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(54) **GOLF PUTTING TRAINING TOOL**

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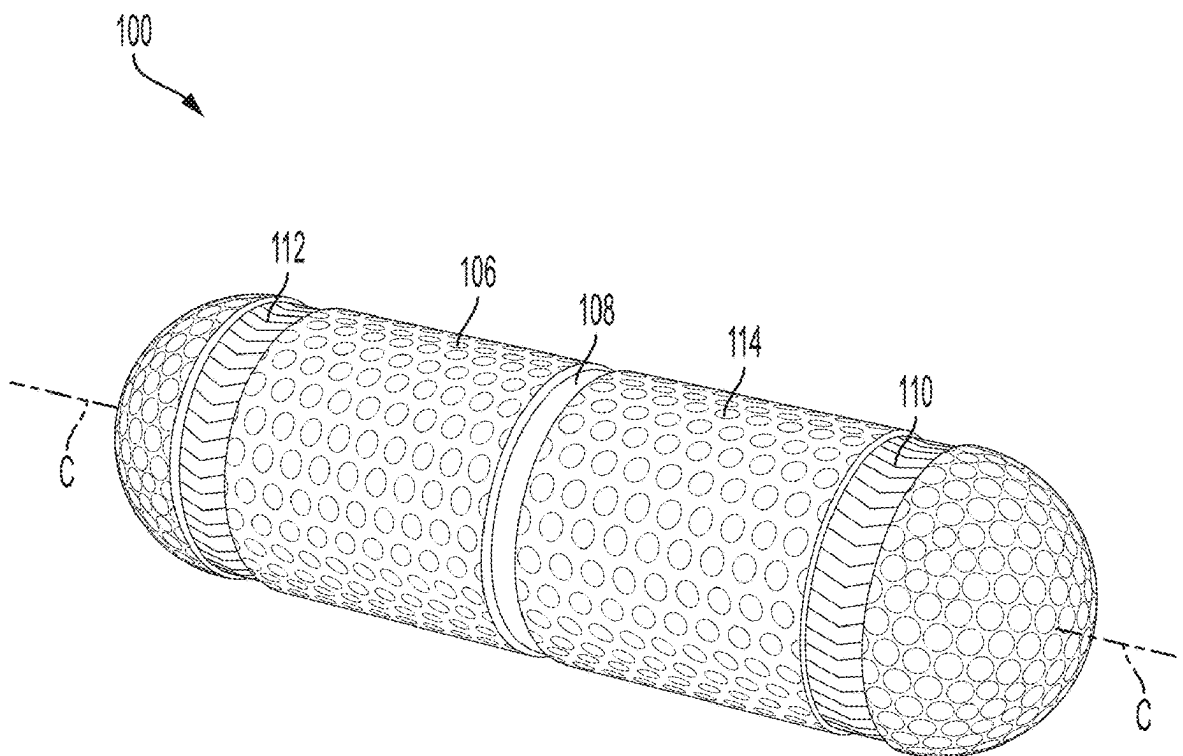
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(57) **ABSTRACT**

A golf putting training tool includes a body that extends circumferentially around a central axis. The body has a width as measured along the central axis and an outer diameter as measured radially about the central axis, and the width is at least twice the outer diameter. An alignment indicator extends circumferentially around the central axis and is generally centered along the width of the body. The body includes a central portion that is generally spheroid in shape and two opposed end portions coupled to the central portion.

Related U.S. Application Data

(60) Provisional application No. 63/553,835, filed on Feb. 15, 2024.



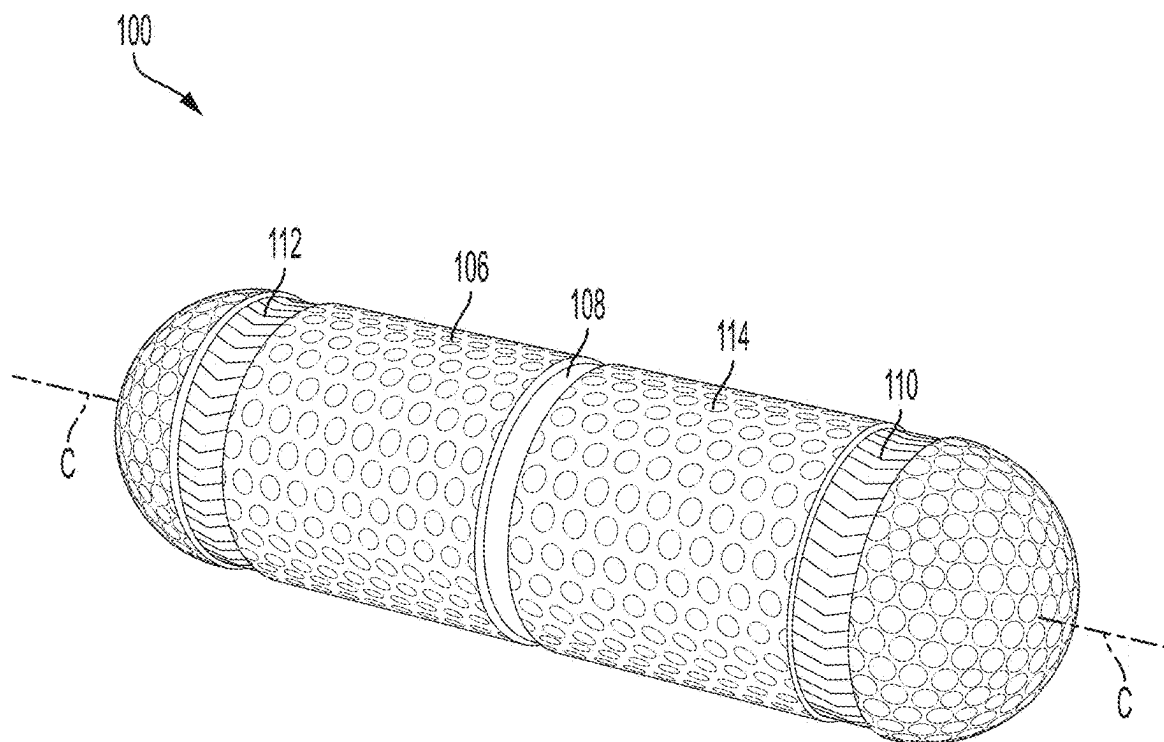


FIG. 1

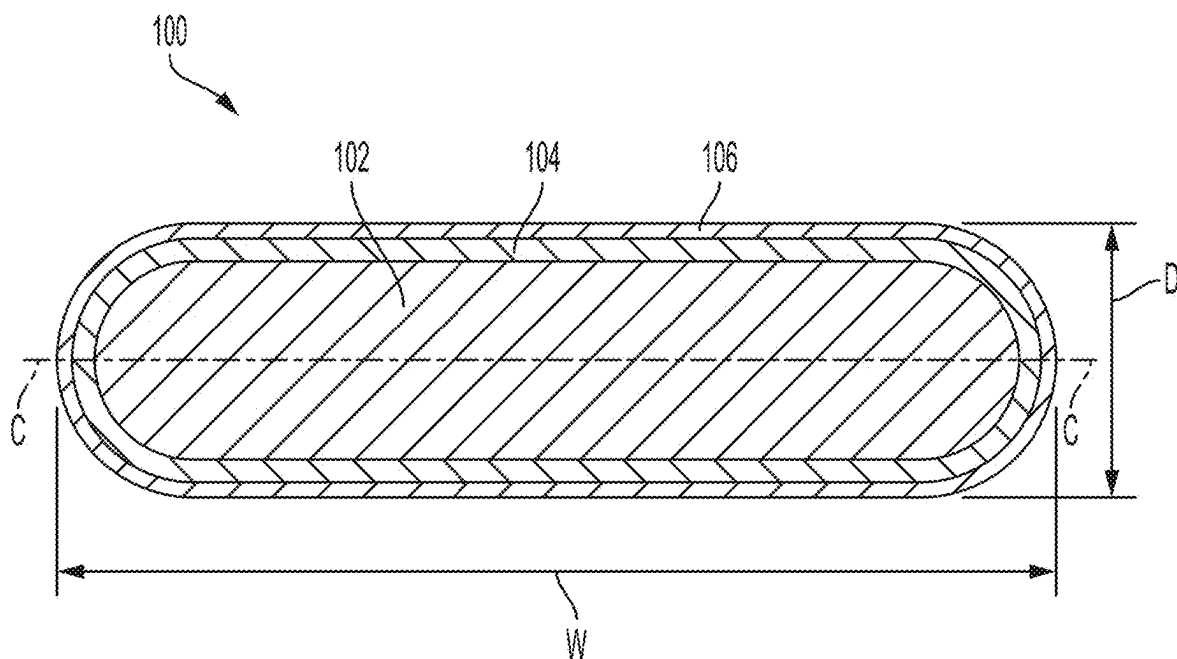


FIG. 2

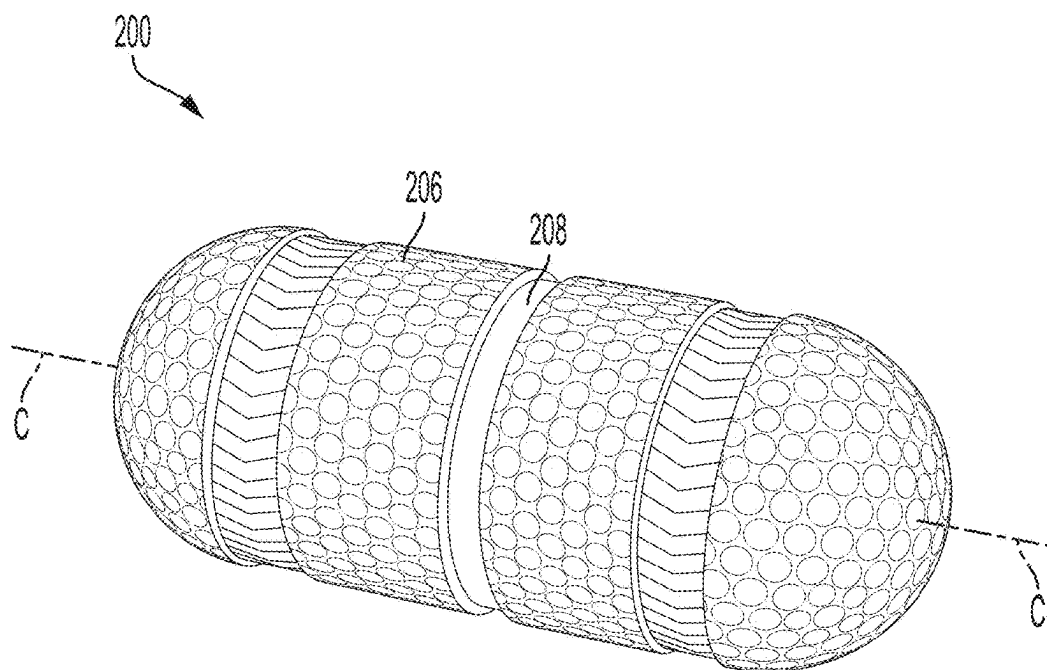


FIG. 4

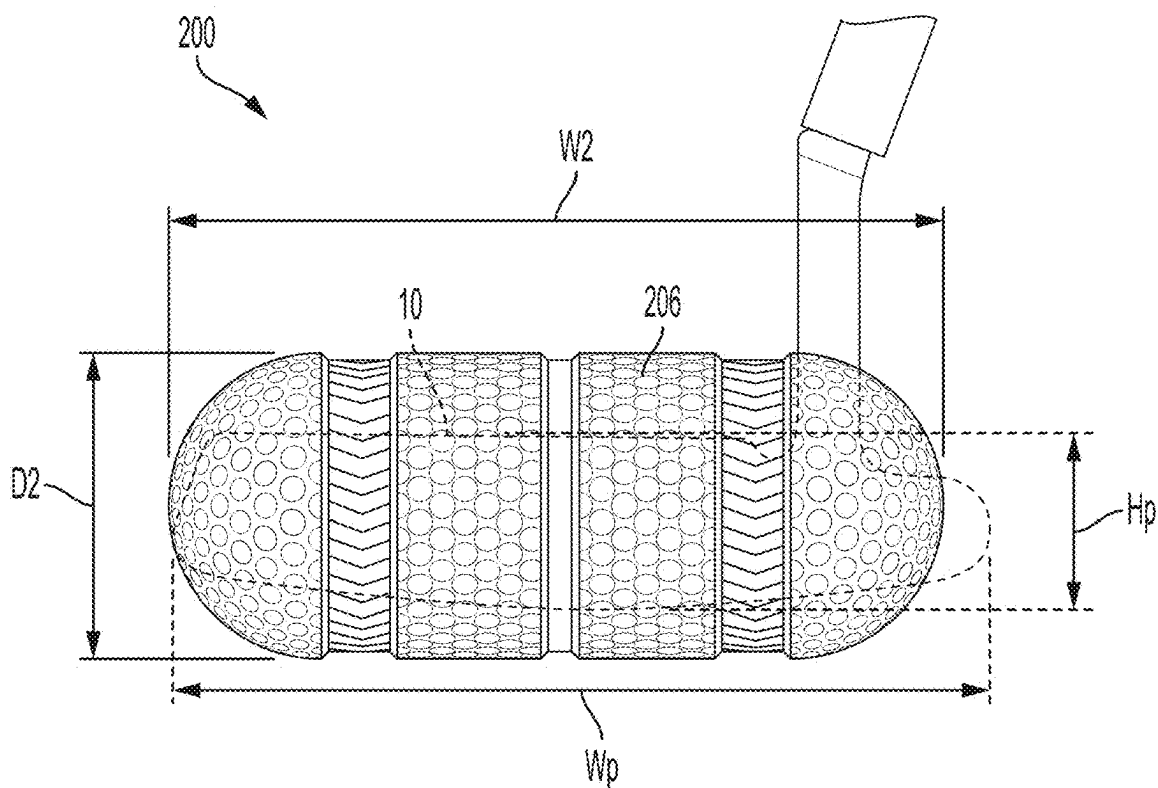


FIG. 5

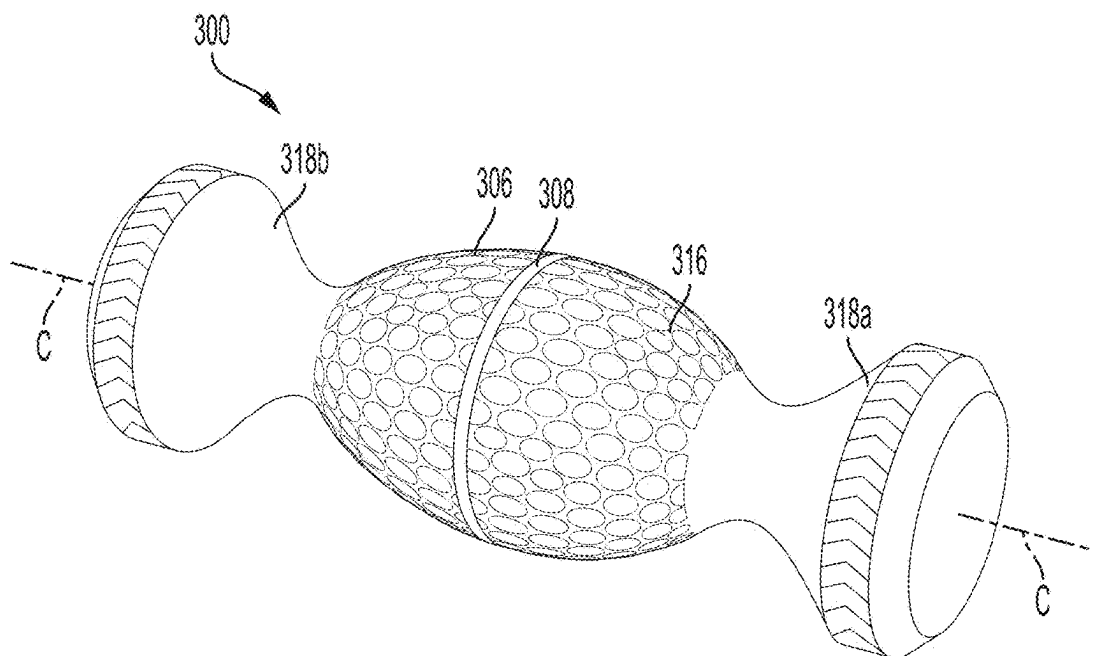


FIG. 6

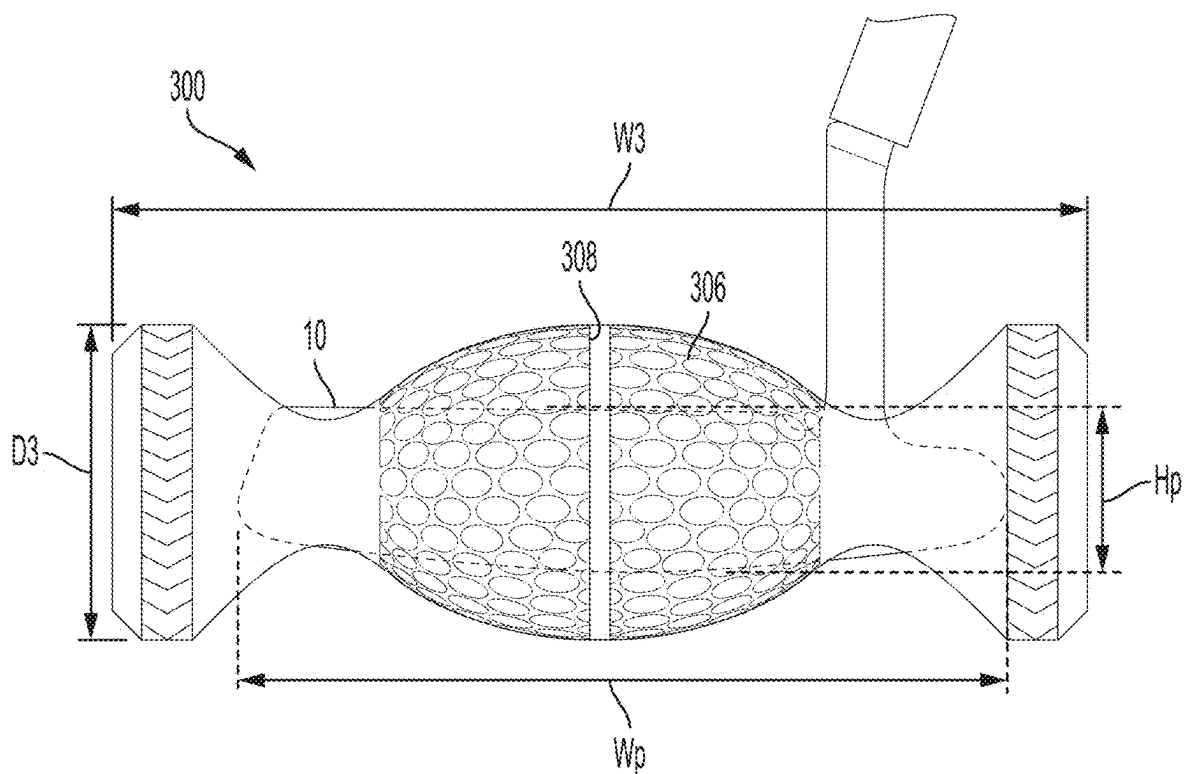


FIG. 7

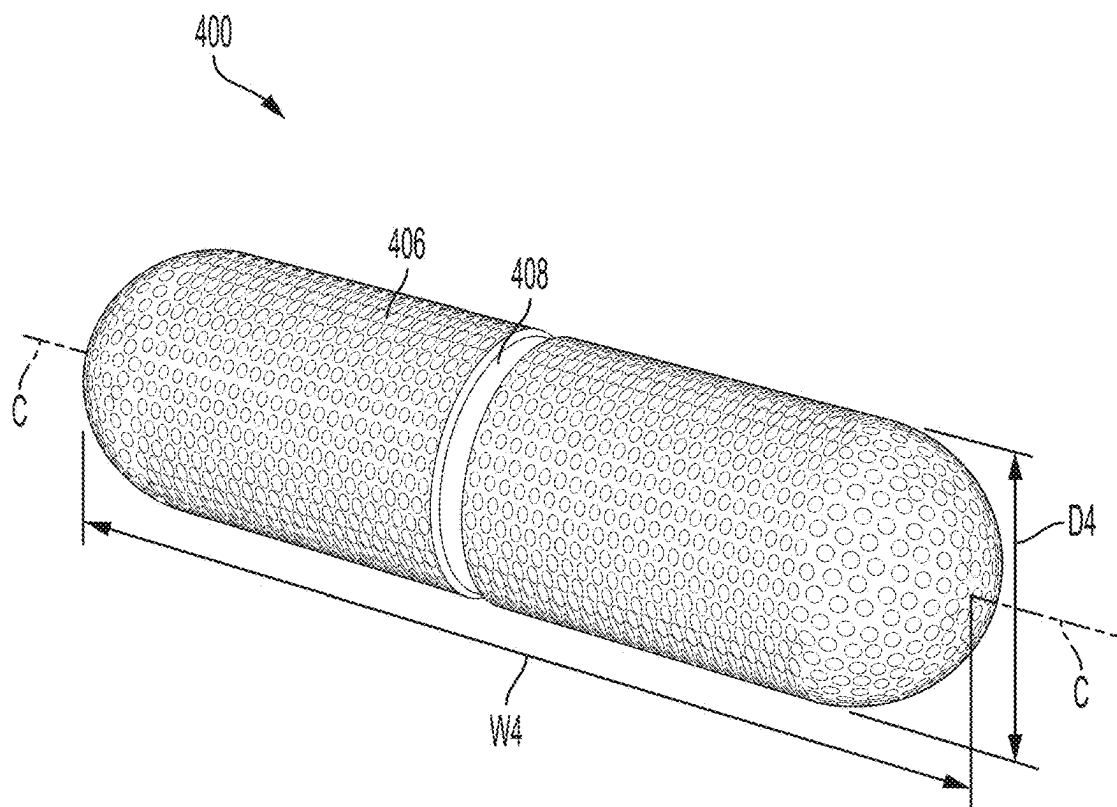


FIG. 8

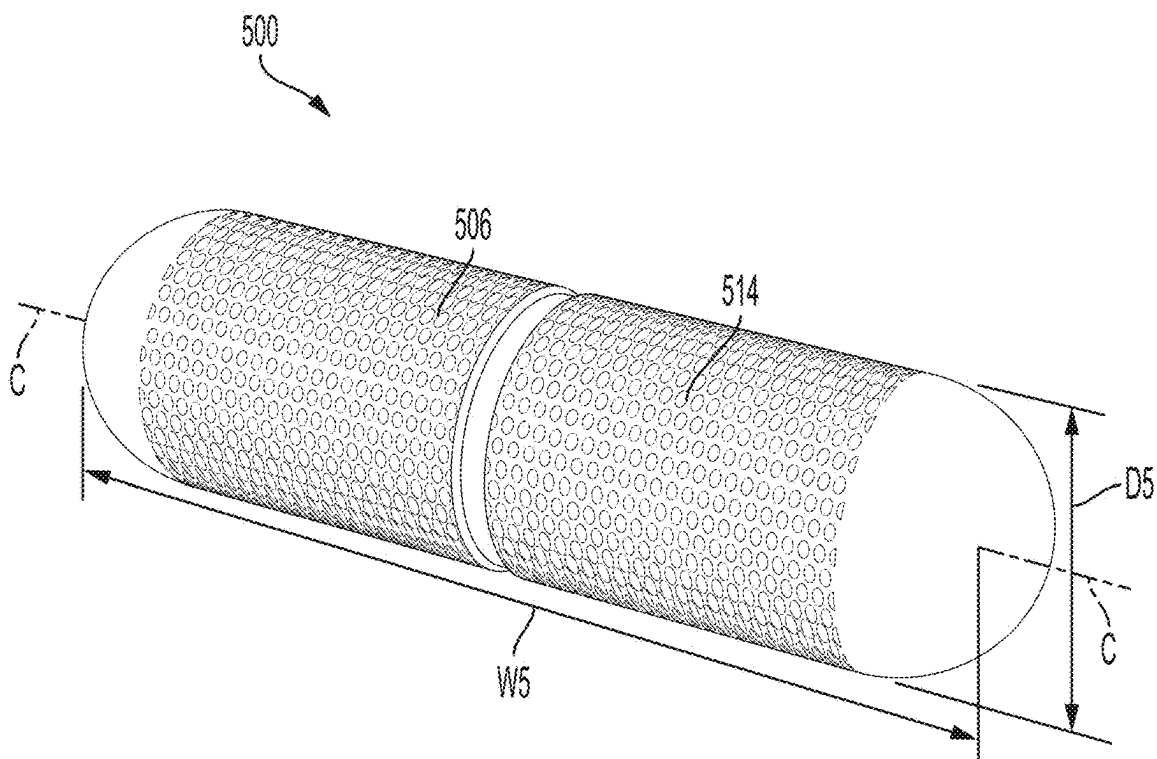


FIG. 9

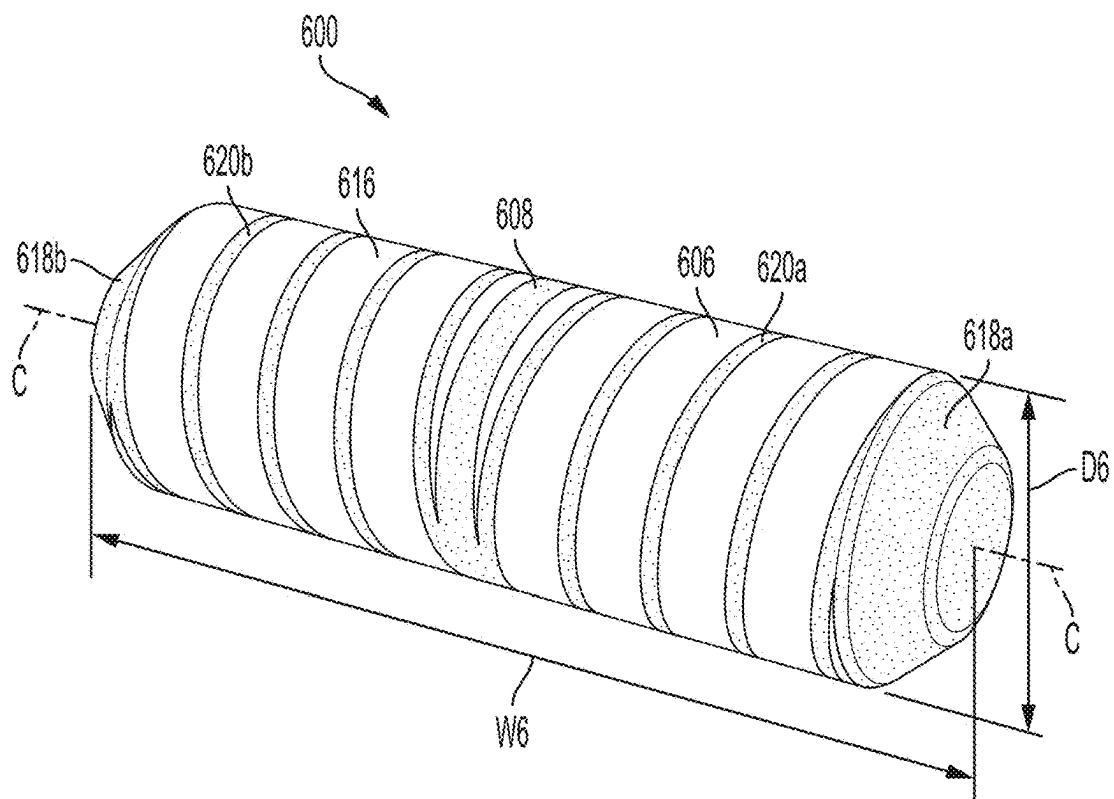


FIG. 10

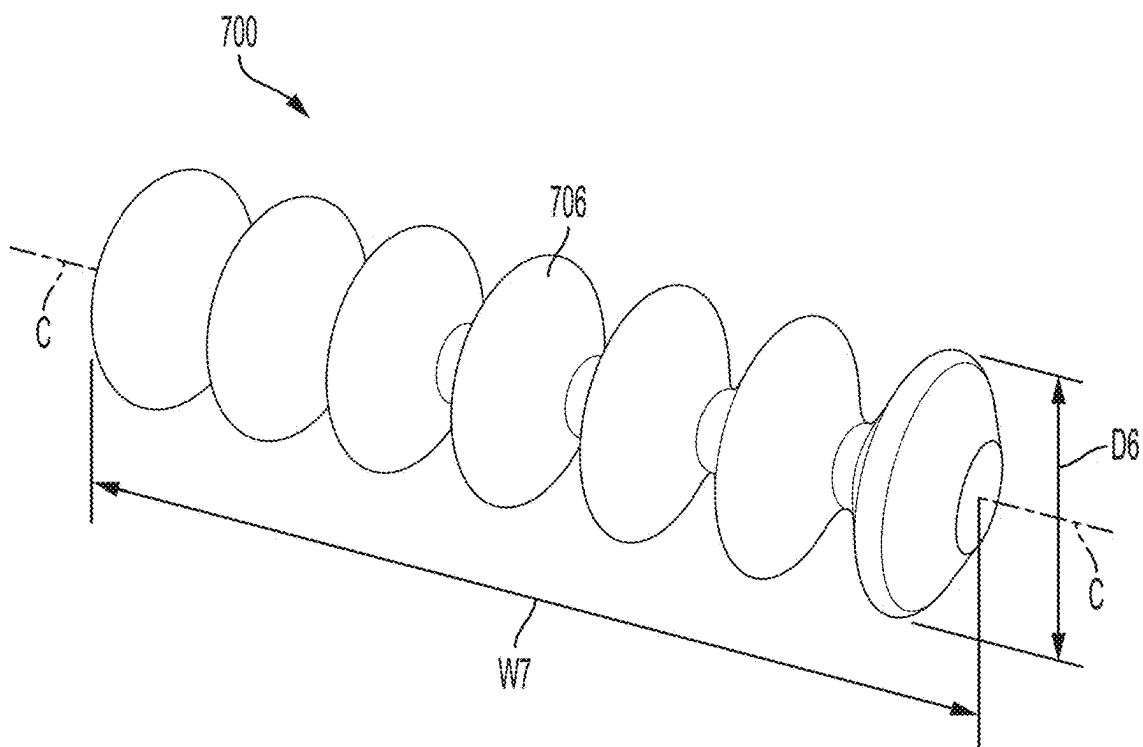


FIG. 11

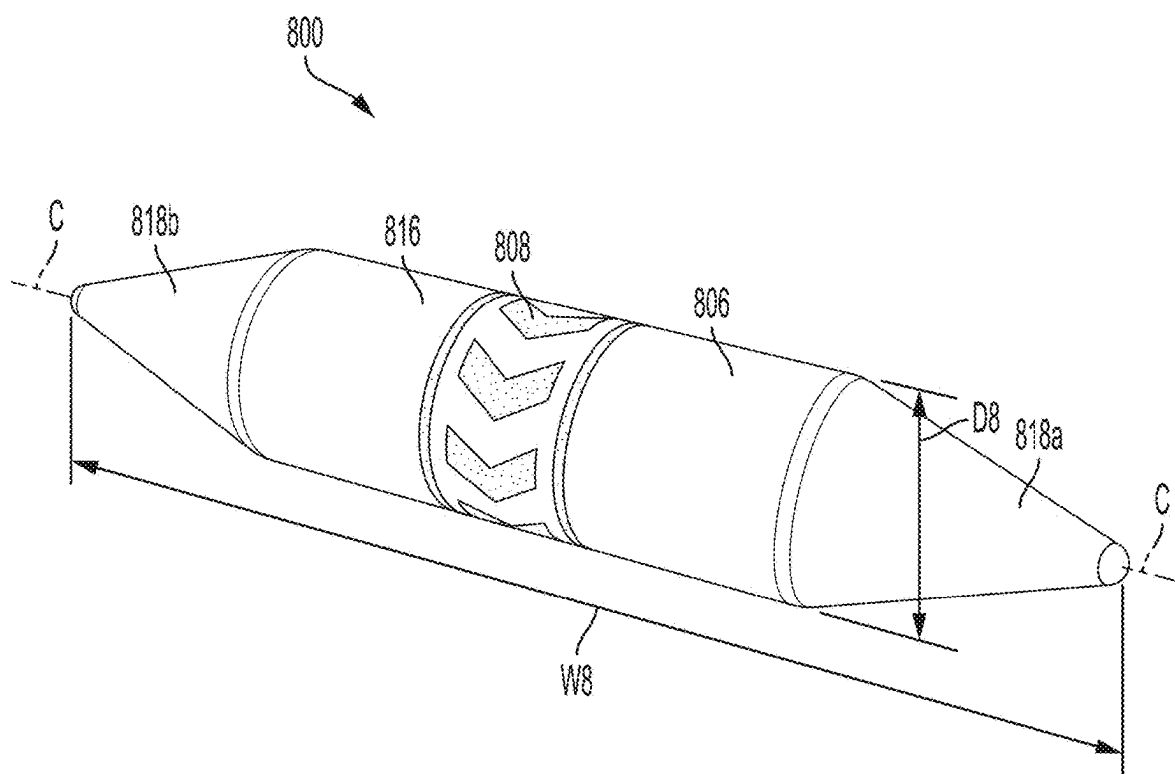


FIG. 12

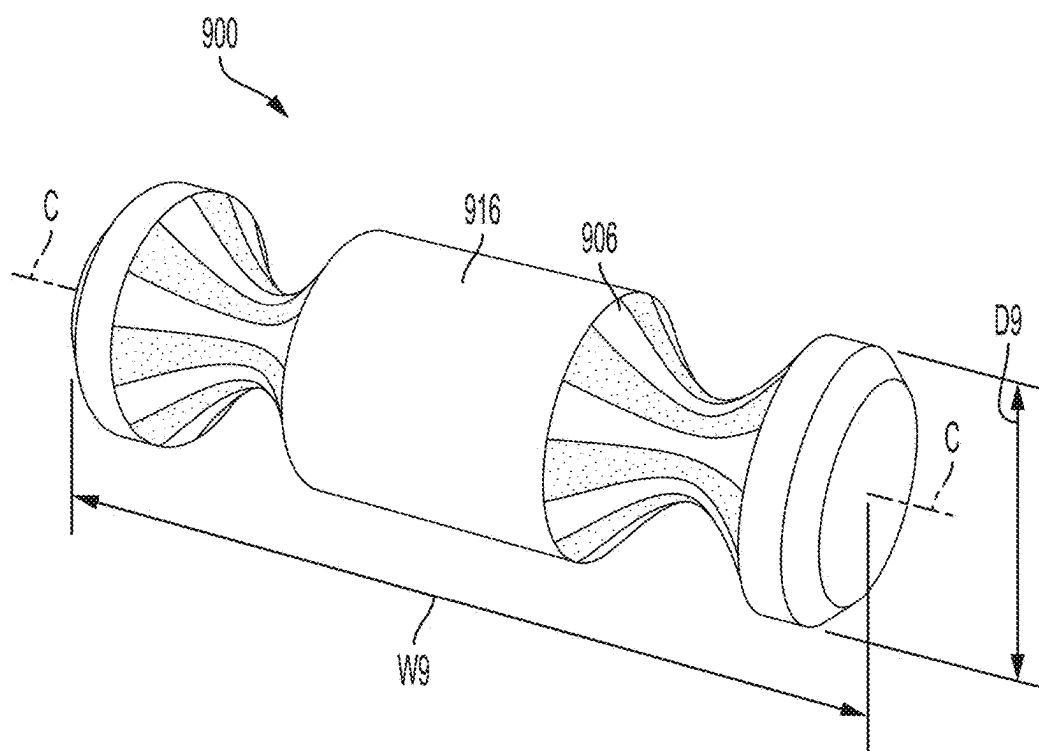


FIG. 13

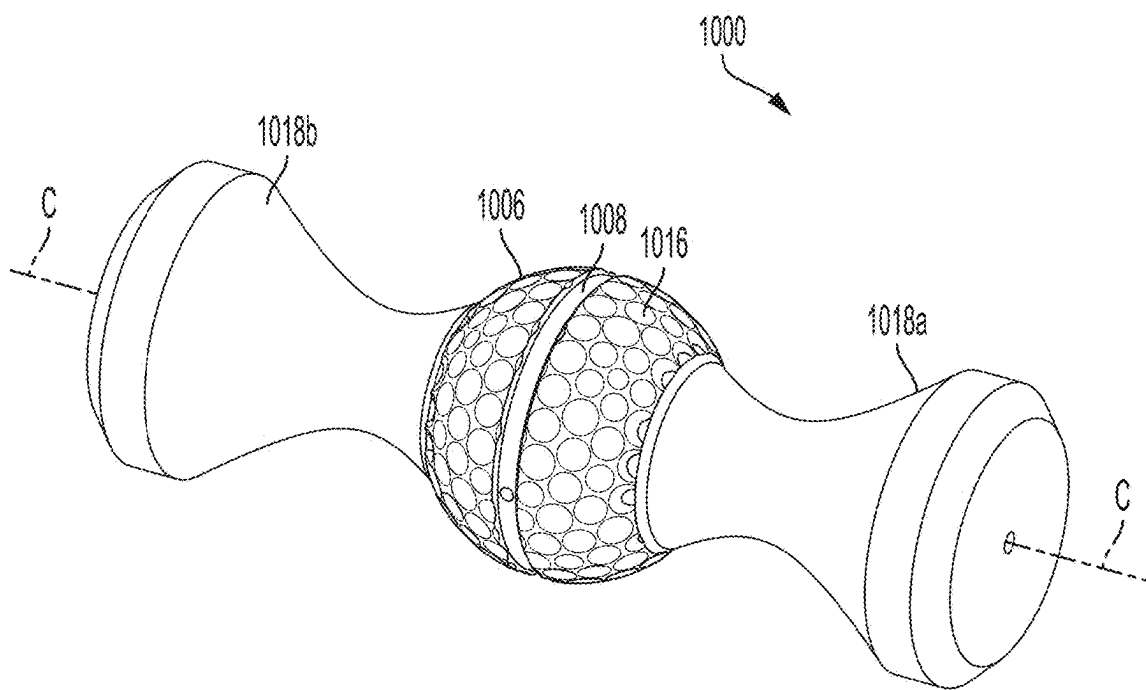


FIG. 14

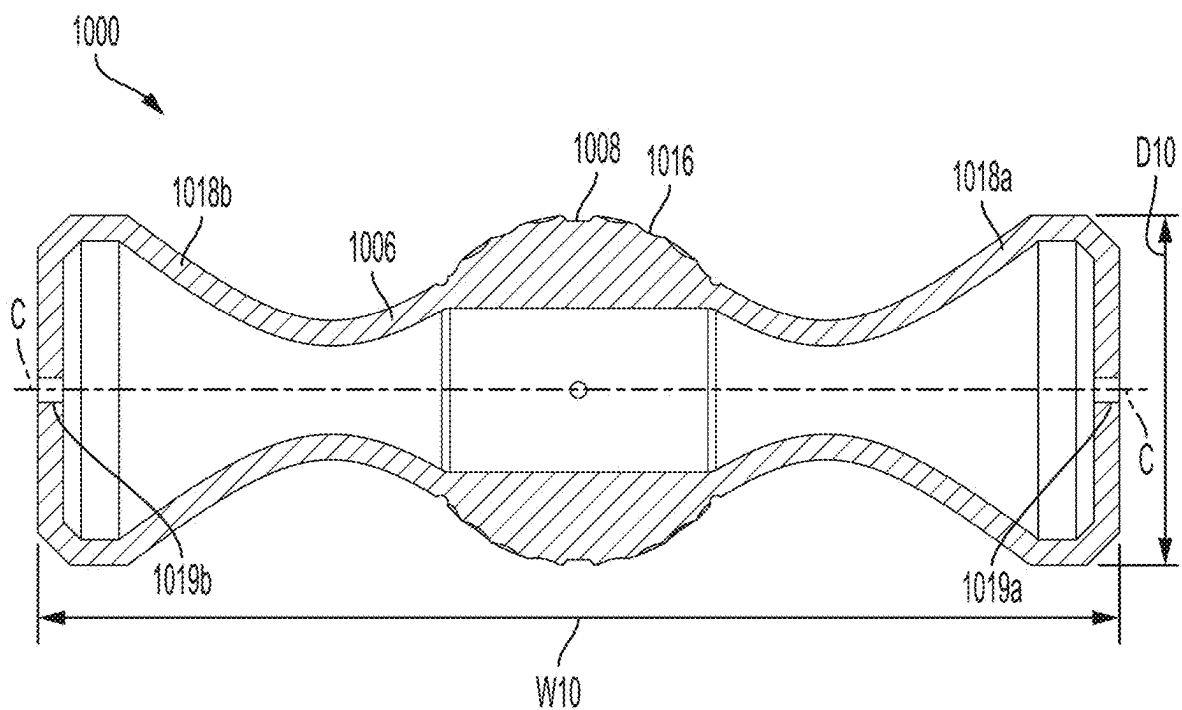


FIG. 15

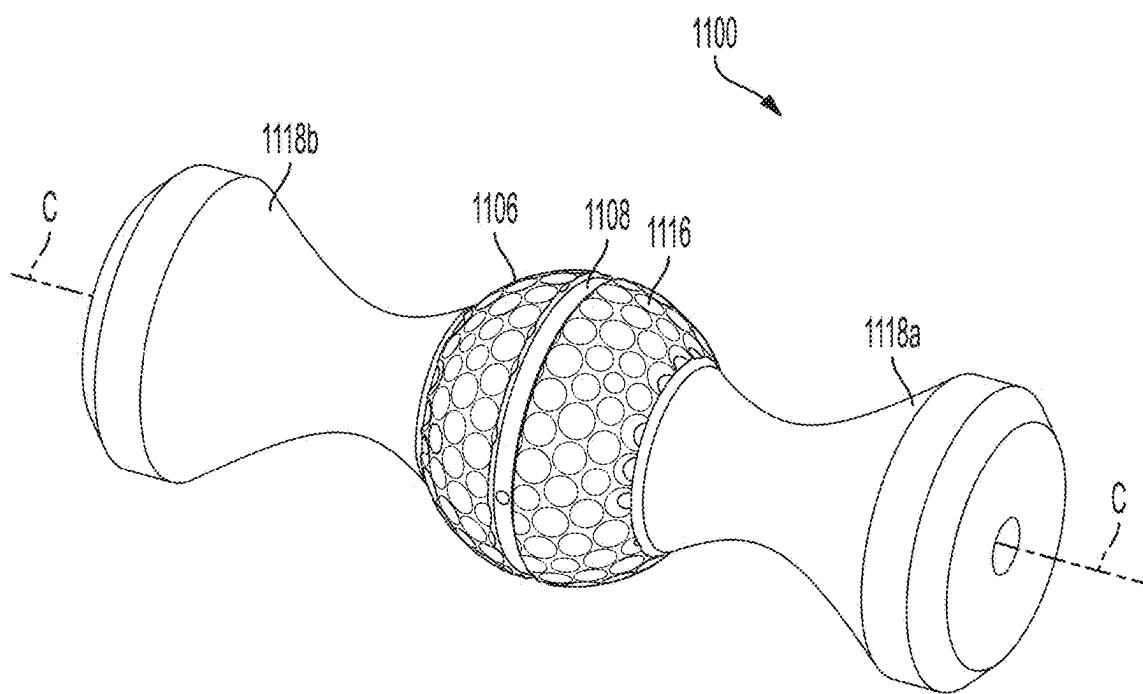


FIG. 16

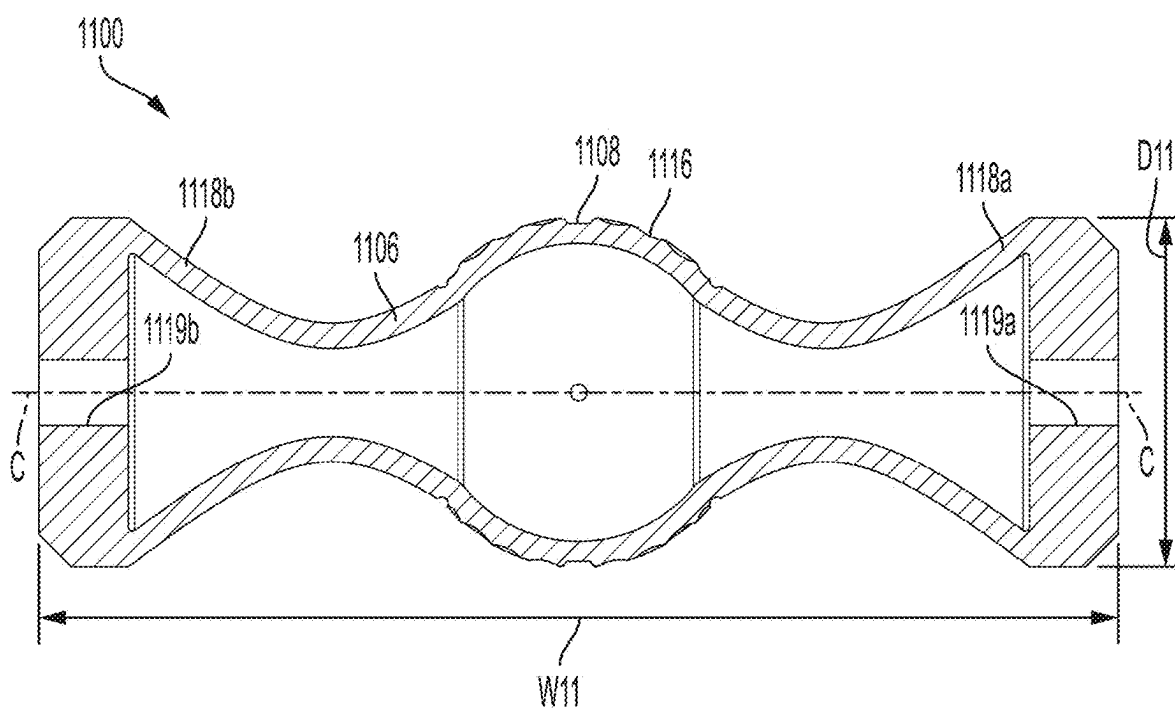


FIG. 17

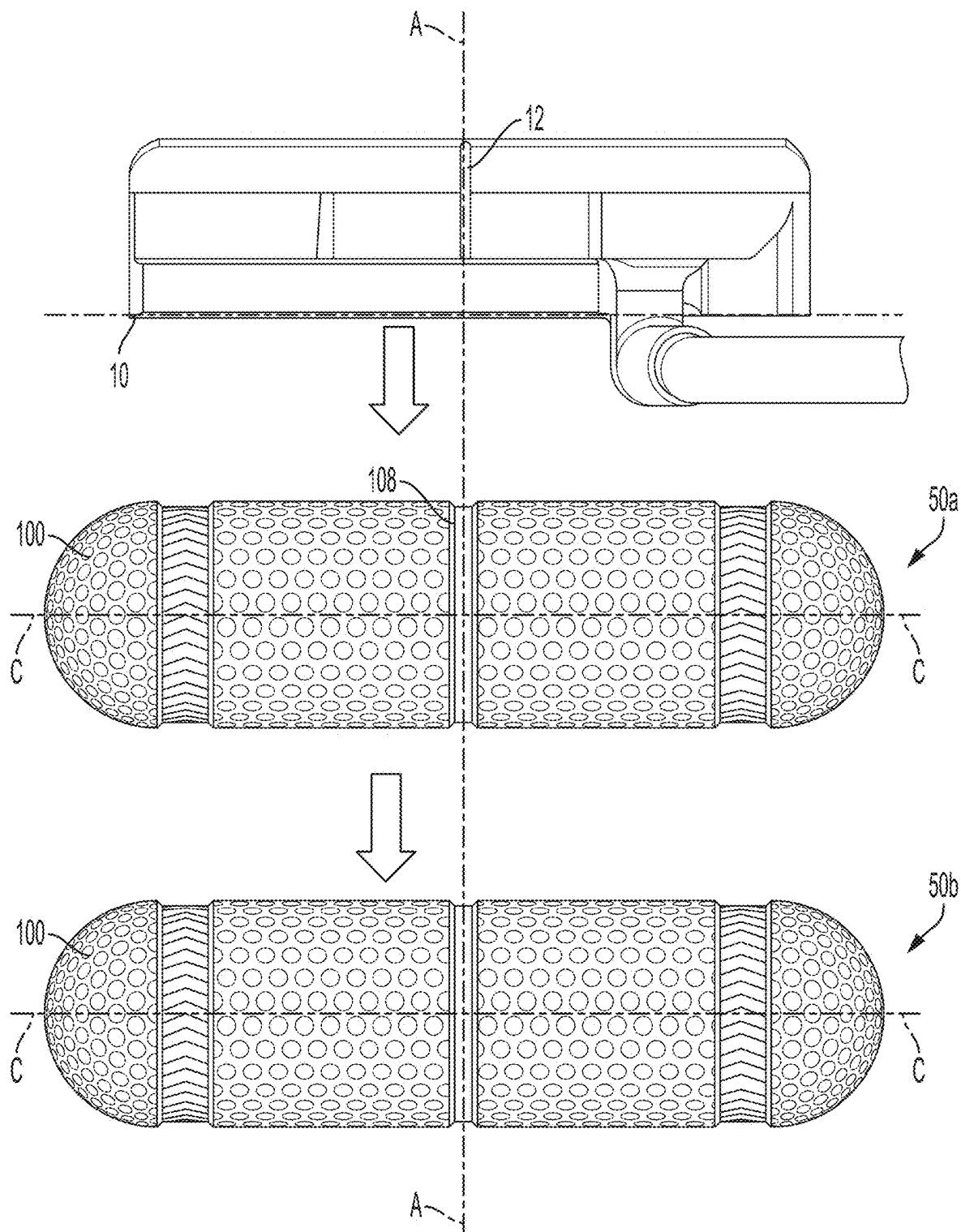


FIG. 18

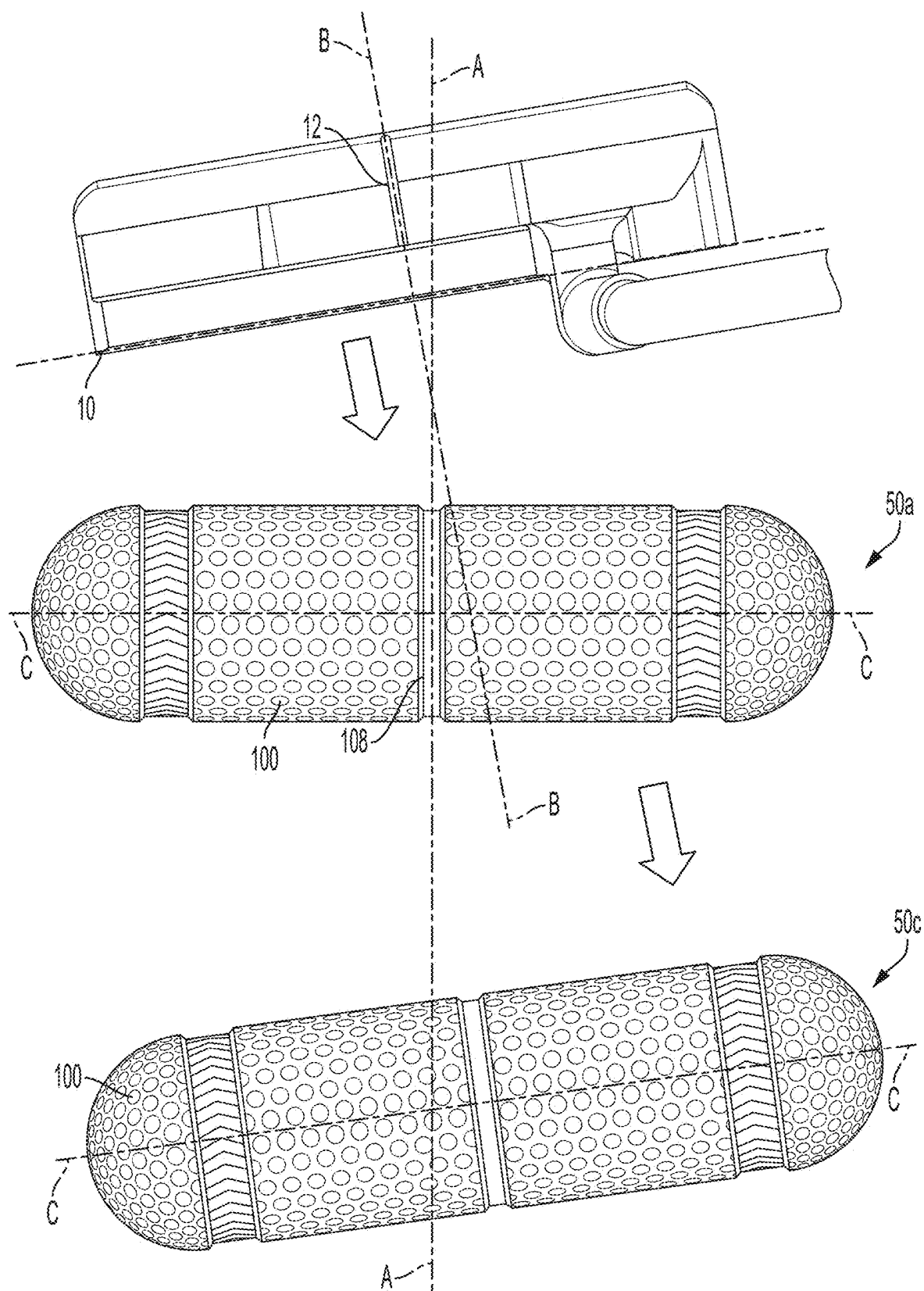


FIG. 19

GOLF PUTTING TRAINING TOOL

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 63/553,835 filed Feb. 15, 2024, entitled “Golf Putting Training Tool”, which is incorporated by reference herein in its entirety.

TECHNICAL FIELD

[0002] The present disclosure generally relates to training equipment for golf and, in some embodiments, to a golf putting training tool.

SUMMARY

[0003] In one embodiment there is a golf putting training tool including a body extending circumferentially around a central axis, the body having a width as measured along the central axis and an outer diameter as measured radially about the central axis, the width being at least twice the outer diameter, and an alignment indicator extending circumferentially around the central axis, the alignment indicator being generally centered along the width of the body, the body includes a central portion that is generally spheroid in shape and two opposed end portions coupled to the central portion.

[0004] In some embodiments, the outer diameter of the body is about 42.6 mm and the width is about 156.6 mm. In some embodiments, the alignment indicator is a recessed groove in the body. In some embodiments, the central portion includes a plurality of dimples disposed along an outer surface thereof. In some embodiments, the end portions are devoid of dimples. In some embodiments, the alignment indicator is a surface indicia applied to the body. In some embodiments, the body has a non-uniform thickness. In some embodiments, the two opposed end portions are generally frustoconical in shape.

[0005] In some embodiments the golf putting training tool further includes a core extending circumferentially around the central axis and positioned within the body, and a shell disposed about the core and comprising a material having a first Shore D hardness, the body being disposed about the shell and having a second Shore D hardness less than the first Shore D hardness. In some embodiments, the core is comprised of an expanded polypropylene (EPP) foam, the shell is comprised of a rubber material and the body is comprised of a urethane material.

[0006] In another embodiment there is a golf putting training tool including a body extending circumferentially around a central axis, the body having a width as measured along the central axis of about 156.6 mm and an outer diameter as measured radially about the central axis of about 42.6 mm, and an alignment indicator extending circumferentially around the central axis, the alignment indicator being generally centered along the width of the body, the body includes: a central portion that is generally spheroid in shape and includes a plurality of dimples disposed along an outer surface thereof, and two opposed end portions coupled to the central portion each of which are generally frustoconical in shape and are devoid of dimples.

[0007] In some embodiments, the alignment indicator is a recessed groove in the body. In some embodiments, the

alignment indicator is a surface indicia applied to the cover. In some embodiments, the body has a non-uniform thickness.

[0008] In another embodiment there is a method of using a golf putting training tool including placing the golf putting training tool on a ground surface, the golf putting training tool including a core extending circumferentially around a core axis, a shell disposed about the core, a cover disposed about the shell, the cover having a width as measured along the core axis and an outer diameter as measured radially about the core axis, the width being at least twice the outer diameter, an alignment indicator extending circumferentially around the core axis, the alignment indicator being generally centered along the width of the core. The method further includes aligning an alignment aid of a putter with the alignment indicator of the golf putting training tool, and striking the golf putting training tool with a face of the putter.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The following detailed description of embodiments of the golf putting training tool will be better understood when read in conjunction with the appended drawings of exemplary embodiments. It should be understood, however, that the invention is not limited to the precise arrangements and instrumentalities shown.

[0010] In the drawings:

[0011] FIG. 1 is a perspective view of a golf putting training tool in accordance with an exemplary embodiment of the present disclosure;

[0012] FIG. 2 is a cross-sectional view of the golf putting training tool of FIG. 1;

[0013] FIG. 3 is a front view of the golf putting training tool of FIG. 1 with a conventional putter face positioned behind it;

[0014] FIG. 4 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0015] FIG. 5 is a front view of the golf putting training tool of FIG. 4 with a conventional putter face positioned behind it;

[0016] FIG. 6 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0017] FIG. 7 is a front view of the golf putting training tool of FIG. 6 with a conventional putter face positioned behind it;

[0018] FIG. 8 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0019] FIG. 9 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0020] FIG. 10 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0021] FIG. 11 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0022] FIG. 12 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0023] FIG. 13 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0024] FIG. 14 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0025] FIG. 15 is a cross-sectional view of the golf putting training tool of FIG. 14;

[0026] FIG. 16 is a perspective view of a golf putting training tool in accordance with another exemplary embodiment of the present disclosure;

[0027] FIG. 17 is a cross-sectional view of the golf putting training tool of FIG. 16;

[0028] FIGS. 18-19 are illustrations of a method of using a golf putting training tool in accordance with an exemplary embodiment of the present disclosure.

DETAILED DESCRIPTION

[0029] When putting during the play of golf, a player typically attempts to visualize an imaginary line of travel along the green with which they wish their golf ball to roll. In order for their ball to roll along that imaginary line, the player must ensure that the face of their putter is generally perpendicular to that line at the time of impact between the face of the putter and the ball. This is commonly referred to as keeping the face of the putter square to the intended line. However, doing so consistently can be difficult for players as it requires a degree of skill in putting that they may not have. For example, a lack of skill and/or sufficient training may cause a player to strike the golf ball while the face of the putter is open (e.g., heel of the clubface leading the toe) or while the putter face is closed (e.g., when the toe of the clubface leads the heel). Therefore, there is a need in the art to provide a golf putting training tool that is configured to aid a player in squaring the face of their putter with a golf ball and that provides an indication of whether the face of the putter was open or closed at the time of impact.

[0030] Various aspects of the present disclosure are described with reference to the sport of golf, and, therefore, various golf-specific terms are discussed herein. A “putter” is a club used in the sport of golf that is designed for use in putting, typically with a flat-faced head being generally perpendicular to the ground during use. A “club head” as used in reference to a golf club (e.g., a putter) is the part of the golf club that strikes the golf ball. The “face” or “clubface” as used to reference the clubhead and/or putter is the flat surface of the clubhead that is intended for striking the golf ball. The “toe” of the clubface is the region of the clubface that is located farthest from the golfer when in use. The “heel” of the clubface is the region of the clubface nearest the golfer when in use. A “golf ball” is a ball that is designed to be used in the game of golf and that may have a diameter not less than 1.680 inches and a mass not greater than 1.620 ounces. A “user” may refer to any person who is operating the golf putting training tool of the present disclosure.

[0031] Referring to the drawings in detail, wherein like reference numerals indicate like elements throughout, there is shown in FIGS. 1-3 a golf putting training tool, generally designated 100 and referred to as training tool 100 for short, in accordance with an exemplary embodiment of the present invention. The golf putting training tool 100 may be configured to provide an indication as to whether the face of a putter used to strike the training tool 100 was closed or open

at the time of impact. In some embodiments, the golf putting training tool 100 is configured to provide a surface of contact that is equal to or greater than the width of a putter face. In some embodiments, the golf putting training tool 100 is configured to provide at least two lateral points of contact for the face of a putter. In some embodiments, the golf putting training tool 100 is configured to mimic the feel and/or sensation of striking a golf ball with a putter.

[0032] Referring to FIGS. 1-2, the training tool 100 of the present disclosure may be comprised of one or more layers configured to simulate the feel of striking a golf ball with a putter. In some embodiments, the training tool 100 includes three layers: a core 102 extending circumferentially around a core axis C, a shell 104 disposed about the core 102 and a cover 106 disposed about the shell 104. The core 102 may be enveloped by the shell 104. For example, the core 102 may be positioned within an interior cavity of the shell 104 that covers the entirety of the core 102. Similarly, the shell 104 may be enveloped by the cover 106. In other embodiments, the training tool 100 may include more than three layers (e.g., an additional layer disposed about the shell 104 and interior to the cover 106).

[0033] In some embodiments, the core 102, shell 104 and/or cover 106 are comprised of materials configured to simulate the feel of striking a golf ball with a putter. The shell 104 may be comprised of a material having a first Shore D hardness and the cover 106 may be comprised of a material having a second Shore D hardness that is less than the first Shore D hardness of the shell 104. In some embodiments, the core 102 is comprised of an expanded polypropylene (EPP) foam, the shell 104 is comprised of a rubber material, and the cover 106 is comprised of a urethane material. In some embodiments, the cover 106 includes a plurality of dimples 114 formed along the outer surface of the cover 106.

[0034] Referring to FIGS. 2-3, in some embodiments, the training tool 100 is sized to cover the entire face of a conventional putter. The cover 106 may have a width W as measured along the core axis C that is equal to or greater than the width of a conventional putter face. For example, FIG. 3 illustrates the training tool 100 positioned in front of a conventional putter face 10 shown in broken lines. As illustrated in FIG. 3, the width W of the training tool 100 is greater than the width W_p of the putter face 10. Also illustrated in FIG. 3, the cover 106 may have an outer diameter D as measured radially about the core axis C that is greater than a height H_p of the putter face 10. As such, the training tool 100 is sized to cover the entire putter face 10 as illustrated in FIG. 3.

[0035] In some embodiments, the width W is at least twice the outer diameter D. For example, the width W may be about 156.6 mm and the outer diameter D may be about 42.6 mm. In some embodiments, the width W is at least three times greater than the outer diameter D. In some embodiments, the width W is between about two times to about four times greater than the outer diameter D. In some embodiments, the outer diameter D is generally equal to the diameter of a conventional golf ball. In some embodiments, the width W is between about 50% to about 110% greater than the width W_p of a conventional putter face 10. In some embodiments, the outer diameter D is about twice the height H_p of a conventional putter face 10. In some embodiments, the training tool 100 has a total mass that is generally the

same as a golf ball. For example, the mass of the training tool 100 may be about 45.5 grams.

[0036] In some embodiments, the training tool 100 is configured to provide at least two lateral points of contact for a putter face 10. The lateral direction as referenced herein may be a direction generally parallel to the direction of the core axis C and/or the direction of measurement for the width W as discussed herein. In some embodiments, the cover 106 of the training tool 100 is shaped to provide at least two lateral points of contact along the width W thereof. The cover 106 may have a shape such that there are at least two points of contact spaced from one another on the outer surface thereof that lie on a common lateral axis. For example, at least a portion of the cover 106 may be cylindrical in shape, as illustrated, such that there is a plurality of points of contact spaced one from another and lying generally on a common lateral axis.

[0037] In some embodiments, the training tool 100 is generally spherocylindrical in shape. For example, the cover 106 illustrated in FIG. 1 includes a generally cylindrical body comprising the central portion of the cover 106 with opposed hemispherical end portions. The spherocylindrical shape of the cover 106 may enable the cover 106 to be wide enough to cover a conventional putter face thereby enabling contact with the training tool 100 along the entire width of the putter face when struck. In other embodiments, the training tool 100 is generally cylindrical in shape.

[0038] Referring to FIGS. 1 and 3, in some embodiments, the training tool 100 includes an alignment indicator 108 configured to aid a user in aligning the face of their putter with the training tool 100 during use. The alignment indicator 108 may extend circumferentially around the core axis C and be generally centered along the width of the cover 106. The alignment indicator 108 may be visible at the cover 106 such that a user may easily locate the indicator 108 and align their putter therewith during use. In some embodiments, the alignment indicator 108 may be a color that is different from the cover 106 such that it is easily visible to a user. For example, the cover 106 may be a white color and the alignment indicator 108 may be red. In some embodiments, the alignment indicator 108 is a recessed groove extending along the cover 106. For example, the alignment indicator 108 illustrated in FIGS. 1 and 3 is a groove formed in the cover 106. In other embodiments, the alignment indicator 108 is surface indicia applied to the outer surface of the cover 106. For example, the alignment indicator 108 may be a mark made of ink, paint, or any suitable material applied to the outer surface of the cover 106.

[0039] In some embodiments, the training tool 100 includes recessed grooves 110 and 112 extending circumferentially around the core axis C and spaced from the alignment indicator 108. The recessed grooves 110 and 112 may be positioned along the width of the cover 106 opposite one another. For example, the recessed groove 110 is positioned proximate a first end of the cover 106, and the recessed groove 112 is positioned proximate a second end of the cover 106 opposite the first. In some embodiments, surface indicia, printed graphics (e.g., arrow pattern graphics) and/or embossed elements may be positioned within the recessed grooves 110 and 112 to provide visual indicators to a user similar to the alignment indicator 108.

[0040] In some embodiments, the training tool 100 includes a plurality of dimples 114 along the outer surface of the cover 106. In some embodiments, the dimples 114 are

distributed along a majority of the outer surface of the cover 106. The dimples 114 may be uniformly distributed along the outer surface of the cover 106 similar to a traditional golf ball. For example, the dimples 114 may form a pattern along the outer surface of the cover 106. In some embodiments, including the plurality of dimples 114 positioned along the outer surface of the cover 106 aids in simulating the feel of a golf ball when the training tool is struck.

[0041] Referring to FIGS. 4-5, there is shown an embodiment of a golf putting training tool, generally designated 200, in accordance with another exemplary embodiment of the present disclosure. The training tool 200 may be generally the same as the training tool 100 except that it may be smaller in size. The smaller size of training tool 200 when compared to training tool 100 may result in the training tool 200 being more challenging for a user to putt in a straight line. For example, the surface area of the training tool 200 is less than the surface area of the training tool 100, which may result in the training tool 100 being easier to putt in a straight line than the training tool 200. Although not illustrated, the training tool 200 may include core, shell and cover layers substantially the same as the core 102, shell 104 and cover 106 described above. The training tool 200 may include an alignment indicator 208 generally the same as the alignment indicator 108. The alignment indicator 208 may extend circumferentially around the core axis C and may be visible along the cover 206.

[0042] In some embodiments, the training tool 200 is sized to at least partially cover the face 10 of a putter. For example, the cover 206 of the training tool 200 may have an outer diameter D2 that is greater than a height Hp of a conventional putter face 10 and a width W2 that is less than the width Wp of a conventional putter face 10. In some embodiments, the diameter D2 is about equal to the diameter of a conventional golf ball. For example, the diameter D2 may be about 42.6 mm. In some embodiments, the width W2 is generally equal to the width Wp. In some embodiments, the width W2 is between about 90% to about 110% of the width Wp of the conventional putter face 10. In some embodiments, the width W2 of the cover 106 is about 106.5 mm. In some embodiments, the width W2 is at least twice the outer diameter D2 of the cover 206.

[0043] Referring to FIGS. 6-7, there is shown an embodiment of a golf putting training tool, generally designated 300, in accordance with another exemplary embodiment of the present disclosure. The training tool 300 may be generally similar to the training tool 100 described above except that the shape of the training tool 300 may be different from that of training tool 100. Although not shown, the training tool 300 may be comprised of a core extending circumferentially around the core axis C, a shell and a cover 306, each of which being generally the same as the core 102, shell 104 and cover 106 except having a different shape. In some embodiments, the cover 306 has a central portion 316 that is generally spheroid in shape and two opposed end portions 318a and 318b that are generally frustoconical in shape. For example, the central portion 316 illustrated in FIGS. 6-7 has a shape defined by rotating an ellipse about the core axis C (e.g., generally a football shape). In some embodiments, the central portion 316 includes a plurality of dimples. In some embodiments, the end portions 318a and 318b are devoid of dimples.

[0044] In some embodiments, the training tool 300 includes an alignment indicator 308 that is generally the

same as alignment indicator **108** except that it is surface indicia applied to the outer surface of the cover **306**. For example, the alignment indicator **308** may be a strip of paint or a colored adhesive applied to the outer surface of the cover **306** and extending circumferentially around the core axis C. In some embodiments, the alignment indicator **308** being surface indicia applied to the outer surface of the cover **306** results in the alignment indicator **308** having little to no impact on the travel of the training tool **300** in response to being struck by a user. In other embodiments, the alignment indicator **308** is a recessed groove formed on the cover **306**.

[0045] In some embodiments, the training tool **300** is sized to substantially cover the face **10** of a putter. For example, the cover **306** may have a maximum diameter D3 that is greater than the height Hp of the putter face **10** and a width W3 that is greater than the width Wp of the putter face **10**. In some embodiments, the width W3 is at least twice the maximum diameter D3. In some embodiments, the width W3 is between about two times to four times greater than the maximum diameter D3. In some embodiments, the width W3 of the cover **306** is about 132.3 mm and the maximum diameter D3 of the cover **306** is about 42.6 mm.

[0046] Referring to FIG. 8, there is shown an embodiment of a golf putting training tool, generally designated **400**, in accordance with another exemplary embodiment of the present disclosure. The training tool **400** may be generally the same as training tool **100** except that it may not include the recessed grooves **110** and **112** proximate the ends of the cover **406**. Although not shown, the training tool **400** may be comprised of a core extending circumferentially around the core axis C, a shell and a cover **406**, each of which being generally the same as the core **102**, shell **104** and cover **106**. In some embodiments, the training tool **400** is generally the same size as the training tool **100**. For example, the width W4 and outer diameter D4 of the cover **406** may be equal to the width W and outer diameter D of the cover **106** discussed above with regards to FIGS. 1-2. In some embodiments, the training tool **400** includes an alignment indicator **408** that is generally the same as the alignment indicator **108**. For example, the alignment indicator **408** is centered along the width W4 of the cover **406** and extends circumferentially around the core axis C.

[0047] Referring to FIG. 9, there is shown an embodiment of a golf putting training tool, generally designated **500**, in accordance with another exemplary embodiment of the present disclosure. Although not shown, the training tool **500** may be comprised of a core extending circumferentially around the core axis C, a shell and a cover **506**, each of which being generally the same as the core **102**, shell **104** and cover **106**. The training tool **500** may be generally the same as training tool **400** except that portions of the cover **506** may be devoid of dimples. For example, and as illustrated in FIG. 9, the hemispherical end portions of the cover **506** are devoid of dimples while the cylindrical-shaped central portion includes a plurality of dimples **514**. In some embodiments, the hemispherical end portions of the cover **506** are generally smooth. In some embodiments, the end portions of the cover **506** are devoid of dimples. In some embodiments, the cover **506** of the training tool **500** has generally the same width W5 and diameter D5 as the training tool **400**.

[0048] Referring to FIG. 10, there is shown an embodiment of a golf putting training tool, generally designated **600**, in accordance with another exemplary embodiment of

the present disclosure. The training tool **600** may be similar to the training tool **100** except that it may be devoid of dimples **114**, may be shaped differently and/or may include one or more spiraled indicators. Although not shown, the training tool **600** may be comprised of a core extending circumferentially around the core axis C, a shell and a cover **606**, each of which being generally the same as the core **102**, shell **104** and cover **106**. The alignment indicator **608** of the training tool **600** may be generally the same as the alignment indicator **108** except that the alignment indicator **608** may be surface indicia applied to the outer surface of the cover **606**.

[0049] In some embodiments, the training tool **600** includes a central portion **616** that is generally cylindrical in shape and two opposed end portions **618a** and **618b** that are frustoconical in shape. The central portion **616** may include indicators **620a** and **620b**, each forming a spiral-like pattern along the outer surface of the cover **606**. Each indicator **620a** and **620b** may be defined by a helical path extending from the alignment indicator **608** to the end portions **618a** and **618b**. In some embodiments, the indicators **620a** and **620b** are surface indicia applied to the outer surface of the cover **606**. In some embodiments, the spiral-like pattern of the indicators **620a** and **620b** may aid a user in visually determining whether the travel path of the training tool **600** is generally straight (e.g., when rolling along a straight line).

[0050] In some embodiments, the training tool **600** is sized to at least substantially cover the face of a putter. For example, the cover **606** may have an outer diameter D6 and a width W6 greater than the corresponding height and width of a conventional putter face, as discussed above. In some embodiments, the diameter D6 is generally equal to that of a golf ball. For example, the diameter D6 may be about 42.6 mm. In some embodiments, the width W6 is between about 106.6 mm to about 156.6 mm. In some embodiments, the width W6 is about 132.3 mm.

[0051] Referring to FIG. 11, there is shown an embodiment of a golf putting training tool, generally designated **700**, in accordance with another exemplary embodiment of the present disclosure. The training tool **700** may be similar to the training tool **100** except that it may not include an alignment indicator and may be differently shaped. Although not shown, the training tool **700** may be comprised of a core extending circumferentially around the core axis C, a shell and a cover **706**, each of which being generally the same as the core **102**, shell **104** and cover **106**. In some embodiments, the outer surface of the cover **706** has a shape defined by a series of spheroidal shapes, each centered on and extending along the core axis C and each being generally the same size and/or shape. In some embodiments, the outer surface of the cover **706** has a shape defined by a series of alternating convex and concave curves revolved around the core axis C.

[0052] In some embodiments, the training tool **700** is sized to at least substantially cover the face of a putter. For example, the cover **706** may have a maximum outer diameter D7 and a width W7 greater than the corresponding height and width of a conventional putter face, as discussed above. In some embodiments, the maximum outer diameter D7 is generally equal to that of a golf ball. For example, the maximum outer diameter D7 may be about 42.6 mm. In some embodiments, the width W7 is between about 106.6 mm to about 170.0 mm. In some embodiments, the width W7 is about 156.9 mm.

[0053] Referring to FIG. 12, there is shown an embodiment of a golf putting training tool, generally designated 800, in accordance with another exemplary embodiment of the present disclosure. The training tool 800 may be similar to the training tool 100 except that it may not include any dimples and may be differently shaped. Although not shown, the training tool 800 may be comprised of a core extending circumferentially around the core axis C, a shell and a cover 806, each of which being generally the same as the core 102, shell 104 and cover 106. The cover 806 may include a central portion 816 that is generally cylindrical in shape and two opposed end portions 818a and 818b that are generally conical in shape. In some embodiments, the conical end portions 818a and 818b have a rounded apex rather than a pointed apex. The alignment indicator 808 may be similar to the alignment indicator 108 except that it may be surface indicia applied to the cover 806 and it may include one or more patterned shapes. For example, and as illustrated, the alignment indicator 808 includes a series of arrows disposed between opposed lines, each of which extends circumferentially around the core axis C.

[0054] In some embodiments, the training tool 800 is sized to at least substantially cover the face of a putter. For example, the cover 806 may have a maximum outer diameter D8 and a width W8 greater than the corresponding height and width of a conventional putter face, as discussed above. In some embodiments, the maximum outer diameter D8 is generally equal to that of a golf ball. For example, the maximum outer diameter D8 may be about 42.6 mm. In some embodiments, the width W8 is between about 156.6 mm to about 250.0 mm. In some embodiments, the width W8 is about 228.3 mm.

[0055] Referring to FIG. 13, there is shown an embodiment of a golf putting training tool, generally designated 900, in accordance with another exemplary embodiment of the present disclosure. The training tool 900 may be similar to the training tool 300 except that it may not include any dimples and may be differently shaped. Although not shown, the training tool 900 may be comprised of a core extending circumferentially around the core axis C, a shell and a cover 906, each of which being generally the same as the core 102, shell 104 and cover 106. In some embodiments, the shape of the cover 906 is substantially the same as the cover 306 except that the central portion 916 is generally cylindrical in shape. In some embodiments, the training tool 900 includes an alignment indicator generally the same as alignment indicator 108 or alignment indicator 308. For example, the training tool 900 may include an alignment indicator centered along the width W9 of the training tool, extending circumferentially around the core axis C and being visible along the cover 906.

[0056] In some embodiments, the training tool 900 is sized to at least substantially cover the face of a putter. For example, the cover 906 may have a maximum outer diameter D9 and a width W9 greater than the corresponding height and width of a conventional putter face, as discussed above. In some embodiments, the maximum outer diameter D9 is generally equal to that of a golf ball. For example, the maximum outer diameter D9 may be about 42.6 mm. In some embodiments, the width W9 is between about 106.5 mm to about 156.6 mm. In some embodiments, the width W9 is about 132.3 mm.

[0057] Referring to FIGS. 14-15, there is shown an embodiment of a golf putting training tool, generally des-

ignated 1000, in accordance with another exemplary embodiment of the present disclosure. The training tool 1000 may be similar to the training tool 300 except that it may include a body 1006, similar to cover 306, except that the central portion 1016 thereof may be spherical in shape and/or may have a non-uniform thickness. In some embodiments, and although not shown, the training tool 1000 may be comprised of a core extending circumferentially around the core axis C, a shell and the body 1006, and having a cover encapsulating the core and shell. The core, shell and cover 1006 of training tool 1000 may be generally the same as the core 102, shell 104 and cover 106 except that they may have a different shape. In other embodiments, the training tool 1000 does not include a core and/or shell disposed within the body 1006. In some embodiments, the body 1006 is hollow. In some embodiments, the body 1006 extends circumferentially about the central axis C. In some embodiments, the body 1006 has a central portion 1016 that is generally spherical in shape and two opposed end portions 1018a and 1018b that are generally frustoconical in shape. In some embodiments, the central portion 1016 includes a plurality of dimples, similar to the training tool 100 discussed above. In some embodiments, the end portions 1018a and 1018b are generally smooth. The end portions 1018a and 1018b may be devoid of dimples.

[0058] In some embodiments, the training tool 1000 includes an alignment indicator 1008 that is generally the same as alignment indicator 308 except that it is a recessed groove formed on the body 1006. Although not shown, the alignment indicator 1008 may include a color and/or surface indicia for aiding in visual identification of the alignment indicator 1008. In some embodiments, the training tool 1000 is generally the same size as the training tool 300. For example, the width W10 and maximum diameter D10 of the body 1006 may be generally equal to the width W3 and outer diameter D3 of the cover 306 discussed above with regard to FIGS. 6-7. In some embodiments, the body 1006 has a non-uniform thickness. For example, and as illustrated in FIG. 15, the central portion 1016 of the body 1006 may have a thickness that is greater than the thickness of the end portions 1018a and 1018b. In some embodiments, the thickness of the body 1006 at different areas is selected in order to achieve a generally uniform weight distribution throughout the training tool 1000. In some embodiments, the body 1006 may include apertures 1019a and 1019b at the end portions 1018a and 1018b thereof. In some embodiments, the apertures 1019a and 1019b are sized to achieve a generally uniform weight distribution of the training tool 1000. The apertures 1019a and 1019b may be aligned with the central axis C. For example, the apertures 1019a and 1019b extend circumferentially around central axis C. In some embodiments, the apertures 1019a and 1019b have a generally equal diameter.

[0059] Referring to FIGS. 16-17, there is shown an embodiment of a golf putting training tool, generally designated 1100, in accordance with another exemplary embodiment of the present disclosure. The training tool 1100 may be generally the same as the training tool 1000 except that the thickness of one or more portions of the body 1106 may be different from that of the body 1006. For example, and as illustrated in FIG. 17, the end portions 1118a and 1118b of the body 1106 may have a thickness that is greater than the thickness of the central portion 1116. In some embodiments, the thickness of the body 1106 at different

areas is selected in order to achieve a generally uniform weight distribution throughout the training tool **1100**. In some embodiments, the body **1106** includes apertures **1119a** and **1119b** at the corresponding end portions **1118a** and **1118b**. The apertures **1119a** and **1119b** may be sized to achieve a generally uniform weight distribution of the training tool **1100**. In some embodiments, the apertures **1119a** and **1119b** extend circumferentially around the central axis C. In some embodiments, the apertures **1119a** and **1119b** have a generally equal diameter.

[0060] Although not shown, the training tool **1100** may be comprised of a core extending circumferentially around the core axis, a shell and the body **1106** may act as a cover encapsulating the core and shell in generally the same manner as cover **106**. In such embodiments, the core, shell and cover **1106** of training tool **1100** may be generally the same as the core **102**, shell **104** and cover **106** except that they may have a different shape. In other embodiments, the training tool **1100** does not include a core and/or shell disposed within the body **1106**. In some embodiments, the body **1106** is hollow. In some embodiments, the body **1106** extends circumferentially about the central axis C. In some embodiments, the training tool **1100** includes an alignment indicator **1108** that is generally the same as alignment indicator **1008**. Although not shown, the alignment indicator **1108** may include a color and/or surface indicia for aiding in visual identification of the alignment indicator **1108**. In some embodiments, the training tool **1100** is generally the same size as the training tool **1000**. For example, the width **W11** and maximum diameter **D11** of the body **1106** may be generally equal to the width **W10** and maximum diameter **D10** of the cover **1006**.

[0061] Referring to FIGS. **18-19**, there is illustrated a method of using a golf putting training tool in accordance with an exemplary embodiment of the present disclosure. For the sake of brevity, the method is illustrated using the golf putting training tool **100** shown and described above with reference to FIGS. **1-3**. It should be understood though that any of the training tools **100**, **200**, **300**, **400**, **500**, **600**, **700**, **800**, **900**, **1000** and/or **1100** may be used in accordance with the following method. In some embodiments, the method includes placing a golf putting training tool on a ground surface. For example, the training tool **100** may be placed on a ground surface in a resting position **50a**. In some embodiments, the method includes aligning the training tool with an intended line of travel. For example, a user may orient the training tool **100** relative to the ground surface such that the alignment indicator **108** extends along a desired line of travel, which in FIGS. **18-19** is illustrated as the axis A.

[0062] The method may include aligning an alignment aid **12** of a putter with the alignment indicator **108** of the training tool. For example, a putter is placed behind the training tool **100**, and the alignment aid **12** of the putter is aligned with the alignment indicator **108** of the training tool **100**. Aligning the alignment aid **12** and indicator **108** may include causing the alignment aid **12** of the putter to be substantially parallel to the indicator **108** and vertically aligned therewith. For example, in FIG. **18**, the alignment aid **12** is aligned with the indicator **108** and each extends along a common axis A. FIG. **19** provides an example of the alignment aid **12** not being aligned with the indicator **108**. For example, in FIG. **19** the alignment aid **12** extends along an axis B that is not parallel to or vertically aligned with the

axis A (e.g., the intended line of travel). In some embodiments, when the putter and training tool **100** are properly aligned with one another, the putter face **10** may be substantially parallel to the core axis C of the training tool **100**. For example, the putter face **10** illustrated in FIG. **18** is generally parallel to the core axis C, wherein in FIG. **19**, the putter face **10** is at an oblique angle relative to the core axis C.

[0063] In some embodiments, the method includes striking the golf putting training tool **100** with a face of the putter. For example, and as indicated by the arrows in FIGS. **18-19**, a user swings the putter such that the training tool **100** is struck by the putter face **10**. In an instance where the putter face **10** remains square with the intended line of travel (e.g., as illustrated in FIG. **18**) at the time of contact, the training tool **100** is configured to roll from resting position **50a** along the intended line of travel A to a secondary position **50b**. For example, and as illustrated in FIG. **18**, the training tool **100** is struck while the putter face **10** is parallel to the core axis C causing the training tool to roll along the intended line of travel A from the resting position **50a** to the secondary position **50b**. The orientation of the core axis C remains substantially the same as the training tool **100** rolls along the intended line of travel A. For example, in FIG. **18**, the training tool **100** translates along the intended line of travel such that the core axis remains substantially perpendicular thereto from the resting position **50a** to the secondary position **50b**. This may provide a visual indication to the user that their putter face **10** was squared with the intended line of travel A at the time of impact. As such, the user may attempt to repeat the same swing in order to improve their ability to consistently square the face of their putter with the intended line of travel at the time of impact.

[0064] In an instance where the putter face **10** is open or is closed (e.g., as illustrated in FIG. **19**) at the time of contact, the training tool **100** is configured to deviate from the intended line of travel and roll from the resting position **50a** to a secondary position **50c**. In FIG. **19**, the putter face **10** is closed relative to the training tool **100** at the time of contact, causing the training tool **100** to deviate from the intended line of travel A. For example, the putter face **10** in FIG. **19** is at an oblique angle relative to the core axis A at the time of contact. As such, the toe of the putter contacts the training tool **100**, causing training tool **100** to rotate such that the core axis C is no longer perpendicular to the intended line of travel A. As such, the training tool **100** rolls from the resting position **50a** to the secondary position **50c** at which the core axis C is at an oblique angle relative to the intended line of travel A. This may provide a visual indication to the user that their putter face **10** was not squared with the intended line of travel A at the time of impact.

[0065] Additionally, in the secondary position **50c** illustrated in FIG. **19**, the end of the training tool **100** proximate the toe of the putter at the time of impact is forward of the opposing end, thereby providing a visual indication to the user that their putter face **10** was closed at the time of impact. This may be beneficial to the user as they may attempt to adjust their swing and/or grip to compensate for a closed putter face. Similarly, if the end of the training tool **100** proximate the heel of the putter is forward of the opposing end, this may provide a visual indication to the user that their putter face **10** was open at the time of impact. As such, the training tools and methods discussed herein may enable a user to reliably practice putting while provid-

ing immediate and easily identified feedback to aid the user in improving their putting skills.

[0066] It will be appreciated by those skilled in the art that changes could be made to the exemplary embodiments shown and described above without departing from the broad inventive concepts thereof. It is to be understood that the embodiments and claims disclosed herein are not limited in their application to the details of construction and arrangement of the components set forth in the description and illustrated in the drawings. Rather, the description and the drawings provide examples of the embodiments envisioned. The embodiments and claims disclosed herein are further capable of other embodiments and of being practiced and carried out in various ways.

[0067] Specific features of the exemplary embodiments may or may not be part of the claimed invention, and various features of the disclosed embodiments may be combined. Unless specifically set forth herein, the terms “a,” “an” and “the” are not limited to one element but instead should be read as meaning “at least one.” Finally, unless specifically set forth herein, a disclosed or claimed method should not be limited to the performance of their steps in the order written, and one skilled in the art can readily appreciate that the steps may be performed in any practical order.

What is claimed is:

1. A golf putting training tool comprising:
 - a body extending circumferentially around a central axis, the body having a width as measured along the central axis and an outer diameter as measured radially about the central axis, the width being at least twice the outer diameter; and
 - an alignment indicator extending circumferentially around the central axis, the alignment indicator being generally centered along the width of the body, wherein the body includes a central portion that is generally spheroid in shape and two opposed end portions coupled to the central portion.
2. The golf putting training tool of claim 1, wherein the central portion includes a plurality of dimples disposed along an outer surface thereof.
3. The golf putting training tool of claim 2, wherein the end portions are devoid of dimples.
4. The golf putting training tool of claim 1, wherein the outer diameter of the body is about 42.6 mm and the width is about 156.6 mm.
5. The golf putting training tool of claim 1, wherein the alignment indicator is a recessed groove in the body.
6. The golf putting training tool of claim 1, wherein the alignment indicator is a surface indicia applied to the body.
7. The golf putting training tool of claim 1, wherein the body has a non-uniform thickness.
8. The golf putting training tool of claim 1, wherein the two opposed end portions are generally frustoconical in shape.
9. The golf putting training tool of claim 1 further comprising:

- a core extending circumferentially around the central axis and positioned within the body; and
- a shell disposed about the core and comprising a material having a first Shore D hardness, wherein the body is disposed about the shell and has a second Shore D hardness less than the first Shore D hardness.

10. The golf putting training tool of claim 9, wherein the core is comprised of an expanded polypropylene (EPP) foam, the shell is comprised of a rubber material and the body is comprised of a urethane material.

11. A golf putting training tool comprising:

- a body extending circumferentially around a central axis, the body having a width as measured along the central axis of about 156.6 mm and an outer diameter as measured radially about the central axis of about 42.6 mm; and

an alignment indicator extending circumferentially around the central axis, the alignment indicator being generally centered along the width of the body,

wherein the body includes:

- a central portion that is generally spheroid in shape and includes a plurality of dimples disposed along an outer surface thereof, and

two opposed end portions coupled to the central portion each of which are generally frustoconical in shape and are devoid of dimples.

12. The golf putting training tool of claim 11, wherein the alignment indicator is a recessed groove in the body.

13. The golf putting training tool of claim 11, wherein the alignment indicator is a surface indicia applied to the cover.

14. The golf putting training tool of claim 11, wherein the body has a non-uniform thickness.

15. A method of using a golf putting training tool, the method comprising:

placing the golf putting training tool on a ground surface, the golf putting training tool comprising:

- a core extending circumferentially around a core axis;
- a shell disposed about the core;

a cover disposed about the shell, the cover having a width as measured along the core axis and an outer diameter as measured radially about the core axis, the width being at least twice the outer diameter; and

an alignment indicator extending circumferentially around the core axis, the alignment indicator being generally centered along the width of the core;

aligning an alignment aid of a putter with the alignment indicator of the golf putting training tool; and

striking the golf putting training tool with a face of the putter.

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