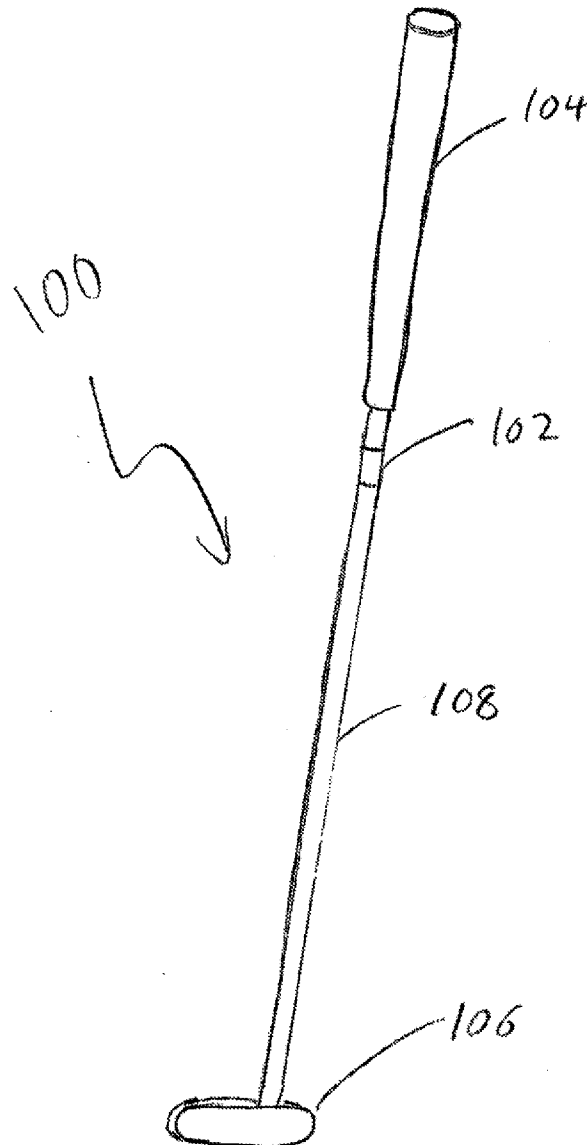


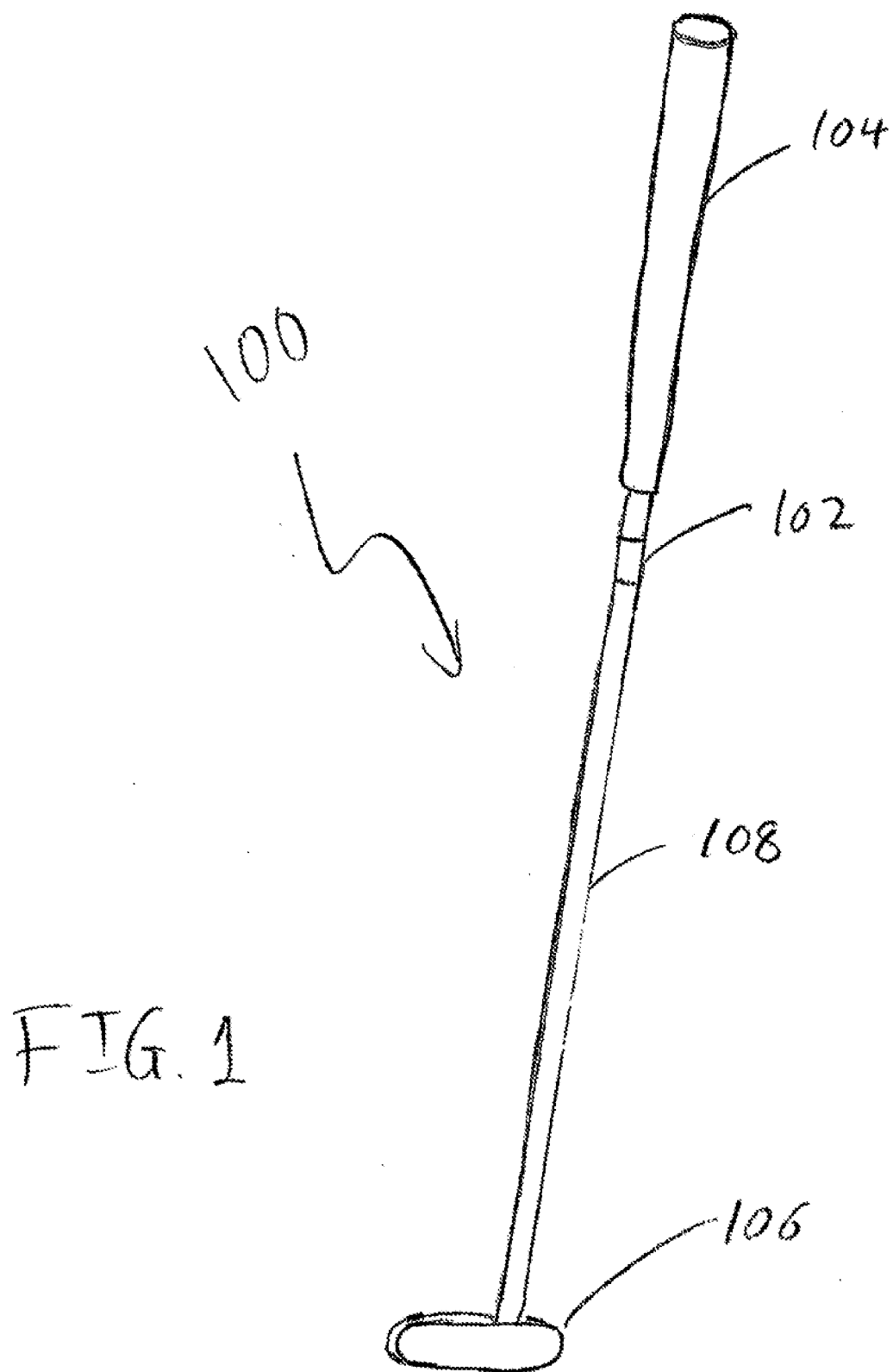


US 20120252596A1

(19) **United States**(12) **Patent Application Publication**  
**Cameron**(10) **Pub. No.: US 2012/0252596 A1**(43) **Pub. Date: Oct. 4, 2012**(54) **GOLF CLUB WITH BEZELED JEWELRY**(52) **U.S. Cl. .... 473/316; 473/324**(76) **Inventor: Don T. Cameron, Carlsbad, CA**  
**(US)**(21) **Appl. No.: 13/476,486**(22) **Filed: May 21, 2012****Related U.S. Application Data**(63) Continuation-in-part of application No. 12/694,546,  
filed on Jan. 27, 2010, now Pat. No. 8,182,360.**Publication Classification**(51) **Int. Cl.**  
**A63B 53/04** (2006.01)  
**A63B 53/00** (2006.01)(57) **ABSTRACT**

A golf club with a rigid shaft band is disclosed herein. More specifically, the present invention discloses a golf club with a rigid shaft band that is placed at a precise location on the shaft itself, utilizing a precise taper within the internal surface of the rigid shaft band to control the location. Even more specifically, the rigid shaft band may be placed at a distance that is greater than about 1 inch and less than about 3 inches away from the butt end of the golf club with a tapered internal surface of greater than about 0.573 degrees and less than about 1.146 degrees.





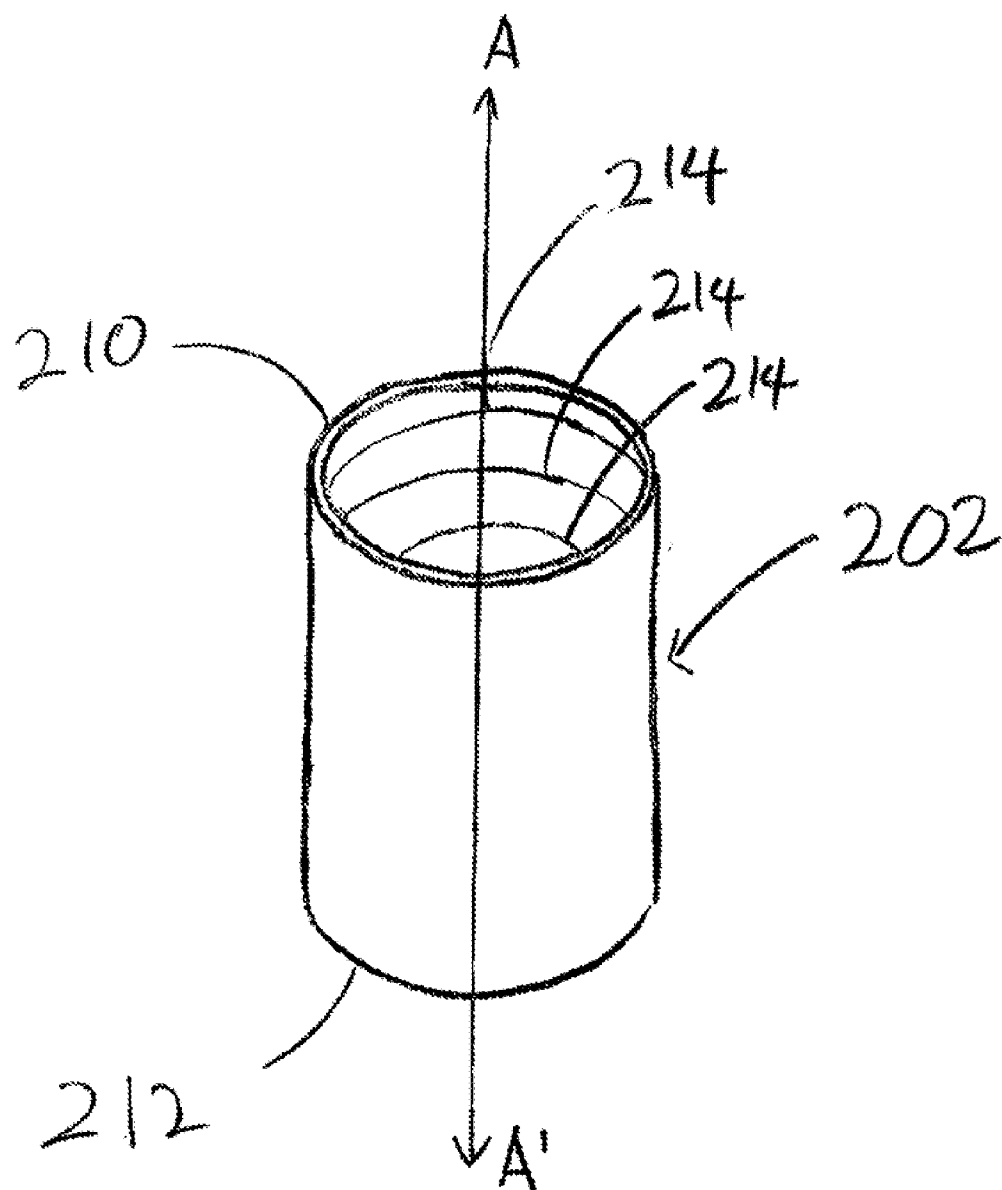


FIG. 2

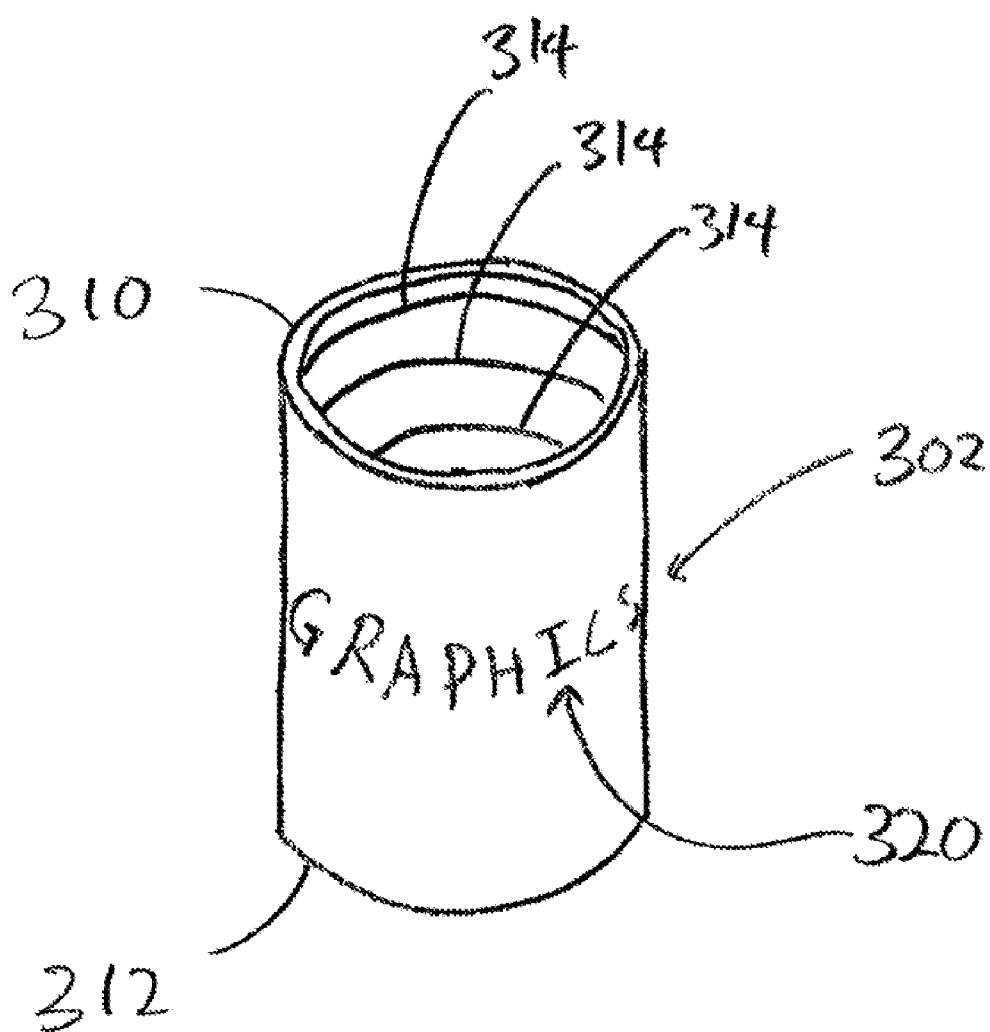
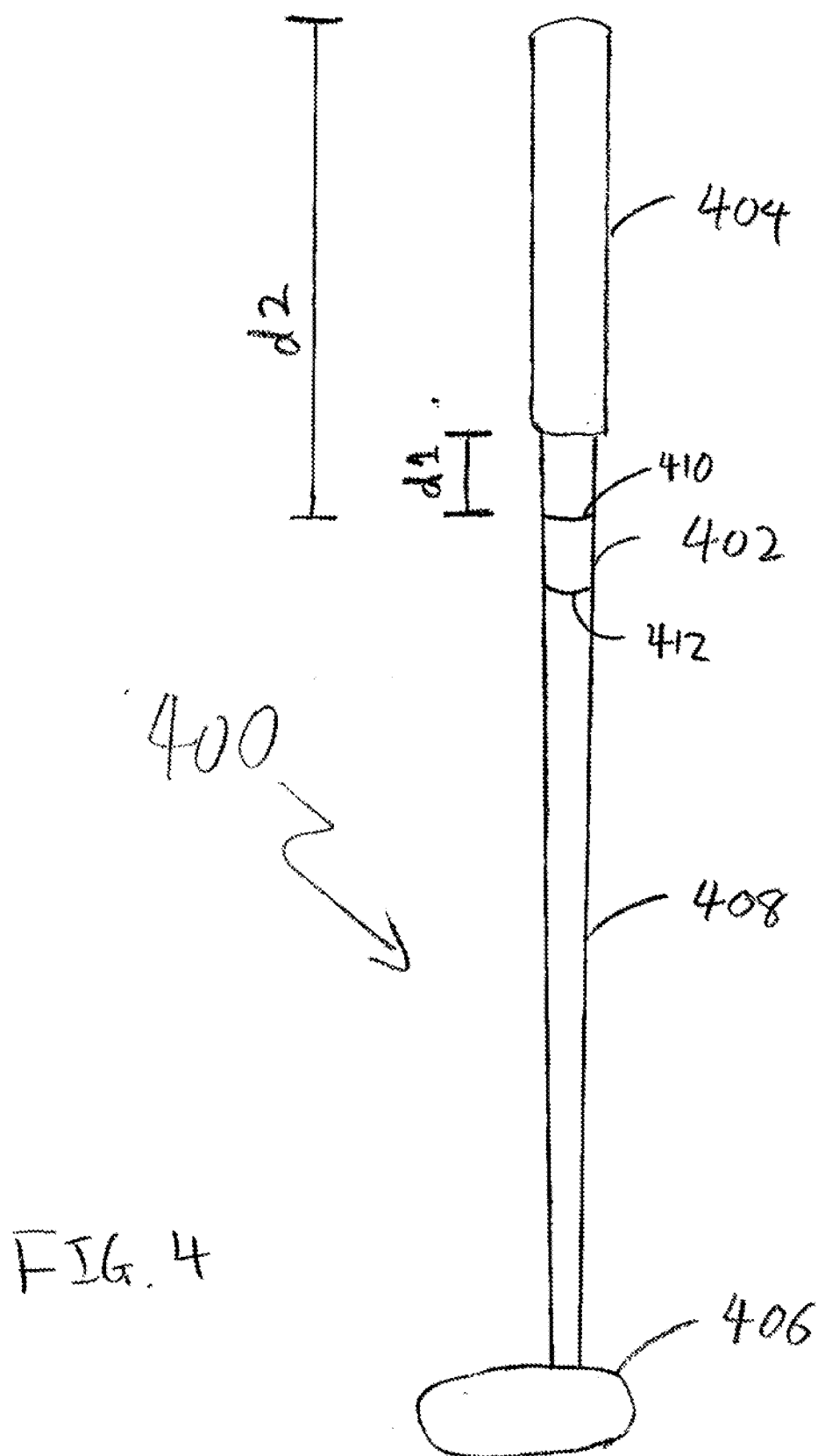


FIG. 3



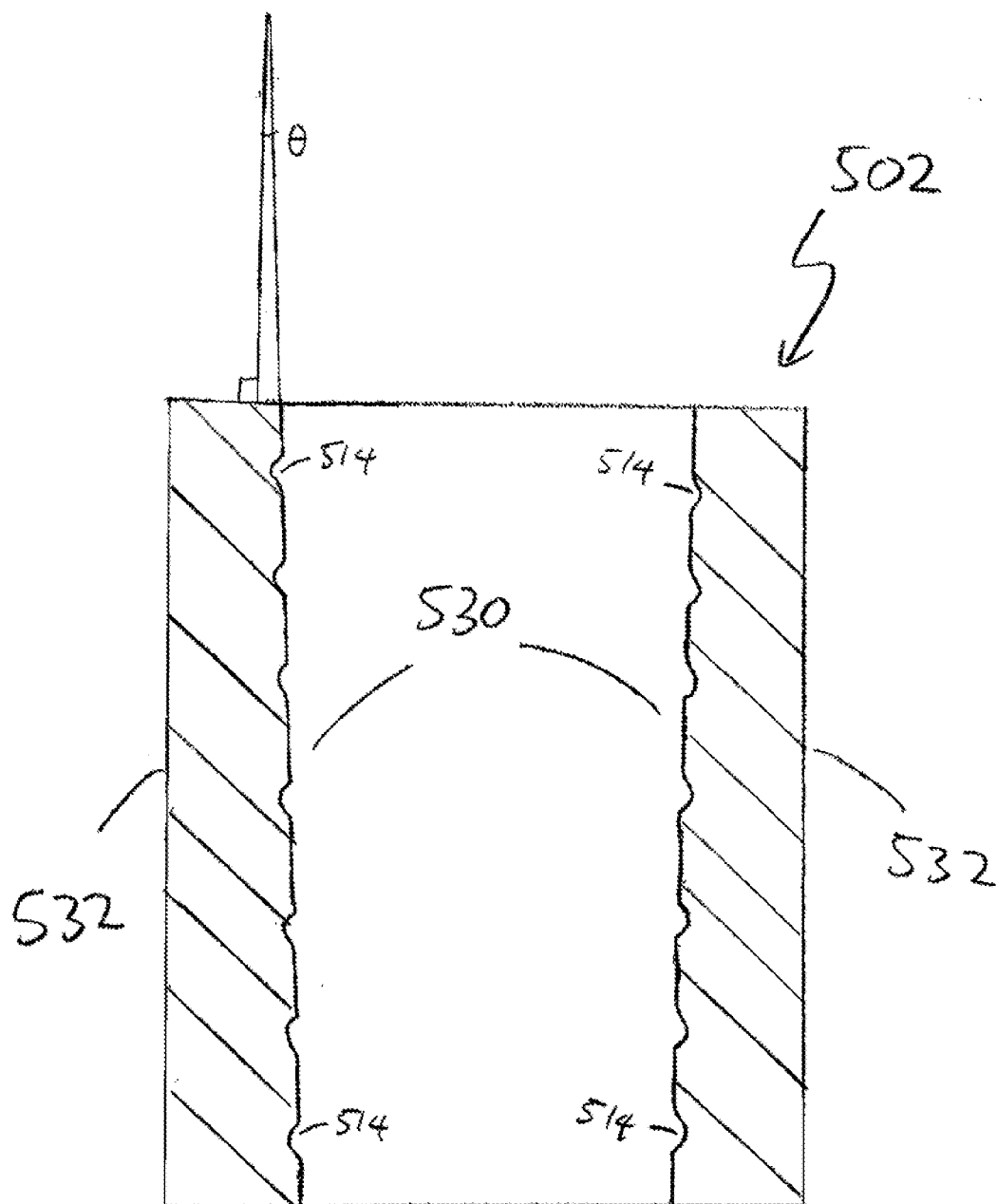


FIG. 5

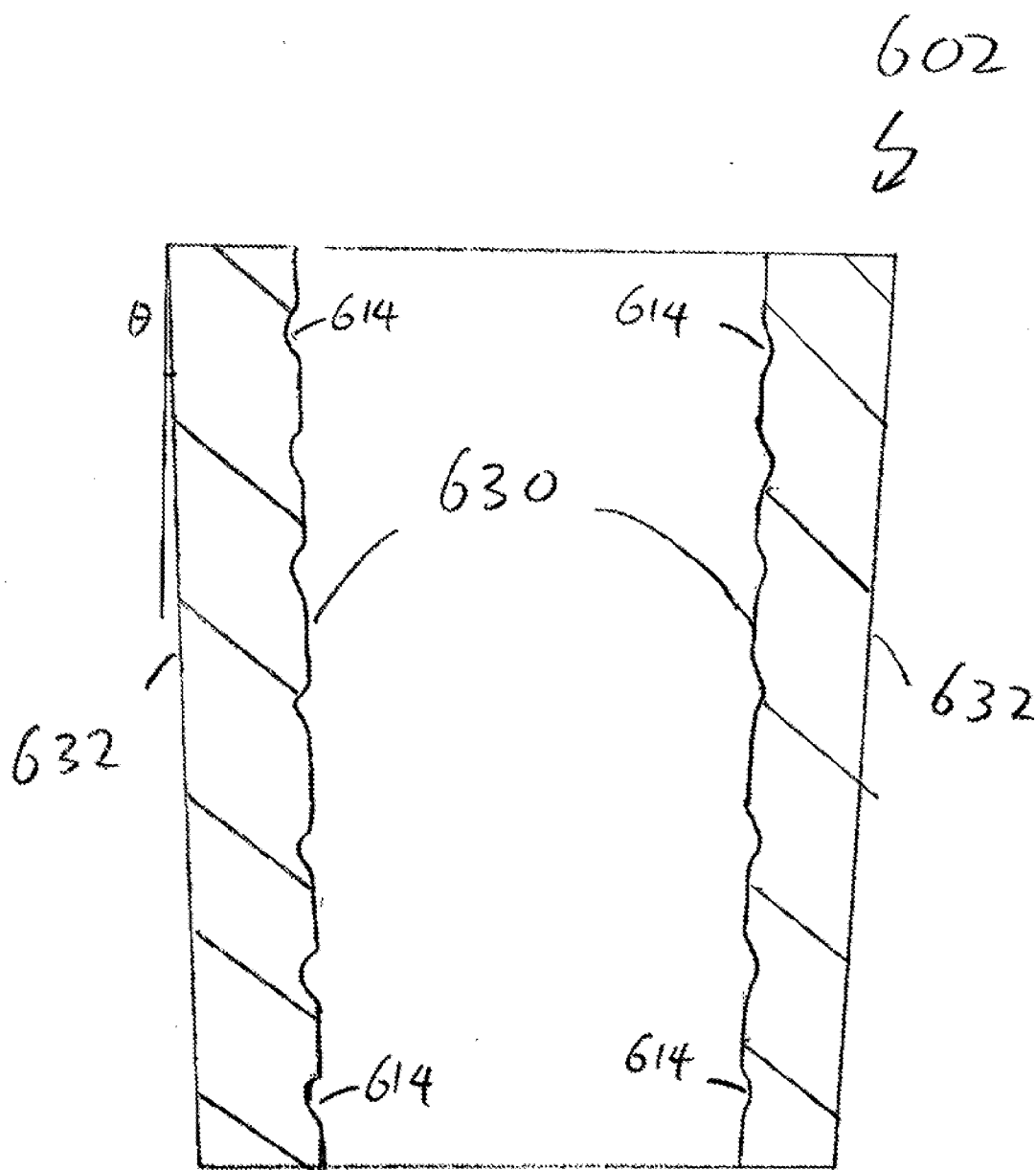


FIG. 6

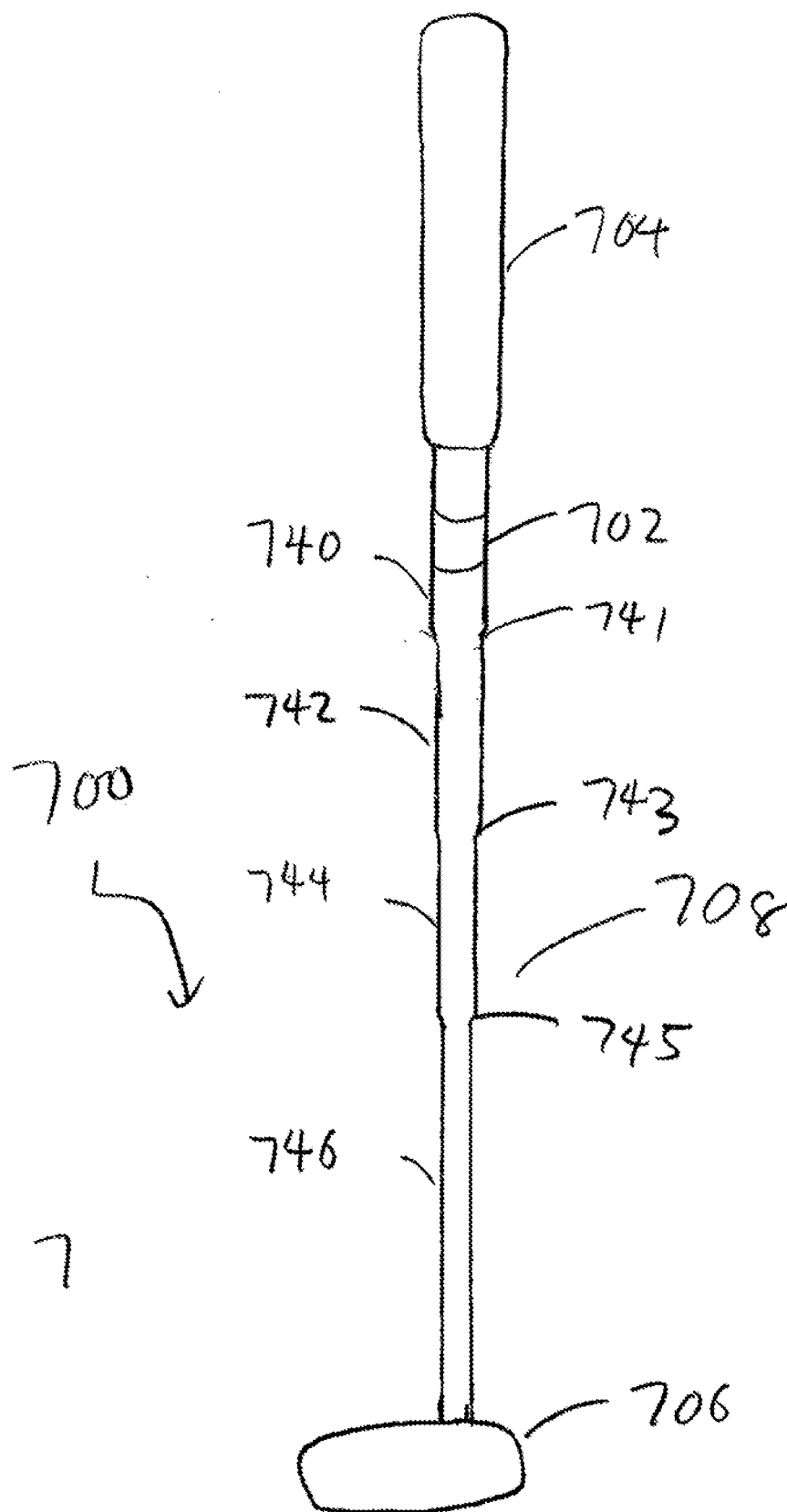


FIG. 7



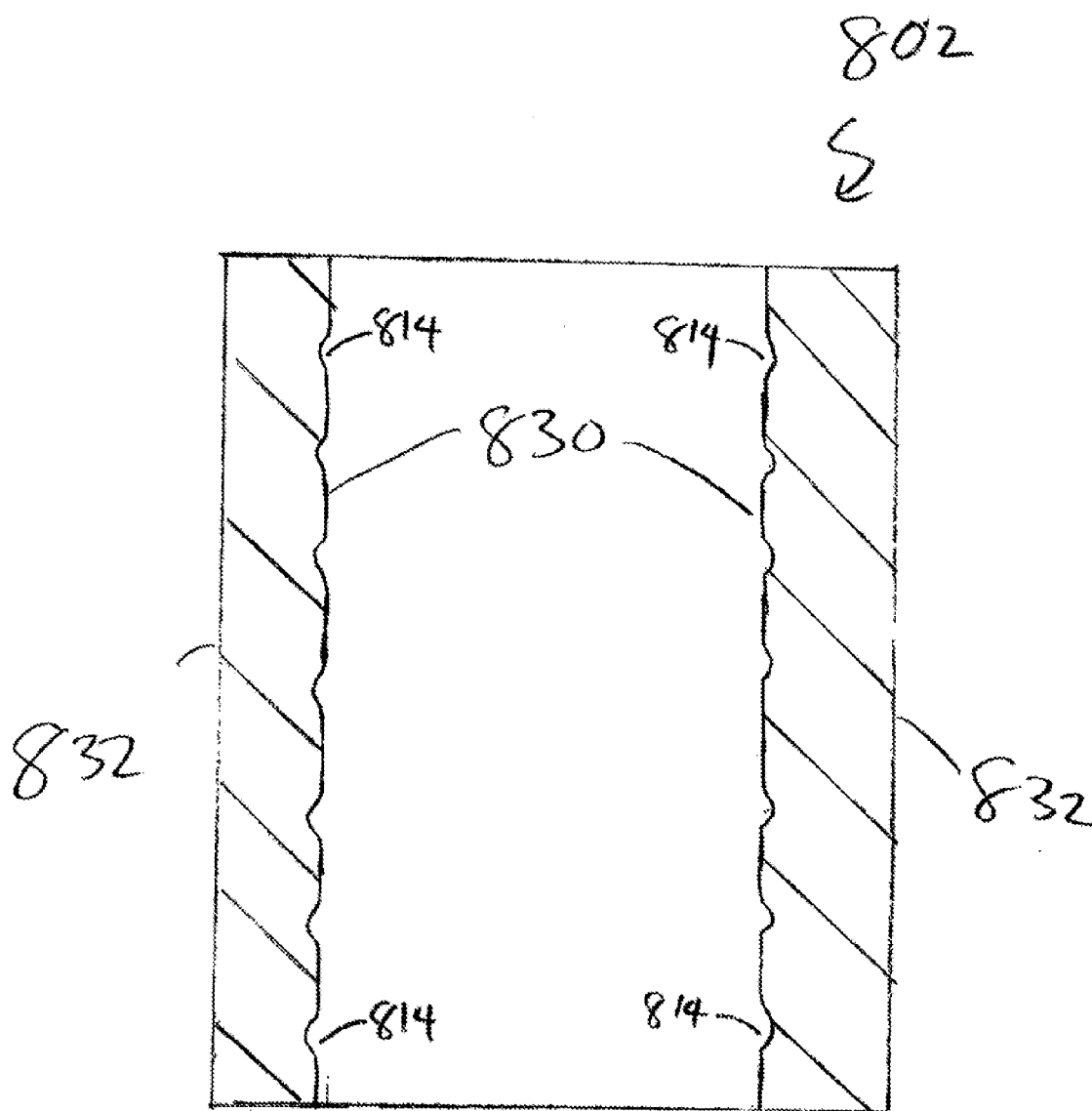


FIG. 8

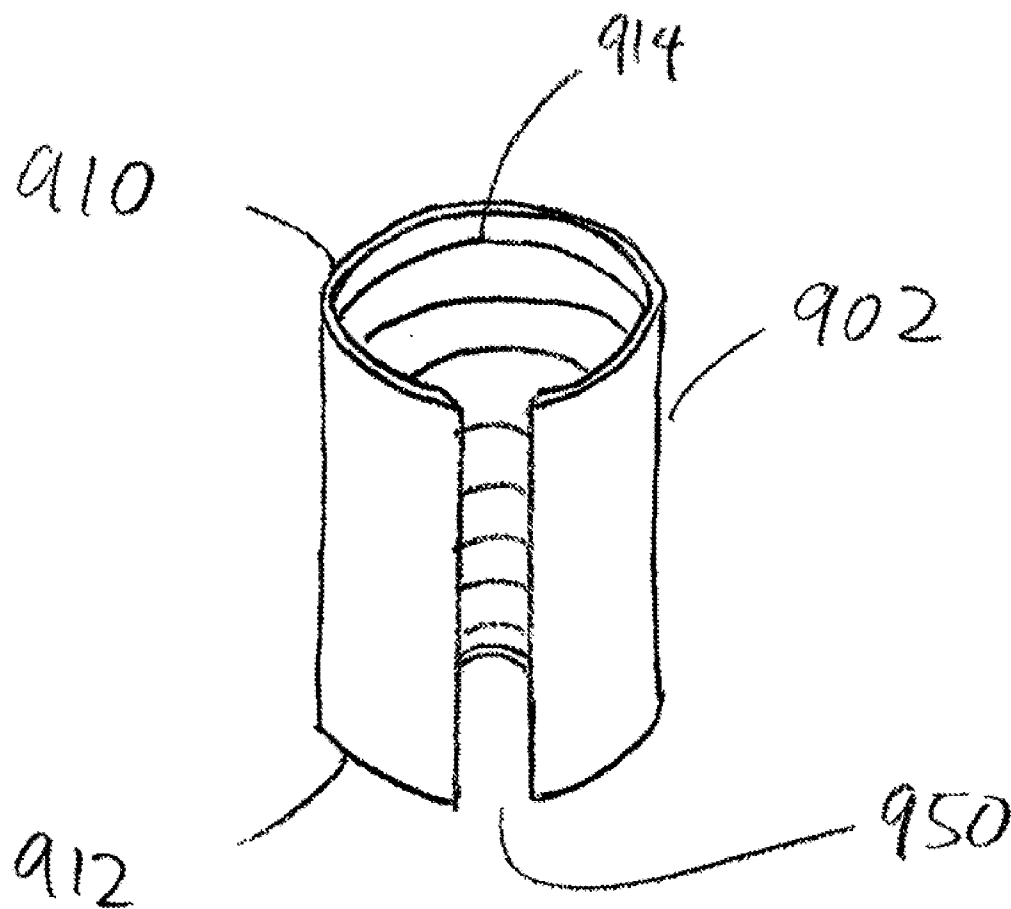


FIG. 9

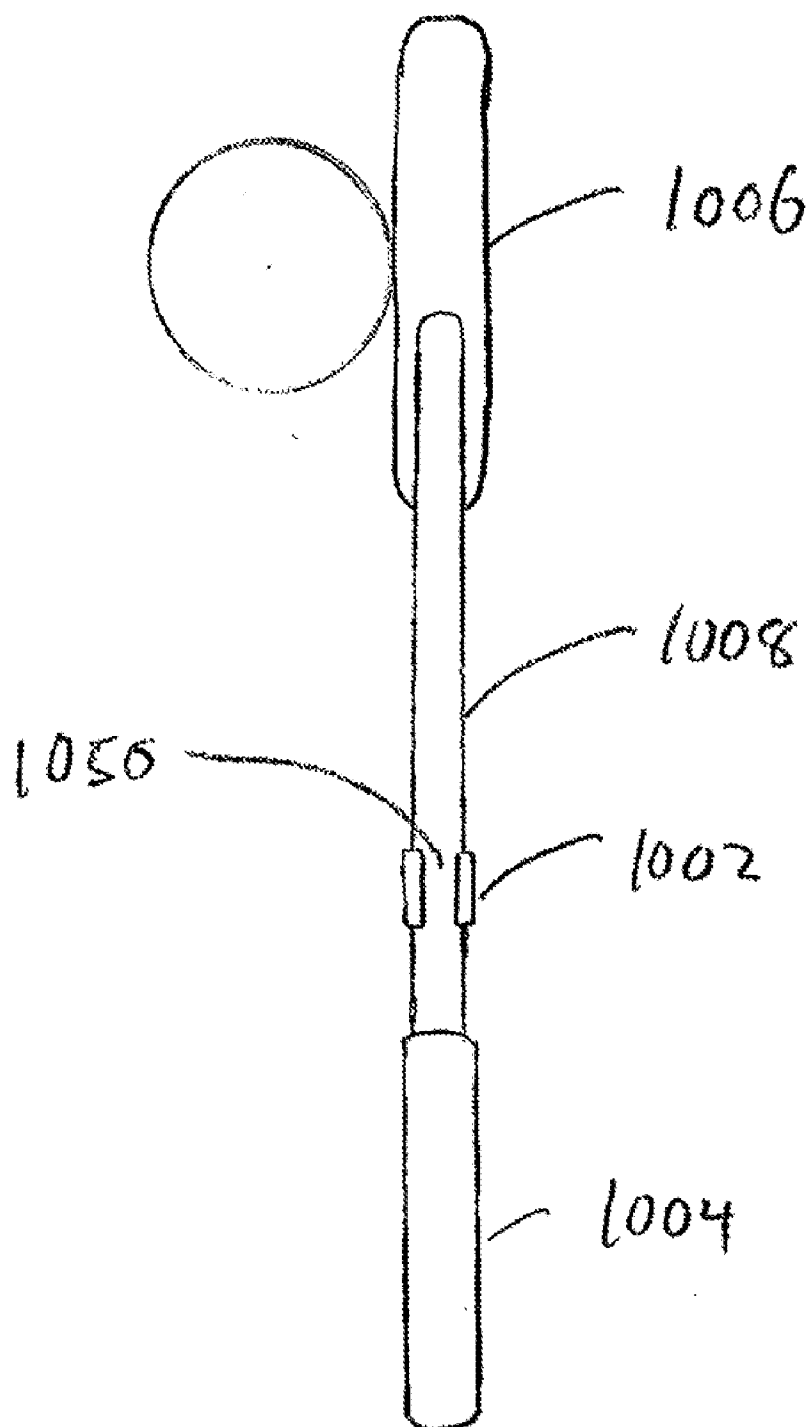


FIG. 10

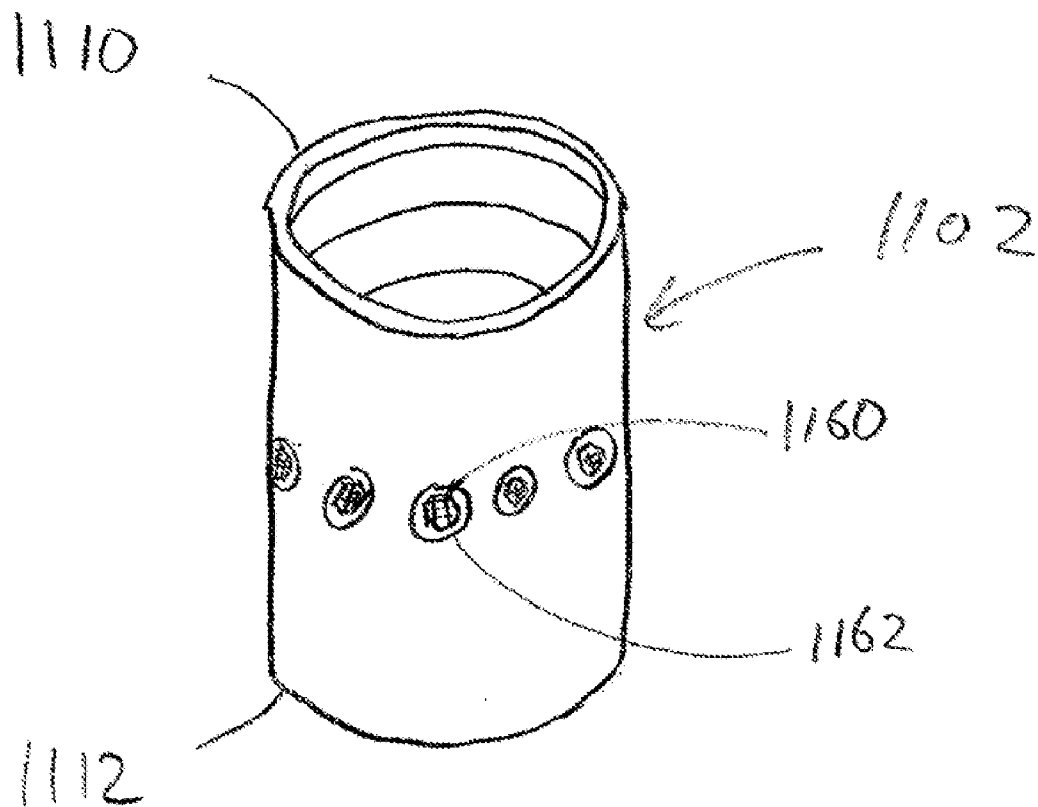


FIG. 11

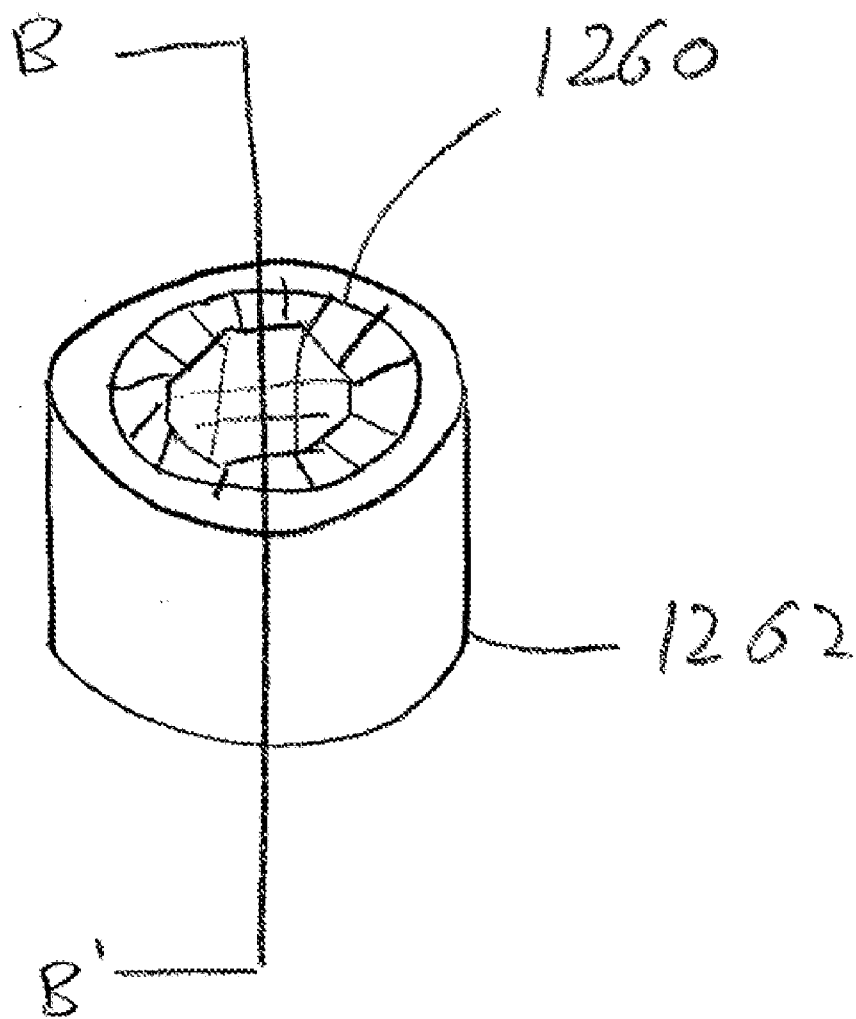


FIG. 12

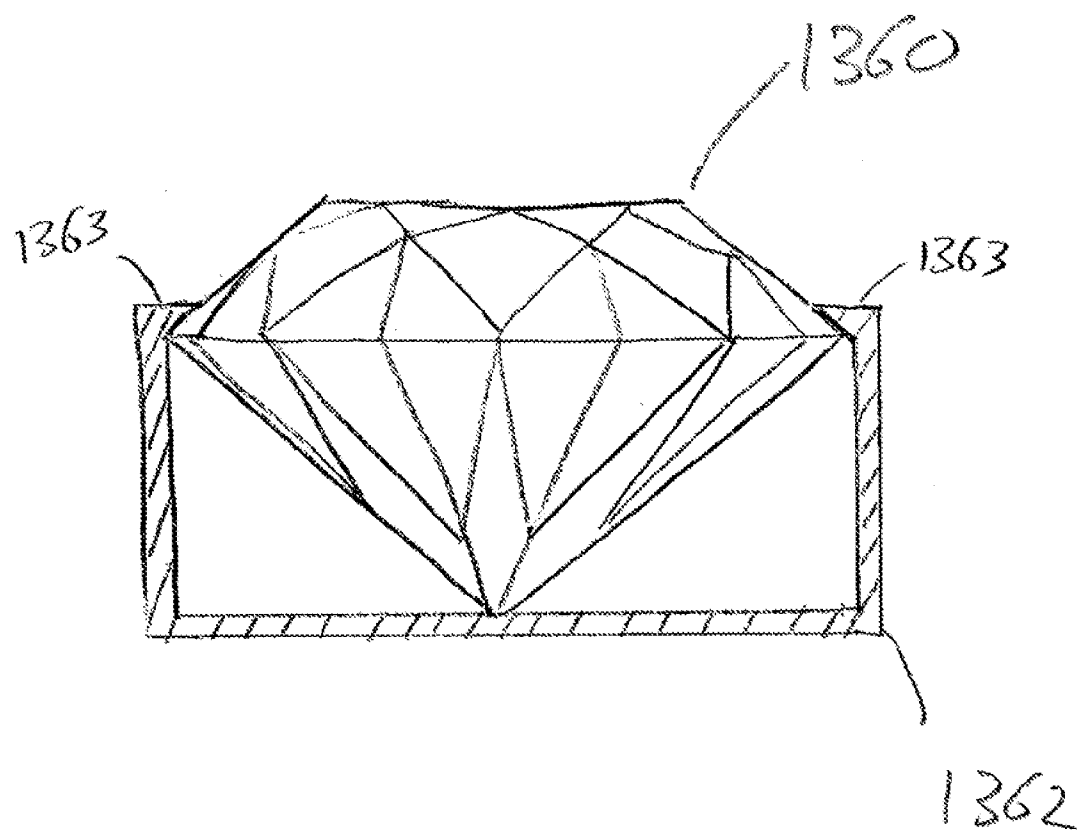


FIG. 13

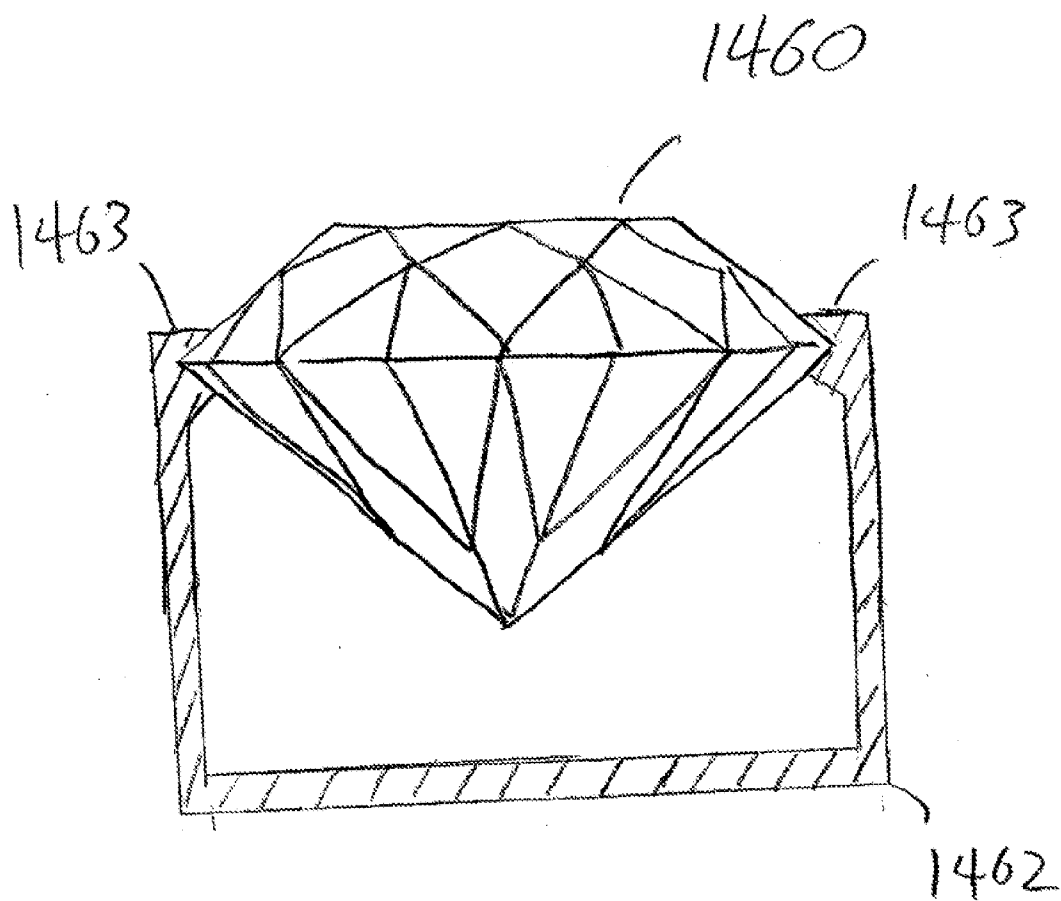


FIG. 14

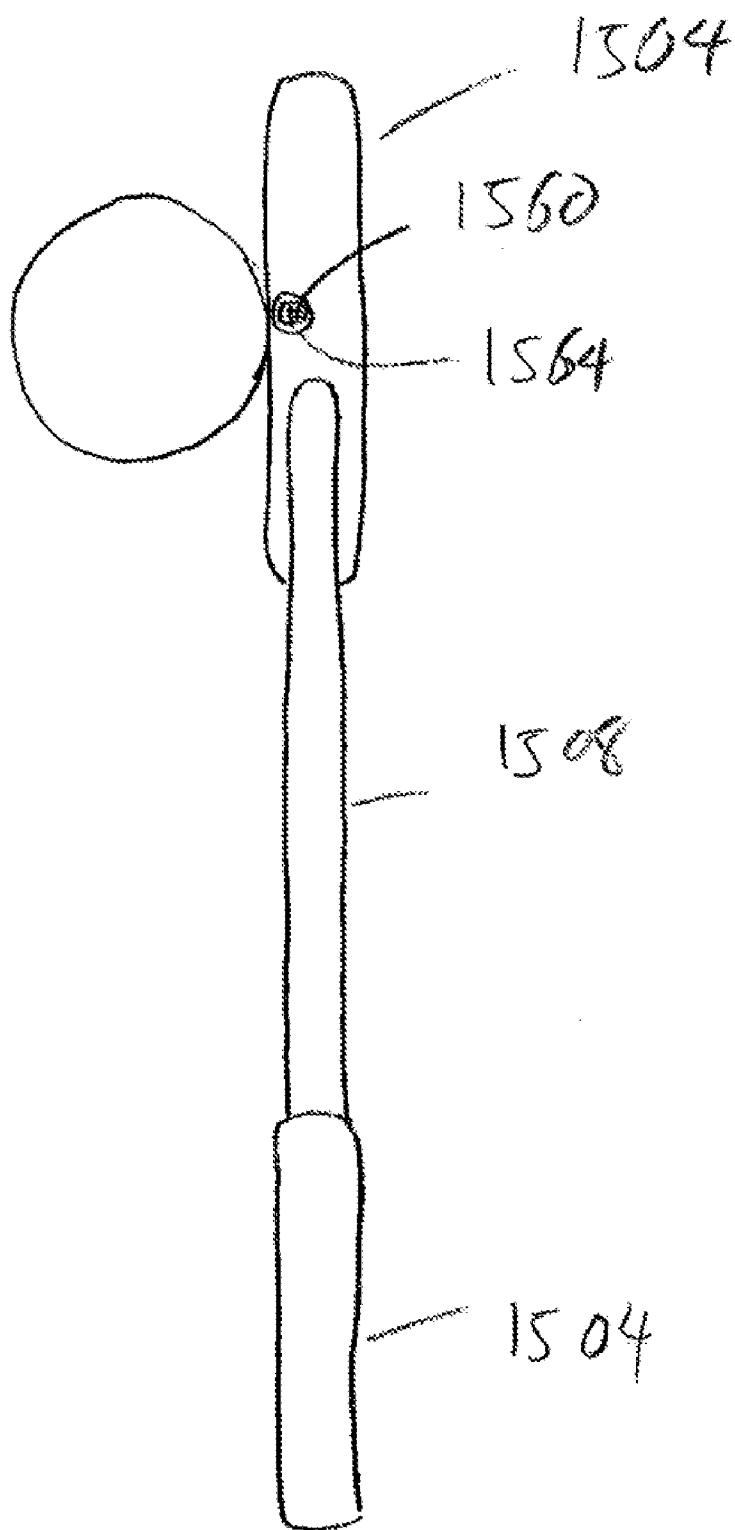


FIG. 15



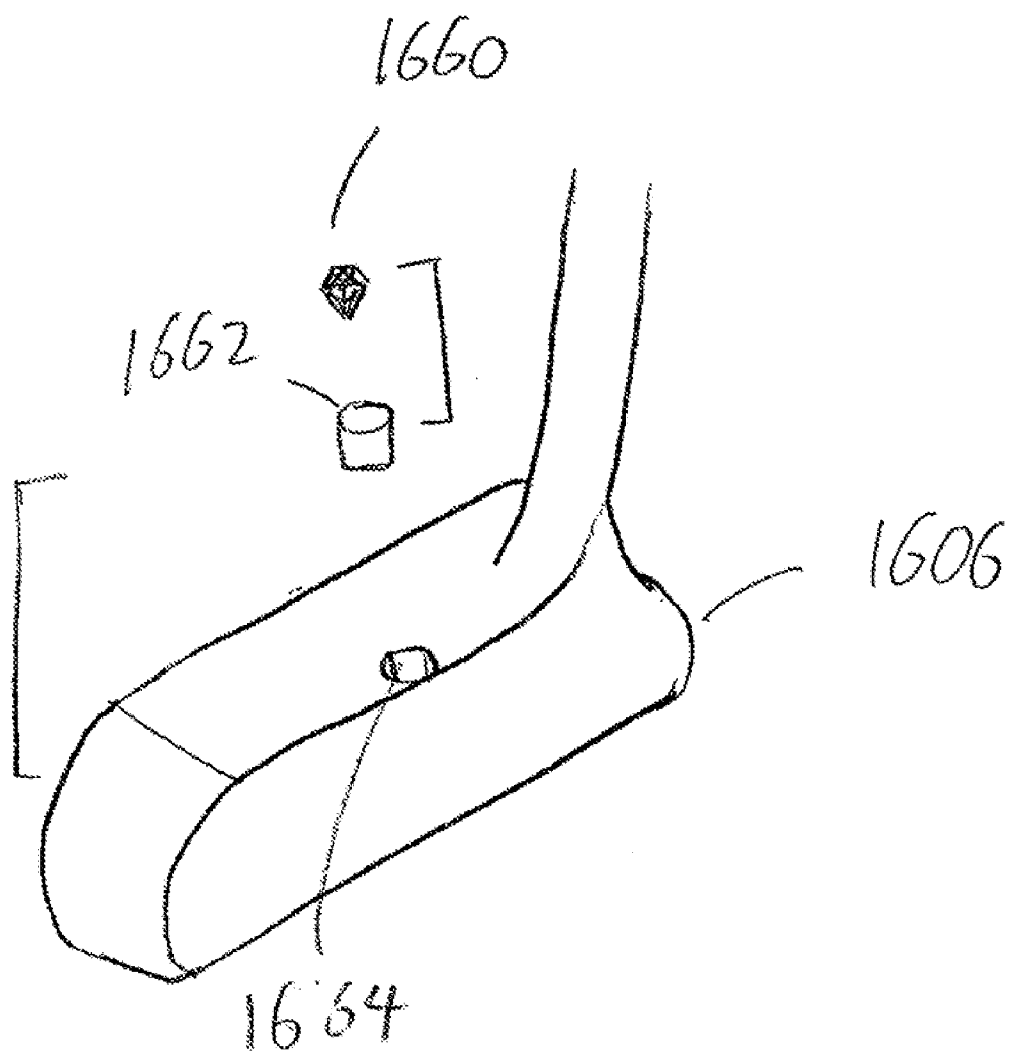


FIG. 16

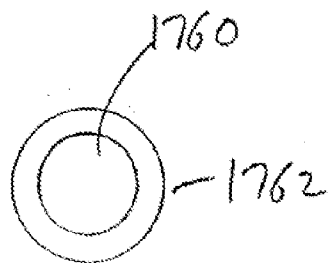


FIG. 17A

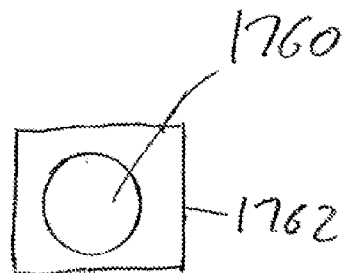


FIG. 17B

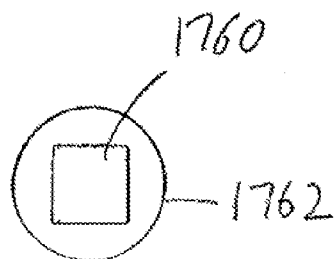


FIG. 17C

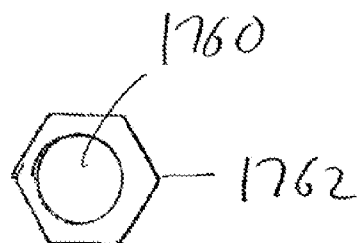


FIG. 17D

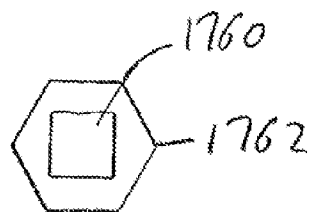


FIG. 17E

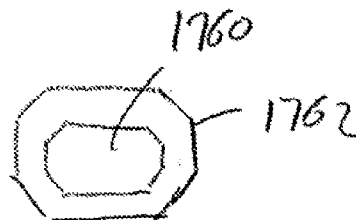


FIG. 17F

## GOLF CLUB WITH BEZELED JEWELRY

### CROSS-REFERENCE TO RELATED APPLICATIONS

**[0001]** The present application is a Continuation-In-Part of U.S. patent application Ser. No. 12/694,546, filed on Jan. 27, 2010, the disclosure of which is hereby incorporated by reference in its entirety.

### FIELD OF THE INVENTION

**[0002]** The present invention relates a golf club with a head, a shaft, a grip, and a rigid shaft band attached to the shaft of the golf club. More specifically, the rigid shaft band in accordance with the present invention may contain one or more markings, and is fixedly attached to the shaft of a golf club at a preferred location. Even more specifically, the rigid shaft band in accordance with the present invention may contain a tapered inner surface that coincides with the tapered outer surface of the golf club shaft, controlling the location of the rigid shaft band along the length of the golf club shaft to improve the cosmetic appeal and the performance of the golf club itself.

### BACKGROUND OF THE INVENTION

**[0003]** Golf clubs have generally been designed with three major components, a head, a shaft, and a grip. Although there are instances where other minor components such as the ferrule may be added to the golf club to improve the cosmetic transition between the head and the shaft, the three major components mentioned above are the most visible elements of a golf club itself.

**[0004]** Because of the need for different manufacturers to promote their product, the various manufacturers will generally try to promote their own product by putting their names on the golf club itself. However, due to the limited space available on a golf club for the placement of such an advertisement, and because of the need for enhanced cosmetic appeal, the various manufacturers have to utilize creative methods to promote their product beyond merely slapping a sticker onto the product itself. More often than not, the various advertising efforts of the manufacturer will seamlessly incorporate their company logo together with the golf club itself in a way that enhances the cosmetic appeal of a golf club.

**[0005]** U.S. Patent Publication No. 2007/0072693 by Kallberg illustrates one of these attempts to seamlessly decorate the head of a golf club by disclosing a method that selects a visual display, presents a desired message, and couples the visual display to a top surface of a golf club head. U.S. Pat. No. 7,377,859 to Reardon illustrates an attempt to create a decorative grip of a golf club by disclosing a decorative grip system that includes a decorative grip having a label with decorative indicia located thereon, including an underlay layer located generally inside of the label and a generally translucent overlay layer located outside of the label. Finally, U.S. Pat. No. 6,679,787 to Unosawa illustrates an attempt to decorate the shaft of a golf club by disclosing an upper ply being transparent or at least having translucency to the extent that the interior surface is visible, and a lower ply having different surface configuration from the upper ply, and the surface configuration of which can be seen through the upper ply provided underneath the upper ply.

**[0006]** Golf club shafts, due to their relatively large surface area, combined with the relatively manageable geometry, are often the prime location for incorporating the decorative marks of a manufacturer. U.S. Pat. No. 5,234,217 to Johnson illustrates one of the more common ways of decorating the shaft of a golf club head by either printed on the surface of the shaft or can be in the form of an elongated sticker that is wrapped around the shaft. Utilizing a sticker type decorative band around the shaft of a golf club, although greatly enhances the visibility and cosmetic appeal of a golf club shaft, may be undesirable because the stickers can come apart from the golf club shaft itself. These stickers, although originally intended to enhance the cosmetic appeal of the golf club, begin losing their cosmetic appeal when they start peeling and cracking overtime.

**[0007]** In addition to enhancing the cosmetic appeal of a golf club, and due to the limited space and opportunity within the golf club itself for plain cosmetic enhancement, the cosmetic features that are used to improve the visual appeal of a golf club may often need to function to improve the performance of the golf club as well. U.S. Pat. No. 5,800,285 to Thorne et al. discloses a head of a golf club that has a decorative feature that also have a function component by having scorelines and circles that are depressions in the club face that function to decorate the head, assist in club-and-ball alignment, and to engage the golf ball surface to create golf ball spin. U.S. Pat. No. 5,248,141 to Kelly discloses a grip of a golf club that has a decorative feature that is also functional by having a groove pattern that, in addition to being decorative, acts much like the tread patterns of automobile tires, thus increasing the traction between the grip and a golfer's hands.

**[0008]** Hence, as it can be seen from above, attempts to improve the cosmetic appeal of the shaft of a golf club may be significantly flawed in numerous aspects. First and foremost, one of the most common ways of improving the cosmetic appeal of a shaft by utilizing stickers can end up cracking and peeling, causing them to detract from the cosmetic appeal of the golf club. Additionally, despite all the attempts above to incorporate cosmetic features that also improve the functionality to other components of the golf club such as the head and the grip, no relevant attempts have been made to do so with the cosmetic improvements directed at golf club shafts. Ultimately, because of the lack of development, there is a need in the field for a golf club that contains a feature that can improve the cosmetic appeal as well and the functional performance of a golf club shaft.

### BRIEF SUMMARY OF THE INVENTION

**[0009]** One aspect of the present invention is a golf club comprising a grip at a proximal end of the golf club, a head at a distal end of the golf club, and a shaft connecting the grip and the head. The golf club in accordance with this aspect of the present invention may also comprise of a rigid shaft band that circumferentially encompasses the shaft. The rigid shaft band is further comprising an external surface, an internal surface, a top lip, and a bottom lip, wherein the location of the rigid shaft band along the shaft is determined by a first distance calculated by the distance between the top lip of the rigid shaft band and the grip. Finally, the golf club head in accordance with this aspect of the present invention may have greater than 90% of the internal surface of the rigid shaft band engaging the external surface of the shaft.

**[0010]** In another aspect of the present invention is a golf club comprising a grip at a proximal end of the golf club, a

head at a distal end of the golf club, and a shaft connecting the grip and the head. The golf club in accordance with this aspect of the present invention may also comprise a rigid shaft band that circumferentially encompasses the shaft. The rigid shaft band is further comprising of an external surface, an internal surface, a top lip, and a bottom lip, wherein the location of the rigid shaft band along the shaft is substantially near a fulcrum of the golf club. Finally, the golf club head in accordance with this aspect of the present invention may have greater than 90% of the internal surface of the rigid shaft band engaging the external surface of the shaft.

**[0011]** In a further aspect of the present invention is a rigid shaft band comprising an external surface, an internal surface, a top lip, and a bottom lip, wherein the internal surface of the rigid shaft band is tapered at an angle of greater than about 0.573 degrees and less than about 1.146 degrees.

**[0012]** These and other features, aspects and advantages of the present invention will become better understood with references to the following drawings, description and claims.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0013]** The foregoing and other features and advantages of the invention will be apparent from the following description of the invention as illustrated in the accompanying drawings. The accompanying drawings, which are incorporated herein and form a part of the specification, further serve to explain the principles of the invention and to enable a person skilled in the pertinent art to make and use the invention.

**[0014]** FIG. 1 shows a perspective view of a golf club in accordance with an exemplary embodiment of the present invention;

**[0015]** FIG. 2 shows a perspective view of a rigid shaft band in accordance with an exemplary embodiment of the present invention;

**[0016]** FIG. 3 shows a perspective view of a rigid shaft band in accordance with an alternative embodiment of the present invention;

**[0017]** FIG. 4 shows a frontal view of a golf club in accordance with an alternative embodiment of the present invention wherein the shaft is tapered;

**[0018]** FIG. 5 shows a cross-sectional view of a rigid shaft band in accordance with an alternative embodiment of the present invention taken along cross sectional line A-A' in FIG. 2;

**[0019]** FIG. 6 shows a cross-sectional view of a rigid shaft band in accordance with an alternative embodiment of the present invention taken along cross sectional line A-A' in FIG. 2;

**[0020]** FIG. 7 shows a frontal view of a golf club in accordance with an alternative embodiment of the present invention wherein the shaft is stepped;

**[0021]** FIG. 8 shows a cross-sectional view of a rigid shaft band in accordance with an alternative embodiment of the present invention taken along cross sectional line A-A' in FIG. 2;

**[0022]** FIG. 9 shows a perspective view of a rigid shaft band in accordance with an alternative embodiment of the present invention containing an opening;

**[0023]** FIG. 10 shows a top view of a golf club in accordance with an alternative embodiment of the present invention from an address position;

**[0024]** FIG. 11 shows a perspective view of a rigid shaft band in accordance with an alternative embodiment of the present invention wherein a jewel is attached to the rigid shaft band;

**[0025]** FIG. 12 shows an enlarged perspective view of a jewel with a mounting bezel in accordance with an exemplary embodiment of the present invention;

**[0026]** FIG. 13 show a cross-sectional view of the jewel with a mounting bezel taken along cross-sectional line B-B' in FIG. 12;

**[0027]** FIG. 14 show a cross-sectional view of the jewel with a mounting bezel taken along cross-sectional line B-B' in FIG. 12 in accordance with an alternative embodiment of the present invention;

**[0028]** FIG. 15 shows a top view of a golf club head in accordance with an alternative embodiment of the present invention wherein the jewel can be used as an alignment aid;

**[0029]** FIG. 16 shows an enlarged exploded view of a golf club head with the bezel and jewel being exposed; and

**[0030]** FIGS. 17A-17F show top views of the bezel jewelry in accordance with various alternative embodiments of the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

**[0031]** The following detailed description describes the best currently contemplated modes of carrying out the invention. The description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating the general principles of the invention, since the scope of the invention is best defined by the appended claims.

**[0032]** Various inventive features are described below that can each be used independently of one another or in combination with other features. However, any single inventive feature may not address any or all of the problems discussed above or may only address one of the problems discussed above. Further, one or more of the problems discussed above may not be fully addressed by any of the features described below.

**[0033]** FIG. 1 here shows a perspective view of a golf club 100 containing a rigid shaft band 102 in accordance with an exemplary embodiment of the present invention. More specifically, golf club 100, as shown in the current exemplary embodiment, may have a grip 104 connected to a proximal end of the golf club 100 and a head 106 connected to a distal end of the golf club 100. The shaft 108, in this current exemplary embodiment, may generally be juxtaposed in between the grip 104 and the head 106, connecting the grip 104 to the head 106.

**[0034]** It should be noted here that the rigid shaft band 102 shown in FIG. 1 may generally be used to improve the cosmetic appeal of the golf club 100 as well as improve the performance of the golf club 100. Cosmetically, when compared to a prior art shaft sticker, the current rigid shaft band 102 provides a more sturdy look that is more desirable than the flimsy sticker used on the prior art golf club shafts. Performance wise, the rigid shaft band 102 not only provides a more permanent way of enhancing the look and feel of the golf club 100, it could also help by absorbing the unnecessary vibrations, adjusting the weight and/or swingweight of the golf club, or even assisting with the alignment of the golf club 100 itself.

**[0035]** In order to completely understand the severity of the drawback of a prior art shaft sticker, it may be necessary to first understand how a golfer stores and carries his or her golf

clubs. Because a golfer requires numerous golf clubs during a round of golf, golfers generally utilize a golf bag with openings near the top of the golf bag, where the golf clubs are inserted. More often than not, and in order to maintain the relative position of the golf clubs within the golf bag, these golf bags come equipped with dividers at the opening of the golf bag. Hence, a golfer, as he or she is playing a round of golf, may take out his or her clubs and put them back into his bag many times, subjecting the prior art shaft sticker to numerous abrasions with the opening of the bag as well as the dividers of the bag. Hence, as any golfer can tell you, these prior art shaft stickers begin to peel and crack due to the normal wear and tear of playing golf, making them visually unsightly.

**[0036]** The rigid shaft band **102**, as shown in FIG. 1, helps address this common issue associated with the deterioration, peeling, and cracking of these prior art shaft stickers by providing an alternative that is less flimsy and more durable. In addition to eliminating all of the drawbacks of the prior art shaft stickers, the rigid shaft band **102** may also provide numerous performance features such as the ability to absorb the vibration of the shaft **108**, the ability to adjust the overall weight of the golf club **100** without adjusting the swingweight, the ability to make minor and precise adjustment to the swingweight of the golf club, the ability to help with the alignment of the grip **104**, and numerous other performance benefits achievable by having such a rigid shaft band **102**.

**[0037]** FIG. 2 shows an enlarged perspective view of the rigid shaft band **202** in accordance with an exemplary embodiment of the present invention. This enlarged perspective view of the rigid shaft band **202** allows a clearer view of the top lip **210**, the bottom lip **212**, as well as the depressions **214** within the internal surfaces of the rigid shaft band **202**. The top lip **210** of the rigid shaft band **202**, as shown in the current exemplary embodiment, may generally be located near the top of the golf club **100** (shown in FIG. 1) closer to the grip **104** (shown in FIG. 1) portion of the golf club **100**. The bottom lip **212**, alternatively, may be placed further away from the grip **104** (shown in FIG. 1) and closer to the head **106** (shown in FIG. 1) of the golf club **100** (shown in FIG. 1). The orientation of the rigid shaft band **202** may be important to the proper functionality of the rigid shaft band **202** itself, as the internal surface of the rigid shaft band **202** may have a taper that would prohibit the rigid shaft band **202** to be assembled in the reverse direction. Finally the plurality of depressions **214** shown in FIG. 2 are important to the operation of the rigid shaft band **202**, as they may generally serve to retain a bonding material that securely connects the rigid shaft band **202** to the shaft **108** (shown in FIG. 1) itself.

**[0038]** It is worth noting here that although the current exemplary embodiment utilizes an adhesive as the bonding material to fill the depression **214** of the rigid shaft band **202**, alternative materials may be used to fill the depression **214** to achieve that same goal without departing from the scope and content of the present invention. For example, the bonding material may be a vibration dampening material that is capable of holding the rigid shaft band **202** in place while absorbing the vibrations of the shaft **108** (shown in FIG. 1) without departing from the scope and content of the present invention. More specifically, the vibration dampening material may be a polymer type material, an elastomer type material, a rubber type material, plastic type material, or any other material capable of providing vibration dampening all without departing from the scope and content of the present inven-

tion. Ultimately, the depression **214** may be filled with any material capable of holding the rigid shaft band **202** on to the shaft **108** (shown in FIG. 1) with or without vibration dampening characteristics, all without departing from the scope and content of the present invention.

**[0039]** The depressions **214** within the internal surface of the rigid shaft band **202**, as shown in this current exemplary embodiment in FIG. 2, may take on many shapes. In one embodiment of the present invention the depressions **214** can be comprised of multiple circular ring shaped depressions **214** covering the internal surface of the rigid shaft band **202**. In an alternative embodiment of the present invention, the rigid shaft band **202** be one continuous depression **214** within the internal surface of the rigid shaft band **202** resembling the shape of a spiral rotationally traversing the internal surface of the rigid shaft band **202**. It should be noted that although two of the more common shapes used for the depression **214** are disclosed above, numerous other shapes and geometries can be used to form the depression **214** within the internal wall of the rigid shaft band without departing from the scope and content of the present invention; so long as it is capable of providing an place for the bonding material.

**[0040]** The rigid shaft band **202**, as disclosed within this current exemplary embodiment of the present invention, may generally be manufactured out of a metallic material to enhance the durability of the rigid shaft band **202**; especially when compared to the tacky shaft sticker used by the prior art golf clubs. More specifically, the rigid shaft band **202** may be manufactured out of aluminum for its light weight properties, stainless steel for its cosmetic appeal, titanium for its strength properties, or even tungsten for its high density properties. However, rigid shaft band **202** may be manufactured out of various other materials such as plastic, carbon fiber, rubber, or any other material capable of retaining its rigid shape and size along the shaft **108** (shown in FIG. 1) all without departing from the scope and content of the present invention.

**[0041]** FIG. 3 shows a perspective view of a rigid shaft band **302** in accordance with further alternative embodiment of the present invention wherein the external surface may contain graphics **320** to further enhance the cosmetic appeal of the rigid shaft band **302**. The graphics **320**, as shown in the current exemplary embodiment, may generally contain a company's logo or slogan to help advertise and promote the company's product. However, numerous other graphics **320** could be used to convey any type of message without departing from the scope and content of the present invention. For example, in an alternative embodiment of the present invention, the graphics **320** could contain valuable information about the specification of the golf club such as the loft of the golf club, the lie of the golf club, the length of the golf club, the swingweight of the golf club, the flex of the golf club, or even customized ownership information all without departing from the scope and content of the present invention. In fact, the term graphics **320** used in FIG. 3 is not limited to the specific characters of g, r, a, p, h, i, c, and s, but relate generally to any sort of visual illustrations. More specifically, graphics, as referred to in the current exemplary embodiment could refer to a company log, a company name, a product log, a product name, a graphical display, an alignment arrow, an alignment log, an alignment dot, an alignment line, any type of numbers, characters, or any visual illustration capable of conveying a visual stimulant all without departing from the scope and content of the present invention.

[0042] The graphics 320 shown in FIG. 3 may generally be etched into the external surface of the rigid shaft band 302 to create a permanent imprint. Because of the rigidity of the rigid shaft band 302, etching the graphics 320 into the external surface may be the most logical methodology that preserves and enhanced cosmetic appearance of the rigid shaft band 302. Despite the preference for etching, numerous other marking techniques such as stamping, painting, airbrushing, or even using a sticker may be used to achieve similar results without departing from the scope and content of the present invention so long as it is capable of creating a visual graphics 320 around the rigid shaft band 302.

[0043] FIG. 4 shows a frontal view of a golf club 400 in accordance with an exemplary embodiment of the present invention allowing a better view of how the rigid shaft band 402 connects to a shaft 408 that is tapered. Because of the enlarged view of the shaft 408 of the golf club 400, we can see that in this exemplary embodiment of the present invention, the shaft 408 may have a smooth taper that decreases in diameter from the butt end of the shaft 408 to the tip end of the shaft 408. The butt end of the shaft 408, as shown in the current exemplary embodiment with a thicker diameter, may generally be connected to the grip 404; while the tip end of the shaft 408, with a thinner diameter, may generally be connected to the head 406. Because of this tapering of the shaft 408, the internal surface of the rigid shaft band 402 may need to be tapered to ensure a proper fit between the two components. More specifically, the amount of taper within the internal surface of the rigid shaft band 402 and the actual internal diameter of the rigid shaft band 402 may help determine the precise location of the rigid shaft band 402 along the shaft 408. Finally, due to the tapering of the shaft 408, it may generally be preferable to assemble the rigid shaft band 402 by sliding it onto the shaft 408 from the tip end, before the head 406 is installed.

[0044] FIG. 4, in addition to showing the tapering of the shaft 408, also shows the relative location and placement of the rigid shaft band 402 along the shaft 408 at a preferred location. More specifically, in one exemplary embodiment of the present invention, the rigid shaft band 402 is placed at a distance d1 away from the grip 404. Even more specifically, the top lip 410 of the rigid shaft band 402 may be a distance d1 away from the terminal end of the grip 404. Distance d1, as shown in the exemplary embodiment may generally be greater than about 1 inch and less than about 3 inches to maximize the visual exposure of the rigid shaft band 402 from an address angle; however, d1 may more preferably be about 2 inches yielding an ideal location that enhances the cosmetic appeal of the golf club 400 itself.

[0045] In an alternative embodiment of the present invention, the location of the rigid shaft band 402 along the shaft 408 at a preferred location could be calculated to be a distance d2 away from the butt end of the grip 404. More specifically, the top lip 410 of the rigid shaft band 402 may be at a distance d2 away from the butt end of the grip 404. This distance d2, as shown in the current exemplary embodiment, may generally be about 14 inches, signifying the location of the fulcrum of the golf club 400. The fulcrum, as it is commonly known in the industry, refers to a balance point of the golf club 400 wherein a swingweight of the golf club 400 could be determined by the difference in weight on either side of the fulcrum. Having the rigid shaft band 402 placed at or near the fulcrum of the golf club 400 may provide an additional performance benefit that was previously not achievable by the

prior art shaft stickers. More specifically, because the rigid shaft band 402 contains significantly more weight than the prior art shaft stickers, placing the rigid shaft band 402 around the fulcrum of the golf club 400 will allow an adjustment to be made to the total weight of the golf club 400 without affecting the swingweight of the golf club 400. Alternatively, by adjusting the exact location of the rigid shaft band 402 near the fulcrum of the golf club 400, combined with the additional weight of the rigid shaft band 402, the swingweight of the golf club 400 itself may be changed in microscopic increments without departing from the scope and content of the present invention. This microscopic adjustment in the swingweight of the golf club 400 may be desirable for fitting situations where such precision is required, as such precise adjustments are not possible at either the tip end or the butt end of the golf club 400.

[0046] FIG. 5 shows a cross-sectional view of a rigid shaft band 502 in accordance with an exemplary embodiment of the present invention taken along cross-sectional line A-A' shown in FIG. 2. The cross-sectional view of the rigid shaft band 502, as shown in FIG. 5, more clearly shows the tapering of the internal surface 530 of the rigid shaft band 502 in order to match the tapering of the shaft 408 (shown in FIG. 4). It is worth noting here that the amount of tapering may generally be greater than about 0.01 inches per inch and less than about 0.02 inches per inch, more preferably greater than about 0.013 inches per inch and less than about 0.0196 inches per inch, and most preferably about 0.0147 inches per inch. Alternatively speaking, the angle  $\theta$  of the tapering may generally be greater than about 0.574 degrees and less than about 1.146 degrees, more preferably greater than about 0.745 degrees and less than about 1.123 degrees, most preferably about 0.842 degrees. This amount of tapering of the internal surface 530 of the rigid shaft band 502 may generally be designed to match the tapering of the shaft 408 (shown in FIG. 4) to ensure that the rigid shaft band 502 fits well onto a tapered shaft 408 (shown in FIG. 4) as well as control the exact location of the rigid shaft band 502.

[0047] It is worth recognizing in FIG. 5 that greater than 90% of the internal surface 530 of the rigid shaft band 502 engages the shaft 408 (shown in FIG. 4) to ensure proper alignment and placement of the rigid shaft band along the shaft 408 (shown in FIG. 4). This percentage of contact between the internal surface 530 and the shaft 408 (shown in FIG. 4) may be important to the proper functionality of the rigid shaft band 502 because the angle of tapering  $\theta$ , in conjunction with the proper mating of the internal surface 530 and the shaft 408 (shown in FIG. 4) determines the precise location of the rigid shaft band 402; and any mis-alignment will create an improper fit that detracts from its cosmetic appeal and performance capabilities. Inversely, if greater than 90% of the internal surface 530 engages the shaft 408 (shown in FIG. 4), the depressions 514 may comprise of less than 10% of the total internal surface 530 of the rigid shaft band 502, providing just enough area for bonding and vibration dampening without eliminating feel completely.

[0048] FIG. 6 shows an alternative embodiment of the present invention wherein the external surface 632 of the rigid shaft band 602 may be tapered by the same angle  $\theta$  to create a aesthetically pleasing external surface 632 that matches with the tapering of the shaft 408 (shown in FIG. 4) without departing from the scope and content of the present invention.

[0049] FIG. 7 shows a further alternative embodiment of the present invention wherein the shaft 708 is no longer

tapered, but utilizes a plurality of steps **741**, **743**, and **745** to reduce the diameter of the shaft **708**. Because the diameter of the shaft **708** is no longer tapered, the internal diameter of the rigid shaft band **702** in accordance with this alternative embodiment of the present invention will not have a taper as well. This non-tapered internal wall may be better shown in FIG. **8**, wherein a cross-sectional profile of a rigid shaft band **802** shows a completely perpendicular internal surface **830**. This cross-sectional profile of the rigid shaft band **802**, as shown in FIG. **8**, may generally reflect the cross-sectional line A-A' taken in FIG. **2**.

[0050] FIG. **9** shows a further alternative embodiment of the present invention wherein the rigid shaft band **902** may have an opening **950** that allows for a different aesthetically look and feel without departing from the scope and content of the present invention. More specifically, the opening **950** of the rigid shaft band **902** may allow for a way to disassemble and reassembly the rigid shaft band **902** to the shaft of the golf club by giving the rigid shaft band **950** some room to flex. More specifically, this flexibility of the rigid shaft band **902** may allow for the rigid shaft band **902** to be disassembled and reassembled without the need to remove the head of the golf club, providing an additional performance benefit in accordance with this alternative embodiment of the present invention.

[0051] FIG. **10** shows a top view of a golf club **1000** from an address position, utilizing a rigid shaft band **1002** with an opening **1050** to help align the golf club **1000** with a golf ball. More specifically, as it can be seen from FIG. **10**, by assembling the rigid shaft band **1002** with the opening **1050** directly facing away from the golfer, an equal amount of the rigid shaft band **1002** may be seen from a golfer's line of sight on both sides of the shaft. This equal amount of visibility of the rigid shaft band **1002** on both sides of the shaft **1000** may instantaneously provide a feedback to the golfer, showing him or her whether the golf club **1000** is properly aligned. In a further alternative embodiment of the present invention, the visible portions of the rigid shaft band **1002** from the address position may have a different color than the remainder of the rigid shaft band, further enhancing the visual feedback when the golf club **1000** gets mis-aligned.

[0052] FIG. **11** of the accompanying drawings shows a perspective view of a rigid shaft band in accordance with an alternative embodiment of the present invention. More specifically, in this alternative embodiment, the graphics of the rigid shaft band **1102** are replaced with jewels **1160** to decorate the shaft band **1102** to further increase the aesthetic appeal of the golf club. The jewel **1160** in this current exemplary embodiment may be any type of gemstone, precious or semi-precious or other type of decorative stone that is translucent, opaque or semi-opaque, including but not limited to diamonds, rubies, emeralds, sapphires, garnets, opals, or pearls all without departing from the scope and content of the present invention.

[0053] It should be noted here that the incorporation of jewels **1160** into a portion of a golf club is not as simple as it may appear, as the mere gluing of the jewel **1160** into the portion of the golf club deprives the jewel **1160** of the refractive light it requires to sparkle. Additionally, when jewels **1160** are glued directly into the golf club, the existence of the glue or adhesive can often muddle the bottom portion of the jewel **1160**, rendering them lackluster and dull. Hence, in order to address this issue, the jewel **1160** may generally be placed into a bezel **1162** to keep the jewel away from the

adhesive and the body of the shaft band **1102**; allowing the jewel **1160** to maintain its sparkle. Alternatively speaking, it can be said that no point of an external portion of the jewel **1160** comes into contact with any part of the club head.

[0054] FIG. **12** showing an enlarged perspective view of jewel **1260** and the bezel **1262** provides a better view of the interface between the jewel **1260** and the bezel **1262**. As it can be seen from FIG. **12**, bezel **1262** may generally be made to encompass the entire bottom surface of the jewel **1260** that is separated by the girdle. The bezel **1262** may be made of any desired materials including metal and non-metal. In a preferred embodiment, the bezel is made of a precious metal, including gold, silver, and platinum. Other metals include titanium, tantalum, zirconium or others may all be used without departing from the scope and content of the present invention. The cross-sectional line B-B' in FIG. **12** allows a more accurate portrayal of the interface between the jewel **1260** and the bezel **1262** to be shown in FIG. **13**.

[0055] FIG. **13** of the accompanying drawings shows a cross-sectional view of a jewel **1360** together with the bezel **1362** along the cross-sectional line B-B' shown in FIG. **12**. This cross-sectional view of the jewel **1360** assembled within the bezel **1362** shows the bezel having flaps **1363** around the upper perimeter of the bezel **1362** that can be used to clamp down on the girdle of the jewel **1360** to retain the jewel within the bezel **1362**. The usage of the flaps **1363** around the perimeter of the girdle allows the jewel **1360** to be secured into the bezel **1362** with minimal contact between the bezel **1362** and the jewel **1360**. The present invention accomplishes this by folding the flap **1363** down over the entire circumference of the upper perimeter of the bezel **1362**. In an alternative embodiment of the present invention, the flaps **1363** could also be prongs to hold in the jewel **1360** similar to that of a conventional ring. Moreover, in a further alternative embodiment, the jewel **1360** can be pressed fit into the bezel **1362** without the need to bend the flaps into place to simplify the assembly process or any other type of jewelry fitting mechanism.

[0056] It should be noted that in this current exemplary embodiment of the present invention the bottom tip of the jewel **1360** comes into contact with a bottom wall of the bezel **1362** in order to provide an easy way to retain the jewel **1360**. However, the bottom tip of the jewel **1360** does not need to come into contact with the bottom wall of the bezel **1362**, and could actually be suspended without departing from the scope and content of the present invention.

[0057] FIG. **14** of the accompanying drawings shows a cross-sectional view of a jewel **1460** together with the bezel **1462** along the cross-sectional line B-B' shown in FIG. **12** in accordance with an alternative embodiment of the present invention. In this alternative embodiment of the present invention the flaps **1463** actually form a press fit around the girdle of the jewel **1460** to hold the jewel **1460** to be suspended within the bezel **1462**. Another words, the bottom tip of the jewel **1460** does not contact a bottom wall of the bezel **1462**. Holding the jewel **1460** in a suspended position may improve the sparkle of the jewel **1460**, as the increased distance between the bottom of the jewel **1460** and the bottom of the bezel **1462** will allow more light to be reflected. In fact, in a further alternative embodiment of the present invention, the bottom of the bezel **1462** could be completely hollow, which, when combined with a through bore in the golf club, could significantly increase the amount of light and sparkle of the jewel **1460**.

[0058] FIG. 15 shows a golf club 1500 in accordance with a further alternative embodiment of the present invention wherein the jewelry 1560 is attached to a putter head 1506 portion of the golf club 1500. In this exemplary embodiment, the jewelry 1560 can serve multiple purposes in both enhancing the aesthetic appeal of the golf club 1500, but also improving the performance by providing an alignment aid. In this exemplary embodiment of the present invention shown in FIG. 15, the jewelry 1560 and the bezel 1564 may be placed near the center of a top surface of a golf club to provide an alignment aid with a golf ball. In alternative embodiments of the present invention, the jewel 1560 can be applied to the shaft 1508 portion, the grip 1504 portion, or any other portion of the golf club 1500 so long as it can be visually seen to create the enhanced effects.

[0059] Finally, FIG. 16 of the present invention shows an exploded view of a golf club head 1606 wherein the jewel 1660 and the bezel 1662 are shown in more detail. Here, in this exemplary embodiment of the present invention it can be seen that the jewel 1660 is mechanically locked into the bezel 1662 without the usage of an adhesive; preventing the adhesive from getting onto the jewel 1660 to decrease sparkle. Once the jewel 1660 is attached to the bezel 1662, the entire bezel 1662 can then be glued to a cavity 1664 portion on the club head 1606 without having to worry about the adhesive muddying the jewel 1660 itself. In an alternative embodiment, the cavity 1664, together with the jewel 1660, may be placed at other locations to enhance the visual appeal of the golf club head 1606 without departing from the scope and content of the present invention.

[0060] The cavity 1664, in one exemplary embodiment of the present invention, may only partially penetrate the head, creating an internal geometry that substantially resembles the external geometry of the bezel 1662 to provide a secure fit of the jewel 1660 and the bezel 1662 within the cavity. However, in a different embodiment of the present invention, the cavity 1664 could create a through bore within the club head 1606 itself to allow more light, creating more sparkle in the jewel 1660, without departing from the scope and content of the present invention.

[0061] FIGS. 17A-17F show top views of the bezel jewelry in accordance with various different alternative embodiments of the present invention. In FIG. 17A both the jewelry 1760 and the bezel 1760 have circular shapes, while FIG. 17B has a circular jewel 1760 with a rectangular bezel 1762 geometry. FIG. 17C shows a rectangular princess cut shaped jewel 1760 with a circular bezel 1762. FIG. 17D shows a circular round cut jewel 1760 with an octagonal shaped bezel 1762. FIG. 17E shows a rectangular princess cut shaped jewel 1760 with an octagonal shaped bezel 1762. Finally, FIG. 17F shows an emerald cut diamond 1760 with a matching shaped bezel 1762. The shape of the bezel 1762, in certain situations, may match the shape of the jewel 1760 to create a desired aesthetic appeal; however, the shape of the bezel 1762 need not match the shape of the jewel 1760, and could be completely different in size, shape, and geometry all without departing from the scope and content of the present invention.

[0062] Other than in the operating example, or unless otherwise expressly specified, all of the numerical ranges, amounts, values and percentages such as those for amounts of materials, moment of inertias, center of gravity locations, loft, draft angles, various performance ratios, and others in the foregoing portions of the specification may be read as if prefaced by the word "about" even though the term "about"

may not expressly appear in the value, amount, or range. Accordingly, unless indicated to the contrary, the numerical parameters set forth in the foregoing specification and attached claims are approximations that may vary depending upon the desired properties sought to be obtained by the present invention. At the very least, and not as an attempt to limit the application of the doctrine of equivalents to the scope of the claims, each numerical parameter should at least be construed in light of the number of reported significant digits and by applying ordinary rounding techniques.

[0063] Notwithstanding that the numerical ranges and parameters setting forth the broad scope of the invention are approximations, the numerical values set forth in the specific examples are reported as precisely as possible. Any numerical value, however, inherently contains certain errors necessarily resulting from the standard deviation found in their respective testing measurements. Furthermore, when numerical ranges of varying scope are set forth herein, it is contemplated that any combination of these values inclusive of the recited values may be used.

[0064] It should be understood, of course, that the foregoing relates to exemplary embodiments of the present invention and that modifications may be made without departing from the spirit and scope of the invention as set forth in the following claims.

What is claimed is:

1. A golf club comprising:
  - a grip at a proximal end of said golf club;
  - a head at a distal end of said golf club;
  - a shaft connecting said grip and said head; and
  - said head further comprises:
    - a cavity, having an internal geometry, located on said head;
    - a bezel, having an external geometry similar to said internal geometry of said cavity, placed within said cavity; and
    - a jewel placed inside an internal portion of said bezel; wherein said bezel has a flap around an upper perimeter of said bezel to secure said jewel within said bezel.
2. The golf club of claim 1, wherein said flap encompass an entire circumference of said upper perimeter of said bezel.
3. The golf club of claim 2, wherein said cavity only partially penetrates said head.
4. The golf club of claim 2, wherein said cavity forms a through bore within said head.
5. The golf club of claim 1, wherein no point of an external portion of said jewel contacts said head.
6. The golf club of claim 1, wherein said bezel is attached to said cavity via an adhesive.
7. The golf club of claim 1, wherein a bottom tip of said jewel contacts a bottom wall of said bezel.
8. The golf club of claim 1, wherein a bottom tip of said jewel does not contact a bottom wall of said bezel.
9. A golf club comprising:
  - a grip at a proximal end of said golf club;
  - a head at a distal end of said golf club;
  - a shaft connecting said grip and said head;
  - said head further comprises:
    - a cavity, having an internal geometry, located on said head;
    - a bezel, having an external geometry similar to said internal geometry of said cavity, placed within said cavity; and
    - a jewel placed inside said internal portion of said bezel;



wherein no point of an external portion of said jewel contacts said head.

**10.** The golf club of claim **9**, wherein a bottom tip of said jewel contacts a bottom wall of said bezel.

**11.** The golf club of claim **10**, wherein said jewel is secured to said bezel using a foldable flap around an upper perimeter of said bezel.

**12.** The golf club of claim **9**, wherein a bottom tip of said jewel does not contact a bottom wall of said bezel.

**13.** The golf club of claim **11**, wherein said jewel is secured to said bezel using a press-fit that clamps around the girdle of said jewel.

**14.** The golf club of claim **9**, wherein said bezel is attached to said cavity via an adhesive.

**15.** The golf club of claim **14** further comprising;  
a rigid shaft band circumferentially encompassing said shaft further comprising;  
an external surface;  
an internal surface;  
a top lip; and  
a bottom lip,  
wherein said internal surface of said rigid shaft band comprises a depression.

**16.** The golf club of claim **15**, wherein said depression is filled with a bonding material.

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