

[54] **RING OF TWO PRECIOUS METAL PARTS, ONE OVERLAPPING AND EMBEDDING THE OTHER ALONG THE RING BAND PORTION**

[76] Inventor: **Otto Eugen Eberle**, 421 Guildwood Parkway, Westhill, Ontario, Canada

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[51] Int. Cl. ....**A44c 9/00**

[58] Field of Search .....63/2, 15, 3, 20, 23, 14 G; 29/160.6, 530, 527.5; 164/111

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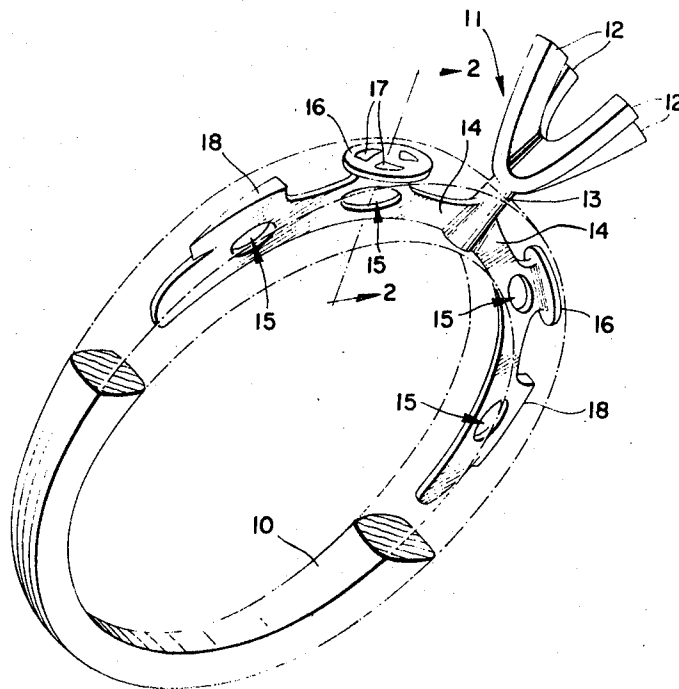
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*Primary Examiner*—F. Barry Shay  
*Attorney*—George A. Rolston

[57] **ABSTRACT**

An article of jewelry or the like formed of at least two precious metals in which a first precious metal part formed with at least some hidden portion which cannot be seen in the finished article, keying means formed on the hidden portion and a second precious metal part cast in a molten state around the hidden portions of the first part and set in engagement therewith. In so making a ring, one precious metal part constitutes the ring mounting and its hidden portion extends beyond the mounting area at least partly around the finger.

**3 Claims, 3 Drawing Figures**



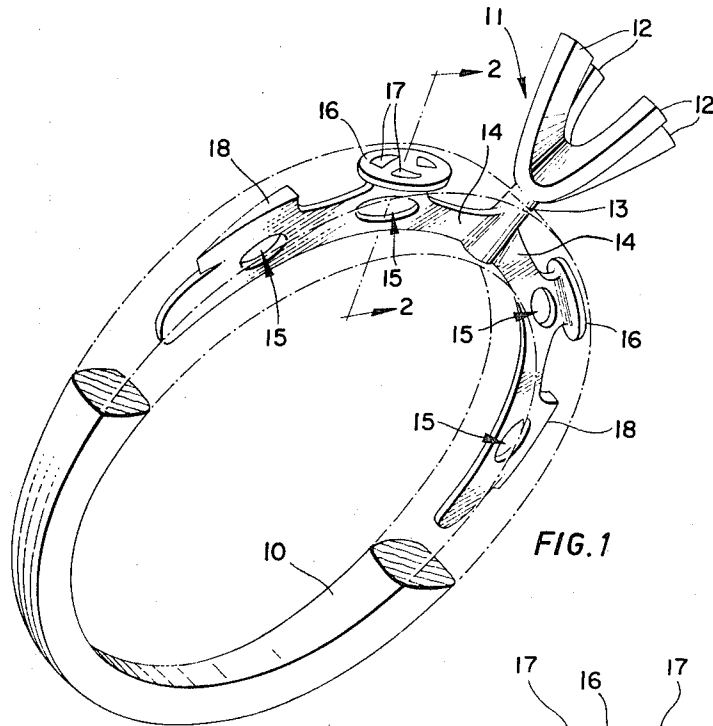


FIG. 1

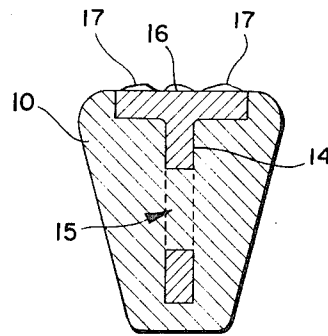


FIG. 2

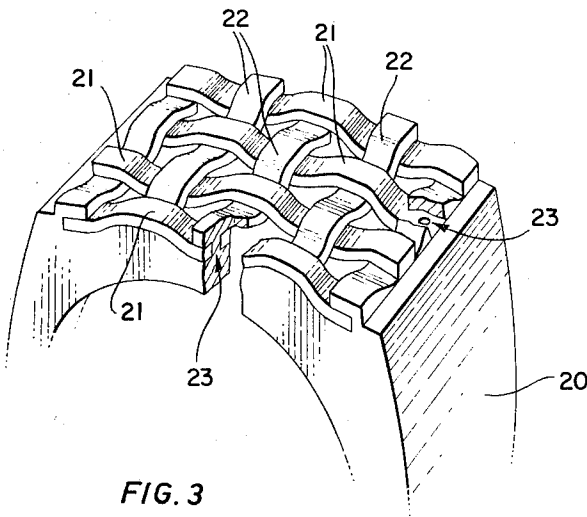


FIG. 3

*Inventor*

OTTO E. EBERLE

by: *[Signature]*

## RING OF TWO PRECIOUS METAL PARTS, ONE OVERLAPPING AND EMBEDDING THE OTHER ALONG THE RING BAND PORTION

The present invention relates to a novel construction for jewelry and the like made of two or more metals of different types, one or more of which will usually be a precious metal such as gold, platinum, white gold or silver, and is particularly suitable for the construction of rings, ear rings, pendants, brooches and the like made in part of yellow gold and in part of white gold.

### BACKGROUND OF THE INVENTION

For several hundred years, the precious metal portion of jewelry has been formed by casting by what is known as the "lost wax" method. Essentially, in this method, as it is practiced today, a mould or cavity, formed of rubber or the like, is made to conform to the shape of the portion of metal to be cast. From this mould, a wax impression of the metallic portion is then made. This wax impression is then completely embedded in plaster of Paris, or other heat resistant breakable material, with a small passageway communicating with the wax impression. When set, the plaster is then heated in an oven so as to melt the wax and cause the wax to run out of the plaster, leaving behind a cavity in the plaster conforming to the piece of metal to be cast. Molten metal such as gold is then introduced into this cavity, usually by spinning centrifugally, and when the gold is set, the plaster is broken away, leaving the solid gold cast portion for polishing and finishing.

This method of construction has worked well for very many years, particularly when only one type of metal is to be cast.

However, where the jewelry design called for the use of two different types of metal, such as white gold for the jewelry setting, and yellow gold for the finger band, it was usual to cast the two metallic portions separately from one another, and, after cleaning, these two portions would then be placed together and fastened by hard solder. Generally speaking, the two metallic portions were shaped so that one of the portions included a groove or recess, and the other portion included an insert member adapted to be received within the groove or recess. However, in this type of construction, in order to provide for the most effective form soldered joint, there would usually be a small clearance between the two parts, and since they were in any event, fitted together in their hardened state, it was of course essential that the insert portion should be set free from any abutments or obstructions which might otherwise prevent its being inserted readily into the groove or recess. While the hand labor required for these operations could be obtained relatively cheaply, there was no objection to this procedure. However, labor costs at current rates are now so excessive that the cost of preparing and assembling the different metallic pieces together, and soldering them has now become so considerable as to significantly increase the cost of the jewelry item out of all proportion to its design and metal content. In addition, unless the operators are highly skilled in techniques with hard solder, it is inevitable that some of the solder will remain on the surface which will seriously impair the appearance of the finished article.

In the particular case of finger rings, a further problem is encountered. When a ring is sold, the

jeweler will frequently have to adjust the size of the band to fit the finger of the wearer. Such fitting involves cutting the band and either inserting or removing a portion and afterwards fastening it together again by soldering. The insertion or removal of a portion of the band means that the remaining portion of the band, particularly that portion alongside the actual jewel setting, will have to be flexed either apart or together so as to ensure that the shaping of the band in the finished ring is perfectly round. In many cases, the degree of flexing of the band portion of the ring was so great as to cause separation of the soldered joint between the band portion and the jewel setting where the design of the ring was such that the jewel setting was, for example, in white gold and the band in yellow gold.

### BRIEF SUMMARY OF THE INVENTION

The present invention, therefore, seeks to provide a jewelry construction for use in jewelry consisting of two or more different types of metal, in which the portion of jewelry of one type of metal is cast first by the lost wax method described above, and incorporates one or more keying elements, and in which the portion of jewelry of the second type of metal is then subsequently cast around the first jewelry portion, with, at least the keying elements thereof permanently embedded in the adjacent areas of the second portion, with the metal thereof flowing entirely around the same while the first portion remains in its cold, hardened state, the bond between the two metal portions being achieved without the use of solder, adhesive, or any welding or brazing, but simply consisting of the embedding of the one metal portion internally within the other.

Preferably, in many cases, some, at least, of the keying members of the first said portion will be designed to be completely hidden or embedded in the adjacent areas of the second said portion. However, the jewelry construction according to the invention also envisages and specifically provides for the use of keying members in the aforesaid first portion which consists essentially of openings or cavities extending therethrough into which the molten metal in the second said portion may flow, and may even extend therethrough and form a pattern on the surface thereof in the finished article.

The foregoing and other advantages will become apparent from the following description of a preferred embodiment of the invention which will now be described with reference to the following drawings in which like reference devices refer to like part thereof throughout the various views and diagrams in which;

### BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a perspective illustration of a finger ring according to the invention, showing approximately one-half of the finger band, the remainder being shown in phantom form, and showing the setting portion and associated keying members or elements therein in solid line;

FIG. 2 is a section along the line 2—2 of FIG. 1, and, FIG. 3 is a cut away perspective illustration of a further embodiment of the invention.

### DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Referring now to FIGS. 1 and 2 it will be that this preferred embodiment of the invention comprises a typical finger ring having a finger band portion 10 formed of yellow gold or the like, and a jewel setting portion indicated by the general reference arrow 11 extending therefrom. In this preferred embodiment of the invention, the jewel setting portion 11 is formed of white gold, and is cast, by the lost wax method, separately, in a preliminary stage. Accordingly, the jewel setting portion 11 of the embodiment shown in FIG. 1, is provided with jewel support members 12 of essentially standard design, and a setting stem member 13 extending downwardly into the yellow gold band 10.

In order to secure and hold the stem 13 in position, the stem 13 is provided on either side thereof with adjacent keying elements consisting of the blade-like members 14, cast integrally therewith of the same material (ie. the white gold) as the stem 13 and the jewel support members 12. The blade-like members 14 may be very short, or may extend partially around the yellow gold finger ring portion 10, in a substantially semi-circular manner as shown in FIG. 1. In any event, it is desirable that the blade-like members 14 should incorporate one or more keying openings 15 extending therethrough, through which the yellow gold of the finger ring 10 may flow when in its molten state. In addition, in this particular design of ring, although without any limitation on the invention as such, the blade-like keying elements 14 are provided with subsidiary jewel mount plates 16 having jewel support fingers 17 thereon, the mounts 16 being arranged and located to lie on the outer surface of the yellow gold band 10. In addition, in this particular design of ring, although without any limitation to the invention, the keying elements 14 may be further provided with the decorative ridge members 18 again adapted to lie in the surface of the yellow gold band 10, and add to the visual appeal of the ring.

It will be noted that in this embodiment of the invention, the jewel mounting member generally indicated as 11 is provided with keying elements 14 of the type which are embedded entirely within the yellow gold band 10, and in fact portions of the yellow gold band 10 will actually flow through the keying openings 15, so as to effectively completely secure the mounting portion 11 in position, without the use of adhesives, brazing, welding, or the use of hard solder or the like, the jewel mounting portion 11 merely being held in position solely by the flowing of the yellow gold band 10 around the keying elements 14, and through the keying openings 15 therein, during manufacture.

According to a further embodiment of the invention, provision may be made for a still further and more complex design of ring, such as a mans signet ring or the like, in which white and yellow gold portions are given the appearance of actually having been interwoven or interleaved one with the other. This embodiment of the invention is shown in FIG. 3, in which the yellow gold band portion indicated as 20 is only partially shown, the remainder having been cut away for the sake of clarity. It will noted that in this embodiment of the invention, the white gold portions of the invention comprise essentially the lengthwise or longitudinal

bands or strips indicated as 21, and the yellow gold portions, consists of the band 20, and the transverse strips 22. Preferably, longitudinal strips 21 are provided at appropriate positions, with keying openings indicated as 23 therethrough through which the yellow gold forming the band 20, and the transverse strips 22 may flow, thereby fastening and keying the white gold strips to the yellow gold. Obviously, such openings 23 must be located in positions where, they are in the first place in contact with a portion of yellow gold on both sides, that is to say above and below the white gold strip. Such locations will be seen to be as at the cut away portion in FIG. 3, and similar openings will be arranged along each side and each end of the pattern of white gold strips, wherever the end portion of a white gold strip is overlapped on both sides by yellow.

Obviously, keying devices or elements 14 can be provided, without arranging holes or openings 15 through the white gold portion at all, the keying elements 14 being sufficiently securely held in position by the yellow gold of the ring 10 therearound. Alternatively for example although not illustrated, the keying elements 14 of the white gold portion illustrated in FIG. 1 could in place of the openings 15, or in addition thereto, be provided with outwardly extending transverse bars or ridges not shown, so that the yellow gold would flow therearound and firmly grip the same. Similarly, in the embodiment of FIG. 3, the white gold strips 21 could be provided with downwardly dependent keying members with or without holes therethrough as in FIG. 1, or with downwardly dependent keying members with or without bars or ridges extending transversely therefrom, although the provision of the holes 23 as shown in FIG. 3 is believed to be the most advantageous way of providing for keying of the parts together.

When finished, the rings or other jewelry items according to the invention will comprise two or more entirely separate pieces of precious metal, one of which is cast before the other, and provided with keying means, either in the form of elements 14 with or without holes, or bars or ridges extending therefrom into the adjacent portions of the second piece of metal, and the two parts are formed into a single structure by moulding the second piece of metal in the molten state around the first metal while in its hard state, the two members being keyed together by the flowing of the molten second metal into engagement with the keying members extending from the hard first member.

For purposes of the present description reference has been made to an article of jewelry in general terms. It will of course be appreciated that the "term" jewelry is used herein in its broadest sense and covers articles of this general class with or without precious or semi-precious stones, gems or the like, and is intended to apply to all such articles formed of precious metals, in which the invention may be employed.

The foregoing is a description of a preferred embodiment which is given here by way of example only. The invention is not to be taken as limited to any of the specific features as described, but comprehends all such variations as come within the scope of the appended claims.

What I claim is:

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1. A finger ring formed of at least two precious metals such as platinum, white gold, yellow gold, and silver, said two precious metals defining separate visible precious metal portions of said ring said ring having a band portion and comprising;

a first precious metal part formed in a predetermined shape, the exterior surfaces of which define visible surface portions of said first precious metal in a predetermined ornamental design, and a hidden portion of said first precious metal which cannot be seen in the finished article;

keying means formed on said hidden portion of said first precious metal part;

a second precious metal part formed of a different precious metal part from said first part cast around and conforming to said hidden portion of said first part and enveloping the same, and the exterior surfaces of said second precious metal defining further visible surfaces of said finger ring;

said keying means being shaped to interlock with and be secured solely by the envelopment of said metal

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of said second part cast therearound without any additional fastening means, and,

wherein said first precious metal part is formed with at least some of said hidden portion shaped to lie around the band portion of said finger ring, said band portion being formed principally of said second precious metal, thereby forming a finger ring in which all the exterior visible metal portions are formed of said precious metals without any other surface covering thereon or bonding material therein.

2. A finger ring as claimed in claim 1 wherein said first precious metal part includes setting means for reception of a gem or the like therein, and wherein said hidden portion is located depending therefrom.

3. A finger ring as claimed in claim 2 wherein said keying means comprise one or more openings extending into said hidden portion, and adapted and oriented to permit said second metal to flow therethrough when in a molten state.

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