

GEMSTONE ARRANGEMENT

Field of Invention

The invention relates to an arrangement of gemstones and more particularly to an arrangement and setting of multiple smaller gemstones in a manner which provides the appearance of a single enlarged gemstone arrangement.

Background

Existing composite gemstone arrangements usually employ several gemstones juxtaposed to each other and arranged in a setting. In these existing arrangements, however, portions of the setting, e.g. claws or other retaining or structures, are visible between adjoining portions of the gemstones. While such retaining structures are necessary to secure the various gemstones to the setting, they diminish the beauty of the composite arrangement.

Brief Description of Drawings

FIG. 1 illustrates a side view of one embodiment of the invention.

FIG. 2 illustrates the embodiment of FIG. 1 with the lower tier stone separated from the arrangement.

FIG. 3 is a perspective view of the embodiment of FIG. 1.

FIGs. 4A to 4E illustrate a sequence of setting stones to form the arrangement of FIG. 1.

Summary of Embodiments of the Invention

A composite gemstone arrangement is disclosed in which multiple gemstones are arranged in multiple tiers, e.g. two tiers. A lower tier may comprise one or more stones disposed lower than remaining upper tier stones which are juxtaposed in abutment with one another and at least partially surrounding the lower tier stone. The combined arrangement of upper tier stones may be disposed in overlapping abutment with the lower tier centre stone to

secure it to a setting or support. The setting may further include prongs (or claws) to compact the upper tier stones together in tight abutment. With the multi-tier configuration of multiple gemstones and the overlapping abutment between adjacent tiers of gemstones to form a compact structure, a resulting optical effect of the finished arrangement is a single enlarged stone having a crown diameter visibly larger than any of the individual stones forming the arrangement.

Detailed Description of Embodiments of the Invention

In the following description, numerous specific details are set forth in order to provide a thorough understanding of various illustrative embodiments of the present invention. It will be understood, however, to one skilled in the art, that embodiments of the invention may be practiced without some or all of these specific details. In other instances, well known process operations have not been described in detail in order not to unnecessarily obscure pertinent aspects of embodiments being described. In the drawings, like reference numerals refer to same or similar functionalities or features throughout the several views.

Reference is now made to FIGs. 1 to 3 illustrating different views of one embodiment of the invention. FIGs. 1 to 3 illustrate a two-tier arrangement in which the lower tier comprises one centre stone 120 and the upper tier comprises multiple stones 110 juxtaposed in abutment with one another to form a generally circular or annular configuration. The upper tier stones 110 are disposed surrounding the lower tier stone 120. The generally circular configuration of upper tier stones 110 results in an aperture where the lower tier stone 120 is disposed within and centered by the upper tier stones 110. The aperture is configured to have a diameter smaller than a diameter of the lower tier stone 120 to prevent the lower tier stone 120 from falling through the aperture in the finished arrangement. Each of the upper tier stones 110 is disposed in overlapping abutment with the lower tier stone 120 to secure the lower tier stone 120 to a setting 130. This may be achieved by arranging girdles 210a-210f (or

edges) of upper tier stones 110 to slightly overlap and abut a girdle 220 of the lower tier stone 120.

The setting 130 is configured to secure both the upper and lower tier stones in a compact structure without any retaining or interconnecting structure, or adhesive materials between any of the stones. In particular, the setting 130 is configured to retain pavilion portions of the upper and lower tier stones. Also, the setting 130 may include a centre retainer 132 to support pavilion portions of the lower tier stone 120 seated therein. Prongs 131 may be disposed spaced apart on a periphery of the setting 130 to secure the upper tier stones 110 to the setting 130 by compacting the upper tier stones 110 together in tight abutment. In certain embodiments, the prongs 131 may be disposed between adjacent upper tier stones 110. In the finished arrangement, the centre retainer would not be visible from the crown portions of the various stones. Further, since abutting portions between the lower tier stone 120 and the upper tier stones 110 are substantially free of any interconnecting or retaining structure, the composite gemstone arrangement 100 provides an optical effect of a single enlarged gemstone.

While the upper tier arrangement in the FIGs. 1 to 3 illustrates six stones which are similarly-shaped, embodiments of the invention can be used for any number of stones, e.g. eight or nine stones, in any other different cuts or shapes. FIGs. 1 to 3 also illustrate the lower tier stone 120 having larger dimensions than each upper tier stone 110. However, it should be appreciated that the lower tier stone 120 may have similar or smaller dimensions in relation to each upper tier stone 110 in other embodiments as and when required. Embodiments of the invention may also be applicable to natural stones, e.g. diamonds, or man-made stones alike.

A composite arrangement of smaller gemstones would not greatly enhance its market value if the individual stones would be easily detected by a

human eye. However, if a composite arrangement of smaller gemstones would appear to a human eye as a single large stone due to optical illusion created by the brilliance and arrangement of the gemstones, the market value of the composite arrangement is greatly enhanced. In accordance with embodiments of the invention, this enlarging effect can be achieved and at lower costs while greatly enhancing the market value of finished arrangement. Further, the setting suitable for use with the invention may be manufactured at low costs.

The above-described gemstone arrangement 100 may be set using various methods, including but not limited to the sequences described as follows.

Reference is now made to FIGs. 4A to 4E illustrating a sequence of setting stones to form the arrangement 100 of FIG. 1. According to a first method, a setting 130 for securing the various stones is provided. Since the size, e.g. diameter, of the finished arrangement is determined by the size or diameter of the setting, the setting 130 is suitably dimensioned. For example, if a desired optical effect of the finished arrangement is a one carat solitaire, the setting 130 is suitably sized to retain a gemstone of one carat. The setting 130 may include a center retainer 132 to receive a pavilion portion of the lower stone 120 to be seated therein, and may also include several prongs 131 spaced apart on the periphery of the setting 130. Some of the upper tier stones 110 may first be disposed along a periphery of the setting 130. While FIG. 4B illustrates initially setting half the number of upper tier stones 110, e.g. three stones of the total six stones, it is not limited as such. Subsequently, the lower tier stone 120 is disposed in the center retainer 132 (FIG. 4C) before remaining upper tier stones 110 are disposed around the lower tier stone 120 (FIG. 4D) along a remaining portion of the periphery of the setting 130. The upper tier stones 110 are compacted or packed firmly inwards towards the lower tier stone 120 by clamping upper tier stones with the prongs 131 (FIG. 4E). Once compacted, girdles 210a-210f of the upper tier stones 110 are disposed in overlapping abutment with a girdle 220 of the lower tier stone 120 to secure the lower tier

stone 120 in the setting 130 while the upper tier stones 110 are juxtaposed in tight abutment.

According to a second method, all upper tier stones 110 are disposed along a periphery of the setting 130 before disposing the lower tier stone 120 in the center retainer 132 of the setting 130. The upper tier stones 110 are then compacted tightly with the setting 130 by clamping the stones with prongs 131. Similarly, once compacted, girdles 210a-210f of the upper tier stones 110 are disposed in overlapping abutment with the lower tier stone 120 to secure the lower tier stone 120 in the setting 130 while the upper tier stones 110 are juxtaposed in tight abutment.

It is to be understood that other embodiments will be apparent to those skilled in the art from consideration of the specification and practice of the present invention. Furthermore, certain terminology has been used for the purposes of descriptive clarity, and not to limit the invention. The embodiments and features described above should be considered exemplary, with the invention being defined by the appended claims.

Claims

1. A composite gemstone arrangement comprising:
 - a first stone;
 - a second plurality of stones abutting one another and disposed at least partially surrounding the first stone;
 - a setting to retain the first stone and the second plurality of stones; and
 - a plurality of prongs to secure the second plurality of stones to the setting, wherein the first stone is secured to the setting by overlapping abutment of the second plurality of stones.
2. The composite gemstone arrangement of claim 1, wherein each of the second plurality of stones includes a girdle arranged in overlapping abutment with a girdle of the first stone.
3. The composite gemstone arrangement of claim 2, wherein the setting includes a plurality of prongs spaced apart on a periphery of the setting to secure the second plurality of stones to the setting.
4. The composite gemstone arrangement of claim 3, wherein the setting includes a centre retainer to receive the first stone therein.
5. The composite gemstone arrangement of claim 1, wherein the second plurality of stones include at least six stones.
6. The composite gemstone arrangement of claim 1, wherein the plurality of prongs are disposed between adjacent ones of the second plurality of stones.
7. The composite gemstone arrangement of claim 1, wherein abutting portions between the first stone and the second plurality of stones are substantially free of a retaining structure.

8. A method of setting gemstones, comprising:
- providing a setting having a centre retainer;
 - disposing a first plurality of stones along a periphery of the setting;
 - disposing a second stone seated in the centre retainer; and
 - compacting the first plurality of stones in overlapping abutment with the centre stone to secure the second stone to the setting.
9. The method of claim 8, wherein compacting the first plurality of stones includes providing a plurality of prongs at the periphery of the setting to compact the first plurality of stones towards the second stone.
10. The method of claim 9, wherein compacting the first plurality of stones includes disposing girdles of the first plurality of stones in overlapping abutment with a girdle of the second stone.
11. The method of claim 8, wherein abutting portions between the second stone and the first plurality of stones are substantially free of a retaining structure.
12. A method of setting gemstones, comprising:
- providing a setting having a centre retainer;
 - disposing a first plurality of stones partially along a periphery of the setting;
 - disposing a second stone seated in the centre retainer;
 - disposing a third plurality of stones along a remaining portion of the periphery; and
 - compacting the first and the third plurality of stones in overlapping abutment with the second stone to secure the second stone to the setting.

13. The method of claim 12, wherein compacting the first and the third plurality of stones includes providing a plurality of prongs at the periphery of the setting to compact the first and the third plurality of stones towards the second stone.

14. The method of claim 13, wherein compacting the first and the third plurality of stones includes disposing girdles of the first and the third plurality of stones in overlapping abutment with a girdle of the second stone.

15. The method of claim 13, wherein abutting portions between the second stone and the first plurality of stones are substantially free of a retaining structure.