

(19)



(11)

**EP 4 144 252 B1**

(12)

**EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:  
**18.12.2024 Bulletin 2024/51**

(51) International Patent Classification (IPC):  
**A44C 17/02<sup>(2006.01)</sup> A44C 17/04<sup>(2006.01)</sup>**

(21) Application number: **22386058.6**

(52) Cooperative Patent Classification (CPC):  
**A44C 17/02; A44C 17/04**

(22) Date of filing: **22.08.2022**

**(54) METHOD OF PLACING AND FITTING A GLASS REFLECTOR (MIRROR AND/OR STRASS) INSIDE A PIECE OF JEWELRY WHEN BEING MANUFACTURED**

VERFAHREN ZUM ANBRINGEN UND ANBRINGEN EINES GLASREFLEKTORS (SPIEGEL UND/ODER STRASS) IN EINEM SCHMUCKSTÜCK WÄHREND DER HERSTELLUNG

PROCÉDÉ DE PLACEMENT ET DE MONTAGE D'UN RÉFLECTEUR DE VERRE (MIROIR ET/OU STRASS) À L'INTÉRIEUR D'UN BIJOU LORS DE LA FABRICATION

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**

(73) Proprietor: **Sadre Arhami, Mahdi**  
**10563 Athens (GR)**

(30) Priority: **02.09.2021 GR 20210100580**

(72) Inventor: **Sadre Arhami, Mahdi**  
**10563 Athens (GR)**

(43) Date of publication of application:  
**08.03.2023 Bulletin 2023/10**

(56) References cited:  
**WO-A1-2018/208865 CN-A- 107 232 703**  
**US-A1- 2007 157 665**

**EP 4 144 252 B1**

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

## Description

**[0001]** The invention refers to jewelry making using gemstones and in particular Rose Cut diamonds, the base of which is flat, which means without a cone. When making the piece of jewelry, the artisan and/or the diamond "nailer" creates at first a dent on the jewelry metal exactly in the dimensions of the diamond perimeter) where the diamond shall be secured. Prior to permanently placing the diamond in the dent of the piece of jewelry to be made, the artisan adjusts a thin sheet of aluminum or solder or chasmach at the bottom of the dent, and then secures ("nails") the diamond on the piece of jewelry to be made. This technique is used so that the Rose Cut Diamond due to its flat base (a single cut at its base) acquires glow, shine, clarity as it does not shine, glow and is not clear, it is not "alive" on its own and when placed on a piece of jewelry. Such method of making a piece of jewelry is known from CN107232703A. This document describes a method wherein one rose cut diamond is placed on a frame provided with a metal reflective surface and then fixed by means of fixing claws.

**[0002]** The application of the specific technique by the special artisan is extremely time-consuming and runs the risk of a high percentage of failure for the perfect and proper making of the piece of jewelry both in technical and aesthetic terms. The reason is that the securing of the diamond must be fully airtight on the piece of jewelry and, in particular on the created dent so that the reflection material under the diamond is protected and is not tainted or spoilt by the air and the water resulting in the diamond losing its shine, glow and clarity provided by the reflection material (aluminum sheet, solder, chahmach). In this technique, in order to secure airtightly the Rose Cut diamond on the piece of jewelry, and in particular exactly in the created dent, the special artisan uses either the metal mass "over" the diamond "zone" or in some cases, the artisan uses a glue in order to get a sealing result. The special artisan is required to repeat this strenuous time-consuming and precarious for the final result procedure for each diamond separately.

**[0003]** There is no guarantee in this technique that the diamond will be airtightly secured during the jewelry life. Furthermore, if for any reason, a diamond is to be removed from the piece of jewelry, there is the risk of the piece of jewelry being destroyed. There is a big risk of spoiling or destroying the final aesthetic picture of the piece of jewelry in any attempt to remove the diamond and then to secure it again. In addition in this technique, also due to the fact that the diamond zone is covered by the jewelry-dent metal mass, the diamond is very difficult up to impossible to be appraised because the appraiser cannot know accurately and with certainty the size, the dimensions, the depth and the other characteristics, of the gemstone; furthermore, removing the gemstone from the piece of jewelry is discouraged.

**[0004]** This technique is especially applied for jewelry making in which Rose Cut diamonds are used. It has

been almost abandoned for all the above reasons and, as a result, this type of diamonds is misjudged and not used by designers and jewelry makers.

**[0005]** The purpose of this invention is making jewelry using Rose Cut diamonds and at the same time using a glass reflector (mirror) and/or strass abolishing all the above-mentioned problems and disadvantages; also re-defining the true and essential value and "place" of the Rose Cut diamonds in the global jewelry making industry. Further advantages from the application of the specific method in jewelry making: the cleaning and washing of the piece of jewelry using water and common detergent up to 80 °C as frequently as one wishes, since all the materials used in the making can tolerate these cleaning and washing conditions and are not destroyed. Even if a material is worn, for example, if the mirror is destroyed or worn or even if there is some kind of material failure, it can be easily replaced without affecting the structure of the piece of jewelry and its aesthetic perfection. This method is absolutely harmless if the piece of jewelry is gold-plated, platinum-plated or silver-plated. With this method and its technical application, the jewelry maker and designer by using a colored mirror and/or strass can achieve a change in the final visual result in the color of the gemstone and only for aesthetic reasons, as the real diamond characteristics are not modified and in addition, very easily, safely and quickly the gemstone can be removed from the piece of jewelry to be properly and correctly appraised. The piece of jewelry when made using this technique will be shiny, sparkling and clear during its life; furthermore, the diamonds on the piece of jewelry will be exceptionally shiny and sparkling and also clear due to the use of the mirror or strass.

**[0006]** The solution of these problems and of the disadvantages is achieved according to the invention through the properties mentioned in claim 1. The research and 30-year practical experience in jewelry design and making resulted in the specific jewelry making method using gemstones, Rose Cut diamonds (4). As shown in Figure 1, the piece of jewelry comprises three key parts: the bottom part (frame) (1), the upper part, a combination of welded bezels (2) and a third part the mirror (3). Using the specific configuration of this technical method, a gap is created between the two parts of the piece of jewelry, the bottom (1) and upper part (2), inside which, in particular on the base (5) inside the frame (1), the glass reflector (3), mirror (3) or strass (3) is placed and permanently fitted. Then, at the upper key part, a combination of bezels (2) of the under construction piece of jewelry, the diamonds are secured and fitted with 3 or 4 teeth (5) for each diamond (4). Furthermore, when all the diamonds (4) are fitted at the upper part (2), the last one is fitted on the frame (1) using the same technique of securing a diamond (4) on the bezel, i.e. with "teeth" (5).

## Claims

1. Method for making a piece of jewelry by placing and fitting a glass reflector such as a mirror and/or strass (3) inside a piece of jewelry when being manufactured and using Rose Cut diamonds (4), designed in such a way so that a glass reflector (3) can be fitted inside the piece of jewelry, wherein the method comprises the following steps:

1) providing:

- a plurality of roses cut diamonds (4)
- a frame or bottom part (1) comprising a glass reflector (3) such as a mirror and/or strass having a thickness (8) ranging from 1,5mm to 6mm, permanently fitted inside said frame (1) on the base (6) of said frame (1), covering the entire available surface.
- an upper part or top part (2), which is a combination of joined and welded bezels (7), wherein the top part is designed in such a way so as to form a single metal piece (2) comprising joined and welded bezels (7), wherein each bezel (7) used for the creation of the upper part (2) of the piece of jewelry is designed and made exactly at the dimensions on the jewelry design of each diamond (4) respectively.

2) securing each diamond (4) on its corresponding bezel (7) with three or four first teeth (5), depending on the jewelry design and the each-time technical requirements; 3) placing and setting of the upper part (2) of the piece of jewelry on the frame (1) by the artisan using four or more second teeth (5) depending on the jewelry design and the technical and making requirements, which are found in the frame (1) to create a single piece with its metal mass as a common body.

## Patentansprüche

1. Verfahren zur Herstellung eines Schmuckstücks durch Platzieren und Anbringen eines Glasreflektors wie eines Spiegels und/oder Strasses (3) im Inneren eines Schmuckstücks, wenn es hergestellt wird, und unter Verwendung von Diamanten im Rosenschliff (4), die so gestaltet sind, dass ein Glasreflektor (3) im Inneren des Schmuckstücks angebracht werden kann, wobei das Verfahren die folgenden Schritte umfasst:

1) Bereitstellung von

- einer Vielzahl von Diamanten im Rosen-

schliff (4)

- einem Rahmen oder unteren Teil (1), der einen Glasreflektor (3) wie einen Spiegel und/oder einen Strass mit einer Dicke (8) zwischen 1,5 mm und 6 mm umfasst, der fest im Inneren des Rahmens (1) auf der Basis (6) des Rahmens (1) angebracht ist und die gesamte verfügbare Fläche abdeckt. - einem oberen Teil oder Aufsatz (2), der eine Kombination aus zusammengeführten und geschweißten Einfassungen (7) ist, wobei der obere Teil so gestaltet ist, dass er ein einziges Metallstück (2) bildet, das zusammengefügte und geschweißte Einfassungen (7) umfasst, wobei jede Einfassung (7), die für die Herstellung des oberen Teils (2) des Schmuckstücks verwendet wird, genau nach den Abmessungen auf dem Schmuckdesign jedes Diamanten (4) gestaltet und hergestellt ist. 2) Das Befestigen jedes Diamanten (4) auf seiner entsprechenden Einfassung (7) mit drei oder vier ersten Zähnen (5), je nach Schmuckdesign und den jeweiligen technischen 20 Anforderungen; 3) Anbringen und Einsetzen des oberen Teils (2) des Schmuckstücks auf dem Rahmen (1) durch den Kunsthandwerker mit vier oder mehr zweiten Zähnen (5), je nach Schmuckdesign und den technischen und herstellungstechnischen Anforderungen, die sich im Rahmen (1) befinden, um ein einziges Stück mit seiner Metallmasse als gemeinsamen Körper zu schaffen.

## Revendications

1. Procédé de fabrication d'un bijou en plaçant et en installant un réflecteur en verre tel qu'un miroir et/ou un strass (3) à l'intérieur d'un bijou en cours de fabrication et en utilisant des diamants Rose Cut (4), conçus de manière à ce qu'un réflecteur en verre (3) puisse être installé à l'intérieur du bijou, dans lequel le procédé comprend les étapes suivantes :

1) fournir

- une pluralité de diamants taillés en rose (4)
- un cadre ou partie inférieure (1) comprenant un réflecteur en verre (3) tel qu'un miroir et/ou un stress ayant une épaisseur (8) allant de 1,5mm à 6mm, monté de manière permanente à l'intérieur dudit cadre (1) sur la base (6) dudit cadre (1), couvrant la totalité de la surface disponible. - une partie supérieure (2), qui est une combinaison de lunettes (7) jointes et soudées, dans laquelle

la partie supérieure est conçue de manière à former une seule pièce métallique (2) comprenant des lunettes (7) jointes et soudées, dans laquelle chaque lunette (7) utilisée pour la création de la partie supérieure (2) du bijou est conçue et fabriquée exactement aux dimensions figurant sur le dessin du bijou de chaque diamant (4), respectivement. 2) accrochage de chaque diamant (4) à sa lunette correspondante (7) avec trois ou quatre premières dents (5), suivant la conception du bijou et les exigences techniques et de fabrication ; 3) insertion et accrochage de la partie supérieure (2) du bijou sur le cadre (1) par l'artisan avec quatre secondes dents (5) ou plus, suivant la conception du bijou et les exigences techniques et de fabrication, situées dans le cadre (1) pour former une pièce unique avec sa masse métallique comme corps commun.

5

10

15

20

25

30

35

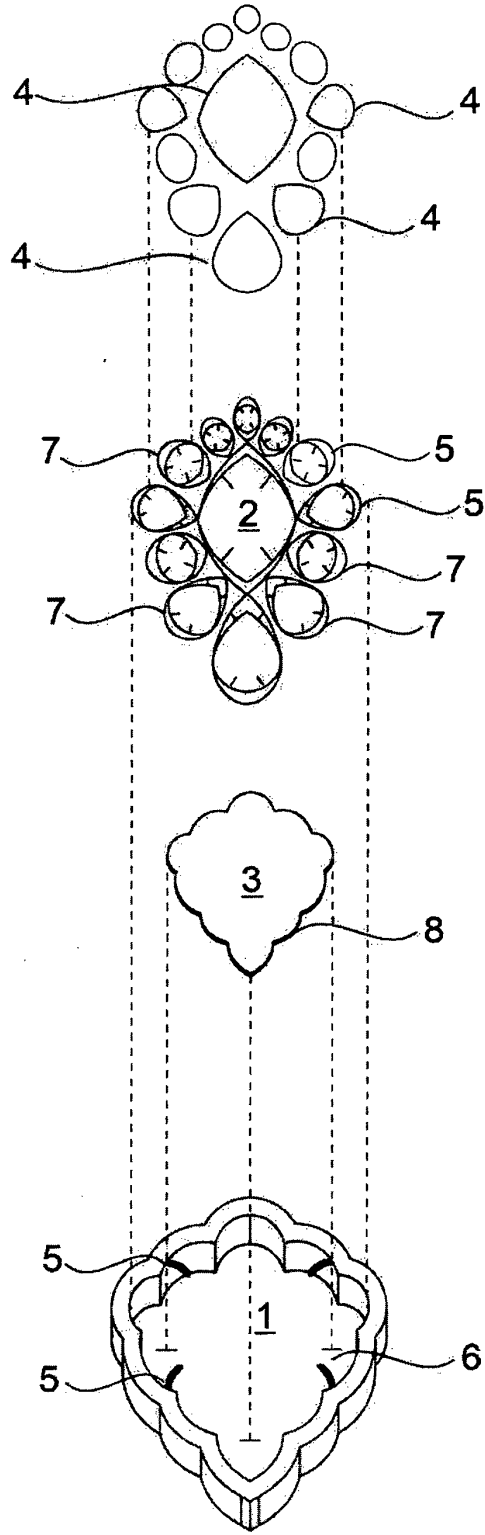
40

45

50

55

FIGURE 1



**REFERENCES CITED IN THE DESCRIPTION**

*This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.*

**Patent documents cited in the description**

- CN 107232703 A [0001]