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(54) **GOLF CLUB WITH REVERSIBLE SOLE**

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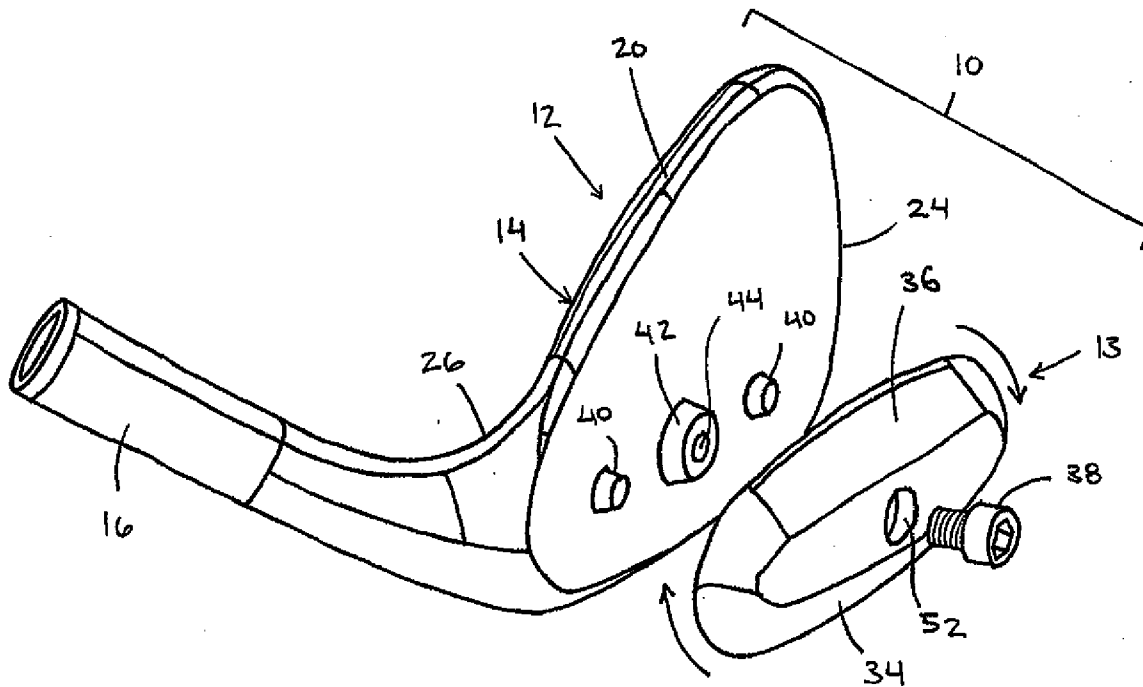
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(57) **ABSTRACT**

The present invention is directed to a golf club having a reversible sole member. The reversible sole member provides a plurality of bounce contours. The user may select one of the plurality of bounce contours and orient the sole member so that the selected bounce contour forms the sole contour of the golf club head.

Publication Classification

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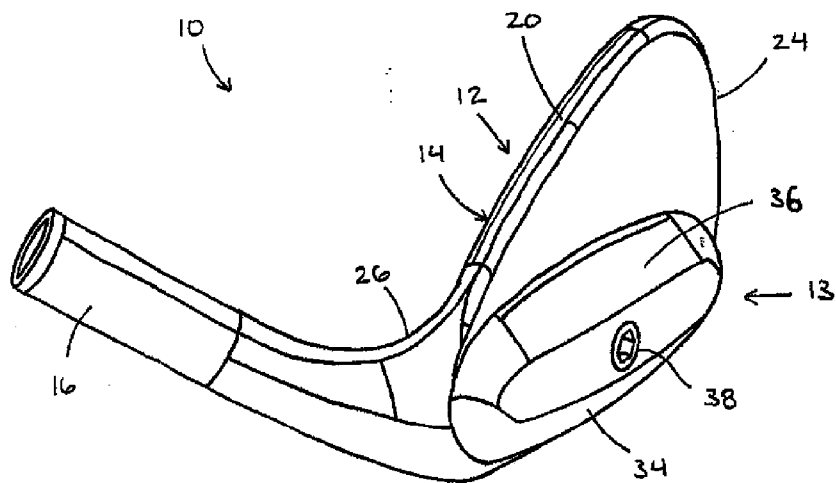


FIG. 1

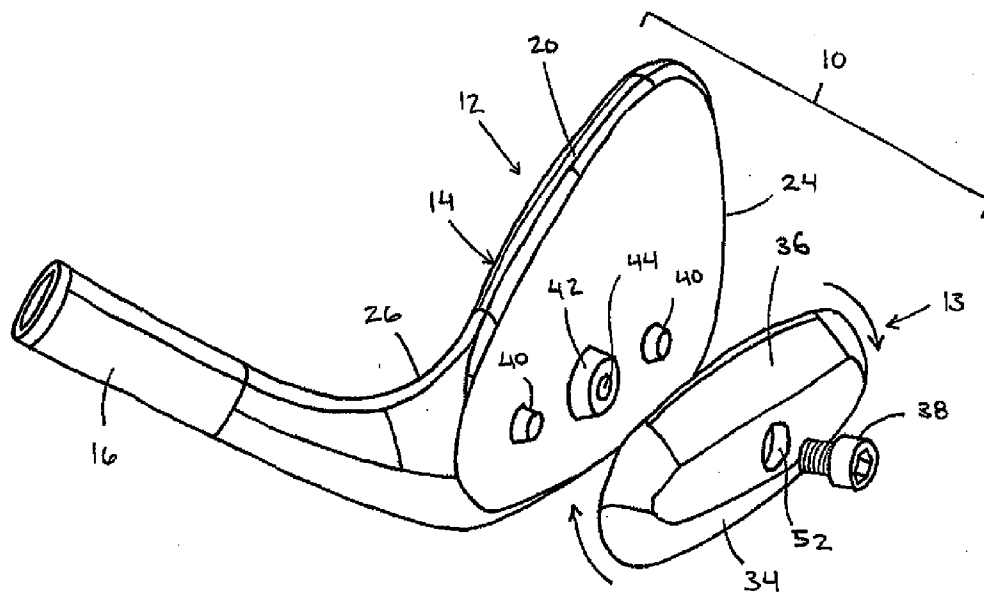


FIG. 2

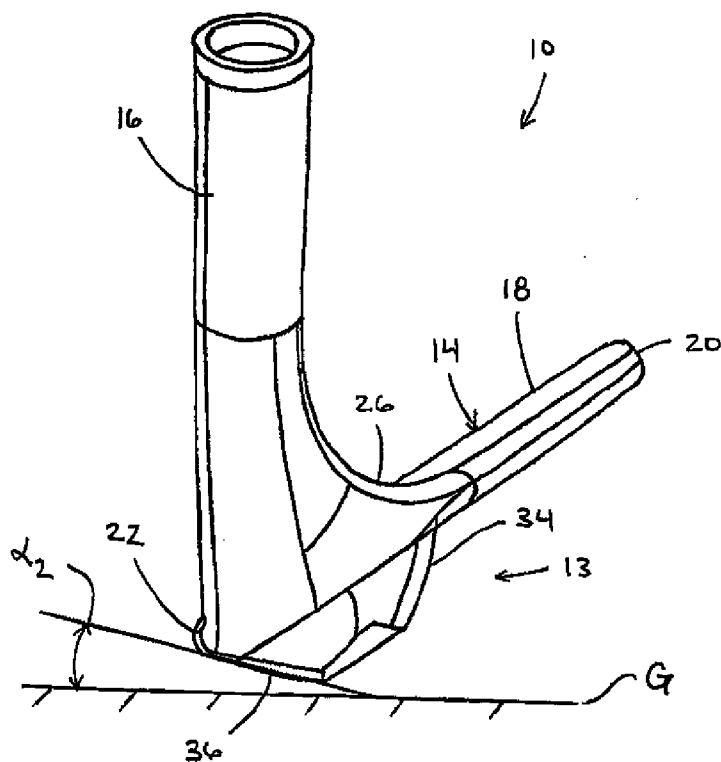


FIG. 5

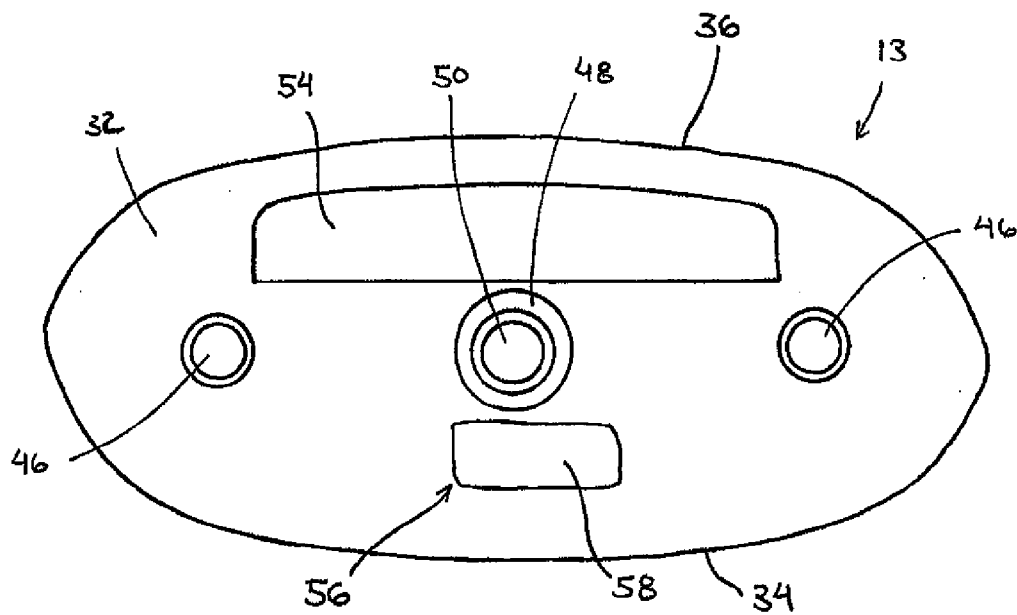


FIG. 6

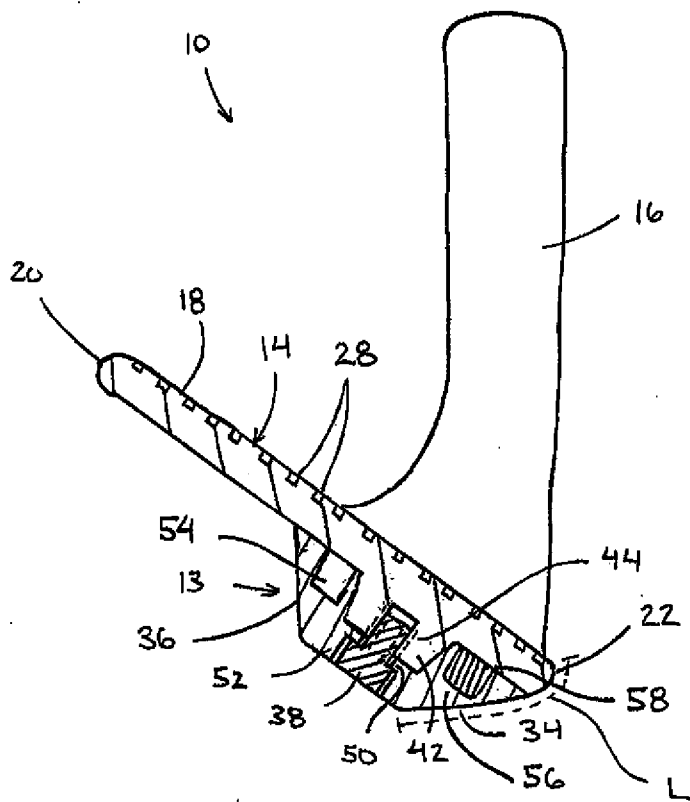


FIG. 7

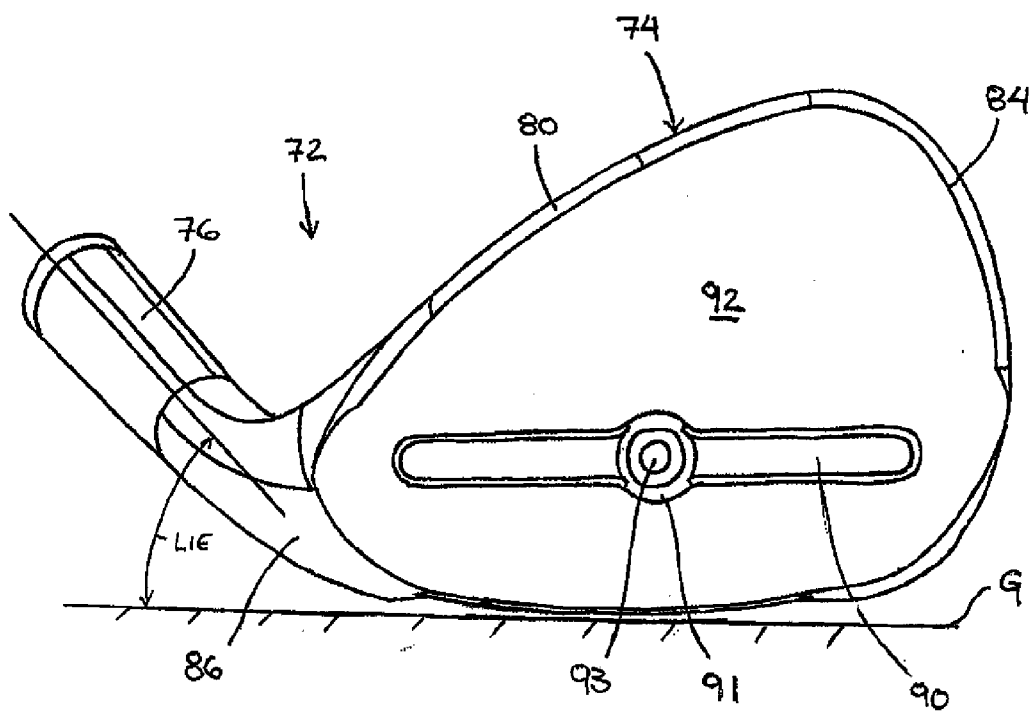


FIG. 11

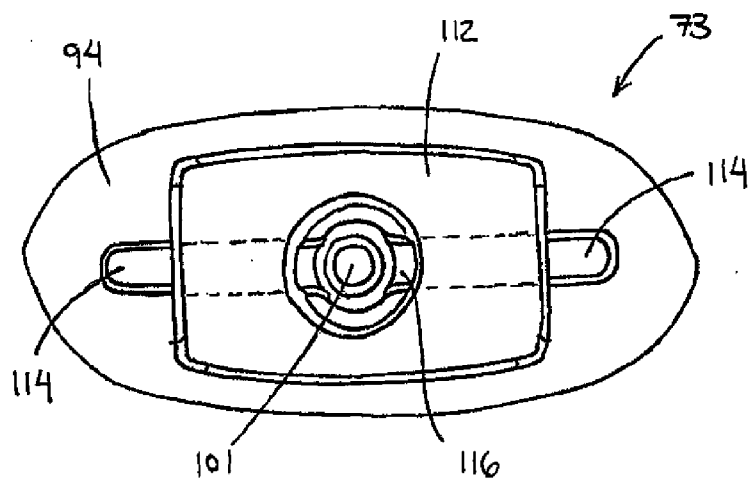


FIG. 12

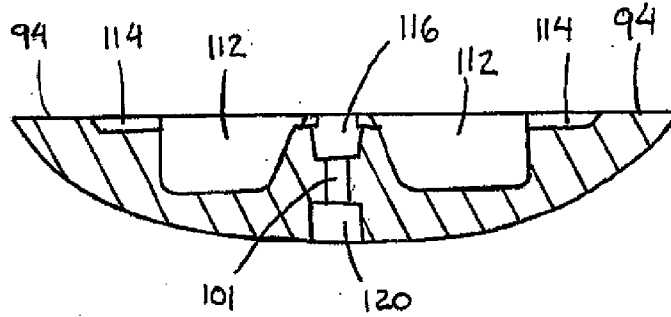


FIG. 13

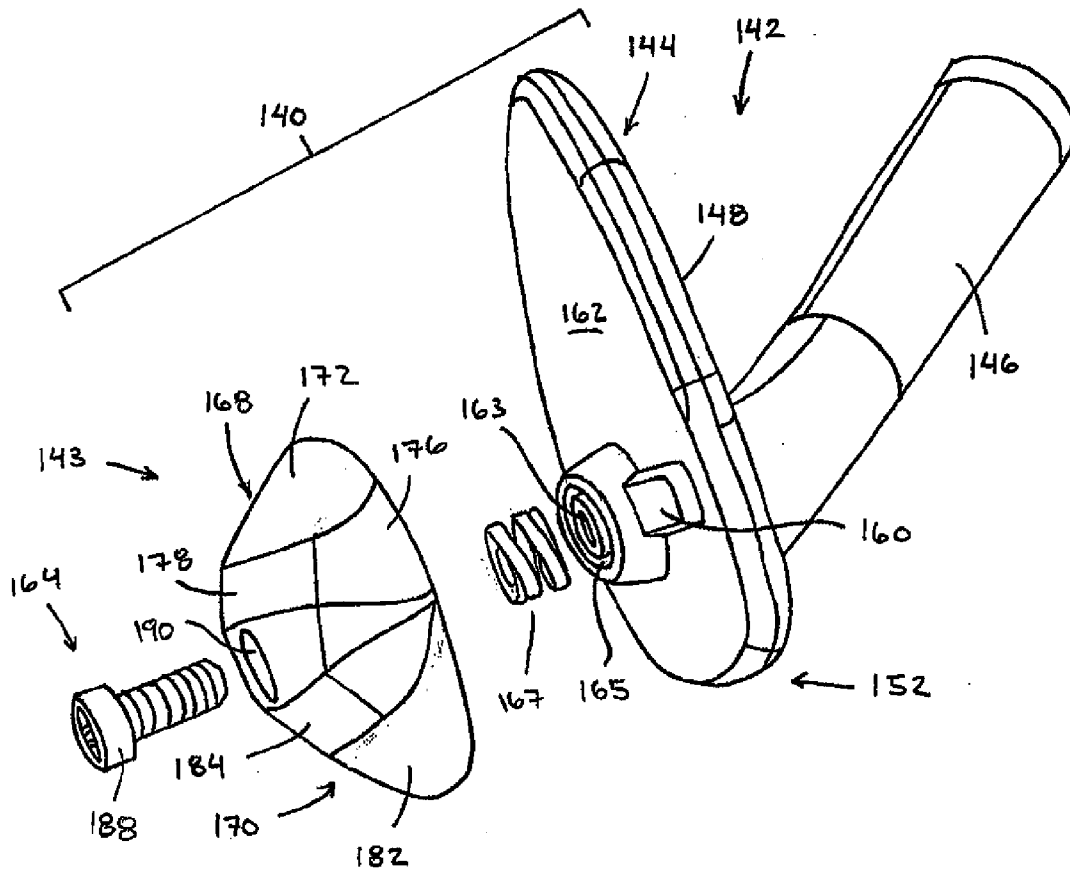


FIG. 14

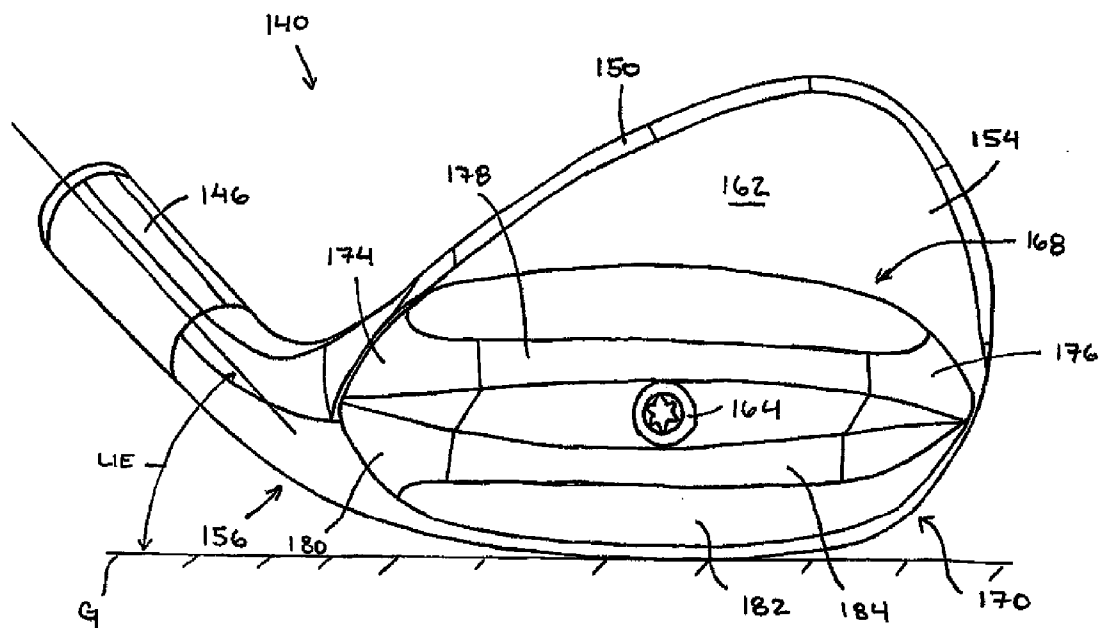


FIG. 15

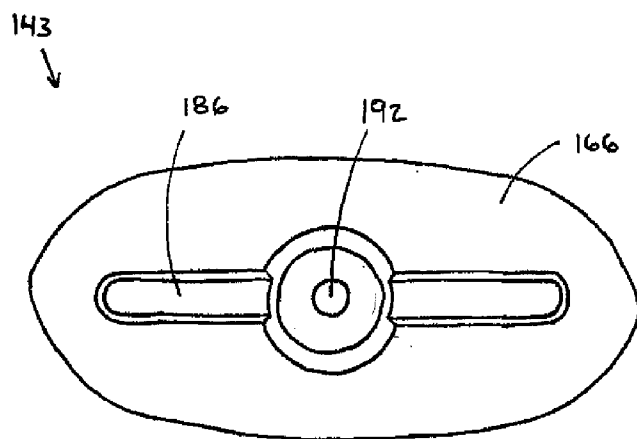
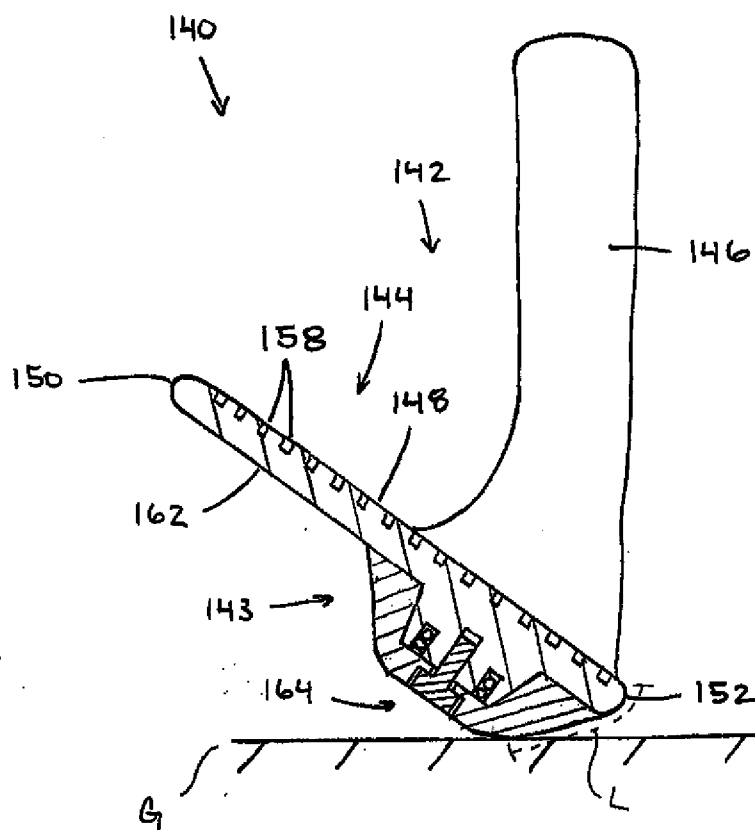


FIG. 16



GOLF CLUB WITH REVERSIBLE SOLE

FIELD OF THE INVENTION

[0001] This invention generally relates to golf clubs, and more specifically to the sole configuration of iron-type golf clubs.

BACKGROUND OF THE INVENTION

[0002] Iron-type golf clubs generally include a face that includes a ball striking surface and a body that supports the face, provides desired mass properties and includes a sole that is configured to contact the ground during a swing. The face includes a ball striking surface that generally includes a plurality of score lines or grooves that are positioned to impart spin on the ball during impact. The body is generally designed to provide mass that is distributed to tailor the behavior of the club, especially during impact with the ball. The sole configuration also dictates the behavior of the club caused by its interaction with the ground at address and during a swing.

[0003] Each golfer has a unique swing. It is impossible to design a golf club that is perfectly suited to every golfer. However, golf club designers are forced to provide a limited number of models that are intended to suffice for the majority of golfers. Typically, the construction of the golf club, especially for iron-type golf clubs, includes a single structural component that includes the body, the face, the sole and a hosel. In multi-material constructions, the parts of the golf club head are formed separately and then coupled during manufacturing of the club head.

[0004] Prior golf clubs have utilized multi-component constructions. For example, U.S. Pat. No. 5,346,213 describes a golf club head that includes a metal head body and a fiber reinforced resin face plate. A support pin extends through the body and retains the face plate.

[0005] In another multi-component golf club head construction, shown in U.S. Pat. No. 6,080,068, a golf club head includes a head attachment portion at the rear of a face that is horizontally connected to a base of a shaft attachment portion.

[0006] There is a need for an improved golf club construction that provides greater ability to alter the physical attributes of the golf club head.

SUMMARY OF THE INVENTION

[0007] The present invention is directed to a golf club with a reversible sole member. The inventive golf club includes a sole member that includes a plurality of bounce contours. The sole member may be coupled to the remainder of the golf club head in a plurality of orientations so that a selected one of the plurality of bounce contours forms the sole contour of the club head.

[0008] In an embodiment, a golf club head includes a main body member, a sole member and a mechanical fastener. The main body member defines a hosel, and a face, and the face defines a ball-striking surface, a leading edge and a rear surface. The sole member includes a mounting surface, a first bounce contour and a second bounce contour. The mounting surface abuts a lower portion of the rear surface of the main body member so that the sole member forms a muscle portion of the golf club head. One of the first bounce contour and the second bounce contour forms an upper surface of the muscle portion and the other of the first bounce contour and the second bounce contour forms a majority of the sole contour of the golf club head. The mechanical fastener removably

couple the sole member to the body member. The sole member is shaped to be selectively attached to the main body in a first configuration or a second configuration of the golf club head, and the first bounce contour forms the majority of the sole contour of the golf club head in the first configuration and the second bounce contour forms the majority of the sole contour of the golf club head in the second configuration.

[0009] In another embodiment, a golf club head includes a main body member, a sole member and a mechanical fastener. The main body member defines a hosel, and a face, and the face defines a ball-striking surface, a leading edge and a rear surface. The sole member includes a first bounce contour and a second bounce contour. The sole member is shaped to be selectively attached to the main body in a first configuration or a second configuration of the golf club head, and the first bounce contour forms the majority of the sole contour of the golf club head in the first configuration and the second bounce contour forms the majority of the sole contour of the golf club head in the second configuration. The mechanical fastener removably couples the sole member to the body member. The main body member and the sole member form the entire sole surface of the golf club head.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] In the accompanying drawings, which form a part of the specification and are to be read in conjunction therewith and in which like reference numerals are used to indicate like parts in the various views:

[0011] FIG. 1 is a rear perspective view of a golf club head in accordance with the present invention;

[0012] FIG. 2 is an exploded rear perspective view of the golf club head of FIG. 1;

[0013] FIG. 3 is a side view of the golf club head of FIG. 1;

[0014] FIG. 4 is a side view of the golf club head of FIG. 1 in a first configuration;

[0015] FIG. 5 is a side view of the golf club head of FIG. 1 in a second configuration;

[0016] FIG. 6 is side view of a sole member of the golf club head of FIG. 1;

[0017] FIG. 7 is a cross-sectional view of the golf club head of FIG. 1;

[0018] FIG. 8 is an exploded rear perspective view of another golf club head in accordance with the present invention;

[0019] FIG. 9 is a side view of the golf club head of FIG. 8;

[0020] FIG. 10 is a cross-sectional view of the golf club head of FIG. 8;

[0021] FIG. 11 is a side view of a main body member of the golf club head of FIG. 8;

[0022] FIG. 12 is side view of a sole member of the golf club head of FIG. 8;

[0023] FIG. 13 is a cross-sectional view of the sole member of FIG. 8;

[0024] FIG. 14 is an exploded rear perspective view of another golf club head in accordance with the present invention;

[0025] FIG. 15 is a side view of the golf club head of FIG. 14;

[0026] FIG. 16 is side view of a sole member of the golf club head of FIG. 14; and

[0027] FIG. 17 is a cross-sectional view of the golf club head of FIG. 14.

DETAILED DESCRIPTION OF THE PREFERRED
EMBODIMENTS

[0028] The present invention is directed to modular golf clubs. In particular, the inventive golf clubs generally include a multi-component structure that allows various attributes to be altered.

[0029] Other than in the operating examples, or unless otherwise expressly specified, all of the numerical ranges, amounts, values and percentages such as those for amounts of materials, moments of inertias, center of gravity locations, loft and draft angles, and others in the following portion of the specification may be read as if prefaced by the word “about” even though the term “about” may not expressly appear with the value, amount, or range. Accordingly, unless indicated to the contrary, the numerical parameters set forth in the following 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.

[0030] 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.

[0031] Referring to FIGS. 1-7, an iron-type golf club head **10** generally includes a main body **12** and a sole member **13**. Main body **12** includes a face **14** and a hosel **16**. Face **14** includes a generally planar ball striking surface **18** that extends between a top line **20**, a leading edge **22**, a toe **24** and a heel **26**. Ball striking surface **18** includes a plurality of score lines **28**, or grooves, that extend into face **14** from ball striking surface **18**. Score lines **28** assist in imparting spin to a golf ball and allow debris to move away from the ball during impact. Score lines **28** may have various configurations to produce desired spin characteristics and debris behavior.

[0032] Body **12** provides the majority of the mass of club head **10** and is configured to distribute the mass so that club head has a desired behavior during impact with a golf ball. For example, the upper portion of face **14** may be have a generally constant thickness or the thickness may vary, such as by providing perimeter weighting, to provide the desired mass distribution. As illustrated, the upper portion of face **14** has a generally constant thickness so that when body **12** is combined with sole member **13**, golf club head **10** generally has a muscle-back configuration. Additionally, the constant thickness of the upper portion of body **12** results in a planar rear surface **30**.

[0033] Sole member **13** is coupled to a lower portion of face **14**, on rear surface **30**, and provides the majority of the sole contour of golf club head **10**, so that sole member **13** provides the majority of the surface area of the sole surface of the complete golf club head **10**. Additionally, sole member **13** provides the majority of the arc length L from the leading edge to the trailing edge of the sole surface of the complete golf club head **10** in a central portion of the sole surface,

where the central portion is a portion of club head **10** that extends approximately 12.0 mm both heelward and toward from the heel-to-toe center of the ball striking surface of the golf club head **10**. Preferably, sole member **13** provides greater than about 60%, and more preferably greater than about 75% of that arc length of the sole surface of the center portion of golf club head **10**. It should be appreciated that the sole contour may include a combination of planar and curved surfaces and in embodiments utilizing a sole contour that includes at least one planar surface, the “arc length” includes the linear length of the at least one planar surface.

[0034] Sole member **13** is generally an elongate body that includes a generally planar mounting surface **32**, a first bounce contour **34**, and a second bounce contour **36**. Sole member **13** is shaped so that a user may configure golf club **10** to have one of two sole configurations with a single sole member **13**. For example, sole member **13** is rotated to orient either first bounce contour **34** or second bounce contour **36** lower on body **12** so that the selected contour forms the sole contour of the complete golf club head **10**. Sole member **13** is generally rotated about a longitudinal axis of a fastener **38** that is normal to the planar rear surface **30** of body **12**. Because the longitudinal axis of the fastener **38** is utilized as the pivot axis of sole member **13**, sole member **13** may be re-oriented simply by partially disengaging fastener **38** and sole member **13** from body **12**, rotating sole member **13** relative to body **12**, and tightening fastener **38** to body **12**. As an alternative, fastener **38** and sole member **13** may be fully disengaged, if desired.

[0035] First bounce contour **34** and second bounce contour **36** are shaped to provide different sole contours for golf club head **10**. For example, the bounce contours may be shaped to provide full sole surfaces with different bounce angles, as shown in detail in FIGS. 3-5. First bounce contour **34** and second bounce contour **36** are shaped to provide full sole configurations with different bounce angles. As shown in FIG. 4, when first bounce contour **34** is oriented on main body **12** to provide the sole contour of golf club head **10**, it provides a full sole surface having a first bounce angle α_1 . As shown in FIG. 5, when second bounce contour **36** is oriented on main body **12** to provide the sole contour of golf club head **10**, it provides a full sole surface having a second bounce angle α_2 that is greater than first bounce angle α_1 . First bounce angle α_1 is preferably between about 4° and about 9°, and second bounce angle α_2 is preferably between about 10° and about 15°.

[0036] Alternatively, one bounce contour may be shaped to provide a full sole surface and the second bounce contour may be shaped to provide a desired sole grind shape. As a further alternative, the bounce contours may be shaped to provide two different sole grind shapes.

[0037] Sole member **13** is constructed separate from body **12** and coupled thereto. Sole member **13** includes alignment features that engage alignment features of body **12** when sole member **13** is fully installed on body **12**. The engagement of the alignment features ensures that the sole member **13** is oriented relative to main body **12** so that one of first bounce contour **34** and second bounce contour **36** forms the sole contour of golf club head **10**. In that orientation, sole member **13** generally extends between heel **26** and toe **24** of main body **12** and the upper bounce contour generally forms an upper surface of a muscle portion of club head **10**. For example, in the configuration of FIGS. 1, 3 and 4, sole member **13** is oriented so that first bounce contour **34** is lower on main body

12 and forms the sole contour of golf club head 10, while second bounce contour 36 is adjacent an upper portion of main body 12 and generally forms an upper surface of a muscle portion of the golf club head 10.

[0038] The alignment features of main body 12 include a plurality of tapered protrusions that extend from a lower portion of rear surface 30 of main body 12. In the present embodiment, the alignment features include a plurality of truncated cones 40 and a boss 42 that is also generally shaped as a truncated cone. Boss 42 is configured to be coupled to fastener 38 in the assembled golf club head 10. For example, boss 42 includes a threaded bore 44 bore that is coupled to a threaded shank of fastener 38. Cones 40 are spaced from boss 42 so that when sole member 13 is mounted on main body 12, the interaction between cones 40 and sole member 13 prevent sole member from rotating about boss 42. The height of cones 40 relative to rear surface 30 is selected so that sole member 13 does not have to be fully removed from boss 42 in order to rotate sole member 13 relative to main body 12 about boss 42 and the longitudinal axis of fastener 38. As a result, the orientation of sole member 13 may be altered without fully disengaging sole member 13 from main body 12. Preferably, the height of cones 40 from rear surface 30 is less than the height of boss 42 from rear surface 30.

[0039] The alignment features of sole member 13 include a plurality of depressions that receive cones 40 and boss 42. In particular, sole member 13 includes a pair of conical depressions 46 that are sized and shaped to receive truncated cones 40 of main body 12 so that relative motion between each cone 40 and depression 46 is minimized or prevented. Similarly, a boss depression 48 is provided in sole member 13 that is sized and shaped to receive boss 42.

[0040] A fastener bore 50 extends through sole member 13 and intersects boss depression 48 so that fastener 38 extends through sole member 13, through boss depression 48 and into boss 42 in the assembled golf club head 10. Fastener bore 50 also preferably includes a counterbore 52 so that the head of fastener 38 may be received therein so that the outer surface of fastener 38 may be flush, or below, an outer surface of sole member 13.

[0041] Sole member 13 is spaced from ball striking surface 18 so that main body 12 provides the leading edge of golf club head 10. Furthermore, sole member 13 is shaped so that the sole contour of golf club head 10 is smooth over the interface between sole member 13 and main body 12. As an alternative, the sole contour of the club head may be stepped at the interface so that the forward-most edge of sole member 13 is recessed relative to the adjacent sole surface of main body 12.

[0042] The mass properties of sole member 13 such as by including empty cavities and/or filled cavities in selected portions of sole member 13. For example, sole member 13 includes an empty cavity 54 and a filled cavity 56 to alter the mass distribution of sole member 13. In the present embodiment, empty cavity 54 is located adjacent second bounce contour 36 to remove mass from that portion of sole member 13. Filled cavity 56 is located adjacent first bounce contour 34 and includes a weight insert 58 to increase the mass of sole member 13 on the side of first bounce contour 34. The mass properties of sole member 13 may be altered so that the center of gravity is located on the axis of rotation of sole member 13, e.g., along the longitudinal axis of fastener 38, so that the center of gravity of golf club head 10 remains in the same location in both orientations of sole member 13.

[0043] In another embodiment, illustrated in FIGS. 8-10, a golf club head 70 includes a main body 72 and a sole member 73. In the present embodiment, sole member 73 is coupled to main body 72 by a fastener that is retained in sole member 73. Main body 72 includes a face 74 and a hosel 76. Face 74 includes a generally planar ball striking surface 78 that extends between a top line 80, a leading edge 82, a toe 84 and a heel 86. Ball striking surface 78 includes a plurality of score lines 88, or grooves, that extend into face 74 from ball striking surface 78. Leading edge 82 may be contoured to provide a desired behavior during turf interaction, such as by including a leading edge chamfer 83.

[0044] Main body 72 also includes an elongate face support 90 that provides an alignment feature. Face support 90 extends in a generally heel to toe direction and projects outward from a rear surface 92 of main body 72, so that it forms a bar or strut. Preferably, the thickness of main body 72 between ball striking surface 78 and rear surface 92 is less than, or equal to, about 6.0 mm, and the thickness of face support 90 is less than, or equal to, about 6.0 mm. In the present embodiment, face support 90 generally extends across rear surface 92 so that it is approximately parallel to a ground surface G when club head 70 is placed in the address position and oriented with the designed lie and loft angles. Alternatively, face support 92 may be oriented so that it extends diagonally across rear surface 92, such as from high toe to low heel, or from low toe to high heel. Face support 90 intersects a boss 91 that extends further outward from rear surface 92 than face support 90. Boss 91 includes a threaded bore 93 that receives a threaded shank of a fastener 100 that removably couples sole member 73 to main body 72. Boss 91 is shaped as a truncated cone. Preferably, the portion of face support 90, excluding boss 91, has a thickness of between about 1.0 mm and about 3.0 mm.

[0045] Sole member 73 is coupled to a lower portion of face 74, on rear surface 92, and provides the majority of the sole contour of golf club head 70. Sole member 73 is generally an elongate body that includes a mounting surface 94, a first bounce contour 96, and a second bounce contour 98. Sole member 73 is shaped so that a user may configure golf club 70 to have one of two sole configurations with a single sole member 73 by rotating sole member 73 relative to main body 72 as described above with respect to the previous embodiment.

[0046] First bounce contour 96 and second bounce contour 98 are shaped to provide different sole contours for golf club head 70. For example, one of the bounce contours may be shaped to provide a full sole surface with a selected bounce angle and the other may be shaped to provide a specific shape, also referred to as a "sole grind," which may include one or more relieved portions adjacent a primary bounce surface. A variety of sole shapes may be included to provide desired turf interaction and behavior when the club face is opened or closed by a user. As illustrated in FIGS. 8 and 9, first bounce contour 96 is shaped to provide a full sole configuration with a selected bounce angle that is preferably between about 4° and about 15°. Second bounce contour 98 is shaped to provide a shape that includes a primary bounce surface 102 that is interposed between a toe relief 104 and a heel relief 106, and a chamfered trailing edge 108.

[0047] Sole member 73 is constructed separate from body 72 and is coupled to main body 72 by fastener 100. Sole member 73 includes alignment features that engage face support 90 when sole member 73 is fully installed on body 72.

The engagement of the alignment features ensures that the sole member 73 is oriented relative to main body 72 so that one of first bounce contour 96 and second bounce contour 98 forms the sole contour of golf club head 70. The alignment features of sole member 73 include an elongate depression 110 that receives face support 90 and boss 91. As shown in FIG. 12, depression 110 is intersected by a cavity 112 so that the elongate depression 110 is divided into heel/toe portions 114 and a central portion 116 that is shaped to receive boss 91.

[0048] In the assembled golf club head 70, fastener 100 extends through sole member 73 and into boss 91 where it is threaded into main body 72. A head 118 of fastener 100 is received in a counterbore 120 included at an outer end of a fastener bore 101 that extends through sole member 73. Head 118 includes a circumferential groove 122 and counterbore 120 includes a groove 124 that aligns with groove 122 when fastener 100 is fully inserted in sole member 73. A retaining ring 126 is interposed between head 118 and sole member 73 and at least partially within each of the grooves 122, 124 so that fastener 100 is coupled to sole member 73. Fastener 100 is coupled to sole member 73 so that fastener is rotatable relative to sole member 73, but remains coupled to sole member 73 when it is removed from main body 72. An additional benefit of retaining fastener 100 in sole member 73 is that as fastener 100 is disengaged from boss 91, sole member 73 is pulled away from main body 72 and becomes disengaged from the alignment features of main body 72.

[0049] Referring to FIGS. 14-17, a golf club head 140 will be described. Golf club head 140 includes a main body 142 and a sole member 143 that is coupled to main body 142. In the present embodiment, sole member 143 is spring-loaded on main body 142 to simplify the process of re-orienting sole member 143 relative to main body 142. Main body 142 includes a face 144 and a hosel 146. Face 144 includes a generally planar ball striking surface 148 that extends between a top line 150, a leading edge 152, a toe 154 and a heel 156. Ball striking surface 148 includes a plurality of score lines 158, or grooves, that extend into face 144 from ball striking surface 148.

[0050] Main body 142 also includes an elongate face support 160 that provides an alignment feature and that extends in a generally heel to toe direction and projects outward from a rear surface 162 of main body 142. Face support 160 intersects a boss 161 that extends further outward from rear surface 162 than face support 160. Boss 161 includes a threaded bore 163 that receives a threaded shank of a fastener 164 that removably couples sole member 143 to main body 142. Similar to the previous embodiments, boss 161 is shaped as a truncated cone. Boss 161 also includes an annular channel 165 that receives a spring 167 so that in the assembled golf club head, spring 167 is interposed and compressed between sole member 143 and main body 142. As a result, as fastener 164 is disengaged from boss 161, spring 167 forces sole member 143 to separate from main body 142 and its alignment features, thereby simplifying the re-orientation of sole member 143 relative to main body 142.

[0051] Sole member 143 is coupled to a lower portion of face 144, on rear surface 162, and provides the majority of the sole contour of golf club head 140. Sole member 143 is generally an elongate body that includes a mounting surface 166, a first bounce contour 168, and a second bounce contour 170. Sole member 143 is shaped so that a user may configure golf club 140 to have one of two sole configurations with a

single sole member 143 by rotating sole member 143 relative to main body 142 as described above with respect to previous embodiments.

[0052] First bounce contour 168 and second bounce contour 170 are shaped to provide different sole contours for golf club head 140. For example, each of the two bounce contours may be shaped to provide a specific shape, or "sole grind." As illustrated in FIGS. 14 and 15, first bounce contour 168 is shaped to include a primary bounce surface 172 that is interposed between a toe relief 174 and a heel relief 176, and a chamfered trailing edge 178. In the illustrated configuration, sole member 143 is oriented so that second bounce contour 170 forms the sole surface of golf club head 140 and first bounce contour 168 forms an upper portion of a muscle portion of golf club head 140. As a result, heel relief 176 and toe relief 174 of first bounce contour 168 are located on toe and heel sides of club head 140, respectively. Second bounce contour 170 is shaped to include a heel relief 180, a primary bounce surface 182 that extends from heel relief 180 toward toe without a toe relief, and a chamfered trailing edge 184.

[0053] Sole member 143 is constructed separate from body 142 and is coupled to main body 142 by fastener 164. Sole member 143 includes alignment features that engage face support 160 when sole member 143 is fully installed on body 142. The engagement of the alignment features ensures that the sole member 143 is oriented relative to main body 142 so that one of first bounce contour 168 and second bounce contour 170 forms the sole contour of golf club head 140. The alignment features of sole member 143 include an elongate depression 186 that receives face support 160 and boss 161.

[0054] In the assembled golf club head 140, fastener 164 extends through sole member 143 and into boss 161 where it is threaded into main body 142. A head 188 of fastener 164 is received in a counterbore 190 included at an outer end of a fastener bore 192 that extends through sole member 143.

[0055] While it is apparent that the illustrative embodiments of the invention disclosed herein fulfill the objectives stated above, it is appreciated that numerous modifications and other embodiments may be devised by those skilled in the art. Elements from one embodiment can be incorporated into the other embodiments. Therefore, it will be understood that the appended claims are intended to cover all such modifications and embodiments, which would come within the spirit and scope of the present invention.

We claim:

1. A golf club head, comprising:

a main body member defining a hosel, and a face, wherein the face defines a ball-striking surface, a leading edge and a rear surface;

a sole member including a mounting surface, a first bounce contour and a second bounce contour, wherein the mounting surface abuts a lower portion of the rear surface of the main body member so that the sole member forms a muscle portion of the golf club head, and wherein one of the first bounce contour and the second bounce contour forms an upper surface of the muscle portion and the other of the first bounce contour and the second bounce contour forms a majority of the sole contour of the golf club head, and

a mechanical fastener removably coupling the sole member to the body member,

wherein the sole member is shaped to be selectively attached to the main body in a first configuration or a second configuration of the golf club head, and wherein

the first bounce contour forms the majority of the sole contour of the golf club head in the first configuration and the second bounce contour forms the majority of the sole contour of the golf club head in the second configuration.

2. The golf club head of claim 1, wherein the main body further comprises an elongate support extending across the rear surface in a heel-to-toe direction.

3. The golf club head of claim 2, wherein the rear surface is planar, and wherein the elongate support extends rearward from the planar rear surface by about 1.0 mm to about 3.0 mm.

4. The golf club head of claim 1, wherein the golf club head has a first bounce angle in the first configuration and a second bounce angle in the second configuration and the first bounce angle is different than the second bounce angle.

5. The golf club head of claim 1, wherein the first bounce contour includes at least one of a heel relief and a toe relief.

6. The golf club head of claim 5, wherein the second bounce contour includes at least one of a heel relief and a toe relief.

7. The golf club head of claim 1, wherein the rear surface is planar, and wherein the thickness of the main body between the ball-striking surface and the rear surface is less than about 6.0 mm.

8. The golf club head of claim 1, wherein the sole member provides more than about 60% of the arc length of the sole surface of the golf club head in a central portion of the sole surface of the golf club head.

9. The golf club head of claim 8, wherein the sole member provides more than about 75% of the arc length of the sole surface of the golf club head in a central portion of the sole surface of the golf club head.

10. The golf club head of claim 1, wherein the main body further comprises a boss that extends rearward from the rear surface by about 3.0 mm to about 6.0 mm, and wherein the boss includes a bore that receives a portion of the fastener.

11. A golf club head, comprising:

a main body member defining a hosel, and a face, wherein the face defines a ball-striking surface, a leading edge and a rear surface;

a sole member including a first bounce contour and a second bounce contour, wherein the sole member is shaped to be selectively attached to the main body in a first

configuration or a second configuration of the golf club head, and wherein the first bounce contour forms the majority of the sole contour of the golf club head in the first configuration and the second bounce contour forms the majority of the sole contour of the golf club head in the second configuration, and

a mechanical fastener removably coupling the sole member to the body member, and

wherein the main body member and the sole member form the entire sole surface of the golf club head.

12. The golf club head of claim 11, wherein the main body further comprises an elongate support extending across the rear surface in a heel-to-toe direction.

13. The golf club head of claim 12, wherein the rear surface is planar, and wherein the elongate support extends rearward from the planar rear surface by about 1.0 mm to about 3.0 mm.

14. The golf club head of claim 11, wherein the golf club head has a first bounce angle in the first configuration and a second bounce angle in the second configuration and the first bounce angle is different than the second bounce angle.

15. The golf club head of claim 11, wherein the first bounce contour includes at least one of a heel relief and a toe relief.

16. The golf club head of claim 15, wherein the second bounce contour includes at least one of a heel relief and a toe relief.

17. The golf club head of claim 11, wherein the rear surface is planar, and wherein the thickness of the main body between the ball-striking surface and the rear surface is less than about 6.0 mm.

18. The golf club head of claim 11, wherein the sole member provides more than about 60% of the arc length of the sole surface of the golf club head in a central portion of the golf club head.

19. The golf club head of claim 18, wherein the sole member provides more than about 75% of the arc length of the sole surface of the golf club head in a central portion of the golf club head.

20. The golf club head of claim 11, wherein the second bounce contour forms an upper surface of a muscle portion of the golf club head in the first configuration and the first bounce contour forms an upper surface of a muscle portion of the golf club head in the second configuration.

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