May 29, 1956 U. V. BRIOUX 2,747,259

METHOD OF FORMING A RING HAVING EMBEDDED METAL INSERTS THEREIN

Filed April 23, 1952

Fig. 1.

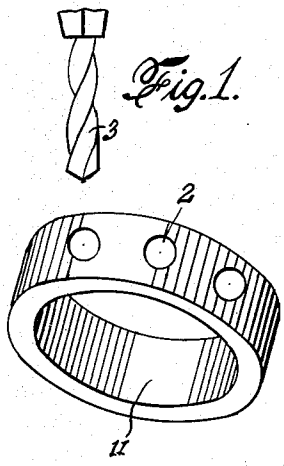


Fig. 2.

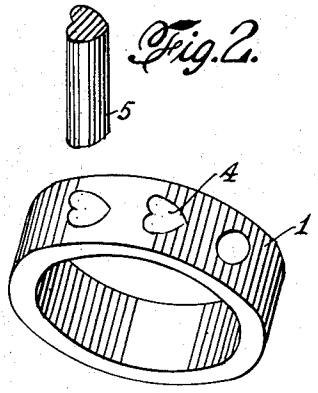


Fig. 3.

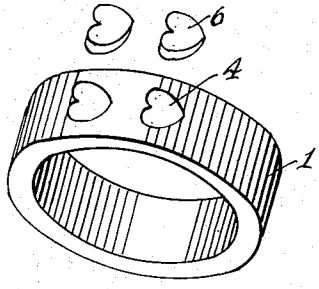


Fig. 4.

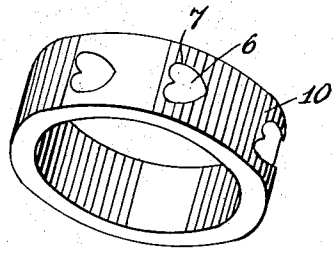
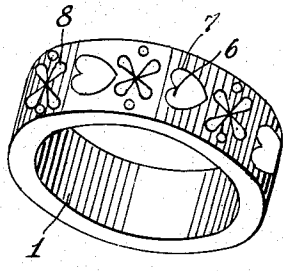


Fig. 5.



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METHOD OF FORMING A RING HAVING EMBEDDED METAL INSERTS THEREIN

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3 Claims. (Cl. 29—160.6)

This invention relates to an article of personal adornment and particularly a finger ring or a wedding ring, although the invention might be embodied in rings otherwise used for personal adornment. This invention is moreover particularly concerned with the production of imbedded metal bands, and more specifically relates to the production of ornamental metal bands having imbedded metal pieces of different properties, e. g. color.

In the production of jewelry adornments, such as wedding rings, for example, it is oftentimes desirable to incorporate different colored metals so that the finished product may exhibit designs in contrasting colors that will wear well for long periods of time. Heretofore, such rings have been made by various processes, all of which have proved unsatisfactory as more fully explained hereinafter.

It has been suggested to provide a ring blank finished according to taste with an outer peripheral annular groove having upstanding side walls and mechanically press fitting into said groove an ornamental strip of different colored metal which has been previously chased or otherwise ornamented as desired without the use of solder. Such a procedure involves the use of a large amount of metal of different color from the base blank metal and unnecessarily restricts the degree of color contrast and the intricacy of design.

It has been customary also to provide a series of spaced apart inserts or sections of a contrastingly colored metal to be inserted into lateral grooves in a wedding ring or similar ring blanks, and afterwards chasing or engraving a design which will include elements of the contrasting color. Such inserts necessarily extend across the entire width of the ring blank because of the method of insertion which consists of slotting the ring across the band by means of a cutter rotating in the same plane as that in which the ring is moved along its axis past the cutter. The disadvantage of this method lies in the fact that the rectangular shape of the insert which is placed in the slot, differs markedly from the normal shape of the design element which will be chased on it, with the result that the color of the insert extends beyond the margin of the design element and tends to detract from the effect of the contrasting colors.

It has also been suggested to use an inlay method involving cutting out a flat circular band from an annular disk, cutting out portions of the circular band, inserting a piece of another metal of the shape of the cut-out portion and then pressing out the band by successive dies or by spinning into a ring shape. This procedure has the disadvantage of enabling a slight flow of the insert metal into the base metal or of distortions of the outline of the inserts so that the color of the insert may extend beyond the margin of the design element which detracts from the effect of the contrasting colors, and also there is no control over the intricacy of design desired.

It is an object of the invention therefore to effectuate a method of manufacturing imbedded metal bands in a

simple, quick and economical manner. A further object of the invention is the provision of a method of forming a wedding ring with vari-colored metal inserts. A still further object of my invention is to provide a method of forming a metal ring band with inserts of a metal having properties differing from those of the base metal wherein a sharp degree of color contrast is maintained.

Another object of my invention is to provide a method of forming a novel wedding ring whereby metal elements of contrasting color are embedded in a ring blank which conform precisely to the shape of the desired design element and sharply and distinctly define contrasting colors. Still another object of the invention is to provide a method of forming novel metal bands having inserts which do not penetrate through the whole thickness of the base metal and hence cannot become dislodged or displaced upon rough usage and such inserts conform precisely to the shape of the finished design.

Other objects and advantages of the invention will be more fully described hereinafter and particularly pointed out in the appended claims, reference being had to the accompanying drawings forming part of this specification wherein similar numbers refer to similar parts in the various figures, and in which:

Fig. 1 represents an isometric view of the base metal strip with the preliminary drillings being performed thereon,

Fig. 2 is a similar view of the base metal strip being prepared for the reception of the inserts,

Fig. 3 is a similar view of the base metal strip with the shaped inserts ready for insertion therein,

Fig. 4 is a similar view of the base metal strip with the shaped inserts assembled, and

Fig. 5 represents a similar view of an engraved ring containing inserts of contrasting color.

In the preferred embodiment of my invention as disclosed in the accompanying drawings, a hollow cylindrical ring blank **1** produced from any suitable source, such, for instance, as by punching from sheets of a noble metal, such as gold, is prepared for the reception of inserts by first forming holes **2** therein at each point where an insert is to be placed as by means of a drill **3**. The round hole **2** is drilled blind, i. e. it is drilled only to any desired depth but is not allowed to penetrate to the inner periphery **11** of blank **1**.

A punch tool or piercing die **5** shaped to any design desired, as for example the heart shape shown, is then used to blank out inserts **6** (Fig. 3) from a sheet of a different colored metal. Any metal may be employed to produce the design, it is generally preferred to employ a metal of substantially the same hardness as that of the blank metal. Thus, the blank metal ring may be formed of yellow gold and the inserts may be of white, green and/or red gold. Other noble metals could be used, e. g. platinum metals, silver, etc.

The shaped punch tool **5** in addition to being used to blank out the insert itself is also used to prepare the holes **2** for the reception of inserts **6**. The circular blind holes **2** are first made in order to reduce deformation and provide largely for the disposition of waste metal which is pushed down to the bottom of the hole by punch **5** in forming a finished hole **4**. After the finished hole **4** is prepared, the insertions **6** are inserted therein and brazed or soldered in place preferably with a solder having a color matching the color of the ring blank or the insert, e. g. yellow gold solder.

Fig. 4 indicates a finished ring having a blank portion **10** of a different color from the insert **6** and in which it is apparent that the boundaries of the insert coincide as at **7** with the design element which may be chased upon it.

If desired the ring may then have a contrasting design engraved or chased as at **8** on the blank portion **10** of the ring blank to obtain an overall enhanced decorative effect (Fig. 5).

It is to be understood that various shaped piercing dies and punches may be used so that the inserts may be of varied configuration, the drawings merely showing only one type of design, and any number of differently shaped inserts may be employed on the same ring blank, if desired.

The foregoing disclosure is to be regarded as descriptive and illustrative only, and not as restrictive or limitative of the invention, of which obviously embodiments may be considered, without departing from the general scope herein indicated and denoted in the appended claims.

I claim:

1. The method of forming a ring or the like having embedded metal inserts therein comprising forming a ring blank of annular discrete configuration, drilling at least one hole in the outer periphery of the blank to a depth less than the thickness of said blank, displacing the metal by plastic deformation immediately adjacent said hole inwardly within said hole so as to conform said opening in a desired configuration, and placing a metal insert in said opening having a mating configuration therewith.

2. The process of producing embedded metal ring bands including forming a cylindrical ring blank, drilling a plurality of round holes in the outer surface of said ring blank to a depth less than the thickness thereof,

shaping substantially thin inserts of a metal of different color from that of the blank, displacing the metal immediately adjacent each of said holes by plastic deformation inwardly within said holes to form openings of mating shape to said inserts, and securing a metal insert in each of said openings.

3. The process of claim 2 including punching out the inserts and displacing the metal in the blank with the indentical shaped punch wherein said openings are formed to a depth equal to the thickness of said inserts, the inserts are brazed in place with gold solder, conforming the outer surface of said inserts to the arcuate contour of said ring and engraving contrasting designs on the outer peripheral surface of said ring blank whereby the boundaries of the insert coincide with those of the design element formed thereon and a ring presenting an overall enhanced decorative effect is obtained which is durable to wear.

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