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(54) **Method for moulding jaws on surfaces of trinket and jewellery goods and goods obtained by such a method**

(57) Method for moulding jaws (2) suitable to lock stones on surfaces of trinket and jewellery goods. Said method includes at least one coinage operation of the

metallic semifinished product on a sheet metal wherein the coining die or the drawing die presents the negative marks to be obtained.

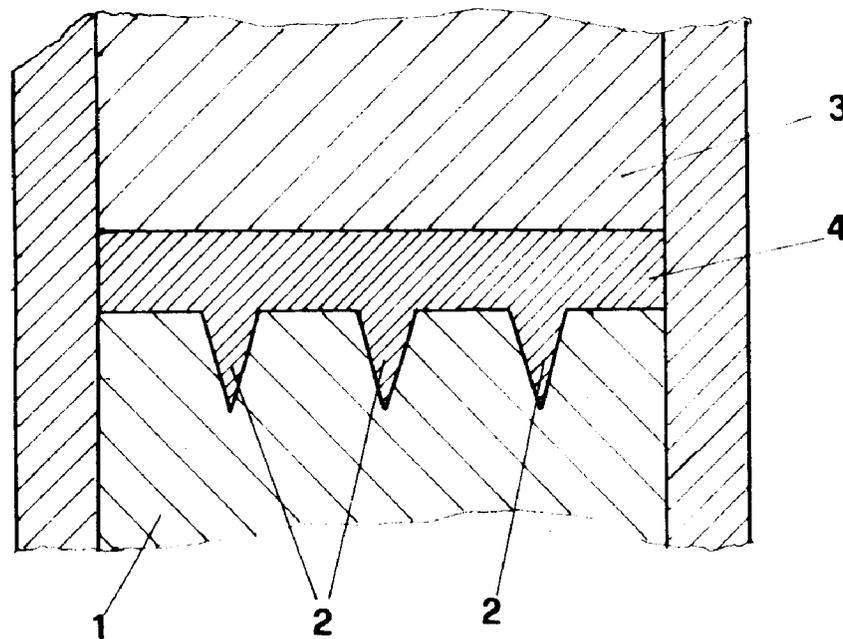


FIG.3

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Description

The present invention concerns with a method for moulding jaws on surfaces of trinkets and jewellery goods.

As known, jaws are metal jocks which, like rings, brooches and other goods, lock precious stones or not, placed on the surface of such a trinket and jewellery goods, in trinket and jewellery goods.

Generally jaws are obtained by founding or by pressure die-casting together with the including support.

The impossibility to lower over a preset limit the thickness of the support is one of the limits of the founding technique.

This is because of the objective difficulty to make a good sliding of the founded metal.

For this reason it is not possible to obtain good quality-jaws with supporting thicknesses lower than 0,35-0,40 mm. Obviously, this can represent a limit not negligible, because the impossibility to lower the thicknesses becomes the impossibility to lower the weights of the resulting precious goods.

Another limit is the low productivity from the machines which make pressure die-casting jaws, because the operative rhythm is not higher than 20 pieces in one minute.

The object of the present invention is to overcome said limits. It is especially wanted to find an alternative method to the founding technique to make jaws starting from a plane metal sheet, so that the thickness limits of the jaw support, up to now set to 0,35-0,40 mm, can be overcome. In this way the goods with lower thicknesses can be lighter.

It is also expected that the jaws obtained with a different method and with thicknesses lighter than the founding technique ones, are not jaws qualitatively inferior as regards the capacity to maintain fixed the stones which are locked by these jaws. Moreover another purpose to reach is that the jaws are obtained on the plane metal sheet without making holes on the surface of the sheet.

It is also expected to succeed in obtaining jaws on curved surfaces. This way was substantially stopped before, because the founding technique allows the realization of fusions on curved surfaces only with expensive equipments and the consequent high costs of hand-manufactured articles.

It is also desired to achieve times of manufacture meaningfully inferior than the present ones.

All the above-mentioned goods and other goods which will be better specified after, are obtained by a method for moulding jaws suitable for locking stones on curved surfaces of trinket and jewellery goods. This method is characterized in that such jaws are obtained by coinage of metallic-semimanufactured articles of sheet metal, precious or not, in which the coining die or the drawing die has the negative print of the jaws to be obtained.

As regards the formation of jaws on curved surfaces, after a coinage operation which produces jaws, a further

bending or cutting up operation and a bending operation on curved surfaces by bending cones follows and/or folders and cutters which present notches suitable to contain each jaw before or after a deformation.

Besides the possibility obtain jaws from surfaces of a thickness of about 0,18 mm, using the method according to the invention a very high productive capacity can be obtained. In fact the times of coinage and/or cutting up and coinage are so reduced that even 120-150 pieces in one minute can be obtained.

Other features and peculiarities of the invention will be better described in the following example, given as an indicative but not limitative title, shown by the following drawings, wherein:

- fig. 1 is a trinket or jewellery object whose surface has jaws made by the moulding method according to the invention;
- fig. 2 shows the object in fig. 1 with its jaws belt to retain stones;
- fig. 3 is a section of the coining die and the drawing die during the jaw moulding;
- fig. 4 is a section which shows the bending operation of the object in fig. 1 after the moulding operation.

As can be observed in fig. 3 a coining die, indicated as a whole in section with 1, presents a serial of notches 2, which can be obtained, for example, by chasing or by electrical discharge machining according to the possibilities of working. When a sheet metal 4 is placed between the coining die 1 and the drawing die 3, a moulding, by pressing of the sheet metal 4, is given through a press whose sledge is connected to the drawing die in the example. The excess of material in the sheet metal, due to the squashing of the thickness between the coining die 1 and the drawing die 3, caused the notches 2 to fill on the coining die 1.

So doing, also thin jaws, obtainable by sheet metals with thicknesses even less than 0,3 mm.

If the finished surface is curved, as in figs. 1 and 2, after a coinage operation there is a moulding operation on a mould which has a coining die 5 with a recess 6 so large as to receive the jaws 2 both before and after the bending of the surface 4, without deforming them.

On the coining die 5 the sheet metal 4 formed with the jaws is applied and through the pression exercised by the drawing die 7 the final bending to obtain the surface is made, as can be seen in figs. 1 and 2.

As seen, the obtaining of the jaws through coinage instead of fusion makes obtain sheet metals with jaws with very low thicknesses. This happens with an evident advantage for all the trinket or jewellery, which wants to obtain trinket or jewellery goods with sheet metals as light as possible and so thinner.

Claims

1. Method for moulding jaws (2) to lock stones on a plane metal sheet belonging to jewellery goods, char-

acterized in that it comprises at least one coinage operation of the plane metal sheet, where the coining die presents positive marks of the jaws and the drawing die presents negative marks of the jaws, or vice versa, said plane metal sheet being without holes after the coinage operation. 5

2. The method according to claim 1) **characterized in that** for the purpose to obtain curved surfaces with jaws in the jewelry goods, after the first coinage operation of claim 1), a round bending operation follows with another coining die having a curved surface presenting recesses suited to contain each jaws before and after the bending operation. 10

3. Method for moulding jaws according to claim 1) or 2), **characterized in that** the coinage operation and/or the bending operation is followed by a cutting up operation. 15

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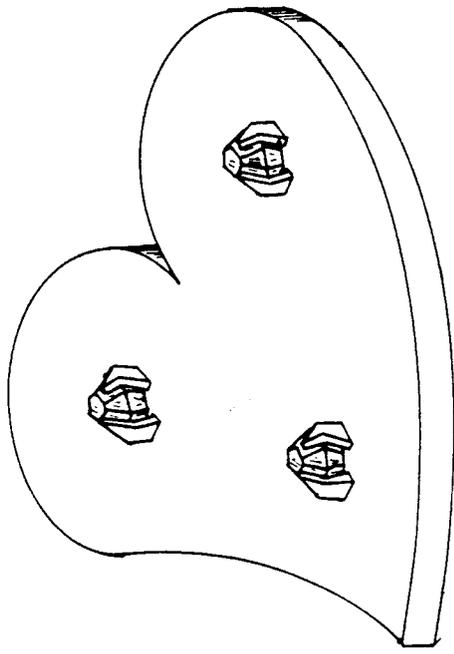


FIG. 2

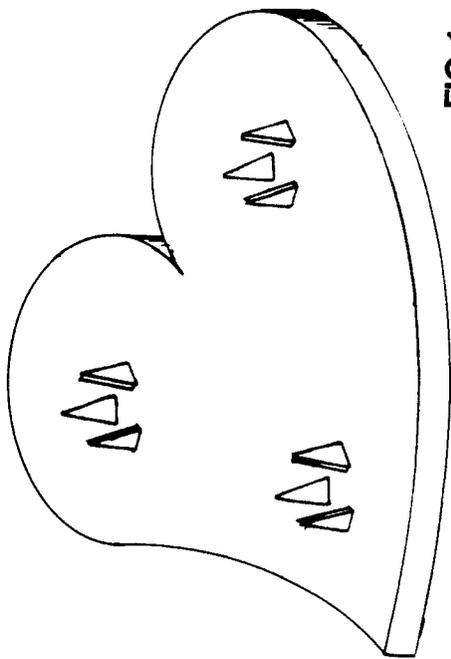


FIG. 1

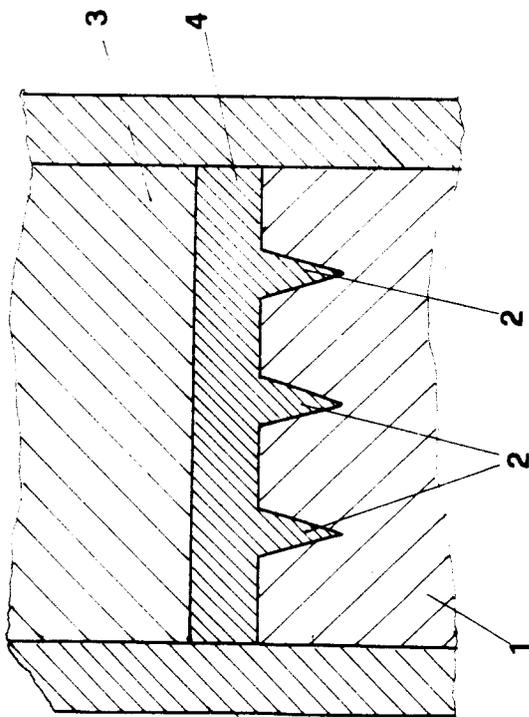


FIG. 3

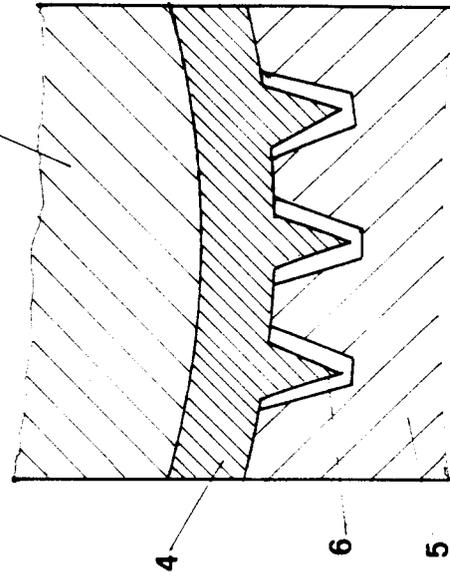


FIG. 4



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EUROPEAN SEARCH REPORT

Application Number
EP 95 10 5986

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	US-A-4 258 458 (L. J. DANNA) * the whole document * ---	1,2
A	US-A-3 473 362 (W. HILL BLACK ET AL.) * figures 2,4-6 * ---	1
A	DE-C-192 648 (CARL MONDON) * the whole document * ---	1
A	GB-A-630 364 (D. SWAROVSKI ET AL.) * page 3, line 37 - line 98 * * figure 13 * -----	1
The present search report has been drawn up for all claims		
Place of search THE HAGUE		Date of completion of the search 31 January 1996
		Examiner Garnier, F
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