

DIAMOND INLAY APPARATUS FOR SIMULATING A SINGLE DIAMOND AND BASE THEREOF

FIELD OF INVENTION

[0001] The present invention relates to a diamond inlay apparatus and a base thereof, and more particularly, to improvements of a diamond inlay apparatus for simulating a single big diamond and a base thereof.

BACKGROUD OF INVENTION

[0002] Diamonds, which are of great value, are often inlaid in jewelries such as finger rings and necklaces to express affections. However, as the diamond resources become increasingly exhausted, the value of diamonds becomes ever greater. Small diamonds generally have a lower value than bigger ones, particularly when being inlaid, and small diamonds cannot present a visual effect comparable to that of bigger ones, so they have a lower value in the market.

[0003] Meanwhile, in the current diamond inlaying industry, single diamonds are generally inlaid either in combination or separately in finger rings or necklaces. However, it is required in the inlaying process that the diamonds shall not be damaged and shall be fixed securely, both of which problems haven't been solved in the prior art.

[0004] Accordingly, perfection and improvements need to be made in the prior art.

SUMMARY OF THE INVENTION

[0005] An objective of the present invention is to provide a diamond inlay apparatus for simulating a single diamond and a base thereof, which can fix a small single diamond and simulate a larger diamond to improve the value of the small single diamond.

[0006] The present invention provides the following technical solutions:

[0007] A diamond inlay apparatus for simulating a single diamond, comprising a base therein, wherein a tapered fillister is formed at the center of an upper side of the base, and an outer edge of a lower side of the base is formed as a taper; a single diamond is inlaid in the tapered fillister; a plurality of facets for reflecting light are formed around the tapered fillister on the top surface of

the base; and a plurality of pawls are disposed on the top surface of the base, each having a holding portion that extends towards the tapered fillister to hold the flange of the single diamond.

[0008] The diamond inlay apparatus, wherein the facets are either triangle-shaped or trapezoid-shaped, each group of adjacent facets forming a ribbed portion of a triangular pyramid.

[0009] The diamond inlay apparatus, wherein the ribbed portions are distributed axially around the tapered fillister on the top surface of the base, and tapered apices of adjacent ribbed portions are arranged alternately at an outer edge and an inner edge of the top surface of the base around the tapered fillister.

[0010] The diamond inlay apparatus, wherein the pawls are each formed as a column portion with the top surface thereof being triangle-shaped, and the apex of the triangle extends to form the holding portion.

[0011] The diamond inlay apparatus, wherein four pawls are arranged.

[0012] The diamond inlay apparatus, wherein the taper is formed, on an outer surface thereof, with a plurality of triangular facets distributed uniformly whose apices meet at the apex of the taper.

[0013] The diamond inlay apparatus, wherein the base is made of platinum (Pt), silver (Ag), or alloys thereof; or the outer and top surfaces of the taper thereof are plated with Pt, Ag, or alloys thereof.

[0014] A base of a diamond inlay apparatus for simulating a single diamond, wherein a tapered fillister for inlaying a single diamond is formed at the center of an upper side of the base, and an outer edge of a lower side of the base is formed as a taper; a plurality of triangular or trapezoidal facets for reflecting light are formed around the tapered fillister on the top surface of the base; and a plurality of pawls are disposed on the top surface of the base, each having a holding portion that extends towards the tapered fillister to hold a flange of the single diamond.

[0015] According to the diamond inlay apparatus for simulating a single diamond and the base thereof provided in the present invention, because a tapered base is used for inlaying a single

diamond, the single diamond can be fixed securely and a visual effect comparable to that of a large single diamond can be obtained, thereby improving the value of the small diamond.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] Fig. 1 is a schematic perspective view of a base of a diamond inlay apparatus for simulating a single diamond and a diamond before being assembled.

[0017] Fig. 2 is a side elevation view of the base of the diamond inlay apparatus for simulating a single diamond and the diamond before being assembled.

[0018] Fig. 3 is a top view of the base of the diamond inlay apparatus for simulating a single diamond.

[0019] Fig. 4 is a schematic perspective view of the diamond inlay apparatus for simulating a single diamond after being assembled.

DETAILED DESCRIPTION

[0020] The present invention is detailed with reference to preferred embodiments hereinbelow.

[0021] A diamond inlay apparatus for simulating a single diamond is provided in the present invention, as shown in Fig. 4, which is mainly designed for small diamonds such as a one-carat diamond. For larger diamonds such as a two-carat diamond or above, as the visual effect difference is significant and the value thereof will not be improved too much by following the present invention, the diamond inlay apparatus of the present invention is usually not adopted. However, the scope of the present invention is obviously not limited hereto.

[0022] The primary improvement of the diamond inlay apparatus of the present invention lies in a base 110. As shown in Fig. 1 and Fig. 2, a tapered fillister 111 is formed at the center of an upper side of the base 110. To make processing convenient, the tapered fillister may be of an inner conical form as shown in Fig. 3; however, the tapered fillister is not limited to a conical form.

[0023] An outer edge of a lower side of the base 110 is formed as a taper, as shown in Fig. 2.

The taper may be formed as a cone; and preferably, it may be formed, on an outer surface thereof, with a plurality of triangular facets 113 distributed uniformly, and apices of the triangular facets 113 meet at an apex 114 of the taper so that a shining effect comparable to that of a large single diamond can be simulated on the outer surfaces of the taper. The base is made of precious metal such as platinum (Pt), silver (Ag), or an alloy thereof; or the outer and top surfaces of the tape of the base 110 is plated with the above-mentioned precious metal. The precious metal or the plating layer can effectively reflect light and, preferably, have a mirror reflection effect so that light reflected therefrom can mix with light reflected or refracted from a single diamond inlaid in the center to obtain the shining effect comparable to that of a large single diamond.

[0024] A single diamond 120 is inlaid in the tapered fillister 111 of the base of the present invention, as shown in Fig. 4. A plurality of triangular or trapezoidal facets 115 for reflecting light are formed around the tapered fillister on a top surface 112 of the base; and each two adjacent triangular or trapezoidal facets form a group to form a ribbed portion 116 of a triangular pyramid, as shown in Fig. 1 and Fig. 2. The ribbed portions 116 are distributed axially on the top surface 112 of the base, and apices thereof are arranged alternately in opposite directions. That is, the apices of the adjacent ribbed portions 116 are respectively arranged at an inner edge and an outer edge of the top surface of the base, as shown in Fig. 4.

[0025] Of course, the following variation may be conceived: only ribbed portions whose apices are arranged at the inner edge or only ribbed portions whose apices are arranged at the outer edge are retained, while the other ribbed portions therebetween are replaced with pure planes; this variation shall fall within the protection scope of the present invention. The pattern of the aforesaid ribbed portions 116 may be formed through a three-dimensional (3D) shaping technology according to a computer numerical control (CNC) design. Meanwhile, shapes and areas of the triangular facets of the ribbed portions can be adjusted through the CNC design so that light from the ribbed portions can simulate light reflected from facets of a single diamond to the greatest extent.

[0026] In order to fix the single diamond 120 conveniently, a plurality of pawls 117 are further disposed on the top surface 112 of the base, as shown in Fig. 1 to Fig. 4; and each of the pawls has a holding portion 118 extending towards the tapered fillister 111. When the pawls 117 are each formed as a column portion with the top surface thereof being triangle-shaped, the holding portion 118 is formed by an apex of the triangular form and can be used to hold an outer flange of the single diamond 120. In order to assemble the single diamond 120 conveniently, a step portion 119 is further disposed on an inner surface of the tapered fillister 111 inside the base, as shown in Fig. 1 and Fig. 3.

[0027] In the diamond inlay apparatus and the base thereof of the present invention, four pawls 117 are arranged and distributed around the top surface 112 of the base. Because each of the pawls has a holding portion 118 extending towards the tapered fillister, the diamond 120 may be pressed downwards with a machine or a hand tool to be held by the holding portions 118 during the process of assembling. As the pawls are deformable, the holding portions 118 can hold the flange of the diamond 120 securely under the pawls 117 when the diamond is pressed into the tapered fillister 111, so that the whole diamond 120 can be fixed securely. Moreover, apart from being formed to have a triangle-shaped top surface, each of the pawls 117 may also be formed to have two triangle-shaped side surfaces, similar to the ribbed portions.

[0028] The present invention further provides a base of a diamond inlay apparatus for simulating a single diamond. As described in the aforesaid embodiments, the base may be formed by forming pawls through the 3D shaping technology and patterning according to the CNC design. Because a lower part of a single diamond is taper-shaped, outer surfaces and a top surface of the tapered diamond need to be incised to form reflecting surfaces. Therefore, by forming triangular surfaces on the top surface of the base to reflect light and by forming triangular facets on the outer surface of the taper, the whole tapered base of the present invention looks more like a large diamond visually. As light from the base mixes with light reflected by the single diamond inlaid in the tapered fillister formed at the center of the base, the shining effect of the small diamond is

improved, which is especially the case for a fractional diamond. The base can amplify the 3D visual effect of a fractional diamond and makes the fractional diamond look more like a larger sparkling diamond.

[0029] What described above are only preferred embodiments of the present invention, which are not intended to limit the scope of the present invention. Accordingly, any equivalent variations or modifications that are made on basis of the specification shall also fall within the protection scope of the present invention.

CLAIMS

What is claimed is:

1. A diamond inlay apparatus for simulating a single diamond, characterized by comprising a base, wherein a tapered fillister is formed at a center of an upper side of the base, and an outer edge of a lower side of the base is formed as a taper; a single diamond is inlaid in the tapered fillister; a plurality of facets for reflecting light are formed around the tapered fillister on a top surface of the base; and a plurality of pawls are disposed on the top surface of the base, and each having a holding portion extending towards the tapered fillister to hold a flange of the single diamond.
2. The diamond inlay apparatus of claim 1, characterized in that the facets are each triangle-shaped or trapezoid-shaped, and each group of adjacent facets forms a ribbed portion of a triangular pyramid.
3. The diamond inlay apparatus of claim 2, characterized in that the ribbed portions are distributed axially around the tapered fillister on the top surface of the base, and tapered apices of adjacent ribbed portions are arranged alternately at an outer edge and an inner edge of the top surface of the base around the tapered fillister.
4. The diamond inlay apparatus of any of claim 1 to claim 3, characterized in that the pawls are each formed as a column portion with a top surface thereof being triangle-shaped, and an apex of the triangle extends to form the holding portion.
5. The diamond inlay apparatus of claim 4, characterized in that four pawls are arranged therein.
6. The diamond inlay apparatus of claim 1, characterized in that the taper is formed, on an outer surface thereof, with a plurality of triangular facets distributed uniformly whose apices meet at an apex of the taper.
7. The diamond inlay apparatus of claim 1, characterized in that the base is made of

platinum (Pt), silver (Ag), or alloys thereof; or an outer surface and a top surface of the taper is plated with the Pt, Ag, or alloys thereof.

8. A base of a diamond inlay apparatus for simulating a single diamond, characterized in that a tapered fillister for inlaying a single diamond is formed at a center of an upper side of the base, and an outer edge of a lower side of the base is formed as a taper; a plurality of triangular or trapezoidal facets for reflecting light are formed around the tapered fillister on a top surface of the base; and a plurality of pawls are disposed on the top surface of the base, and each of the pawls has a holding portion extending towards the tapered fillister to hold a flange of the single diamond.