil, which either are defined by the lengthwise junction, bound by the laps of the foil itself which are not perfectly set side by side or, when the tubular is welded through windows, concern the entire thickness of the foil itself.

[0009] The purpose of the present finding is that of providing a procedure to manufacture chains used for jewellery which is simplified with respect to known procedures.

[0010] This is attained by foreseeing that the chain links be comprised of small rings formed by two portions or semi small rings previously bent and then mutually welded in their corresponding ends rather than by a single tubular body bent and welded at the point of junction of its two ends.

[0011] With such constructive solution made possible by the use of welding techniques which are sophisticated but are now in current use such as, for example, the use of laser, many advantages are obtained whether they be operative or aesthetic.

[0012] From the operating point of view a first and relevant advantage is that of being able to manufacture chain links with a completely new shape, which cannot be manufactured with known industrial machinery.

[0013] In fact, as it is easily intuitive, the formation of a small ring by means of mutual welding of two opposite separate and distinct parts implies that the same must not necessarily have a substantially annular and symmetrical shape as a consequence of being constructed as a single body.

[0014] In fact, as it is possible to shape separately each of the two parts before their mutual welding, it is possible to obtain closed and mutually linked small rings, where the asymmetry may concern not only the single small ring, but also the entire link forming the chain; in other words it is possible to manufacture small rings consisting of two very different semi-small rings and chains comprising small rings of varied configuration.

[0015] Still by the operative point of view a further and by no means less important advantage derives from the fact that the semi-small rings when they are mutually welded are advantageously devoid of their inner metallic core whereby once welded it is no longer necessary to subject the chain to the aggressive action of the chemical substances, with a notable savings in the cost effectiveness of the whole production cycle.

[0016] This is made possible since after the individual semi-rings have been folded and have hence taken up a definitive profile they undergo the aggressive action of the corrosive substances and the removal of the metallic core occurs naturally due to the tubular shape of the body, which implies the elimination in the work cycle of the operation in which the openings are made on the surface of the foil in the noble material.

[0017] From the aesthetic point of view the advantages consist in that it is possible to manufacture chains used as jewellery with link configurations which are already known, such as the gourmette, herringbone, triple, quadruple, quintuple and others where the individual small rings can be of two colours and consist of two different metals.

[0018] Further features and advantages of the finding will be clearer from the description of some of its preferred embodiments, provided as an illustrative and non-limiting example only, referring to the attached drawings, wherein:

fig. 1 illustrates the production steps of chain with the procedure according to the finding;

fig. 2 illustrates some possible types of small rings obtained with the procedure according to the finding;

fig. 3 illustrates some possible types of chains used as jewellery obtained with the procedure according to the finding.

[0019] As can be seen in fig. 1 each small ring 1 is

comprised of two parts or semi-rings 2' and 2" which first fit to respective opposite ends 3 to manufacture the linking together and thereafter are mutually welded along the aforesaid ends.

[0020] As is evident from figs. 2 and 3, with the procedure according to the finding it is possible to manufacture small rings of a totally asymmetrical shape and to thus manufacture chains of a particular aesthetic aspect.

[0021] Obviously the procedure according to the finding is just as valid even using flat semi-small rings or small rings consisting of more than two portions; likewise chain embodiments which are different from those described are possible, such different embodiments consisting for exalmple in the alternate positioning of small rings and various bodies within the chain links according to the aesthetic aspect to be achieved without departing from the scope of protection of the claims attached herein below.

Claims

1. PROCEDURE FOR THE MANUFACTURE OF CHAINS USED FOR JEWELLERY to be used by goldsmiths and the makers of costume jewellery which consist of shaped small rings, which come to be mutually chained to one another, forming a chain which presents a different aesthetic aspect according to the shaping and the type of linking together of the small rings themselves,
   said procedure being **characterised in that** the chain links are comprised of small rings formed by at least two portions or semi-small rings previously shaped in a definitive way, which are firstly set side by side in order to achieve the linking and then mutually welded at their corresponding ends.

2. PROCEDURE FOR THE MANUFACTURE OF CHAINS USED FOR JEWELLERY, according to claim 1, **characterised in that** the portions of small rings are empty, i.e. only consist of the foil made from a noble material.

3. PROCEDURE FOR THE MANUFACTURE OF CHAINS USED FOR JEWELLERY, according to claims 1 and 2, **characterised in** manufacturing small rings consisting of portions of different mutual configuration.

4. PROCEDURE FOR THE MANUFACTURE OF CHAINS USED FOR JEWELLERY according to claims 1 and 2, **characterised in** manufacturing small rings consisting of portions of different colours.

5. PROCEDURE FOR THE MANUFACTURE OF CHAINS USED FOR JEWELLERY, according to claims 1 and 2, **characterised in** manufacturing small rings consisting of portions of different noble materials of varied alloy or compositions.

6. PROCEDURE FOR THE MANUFACTURE OF CHAINS USED FOR JEWELLERY, according to one or more of the preceding claims, **characterised in that** it does not require the process of chemical aggression.

7. PROCEDURE FOR THE MANUFACTURE OF CHAINS USED FOR JEWELLERY, according to one or more of the preceding claims, **characterised in that** the portions comprising every single small ring are of a full type.

8. PROCEDURE FOR THE MANUFACTURE OF CHAINS USED FOR JEWELLERY, according to one or more of the preceding claims, **characterised in that** the welding of corresponding ends of the portions consisting of a small ring is of a laser type.

9. JEWELLERY CHAIN, which presents a configuration of chain links of a known type, for example, gourmette, herringbone, triple, quadruple, quintuple and the like **characterised in that** it is produced according to the process described in one or more of the preceding claims.

10. JEWELLERY CHAIN manufactured by the process described in one or more of the preceding claims, **characterised in that** the foil forming the small ring is without openings.

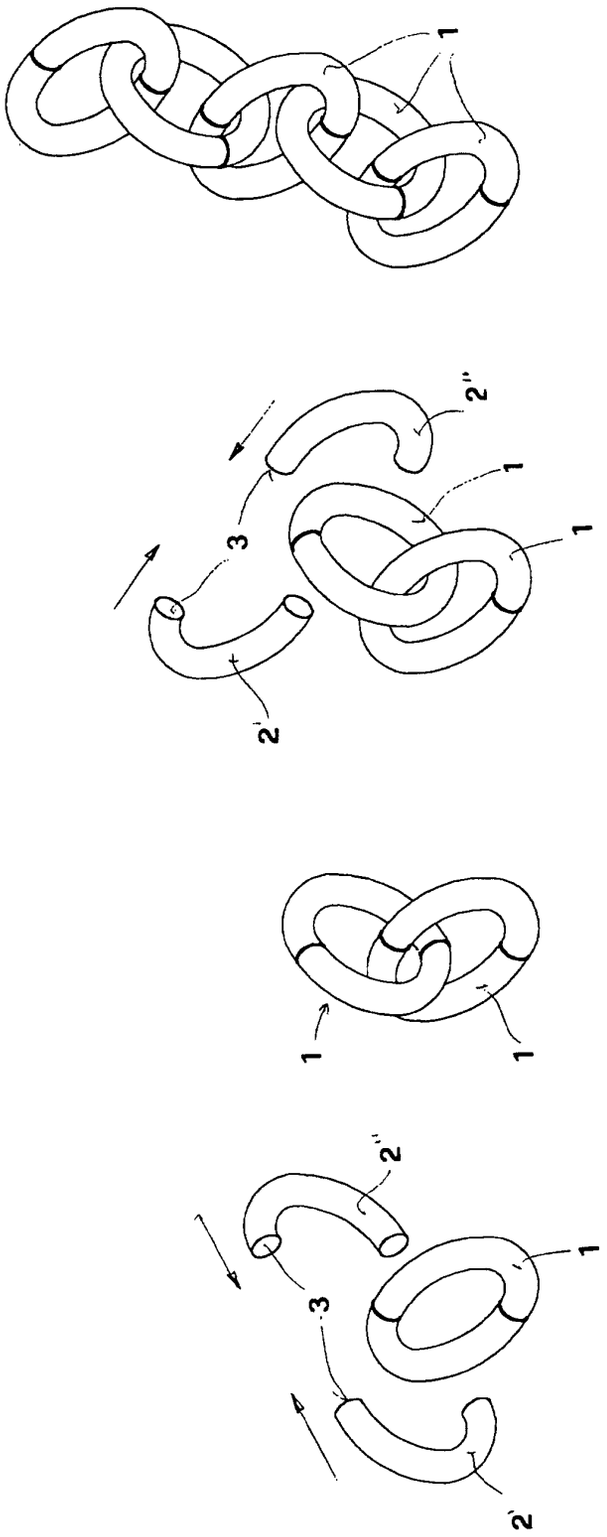

FIG1

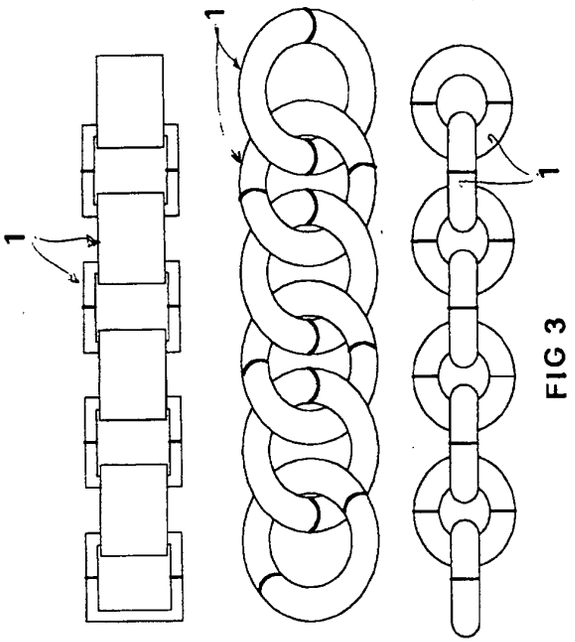

FIG 3

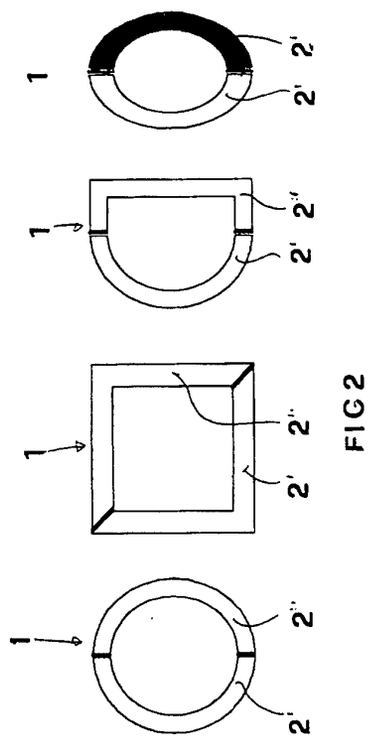

FIG 2