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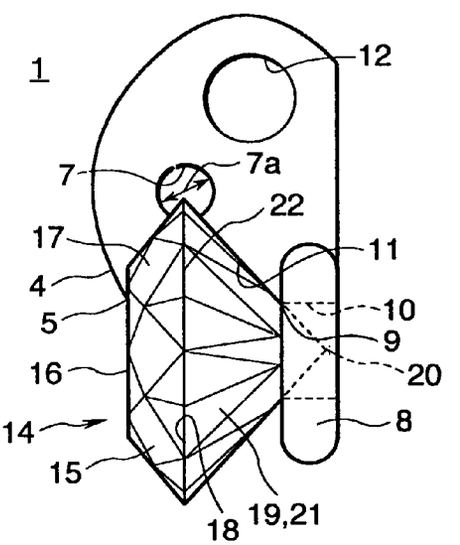
(54) Jewelry holding device

(57) The jewelry holding device of the present invention comprises a claw section (4) for engaging with the crown (17) and the table (16) of a facet-cut jewelry (14), an engaging section (11) for engaging with the pavilion (21), a support (9) for supporting the region near the culet (20), and a contact avoiding section (7) for avoiding contact with the girdle (22); and these elements are integrally formed. The contact avoiding section (7) is formed into an arc or arcuate shape and is capable of being elastically deformed when holding the jewelry (14). Viewed from the direction looking into the table (16), the end (5) of the claw section (4) engaging with the table (16) is positioned at the outer side of the support seat (9) at the lower conical section of the jewelry (14).

FIG.1B



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Description

The present invention relates to a jewelry holding device for holding a facet-cut jewelry used in accessories such as rings, pendants, brooches and clipped or pierced ear rings.

In the past, most of the jewelry holding devices held or fixed their jewelry by clamping a plurality of fixing claws on each jewelry.

On the other hand, as shown in fig. 3, a jewelry holding device 101, disclosed in the Patent Publication No. 5-37041, comprises a ring part 102 and a U-shaped metallic base 103 laterally fixed onto the ring part 102. The U-shaped metallic base 103 includes an upper leg part 104 and a lower leg part 105 longer than the upper leg part 104 and having a hole 107 with an indentation 106. A facet-cut jewelry 114 is held by the jewelry holding device 101 at three points: the upper leg part 104, the indentation 106 of the lower leg part 105, and a lateral part 108.

Further, as shown in figs. 4A and 4B, a jewelry attachment structure, disclosed in the Utility Model Publication No. 6-8730, comprises a claw section 111 forming a concave surface 110 attached near a girdle 116 of a facet-cut jewelry 114.

However, concerning the jewelry holding devices with a plurality of fixing claws for clamping, much of the cut surfaces of a jewelry is hidden by the plurality of fixing claws and these surfaces are consequently partially obstructed from view.

The jewelry holding device of fig. 3 is formed by two separate parts, the U-shaped metallic base 103 and the ring part 102, and therefore, problems of manufacturing with two separate parts in relation to such things as strength of attachment between the two parts, positioning, and surface finishing become troublesome issues.

Further, the claws of the jewelry attachment structure of figs. 4A and 4B do not reach to the table 117, and hence, to secure the jewelry tightly the claws have to be widened significantly and cannot be made narrow.

The aims of the present invention are to provide an aesthetically pleasing jewelry holding device that exposes adequately the cut surfaces of the jewelry, that can be manufactured easily, and that securely holds the jewelry.

To achieve the aforementioned aims, the jewelry holding device of the present invention for holding on one side a facet-cut jewelry, which includes a frusto-conical section having a crown and a table formed by cutting the top side of a conic section, the table being parallel with the bottom surface of the conic section, and a lower conical section that is approximately conical and located at the lower side, comprises a claw section that engages with the crown and the table, an engaging section that contacts a pavilion, which is the side surface of the lower conical section, a support seat for supporting the region around a culet, which is the head point of the lower conical section, and a contact avoiding section for avoiding contact with the girdle which is between the crown and the pavilion, wherein the claw section, the contracting section, and the support seat are integrally formed together with the contact avoiding section.

According to the jewelry holding device of the present invention, the jewelry can be securely held without the concern for detachment and the cut surfaces can be adequately exposed for view with the utilization of the claw section, the engaging section for engaging with the lower conical section, and the support seat. Since this jewelry holding device is integrally formed, it is reliably strong, can be manufactured easily, and is aesthetically pleasing to look at. Further, since the contact avoiding section is provided for avoiding contact with the girdle which is between the frusto-conical section and the lower conical section of a jewelry, the holding device can hold any jewelry with different girdle thickness and different angle formed by the girdle and the crown. Since the girdle and the neighboring region do not contact the jewelry holding device, the jewelry can be securely held.

Moreover, the contact avoiding section is formed in a concave shape to have the capability of deforming elastically when the jewelry holding device is holding the jewelry. Since, elastic deformation also occur between the claw section and the support seat with the elastic deformation of the contact avoiding section, fixing or holding the jewelry can be easily accomplished; and after holding or fixing the jewelry, elastic force prevents the jewelry from coming off.

In any of the devices of the present invention above, from the perspective of looking through the table, the end of the claw section for engaging with the table is positioned at the outer side of the support seat at the lower conical section of the jewelry. This claw section, in addition to the effects as described above, allows the cut surfaces of the jewelry to be adequately exposed to improve the aesthetics of the jewelry.

A preferred embodiment of the present invention will now be described hereinbelow by way of example only with reference to the accompanying drawings, in which:

Fig. 1A shows a top surface view of a jewelry holding device structure of the preferred embodiment of the present invention.

Fig. 1B shows a side surface view of the structure of fig. 1.

Fig. 2A shows a lower view of the structure shown in fig. 1.

Fig. 2B shows an upper view of the structure shown in fig. 1.

Fig. 2C shows an enlarged view of the girdle between the frusto-conical section and the lower

conical section of the jewelry shown in fig. 1.

Fig. 3 shows a cross-sectional view of a prior art jewelry holding device.

Fig. 4A shows a front view of another prior art jewelry holding structure.

Fig. 4B shows a side view of another prior art jewelry holding structure.

The present invention is related to a jewelry holding device for holding or fixing facet-cut precious or semi-precious stones such as sapphires, rubies, and diamonds used in accessories, namely, rings, pendants, broaches, clipped or pierced ear rings, and so on. The preferred embodiments of the present invention will be explained below in conjunction with figures.

Fig. 1 shows one embodiment of a jewelry holding device of the present invention, wherein fig. 1A is a frontal view and fig. 1B is a side view. Fig. 2 shows the jewelry holding device of fig. 1 in different views: fig. 2A is a bottom view, fig. 2B a top view, and fig. 2C an enlarged view of the girdle between the frusto-conical section and the lower conical section of the jewelry.

A jewelry holding device 1 of the embodiment shown in figs. 1 and 2 holds a facet-cut jewelry 14. This jewelry has a frusto-conical section 15 which includes a crown 17, which is the conical side surface of the upper approximate conical section, and a table 16 which is a flat section formed by cutting the top side of this approximate conical section in parallel with the bottom surface 18 and has a lower conical section 19, approximately conical, at the lower side.

The jewelry holding device 1 of the embodiment comprises a claw section 4 of narrow width for engaging with the crown 17 and the table 16, an engaging section 11 for engaging with a pavilion 21, which is the side conical surface of the lower conical section 19, a support seat 9 for supporting the region near a culet 20, which is the head point of the lower conical section 19, wherein the claw section 4, the engaging section 11, and the support seat 9 are integrally formed. Further, the jewelry holding device 1 is provided with a contact avoiding section 7 for avoiding contact with a girdle 22 between the crown 17 and the pavilion 21.

The claw section 4 engages with both the crown 17 and the table 16 of the jewelry 14. And in this embodiment, from the direction looking through the table 16, the end 5 of the claw section 4 that engages with the table 16 is positioned at the outer side of the support seat 9 at the lower conical section of the jewelry 14. Aside from the part of the contact avoiding section 7 of the pavilion 21, the engaging section 11 with a certain width engages with the pavilion 21 all the way to the support seat 9. The support seat 9 supports the region around the culet 20 of the jewelry 14, and in this embodiment, forms a circumferential seat with a corner section of a seat hole 10. The support seat 9 need not have this corner section but could have a planar surface structure for receiving the jewelry 14. Further, the seat hole 10 as shown in fig. 1A can be a hole that is bored through, but it can also be U-shaped cross-sectionally such that the hole does not bore through to the other side.

The contact avoiding section 7 is concave shaped with sufficient allowable elastic deformation for holding the jewelry 14 by the jewelry holding device 1. Its inner structure forms a concave arc that exceeds 180 degrees viewed from the side, and the inner diameter 7a has a substantial length. The contact avoiding section 7 in the present embodiment forms an arc but need not necessarily be limited to this shape in that it can be elliptical, rectangular or triangular as well. However, from the stand point of stress concentration, it would be preferable to have the inner structure of the contact avoiding section 7 formed in a smooth line. The arc or arcuate inner structure of the contact avoiding section 7 does not concentrate stress, and hence, it does not easily break. Also, this structure would be easier to manufacture.

Also, from the direction looking into the table 16, the position of the end 5 of the claw section 4 engaging with the table 16 is at a position outside of the support seat 9 at the lower conical section of the jewelry 14. The hole 12 is for passing through a string or a chain at the upper side.

The aforementioned claw section 4, the contact avoiding section 7, the engaging section 11, and the support seat 9 and such are integrally formed in that after subjecting one jewelry holding device material to cutting and grinding process, forging process, and forming process, if necessary, the surface processing procedure and heat treatment procedure and such are applied. An appropriate order of these procedures -- forming process, surface processing procedure, heat treatment procedure, etc.-- is determined by considering these procedures as a whole in combination.

The jewelry holding device 1 of the embodiment having the aforementioned structure is actualized in the following manner. According to the jewelry holding device 1 of the embodiment comprising the claw section 4 engaged with the crown 17 and the table 16, the engaging section 11 engaged with the pavilion 21 of the lower conical section, and the support seat 9 supporting the region around the culet 20 of this lower conical section, there is no movement or looseness of the jewelry since the claw section 4 contacts all the way to the table 16; and the jewelry is held tightly without the concern of it becoming detached because of the reinforcement of the claw section 4, the engaging section 11 and the support seat 9.

Further, the jewelry holding device 1 has a claw of narrow width such that the jewelry is exposed significantly more to improve the aesthetics. Moreover, since the device is integrally formed, it is reliably strong as well as being easy to manufacture, and since the clamp-

ing processes for fixing the jewelry are reduced, cost reduction is also realized.

Fig. 2C indicates an enlarged view of the structure of the girdle 22 of the jewelry 14. Even against the variation on the structure of the jewelry 14, especially on the thickness of the girdle, since the contact avoiding section 7 is provided to avoid contacting the girdle, the crown 17 and the pavilion 21 of the jewelry 14 are able to engage with and contact the jewelry holding device 1 securely and the jewelry itself is held very securely.

Further still, since the contact avoiding section 7 is formed in a concave shape size capable of elastic deformation, that is, formed in a relatively large concave arc or arcuate shape for adequately holding the jewelry, an elastic deformation can occur between the claw section 4 and the support seat 9 to sandwich the jewelry 14 in between, and additionally, the jewelry can be held securely even when there are variations in the angle formed by the girdle and the crown.

Viewed from the direction looking through the table 16, the end 5 of the claw section 4 engaged with the table 16 is positioned at the outer side of the support seat 9 at the lower conical section of the jewelry 14, so that, with respect to fig. 1B, the force operating from the claw section 4 to the jewelry 14 and the force operating from the engaging section 11 to the jewelry 14 balance to stably hold the jewelry and, at the same time, the device 1 allows significant exposure of the surfaces of the jewelry to maintain or improve the aesthetics.

A detail explanation of the preferred embodiment of the present invention with figures was given above but this should not be construed to limit the scope of the invention. The scope of the invention should be determined by the appended claims and their legal equivalents, rather than by the example given.

Claims

1. A jewelry holding device for holding on one side a facet-cut jewelry, which includes a frusto-conical section having a crown and a table formed by cutting the top side of a conic section, the table being parallel with the bottom surface of said conic section, and a lower conical section that is approximately conical and located at the lower side, comprising a claw section that engages with said crown and said table, an engaging section that contacts a pavilion, which is the side surface of said lower conical section, a support seat for supporting the region around a culet, which is the head point of said lower conical section, and a contact avoiding section for avoiding contact with the girdle which is located between said crown and said pavilion, wherein said claw section, said contracting section, and said support seat are integrally formed together with said contact avoiding section.

2. The jewelry holding device of claim 1, wherein said contact avoiding section has a concave shape capable of being elastically deformed when said jewelry holding device is holding said jewelry.

3. The jewelry holding device of claim 1 or 2, wherein the end of said claw section engaging with said table is positioned at the outer side of said support seat at said lower conical section of said jewelry when viewed from a direction looking through said table.

FIG.1A

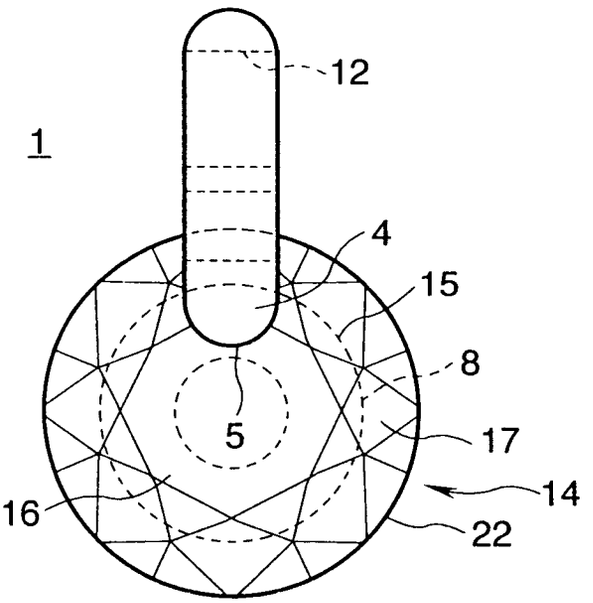


FIG.1B

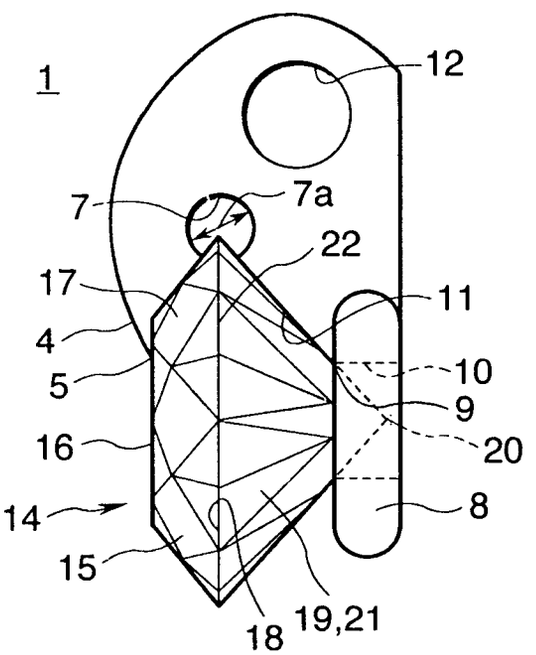


FIG.2A

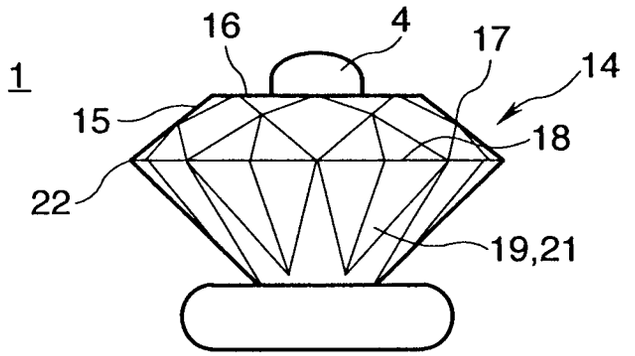


FIG.2B

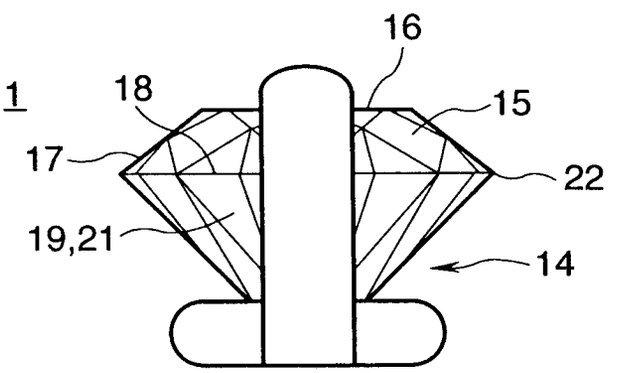


FIG.2C

FIG.3

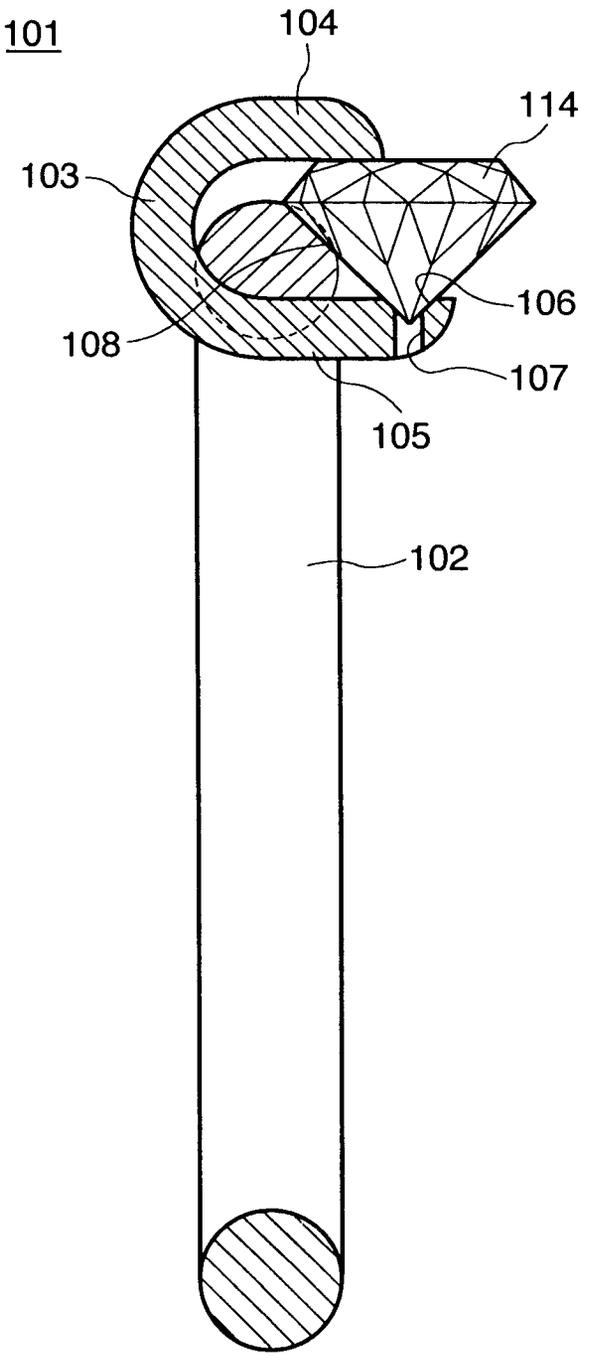


FIG.4A

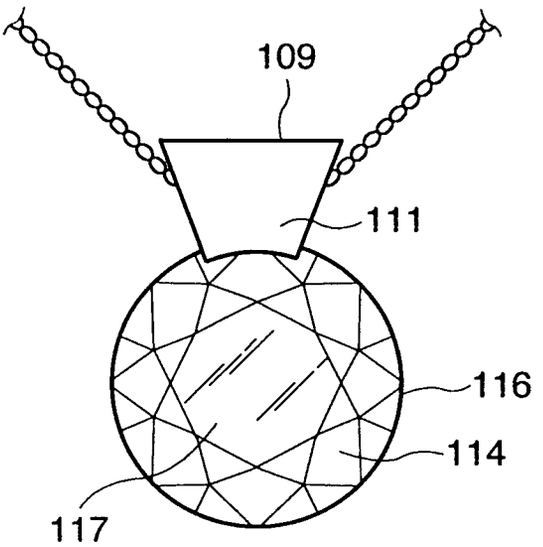
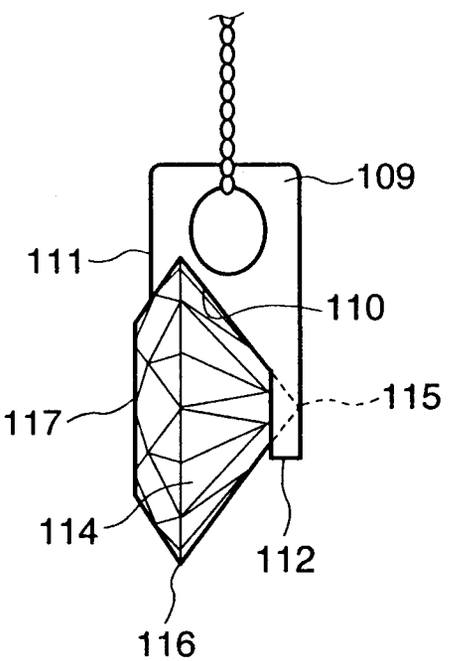


FIG.4B



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EUROPEAN SEARCH REPORT

Application Number
EP 96 30 8624

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	DE 39 31 109 C (DIAMBIEL AG) 14 March 1991 * the whole document *	1	A44C17/02
A	DE 71 32 975 U (JOSEF BERGS & CO) 4 May 1972 * page 1, paragraph 1; figures 7-12 *	1	
A	GB 2 298 566 A (T A DURANT LIMITED) 11 September 1996 * abstract; figures 1-4 *	1	
A	EP 0 645 104 A (YAMAMOTO KATSUMI) 29 March 1995 * abstract *	2	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

A44C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	3 April 1997	Kock, S

CATEGORY OF CITED DOCUMENTS

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