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(54) **GOLF CLUB**

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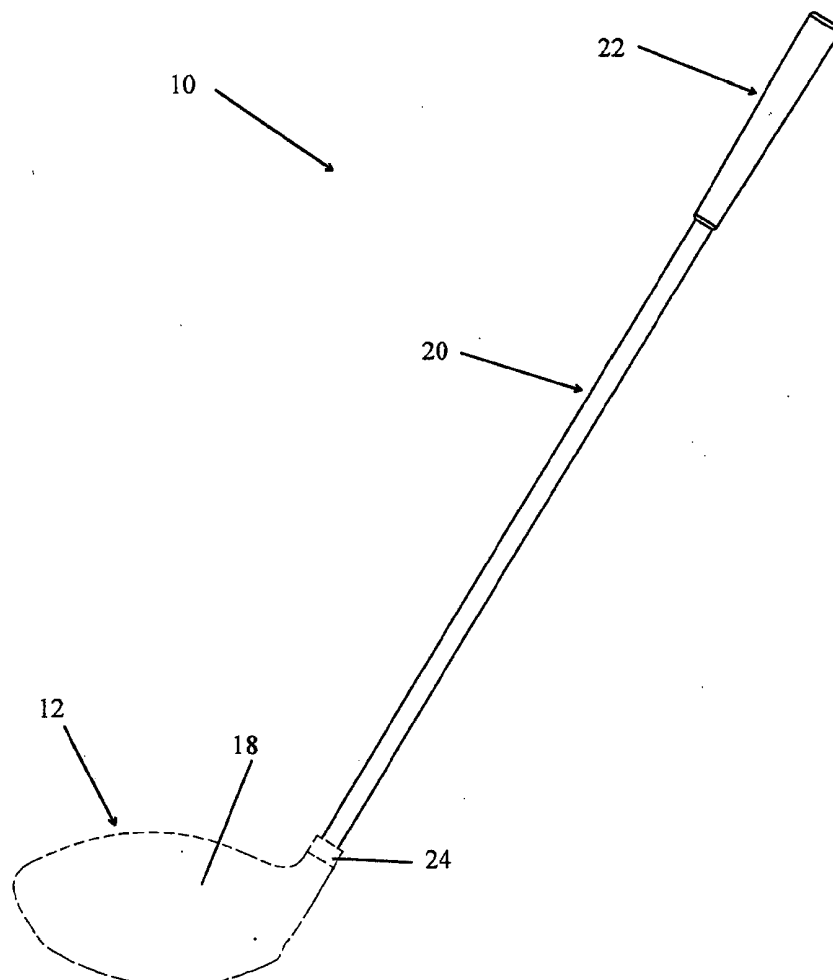
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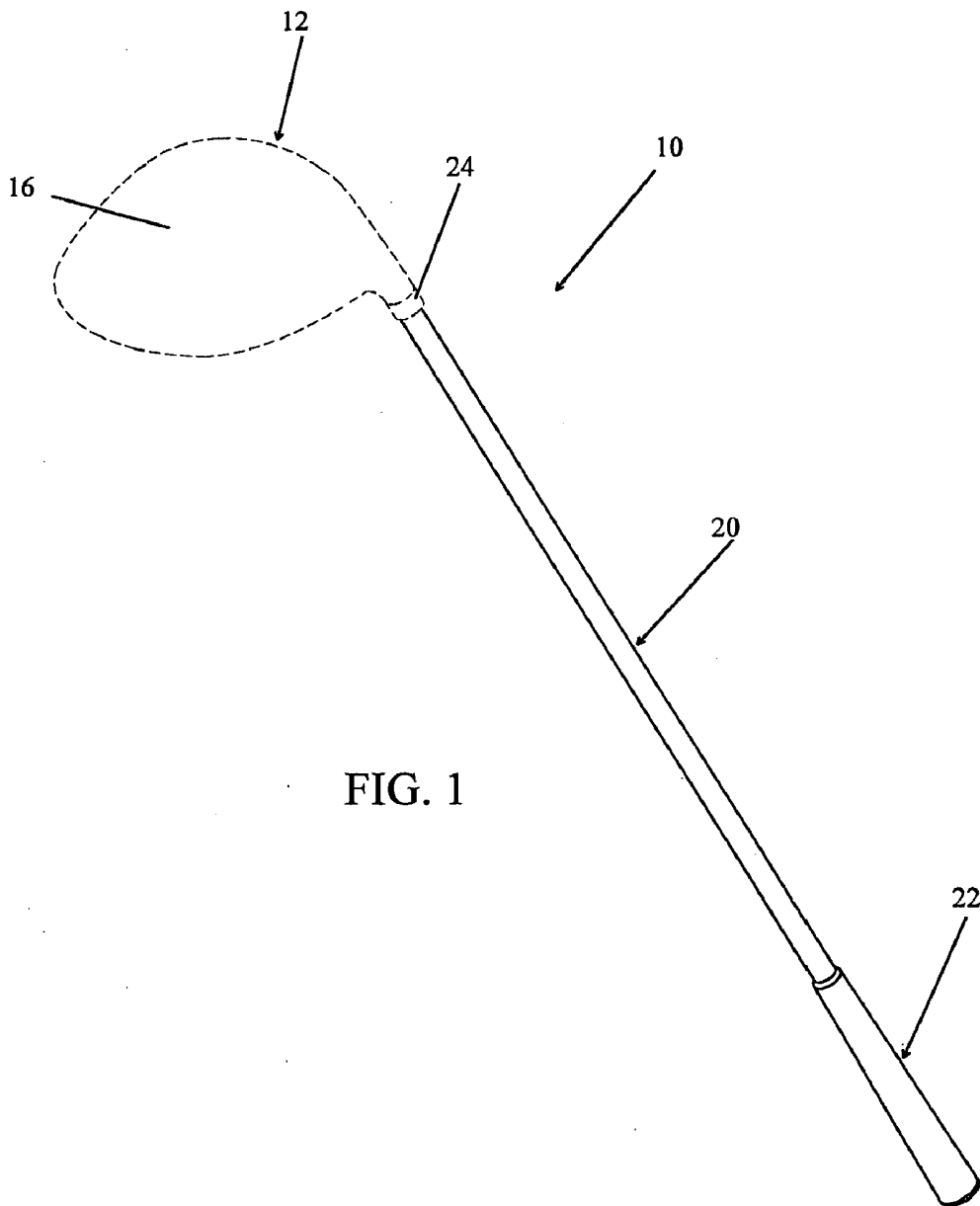
(57) **ABSTRACT**

A golf club with improved peripheral visibility is provided. The golf club can comprise a club head, a shaft, and a grip. The club head can comprise a crown portion, a sole portion, and a face portion. The crown portion, shaft, and grip can all have substantially the same hue, shade, and saturation.

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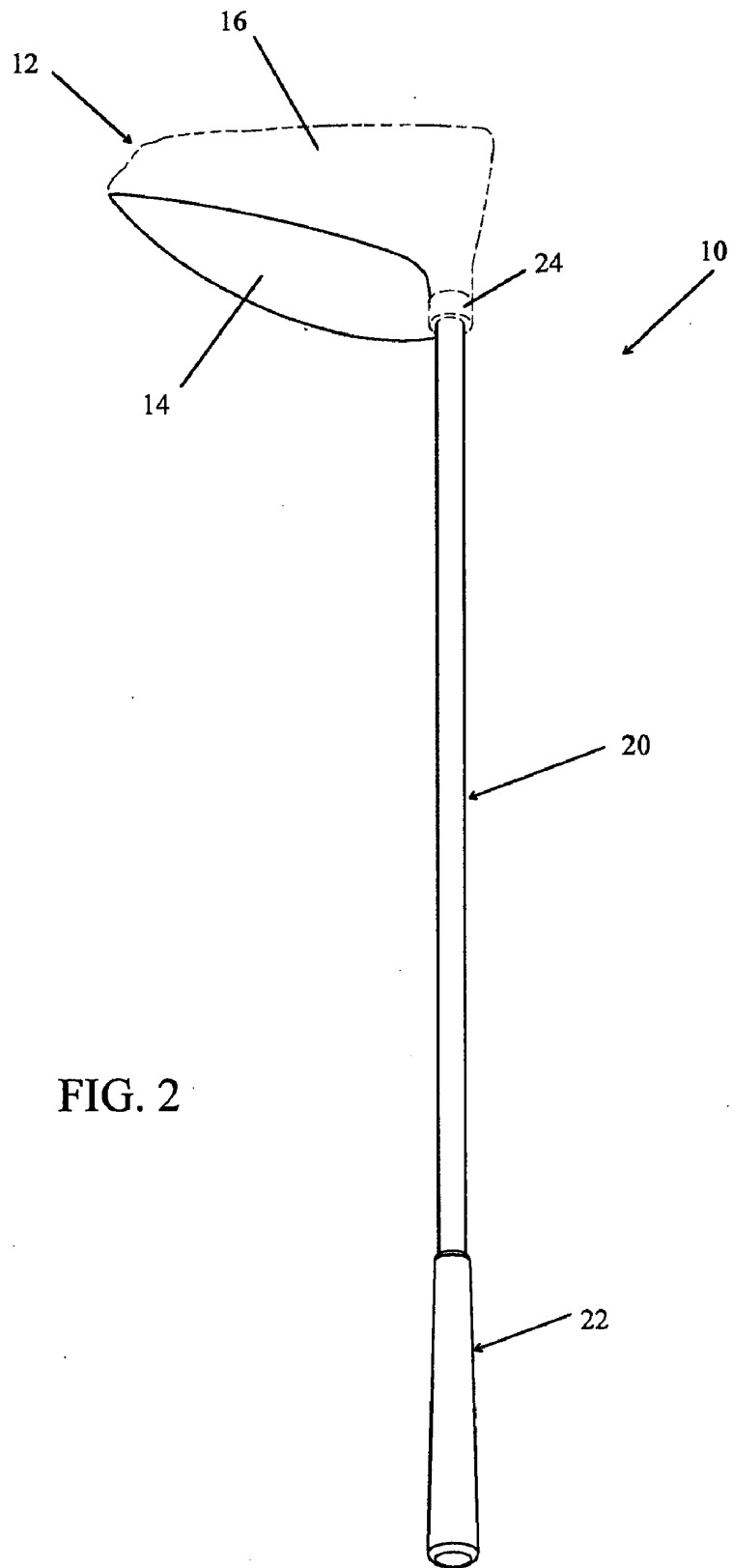


FIG. 2

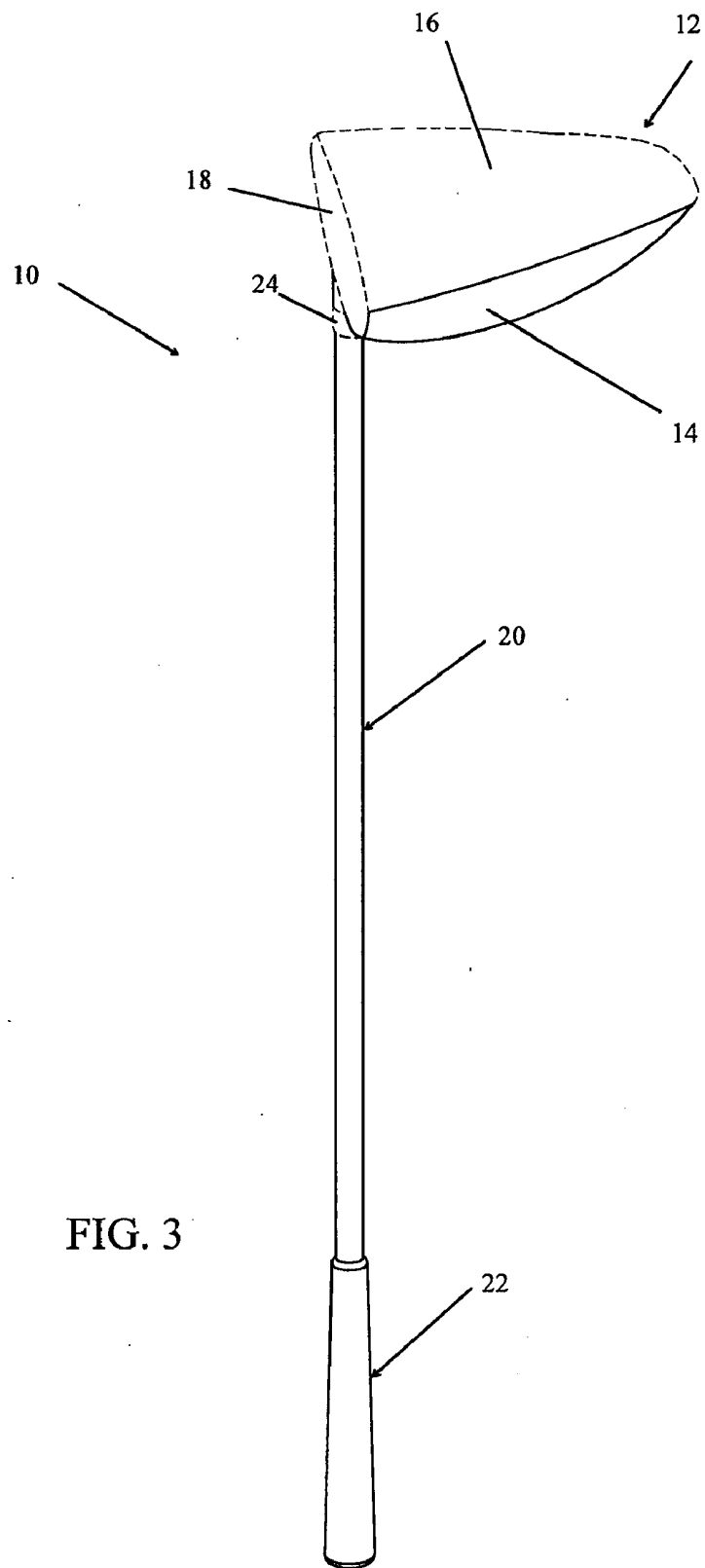


FIG. 3

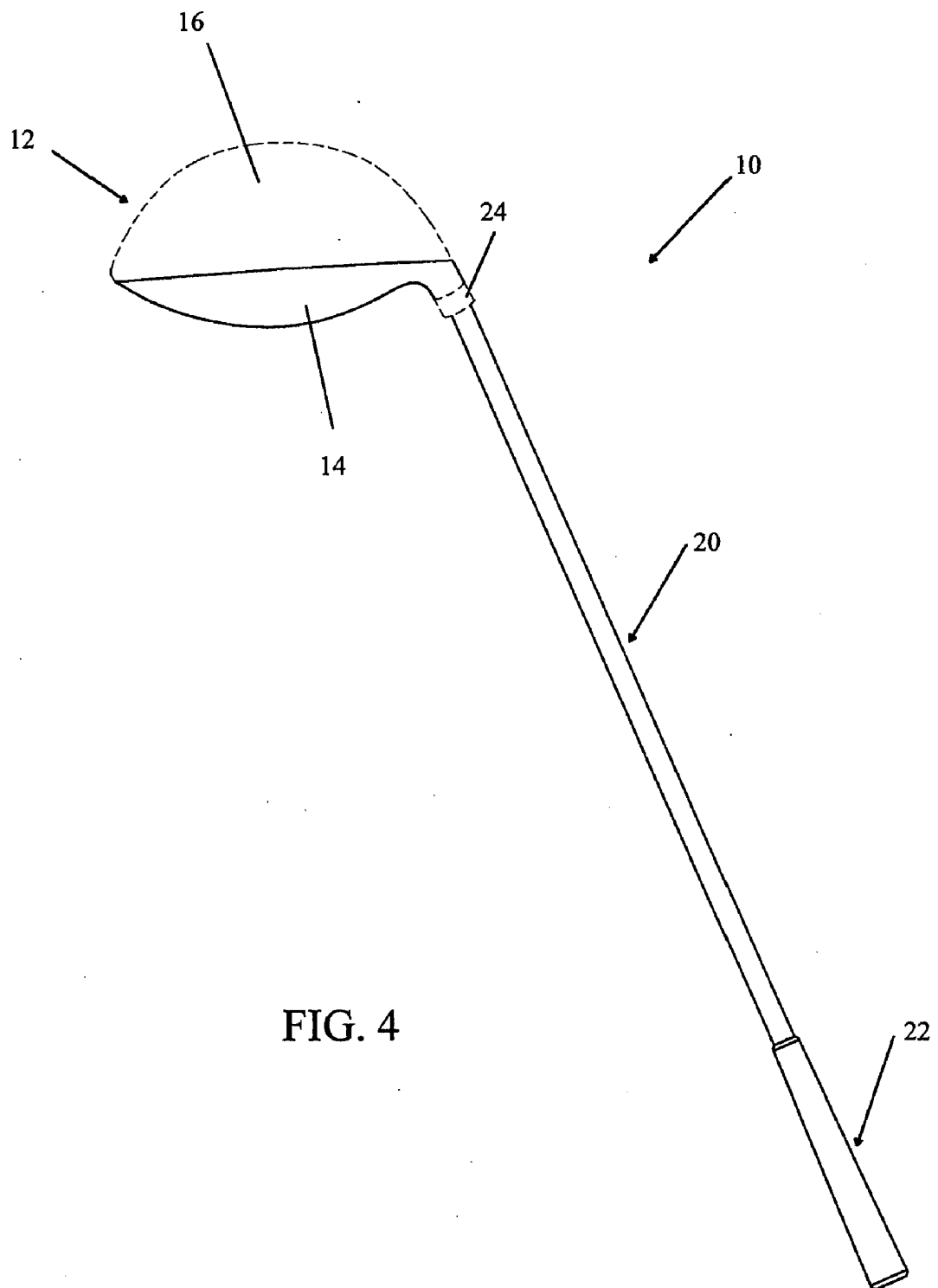


FIG. 4

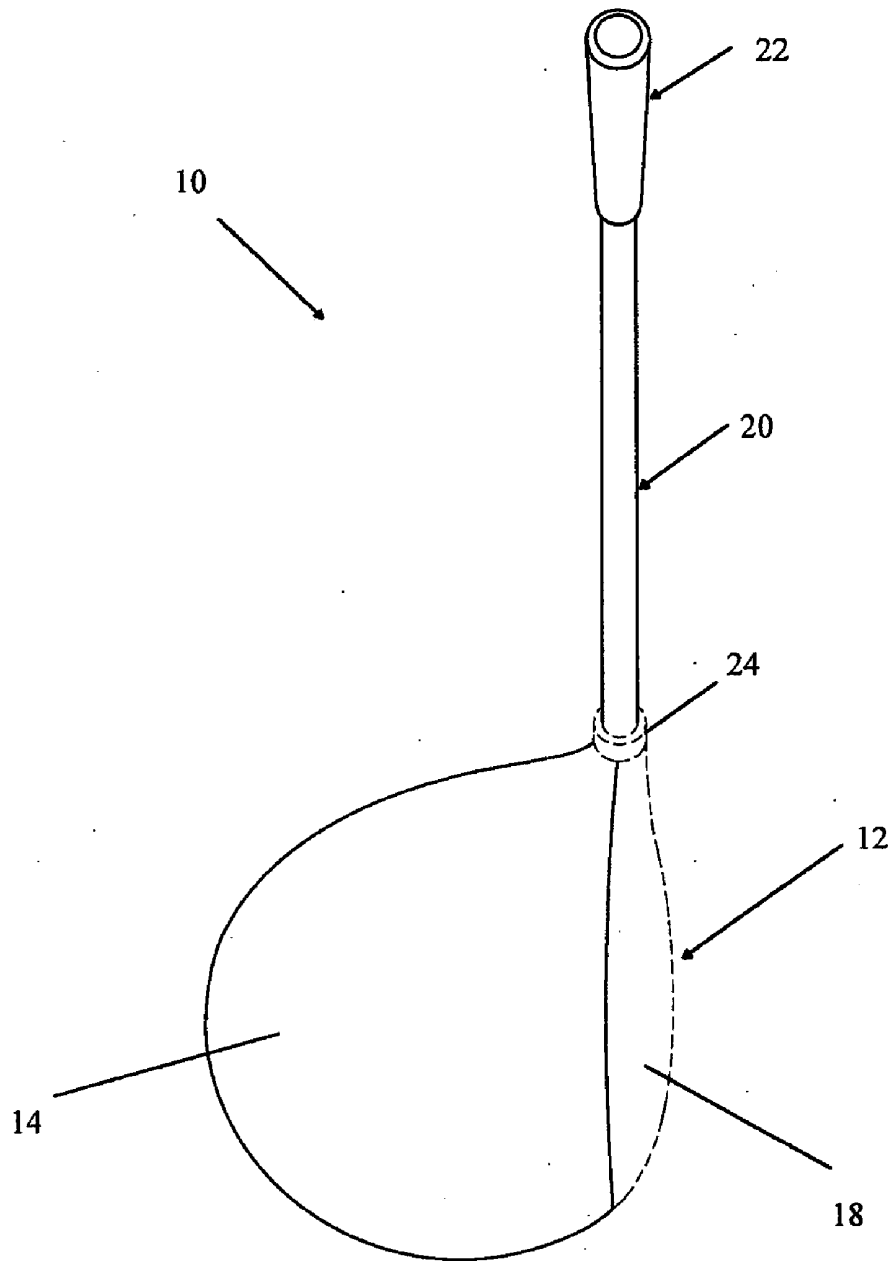


FIG. 5

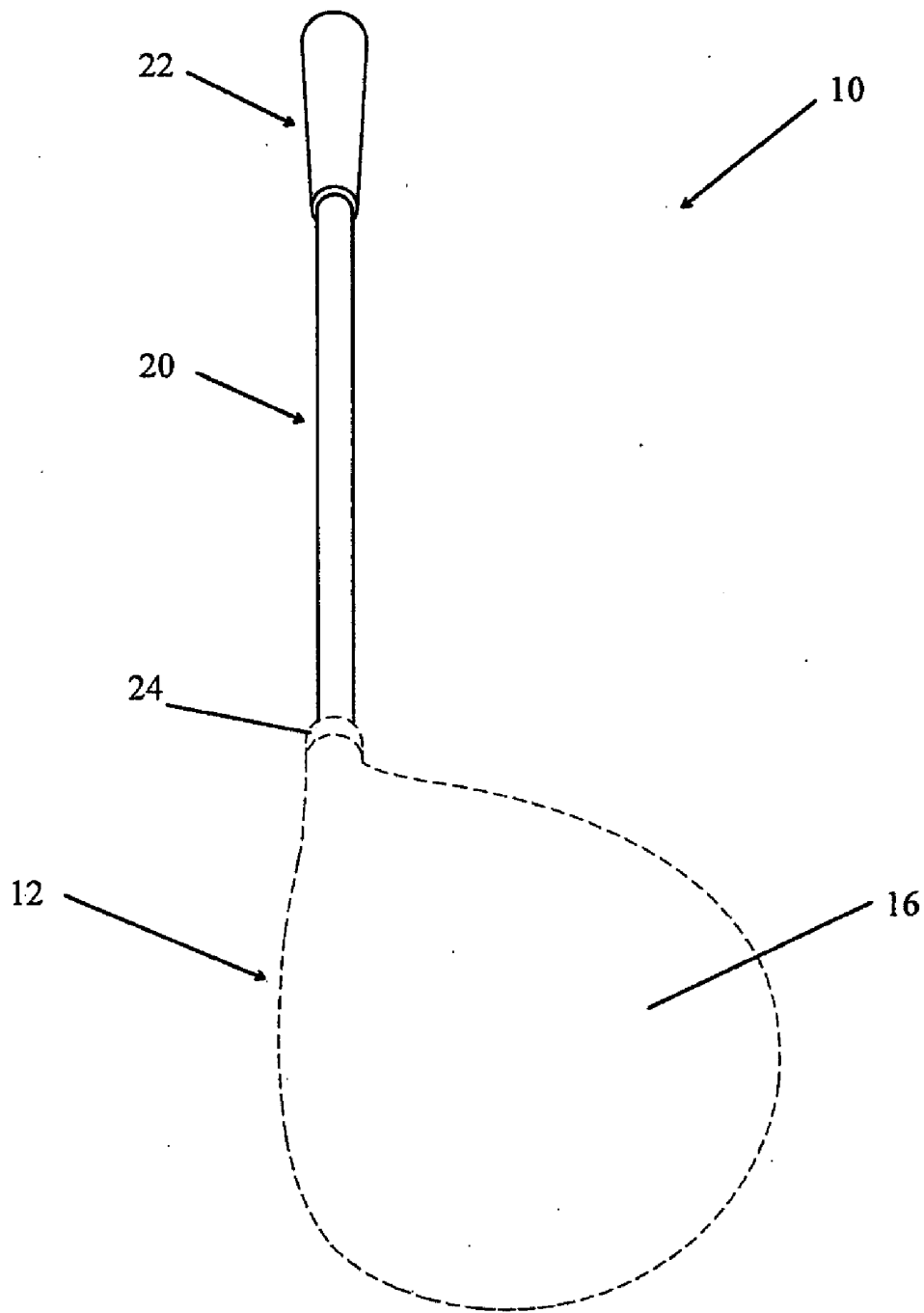


FIG. 6

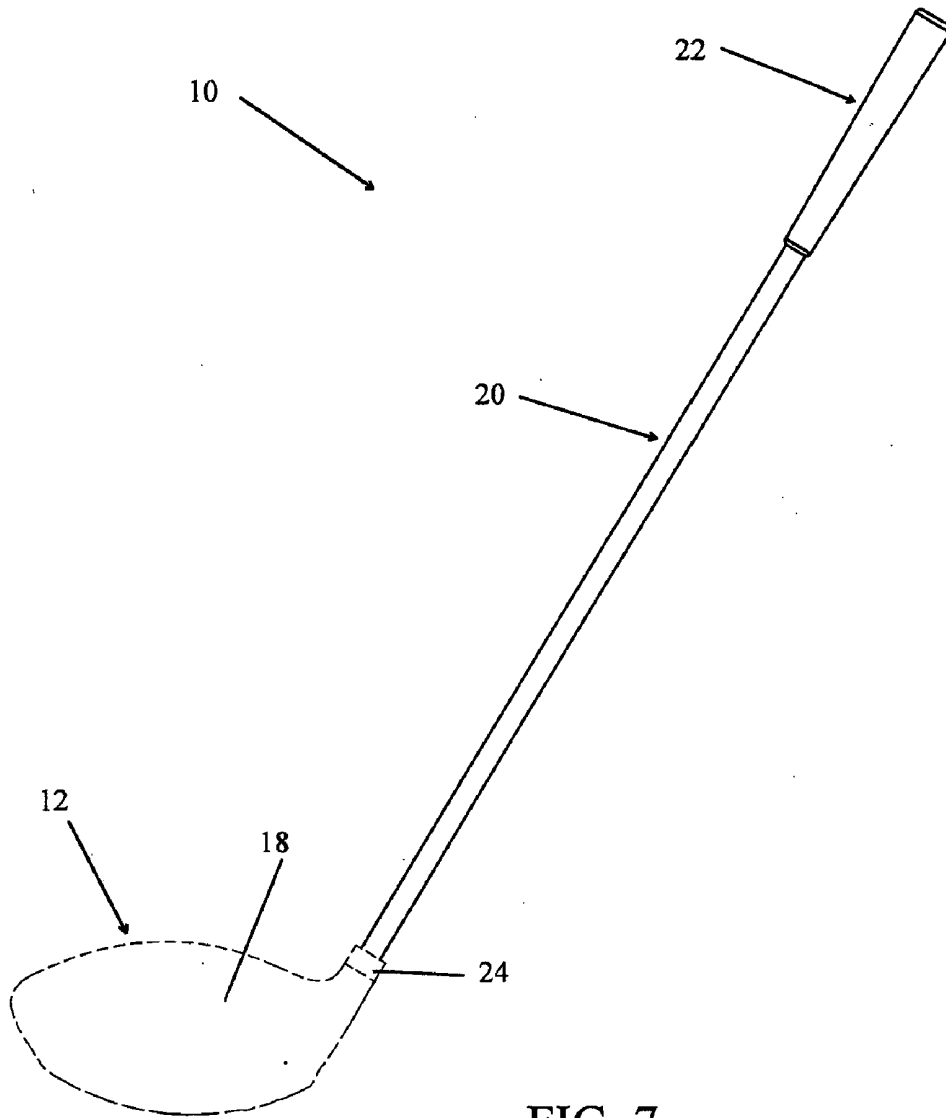


FIG. 7

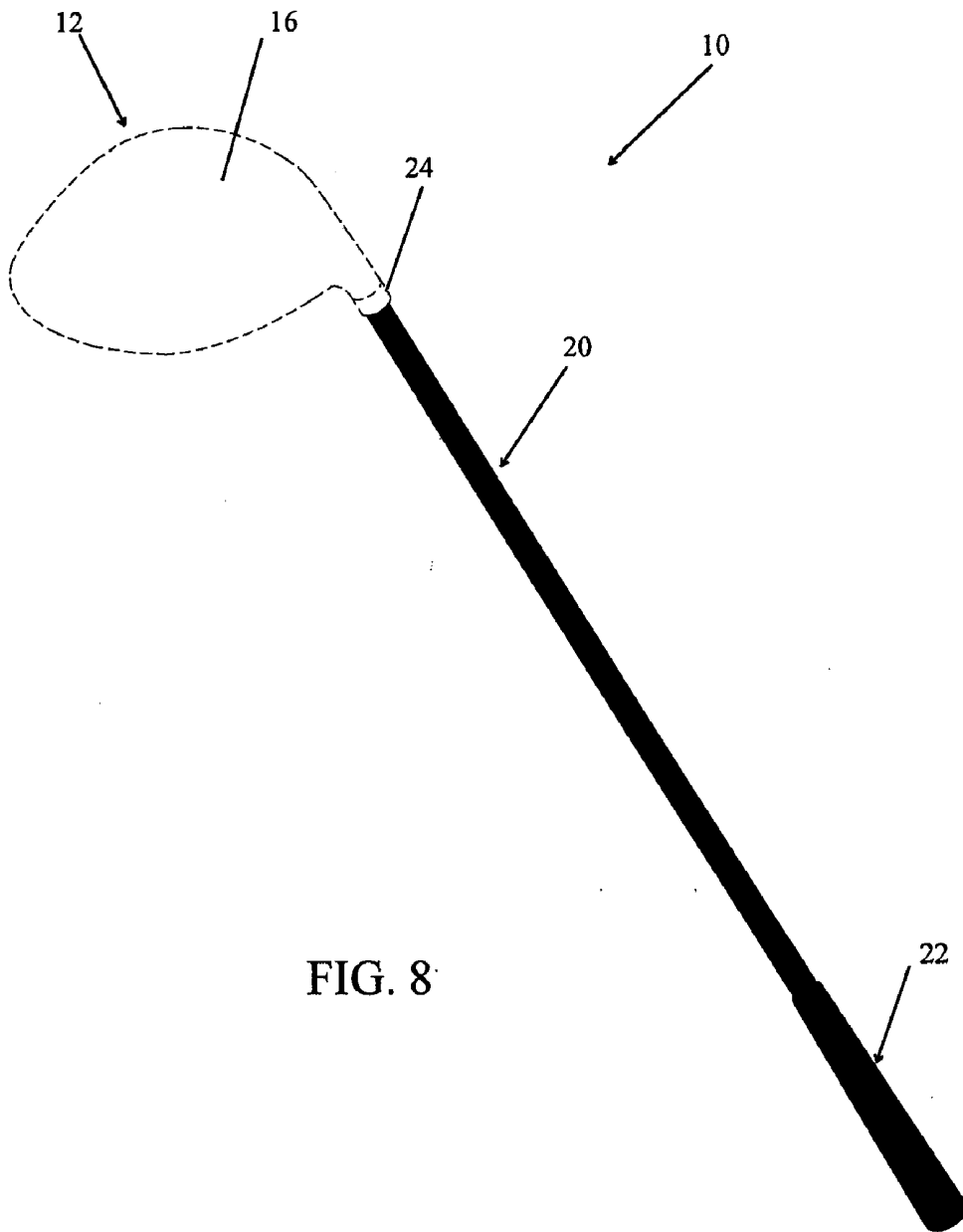


FIG. 8

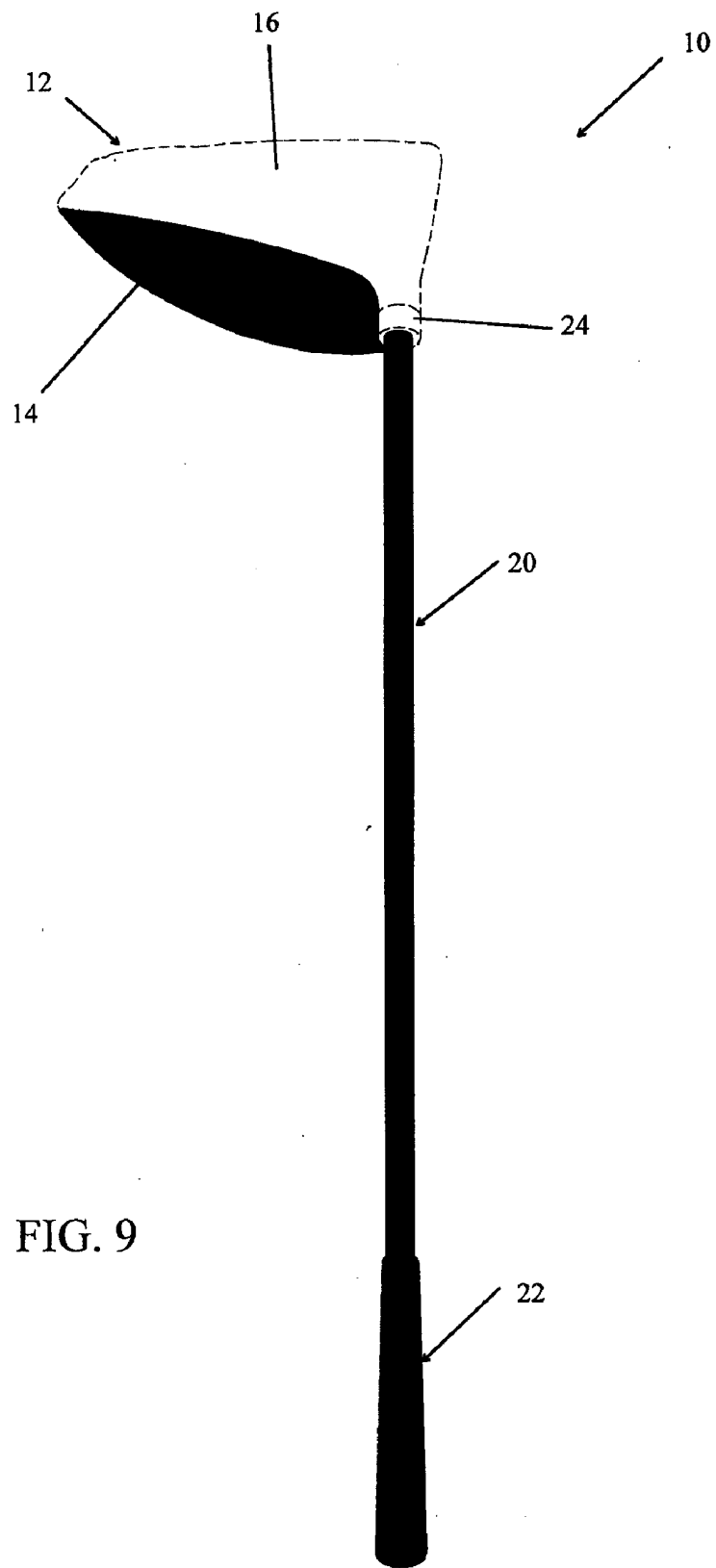
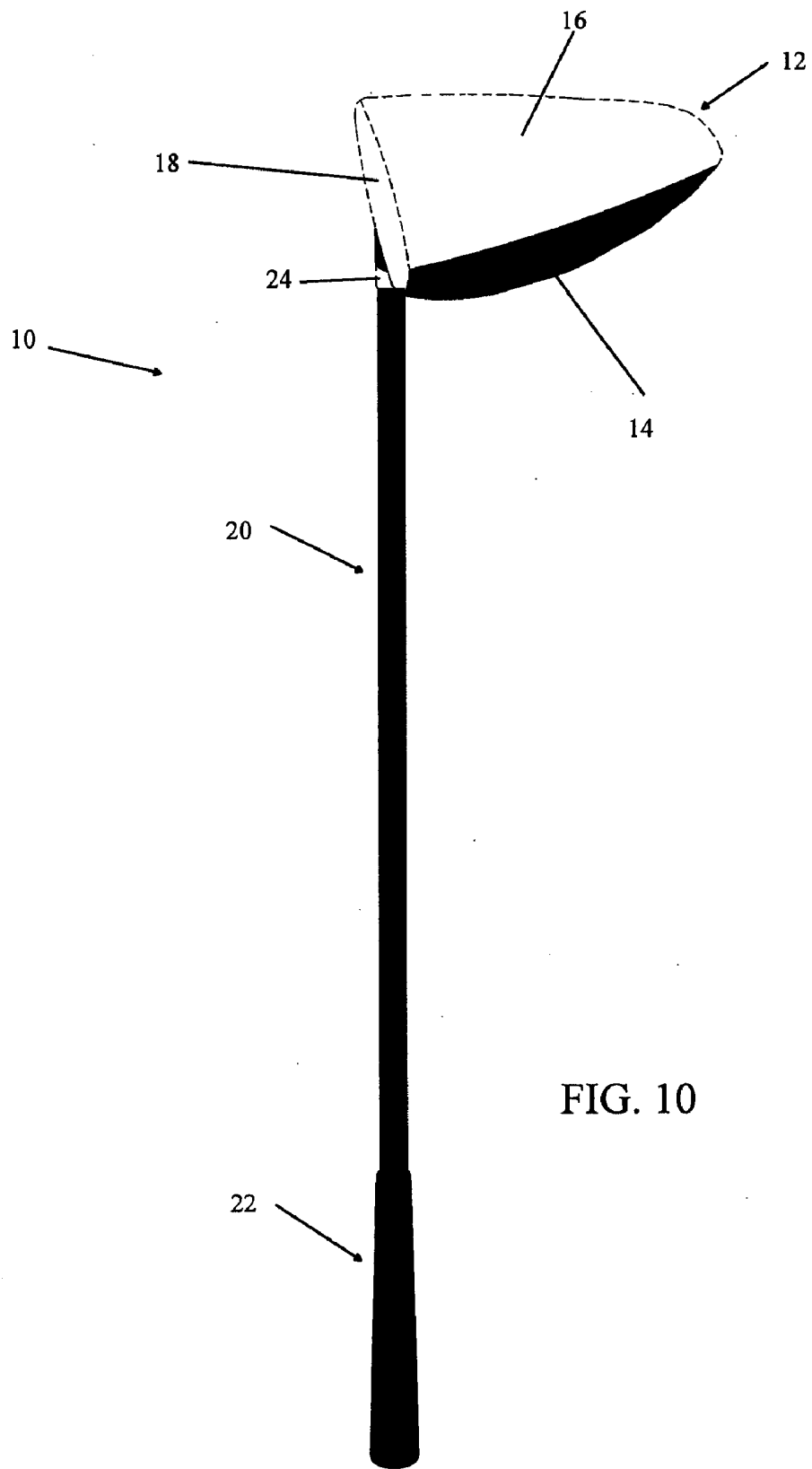


FIG. 9



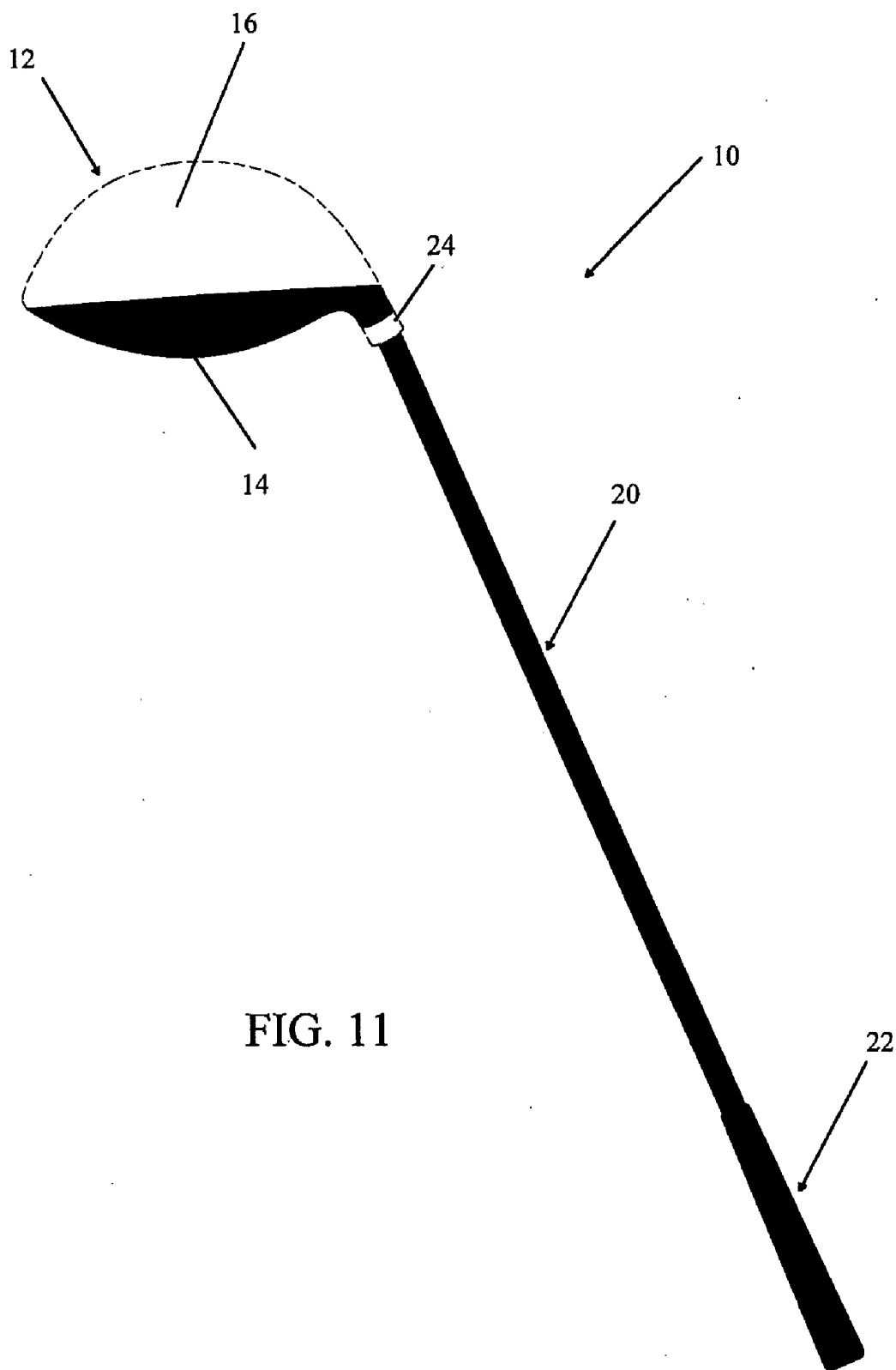


FIG. 11

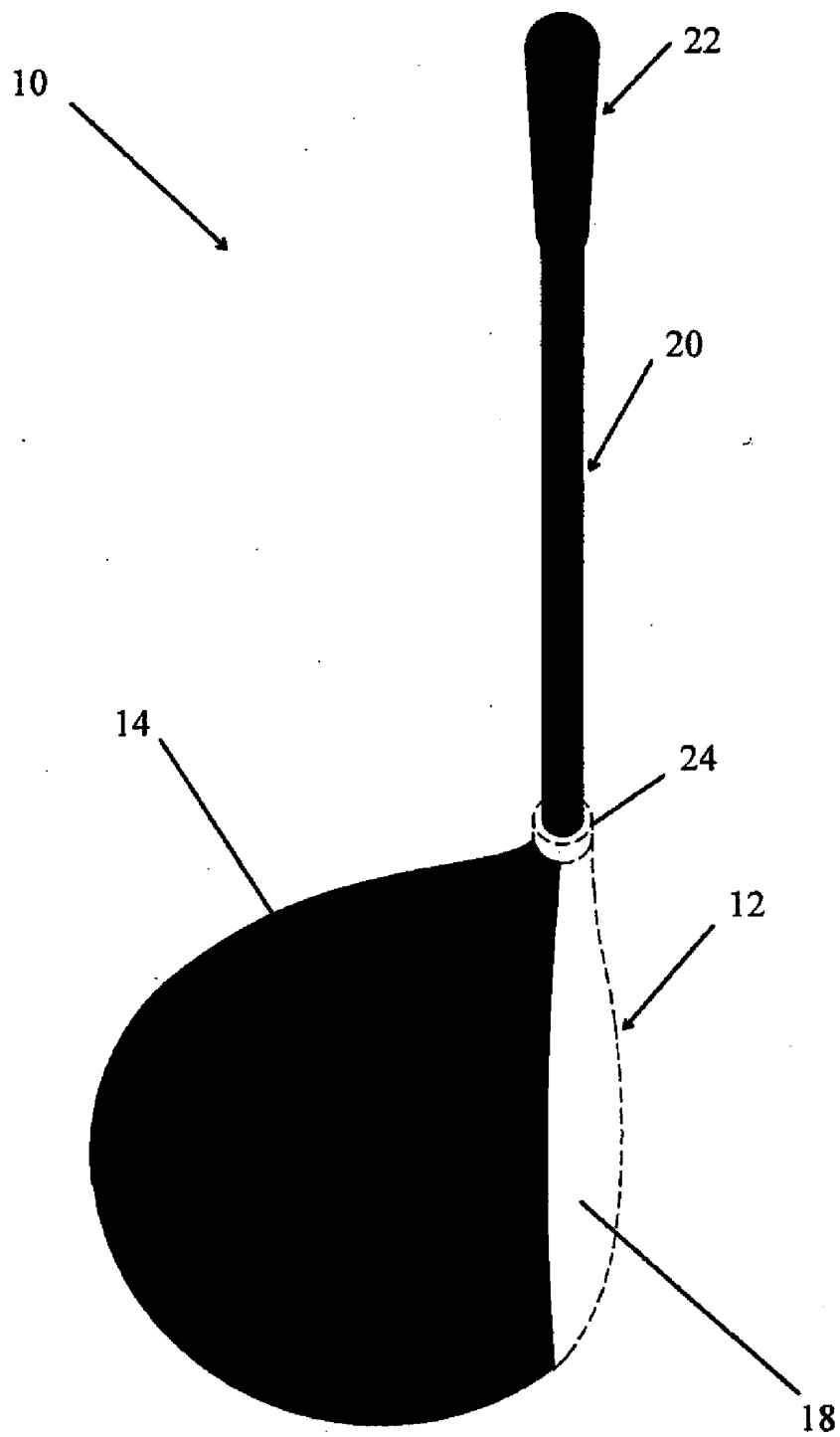


FIG. 12

13/14

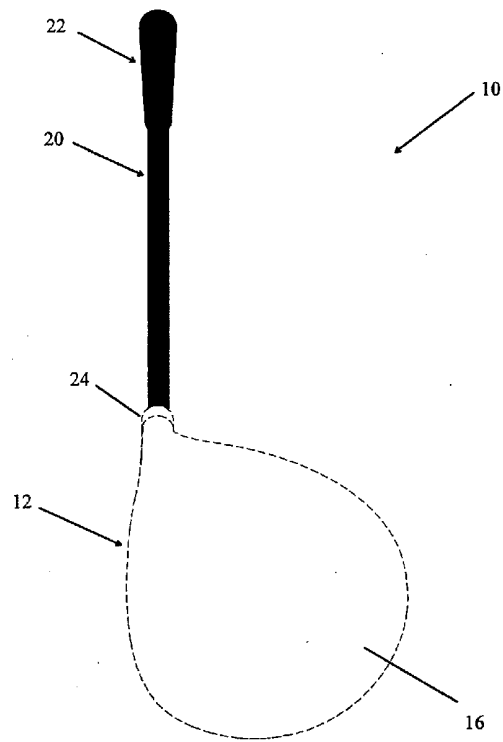


FIG. 13

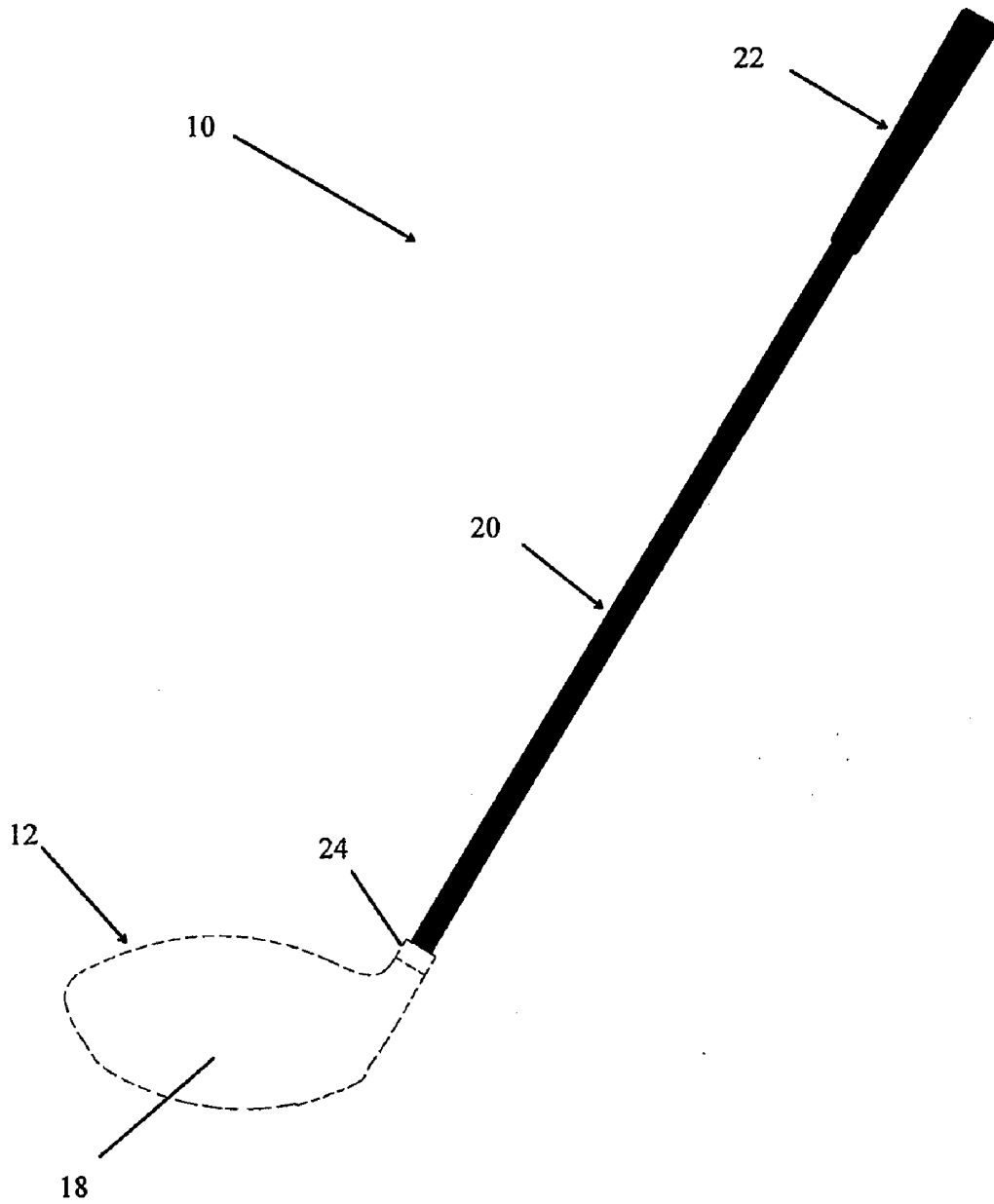


FIG. 14

GOLF CLUB

RELATED APPLICATION

[0001] This application claims priority to U.S. Provisional Patent Application Ser. No. 61/389,177, filed on Oct. 1, 2010, which is hereby incorporated by reference in its entirety.

FIELD OF THE INVENTION

[0002] This application relates to improved golf clubs, specifically to golf clubs that utilize a single color scheme along particular components of the club.

BACKGROUND

[0003] Golf clubs generally comprise a club head, a shaft, and a grip. Club heads on drivers generally comprise a crown portion, a sole portion, and a face portion. Club heads often incorporate designs, logos, and/or a variety of colors and color schemes on the club head that signify the manufacturer, the designer, and/or add aesthetic appeal to the club head. For example, driver club heads often incorporate colored markings, etchings, and/or specific insignia that identifies one company's driver from another. Many of these designs, logos, and/or color schemes are located along the crown portion of the club head. Many of these designs, logos, and/or color schemes are also located along the club shaft and/or grip. Many of these designs, logos, and/or color schemes diminish the visibility of a club as it moves through a player's peripheral vision, particularly against a natural, variegated background. Accordingly, golf clubs themselves are preventing golfers from knowing the full path of a swing they make by breaking up a visual trace of the swing at the peripheries of the visual field. Thus, golfers lack important feedback to aid them in improving their swing over time.

SUMMARY

[0004] An aspect of at least one of the embodiments disclosed herein includes the realization that golf club drivers with a variety of designs, logos, and/or color schemes along the crown, shaft, and/or grip can make it difficult to see and track the club during a swinging motion, and can thus make it difficult for a golfer to receive visual feedback during a swing. In particular, use of different colors on the crown, shaft, and/or grip can consciously and/or subconsciously affect the user's swing by causing visual distractions and thus making it difficult to visualize the club throughout the swing. It would be advantageous to have a golf club that is designed with a color scheme that provides the golfer with generally continuous visual feedback during a swing and/or facilitates a more fluid, consistent, and repeatable swing.

[0005] Thus, in accordance with an embodiment, a golf club can comprise a club head comprising a crown portion, a sole portion, and a face portion, a shaft attached to the club head, and a grip attached to or integrally formed with the shaft, wherein the crown portion, shaft, and grip are all substantially the same color.

[0006] In some embodiments, there may also be an advantage to having a front face and/or back of the club the same color as the crown, shaft, and grip.

[0007] In some embodiments, there may also be an advantage to having an iron (as opposed to a wood) that includes a top line, shaft, and grip all the same color (e.g. the exact same shade of color or a variety of substantially similar shades of the same color). Similarly, there may be an advantage to

having an iron that includes a front face and/or back the same color as the top line, shaft, and grip.

[0008] In some embodiments, the invention provides a shaft sleeve for an interchangeable system, wherein the shaft sleeve is substantially the same color as the crown portion, shaft, and grip. In some embodiments, the invention provides a golf club comprising a photochromic portion, wherein the photochromic portion is one hue under a first light condition and reversibly exhibits a second hue under a second light condition.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] These and other features and advantages of the present embodiments will become more apparent upon reading the following detailed description and with reference to the accompanying drawings of the embodiments, in which:

[0010] FIG. 1 is a bottom, heel side perspective view of a golf club according to one embodiment; the drawing is lined for color, illustrating a white grip, white shaft, and white club head crown;

[0011] FIG. 2 is a heel side view thereof; the drawing is lined for color, illustrating a white club grip, white shaft, and white club head crown;

[0012] FIG. 3 is a toe side view thereof; the drawing is lined for color, illustrating a white club grip, white shaft, and white club head crown;

[0013] FIG. 4 is a back side view thereof; the drawing is lined for color, illustrating a white club grip, white shaft, and white club head crown;

[0014] FIG. 5 is a top side view thereof; the drawing is lined for color, illustrating a white club grip, white shaft, and white club head crown;

[0015] FIG. 6 is a bottom side view thereof; the drawing is lined for color, illustrating a white club grip, white shaft, and white club head crown;

[0016] FIG. 7 is a front side view thereof; the drawing is lined for color, illustrating a white club grip, white shaft, and white club head crown;

[0017] FIG. 8 is a bottom, heel side perspective view of a golf club according to another embodiment; the drawing is lined for color, illustrating a black club grip, black shaft, and black club head crown;

[0018] FIG. 9 is a heel side view thereof; the drawing is lined for color, illustrating a black club grip, black shaft, and black club head crown;

[0019] FIG. 10 is a toe side view thereof; the drawing is lined for color, illustrating a black club grip, black shaft, and black club head crown;

[0020] FIG. 11 is a back side view thereof; the drawing is lined for color, illustrating a black club grip, black shaft, and black club head crown;

[0021] FIG. 12 is a top side view thereof; the drawing is lined for color, illustrating a black club grip, black shaft, and black club head crown;

[0022] FIG. 13 is a bottom side view thereof; the drawing is lined for color, illustrating a black club grip, black shaft, and black club head crown; and

[0023] FIG. 14 is a front side view thereof; the drawing is lined for color, illustrating a black club grip, black shaft, and black club head crown.

DETAILED DESCRIPTION

[0024] An improved golf club 10 is disclosed herein. The embodiments disclosed herein are described in the context of

a driver because the embodiments disclosed herein have particular utility in this context. However, the embodiments and inventions herein can also be applied to other types of golf clubs, including but not limited to fairway woods, putters, irons, and/or hybrids.

[0025] With reference to FIGS. 1-14, the golf club 10 can comprise a club head 12. The club head 12 can be divided generally into a crown or crown portion 14, a sole or sole portion 16, and a face or face portion 18. In some embodiments the crown portion 14 can be connected to and/or integrally formed with the sole portion 16 and/or face portion 18.

[0026] In some embodiments the sole portion 16 can be connected to and/or integrally formed with the crown portion 14 and/or face portion 18.

[0027] With continued reference to FIGS. 1-14, the golf club 10 can comprise a shaft 20 and a grip 22. The shaft 20 can, for example extend from the club head 12 towards the grip 22.

[0028] In some embodiments, the shaft can comprise an elongated piece of metal, or other suitable material, that extends at a selected angle from the club head 12. The shaft 20 can be integrally formed with and/or attached to the club head 12.

[0029] The grip 22 can comprise, for example, any part of the golf club 10 that is configured to be gripped by the golfer prior to and/or during a golf club swing. In some embodiments, the grip 22 can comprise an extension of the shaft 20, and/or can be attached to or integrally formed with the shaft 20.

[0030] With continued reference to FIGS. 1-14, in a preferred arrangement, the entire exposed crown portion 14, exposed shaft portion 20, and exposed grip portion 22 can be substantially a single, solid shade of color, the term "exposed" referring generally to that part of the club that is visible to a golfer. For example, as illustrated in FIGS. 1-7, the entire crown portion 14, shaft portion 20, and grip portion 22 can be a true white, or as illustrated in FIGS. 8-14, the entire crown portion 14, shaft portion 20, and grip portion 22 can be a true black. Other colors and/or shades of colors are also possible. For example, in some embodiments, the crown portion 14, shaft portion 20, and grip portion 22 can be a single shade of egg shell white, stark white, dark gray, or deep black. In some embodiments, the crown portion 14, shaft portion 20, and grip portion 22 can be a single shade of red, blue, orange, or other color or shade of color.

[0031] For purposes of this application, the term "hue" refers to the property of colors by which they can be perceived as ranging from red through yellow, green, and blue, as determined by the dominant wavelength of the light. For purposes of this application, to the extent that anything is pure white, or pure white and shades of gray, pure black, or pure black and shades of gray, it is considered to be a hue.

[0032] For purposes of this application, the term "shade" refers to the addition of black.

[0033] For purposes of this application, the term "saturation" refers to the addition of white.

[0034] In some embodiments, the golf club 10 can comprise one component that is substantially a first shade of color, and another component that is substantially another shade of the same color. For example, in some embodiments, the golf club 10 can comprise a crown portion 14 that is egg shell white, and a shaft 20 and grip 22 that are true white. In some embodiments, the golf club 10 can comprise a crown portion 14 that is true black, and a shaft 20 and grip 22 that are dark

gray. In some embodiments the golf club 10 can comprise a crown portion 14 that is dark red, and a shaft 20 and grip 22 that are pink. Other variations and colors are also possible.

[0035] In some embodiments, the face portion 18 can have substantially the same shade of color as the crown portion 14, shaft 20, and grip 22. For example, in some embodiments the crown portion 14, face portion 18, shaft 20, and grip 22 can all be a single shade of white.

[0036] In some embodiments, the golf club 10 can further comprise a ferrule 24. The ferrule 24 can comprise, for example, any part of the golf club 10 that connects the shaft 20 to the club head 12. In some embodiments the ferrule 24 can have substantially the same or similar shade of color as the crown portion 14, face portion 18, shaft 20, and/or grip 22.

[0037] For purposes of this application, the term "gloss" refers to the property of surfaces by which they can be perceived as reflecting light. Examples of gloss include flat, matte, satin, and glossy.

[0038] In some embodiments, the golf club 10 can comprise one component with a surface having substantially a first gloss, and another component having a surface having substantially a second gloss. In some embodiments the crown portion 14, shaft 20, grip 22, and/or any other component that is shaded, can include a level of gloss. The level of gloss can include, for example, anything from flat color to high shine.

[0039] In some embodiments, the golf club 10 can have substantially one gloss on any surface or every surface, for instance, wherein the one gloss is selected from the list consisting of flat, matte, satin, gloss, high gloss, and lustrous. A gloss can be chosen to optimize the appearance of golf club 10, a durability of a surface, for example to reflect light, to modulate fading over time, or to improve ease of cleaning and maintenance. In certain embodiments, a finish of a particular gloss is chosen to suit an environmental condition, for example, for a golf club 10 intended to be used near a sea coast near salt spray.

[0040] With continued reference to FIGS. 1-14, in a preferred arrangement, the entire exposed crown portion 14, exposed shaft portion 20, and exposed grip portion 22 can be substantially a single, solid shade of color, the term "exposed" referring generally to that part of the club that is visible to a golfer. For example, as illustrated in FIGS. 1-7, the entire crown portion 14, shaft portion 20, and grip portion 22 can be a true white, or as illustrated in FIGS. 8-14, the entire crown portion 14, shaft portion 20, and grip portion 22 can be a true black. Other colors and/or shades of colors are also possible. For example, in some embodiments, the crown portion 14, shaft portion 20, and grip portion 22 can be a single shade of egg shell white, stark white, dark gray, or deep black. In some embodiments, the crown portion 14, shaft portion 20, and grip portion 22 can be a single shade of red, blue, orange, or other color or shade of color.

[0041] While the embodiments described above are described generally in the context of a crown portion 14, shaft portion 20, and grip portion 22 that are solidly colored in one or more shades of the same color without any markings, etchings, insignia, etc., in some embodiments the crown portion 14, shaft portion, and/or grip portion 22 can include markings, etchings, insignia, etc. that are also shaded. Such markings, etchings, insignia, etc. can be shaded in the same or similar fashion to the rest of the crown portion 14, shaft portion 20, and grip portion 22. For example, the crown portion 14 can be shaded substantially entirely in a particular shade of white, and can include an etching and/or marking

along its surface that is also shaded in a similar or substantially identical shade of white. In some embodiments, markings can be shaded an entirely different color than the rest of the component. For example, in some embodiments the crown portion **14** can be substantially white, and can include a small dark black marking (e.g. logo or alignment marking). Similarly, in some embodiments the shaft portion **20** and/or grip portion **22** can be substantially white but include a small dark black marking (e.g. logo or alignment marking). In some embodiments the crown portion **14**, shaft portion, and/or grip portion **22** can include at least one directional graphic that is visible only from a desired angle while being invisible from an undesired angle, as described in U.S. patent application Ser. No. 12/556,608, filed Sep. 10, 2009, and published as U.S. Pub. No. 2011/0059808 on Mar. 10, 2011, which is herein incorporated by reference in its entirety.

[0042] In certain embodiments, the invention provides a golf club having interchangeable parts. For example, in certain embodiments, the invention provides a golf club having an interchangeable shaft system including a shaft, a shaft sleeve, a club head, and a fastener. In some embodiments, the shaft sleeve is configured to be coupled to an end of a shaft and received in a hosel included in the club head. In some embodiments, the invention includes an interchangeable shaft system substantially as described in U.S. Pat. No. 7,789,766, issued on Sep. 7, 2010, from U.S. application Ser. No. 12/023,380, filed Jan. 31, 2008, which is herein incorporated by reference in its entirety. It will be appreciated by one having skill in the art that the training benefits supplied by a monochrome golf club or a monochrome gold club including a marking will have further benefits when optionally including an interchangeable system.

[0043] A primary goal, and advantage, of having a crown portion **14**, shaft portion **20**, and/or grip portion **22** that are all substantially the same color, is to facilitate continuous feedback to a golfer during the golf swing. Typical golf clubs include a variety of colors and markings (e.g. a mixture of red, blue, etc.). As soon as the typical golf club leaves the direct line of sight of the golfer's eyes and enters the golfer's peripheral vision (e.g. during a backswing), the mixture of colors on the club, and particularly the mixture of colors of the crown portion **14**, the shaft **20**, and the grip **22**, can generally become lost to a golfer, and perception of the golf club becomes reduced.

[0044] As a typical golf club moves from a direct line of sight into the peripheral vision through a backswing, the ability to perceive color can become limited. As the typical golf club swings forward and back into the golfer's direct line of sight, the variety of colors and/or markings on the crown portion, shaft, and/or grip can create streaks of light that suddenly appear in the golfer's eyes and are picked up by cone cells in the golfer's eye.

[0045] A golfer's perception and view of a golf club during a swing can be instrumental in executing and repeating a correct golf swing. Thus, it can be advantageous to have a golf club that does not distract the golfer through the forward swing, and/or allows the golfer to receive generally continuous feedback of the club position and movement. The golf club **10** described above, with its generally single color design, can reduce color distraction and facilitate generally continuous feedback of the golf club **10** throughout the swing. This continuous visual feedback and perception can aid the golfer in recognizing his or her swing patterns and characteristics.

[0046] Additionally, in some embodiments the face portion **18** of golf club **10** can include a small marker or some other visual cue, such that during a forward swing, and prior to and/or during impact, the golfer's eyes can pick up on the visual cue on the face portion **18** without the visual cue creating streaks of color or distraction. Such a visual cue can comprise, for example, a small line, marking, etc.

[0047] In some embodiments, a visual cue—including, for example, a monochrome golf club or a monochrome golf club including a small marker—supplies a valuable training aid. In certain embodiments, the visual cue enhances a visibility of a club as it moves through a player's peripheral vision, thereby delivering to the golfer information about the full path of a swing they make. In some embodiments, a monochrome golf club, or a monochrome golf club with a marker, is a training aid for its visibility to the golfer or for its visibility to a third party. For example, when an instructor observes a student swing the club, the arcuate morphology of the trace of the visual cue supplies valuable information to the instructor regarding the student's swing. In some embodiments, the monochrome surface of golf club **10** functions as a tracer. For example, a solid white club, or a club of a color chosen with regards to surrounding environmental conditions, can create the image of a visual trail, making the path of the swing visible to the naked eye of the player or an observer. Accordingly, a monochrome club or a substantially monochrome club including a contrasting marker can supply a tracer club as a valuable evaluation aid.

[0048] With continued reference to FIGS. 1-14, in certain embodiments, the entire exposed crown portion **14**, exposed shaft portion **20**, and exposed grip portion **22** can substantially comprise a photochromic material. The term "photochromic" generally refers to a reversible change of color under exposure to light, for example by a chromene or a silver halide salt. In some embodiments, the golf club **10** can comprise one component that includes a photochromic portion, and another component that does not. For example, in some embodiments, the golf club **10** can comprise a crown portion **14** that darkens when exposed to light, thereby ensuring that when the club head is at address or in play, no distracting logos or similar visual elements are visible.

[0049] In some embodiments, a portion of a golf club includes a photochromic material in a configuration that causes a sight line or alignment aid which reversibly appears, for example, when the club is exposed to sunlight at address. In certain embodiments, a portion of a golf club includes a photochromic indicia or element on a surface of any component, for example, including without limitation, a shaft, hosel, sleeve, or iron topline.

[0050] In some embodiments, a photochromic material is used to provide a golf club which is substantially monochrome when in diminished light, but which reversibly reveals a pattern or indicia under brighter light. In some embodiments, an indicia may include a orientation marker, a logo, an identifying mark or number, or a cosmetic flourish. In some embodiments, the invention supplies a monochrome golf club which reversibly reveals an indicia under select lighting conditions by including a photochromic portion of a surface such that the club appears substantially monochrome under a first light condition, but reversibly reveals a marker or indicia under a second light condition.

[0051] Although these inventions have been disclosed in the context of certain preferred embodiments and examples, it will be understood by those skilled in the art that the present

inventions extend beyond the specifically disclosed embodiments to other alternative embodiments and/or uses of the inventions and obvious modifications and equivalents thereof.

[0052] In addition, while several variations of the inventions have been shown and described in detail, other modifications, which are within the scope of these inventions, will be readily apparent to those of skill in the art based upon this disclosure. It is also contemplated that various combinations or sub-combinations of the specific features and aspects of the embodiments can be made and still fall within the scope of the inventions. It should be understood that various features and aspects of the disclosed embodiments can be combined with or substituted for one another in order to form varying modes of the disclosed inventions. Thus, it is intended that the scope of at least some of the present inventions herein disclosed should not be limited by the particular disclosed embodiments described above.

1. A golf club comprising: a club head comprising a crown portion, a sole portion, and a face portion; a shaft attached to the club head; and a grip attached to or integrally formed with the shaft; wherein an exposed portion of the crown, an exposed portion of the shaft, and an exposed portion of the grip are all substantially the same hue.

2. The golf club of claim 1, wherein an exposed portion of the crown, an exposed portion of the shaft, and an exposed portion of the grip are all substantially the same hue and shade.

3. The golf club of claim 1, wherein an exposed portion of the crown, an exposed portion of the shaft, and an exposed portion of the grip are all substantially the same hue and saturation.

4. The golf club of claim 1, wherein an exposed portion of the crown, an exposed portion of the shaft, and an exposed portion of the grip are all substantially the same hue, shade, and saturation.

5. The golf club of claim 1, further comprising a shaft sleeve for an interchangeable system, wherein the shaft sleeve is substantially the same hue as the exposed portion of the crown.

6. The golf club of claim 1, further comprising a photochromic portion, wherein the photochromic portion is substantially the same hue as the exposed portion of the shaft under a first light condition and reversibly exhibits a second hue under a second light condition.

7. A golf club comprising: a club head comprising a crown portion, a sole portion, and a face portion; a ferrule connecting a shaft to the club head; and a grip attached to or integrally formed with the shaft; wherein an exposed portion of the

crown, an exposed portion of the ferrule, an exposed portion of the shaft, and an exposed portion of the grip are all substantially the same hue.

8. The golf club of claim 7, wherein the exposed portion of the crown, the exposed portion of the ferrule, the exposed portion of the shaft, and the exposed portion of the grip are all substantially the same hue and shade.

9. The golf club of claim 7, wherein the exposed portion of the crown, the exposed portion of the ferrule, the exposed portion of the shaft, and the exposed portion of the grip are all substantially the same hue and saturation.

10. The golf club of claim 7, wherein the exposed portion of the crown, the exposed portion of the ferrule, the exposed portion of the shaft, and the exposed portion of the grip are all substantially the same hue, shade, and saturation.

11. The golf club of claim 7, further comprising a shaft sleeve for an interchangeable system, wherein the shaft sleeve is substantially the same hue as the exposed portion of the crown.

12. The golf club of claim 7, further comprising a photochromic portion, wherein the photochromic portion is substantially the same hue as the exposed portion of the shaft under a first light condition and reversibly exhibits a second hue under a second light condition.

13. A golf club comprising: a shaft connected to a grip and a club head, the club head comprising a crown, a sole, and a face, wherein an entire exposed crown portion, an entire exposed shaft portion, and an entire exposed grip portion are substantially a single, solid shade of color.

14. The golf club of claim 13, wherein the entire exposed crown portion, the entire exposed shaft portion, and the entire exposed grip portion are all substantially the same hue and shade.

15. The golf club of claim 13, wherein the entire exposed crown portion, the entire exposed shaft portion, and the entire exposed grip portion are all substantially the same hue and saturation.

16. The golf club of claim 13, wherein the entire exposed crown portion, the entire exposed shaft portion, and the entire exposed grip portion are all substantially the same hue, shade, and saturation.

17. The golf club of claim 13, further comprising a shaft sleeve for an interchangeable system, wherein the shaft sleeve is substantially the same hue as the entire exposed crown portion.

18. The golf club of claim 13, further comprising a photochromic portion, wherein the photochromic portion is substantially the same hue as the entire exposed shaft portion under a first light condition and reversibly exhibits a second hue under a second light condition.

* * * * *