(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 December 2007 (27.12.2007)

PCT

(10) International Publication Number
WO 2007/149889 A2

(51) International Patent Classification:
A63B 57/00 (2006.01)

(21) International Application Number:
PCT/US2007/071611

(22) International Filing Date: 20 June 2007 (20.06.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/805,222 20 June 2006 (20.06.2006) US

(71) Applicants and
(72) Inventors: **POTEMPA, Michael** [US/US]; 5601 S Pennsylvania Avenue, Suite 2, Cudahy, WI 53110 (US). **POTEMPA, Brian** [US/US]; 5601 S Pennsylvania Avenue, Suite 2, Cudahy, WI 53110 (US).

(74) Agent: **WOOD, James**; 2728 Hidden Lake Drive, Grapevine, TX 76051 (US).

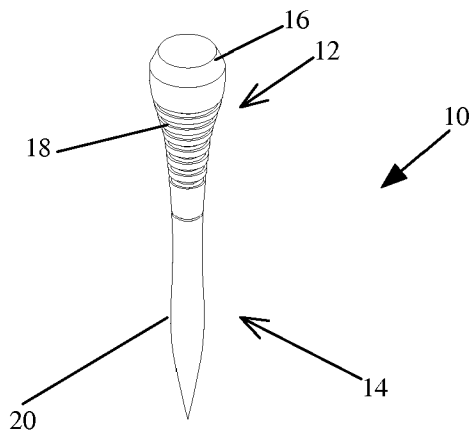
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) **Title:** GOLF TEE AND PACKAGING FOR GOLF TEE



(57) **Abstract:** A golf tee has an upper portion and a lower portion. The lower portion has an upper end that resides within the upper portion. The lower power and the upper portion are made of different materials with different flexibility. The lower portion and the upper portion are able to flex relative to each other. The upper portion could be provided with shock absorption means such as a plurality of ribs to dissipate the shock from the impact of a golf club with the tee.

WO 2007/149889 A2

GOLF TEE AND PACKAGING FOR GOLF TEE

RELATED APPLICATIONS

This patent application claims priority upon, and incorporates by reference in its entirety, U.S. provisional patent application 60/805222 filed June 20, 2006, and entitled "Golf Tee and Packaging for Golf Tee".

FIELD OF THE INVENTION

The present invention relates to a golf tee, more particularly one, which is comprised of flexible parts so as not to be easily damaged, as well as the packaging for such a golf tee.

BACKGROUND OF THE INVENTION

Conventional golf tees are made of wood and easily broken. One solution to reduce the number of broken tees is to have a tee with a top portion and a bottom portion such that the top portion is able to be rotated with respect to the bottom portion.

For example, U.S. Patent 6,849,008 is for a golf tee which has a peg and a flexible holder with a seat for holding the golf ball. U.S. Patent 6,873,470 has a spring in the upper portion of the tee to provide flexibility. U.S. Patent 7,156,758 shows a durable golf tee having an upper portion and a lower portion connected by a sleeve.

These different golf tees, however, are difficult to manufacture, resulting in a higher cost to the consumer. Since a standard wooden golf tees are generally inexpensive, a consumer may not purchase such golf tees due to the higher cost.

Additionally, another problem is related to the packaging and selling of tees. Golf tees are generally loosely packaged in a plastic bag. The bags, when filled with tees, are irregularly shaped. Thus, the orderly placement of the bags on a display is difficult.

Further, golf accessories are often used as promotional items given to customers by a business. Tees are usually imprinted with then name of the business on the shank of the tee, and the tee is given to customers. In order to justify the cost of setup, generally a large quantity of tees must be printed. Further, after the tees are given to the customer, the user often stores and uses both the imprinted tees with other tees, thereby reducing the effectiveness of the imprinting.

An improved golf tee along with an improved method of packaging golf tees is highly desirable.

SUMMARY OF THE INVENTION

The foregoing is accomplished by an improved durable golf tee having an upper portion and a lower portion. The upper portion and the lower portion are axially aligned. The upper portion has an upper end for supporting a golf ball and an upper shank. The lower portion has a pointed lower end for inserting the tee into the ground, a lower shank, and an upper end.

The upper end extends into the interior of the upper portion. Generally, the upper end extends through the length of the upper shank to the bottom of the upper end. The distance the upper end extends into the upper shank could, of course, vary from only a slight amount to a great amount.

The upper portion and lower portion are suitably molded from thermoplastic. The upper portion could be over-molded about the lower portion. Alternatively, the upper portion and lower portion could be molded separately, and the lower portion could be inserted into the upper portion.

The tee is formed from two different types of materials. The upper portion is made from a plastic with more flexibility than the lower portion. For example, the lower portion could be made of polypropylene, styrene, polycarbonate, polyethylene or any other suitable material. The upper portion could be made from santoprene, TPE, TPV, silicon or other suitable material.

The upper portion could be provided with various features designed to absorb the shock from a golf club contacting the stem. For example, the upper portion could be provided with ribs which provide an additional means to disperse the energy caused by a golf club's impact with the tee.

The ribs on the upper portion of the tee could aid a user with gripping a tee and inserting it into the ground in damp or dry weather conditions. The grip would also allow a user to insert the invention into clay, dry soil, rough turf, etc.

The golf tee of the present invention can suitably be formed by a method comprising the steps of molding a lower portion with a pointed lower end for inserting the tee into the ground and then over-molding an upper portion about the upper end. Alternatively, the upper portion and lower portion could be produced separately, and then after fabrication of the upper portion and the lower portion, the upper end could be inserted onto the upper end of the substructure portion.

BRIEF DESCRIPTION OF THE DRAWINGS

While the novel features of the invention are set forth in the appended claims, the invention will be better understood along with other features thereof from the following detailed description taken in conjunction with the drawings, in which:

FIG. 1 shows a golf tee with a peg molded around a cup shaped stem and seat.

FIG. 2 is a cut away view of the golf tee with a cutaway showing the interior of the golf tee.

FIG. 3 is a perspective cut-away view of the golf tee.

FIG. 4 is a side view of the golf tee.

FIG. 5 is a package for golf tees in a fully open position.

FIG. 6 is a package for golf tees in a partially closed position.

FIG. 7 is a package for golf tees in a fully closed position.

DETAILED DESCRIPTION OF THE EMBODIMENT

Referring to FIGs. 1, 2, 3 and 4, there is a first embodiment of a golf tee 10 of the present invention. The golf tee 10 has an upper portion 12 and a lower portion 14. The upper portion 12 and the lower portion 14 are axially aligned. The upper end 22 of the lower portion 14 is contained within the upper portion 12. The upper end 22 could be entirely or partially contained within the upper portion 12.

The upper portion 12 has a seat 16 for supporting a golf ball. The upper portion 12 also includes a plurality of ribs 18 circumscribing the upper portion.

The golf tee could be made from a variety of materials. For example, the lower portion 14 could be made of polypropylene, styrene, polycarbonate, polyethylene or any other suitable material. The upper portion 12 could be made from santoprene, TPE, TPV, silicon or other suitable material. The mechanical flexibility of the upper portion12 is generally more than the mechanical flexibility of the lower portion 14.

The upper end 22 extends upward into the upper portion 12. The lower portion 14 includes a shank 20 and the upper end 22. The upper end 22 is contained within the upper portion 12. The upper end 22 has a generally upside down cone shape, with the top 24 of the upper end having a larger diameter than that of its base 26. The top 24 is generally of the same shape as the seat 16.

The upper end could have, for example, an hour glass shape. The upper end could extend for a substantial distance into the upper portion. For example, in a 2.5 inch golf tee, the shank of the lower portion is approximately 60% of the tee and the upper portion is approximately 40% of the tee. The upper end is approximately 90% of the upper portion of the golf tee, and is surrounded by the upper portion. The upper end could be

completely enclosed by the upper portion, or, alternatively, only a portion of the upper end could be contained within the upper portion.

The largest diameter of the upper portion is approx .5 inches. The smallest diameter of the upper end is approx .1 inches. The largest diameter of the upper end is approx .35 inches. The largest diameter of the shank is approx .25 inches.

The central portion 28 of the upper end 22 could have a diameter less than that of the top 24 or the base 26.

The upper portion 12 can be flexed with respect to lower portion 14. By changing the diameter and length of the central portion 28 of the upper end 22, the ease of flexing the upper portion 12 with respect to the lower portion 14 could be altered. This allows for the ability to provide tees with different flexibility so that golfers may be provided with a variety of different flexibilities of golf tees.

The seat 16 has a bowl 30 for holding a golf ball. As can be seen from FIG. 1, the seat 16 could have a smaller diameter than that part of the upper portion 12 having the largest diameter. By having a relatively small diameter, the seat 16 has minimal surface area in contact with the golf ball, thereby improving the energy transfer from a golf club head to the golf ball.

A unique packaging for the golf tees described herein, or for any golf tees, is shown in FIG. 3.

The packaging consists of a tri-fold apparatus. A first cover 50 is attached to a second cover 52 by way of a living hinge or mechanical pivot 54. The second cover is attached to a golf tee array 56 by way of second living hinge or mechanical pivot 58.

The golf tee array 56 consists of a plurality of tees 60, 62, 64, 66 on a tree 68. The tree 68 is shown as an array of parallel tees, but, in fact, the tree 68 could be comprised of a variety of different arrangements of tees. For example, the tees could be arranged to overlap, or could be arranged so that the tip of the tee is aligned with the head of an adjacent tee.

The second cover 56 includes four tabs 70 for holding a business card. A business card is inserted under the tabs 70, thereby allowing the business card to be prominently displayed on the exterior of the case.

The four tabs 70 are a means to hold the business card in place on the case. However, a variety of alternate means are available to hold the business card in place. For example, a clip, a fastener, glue, Velcro, a magnet, or any other suitable fastener could be used.

The packaging could be made of plastic. However, other suitable materials such as metal or wood could also be used.

The golf tee tree 68 folds into the second cover 54, as shown in FIG. 4. As shown in FIG. 5, the first cover 50 then folds onto or over the second cover 54, thereby enclosing the tree 68 within the first cover 50 and the second cover 54.

The resultant packaging provides a simple and convenient means to transport golf tees. Additionally, the business card holder on the packaging allows the packaging to be used as a promotional device.

While the foregoing invention has been described with respect to preferred embodiments, it shall be understood that various other changes and modifications to the invention can be made within the spirit and scope of the invention, as claimed.

CLAIMS

We claim:

1. A golf tee comprising an upper portion and a lower portion, the lower portion having an interior portion, the interior portion contained within the upper portion.

2. The golf tee of claim 1 where the interior portion is contained within more than fifty percent of the upper portion.

3. The golf tee of claim 1 where the upper portion is axially aligned about the lower portion.

4. The golf tee of claim 1 where the upper portion is made of a first material and the lower portion is made of a second material, the first material having a greater flexibility than that of the second material.

5. The golf tee of claim 4 where the lower portion is made of one of polypropylene, styrene, polycarbonate, and polyethylene.

6. The golf tee of claim 6 where the upper portion made of one of santoprene, TPE, TPV, and silicon.

7. A golf tee comprising an upper portion and a lower portion, the lower portion having an interior portion contained within the upper portion, the upper portion having at least one feature for shock absorption on the exterior of the tee.

8. The golf tee of claim 8 where the feature for shock absorption is at least one rib or specific texture placement.

9. The golf tee of claim 8 where the feature shock absorption is a plurality of ribs.

10. The golf tee of claim 9 where the lower portion has an exterior portion, and the diameter of at least a first portion of the interior portion is greater than the maximum diameter of the exterior portion.

11. The golf tee of claim 10 where the diameter of at least a second portion of the interior portion is less than the maximum diameter of the exterior portion.

12. A golf tee comprising:

A peg for insertion into the ground, the peg having an interior portion;

a stem enclosing the interior portion, the stem having a seat for holding a golf ball, the seat having a bowl, the bowl having a maximum bowl diameter, and the seat having a maximum seat diameter, the maximum bowl diameter being equal to or less than the maximum stem diameter.

13. The golf tee of claim 12 where the maximum bowl diameter is less than the maximum stem diameter.

14. The golf tee of claim 13 where the maximum bowl diameter is equal or less than that of the maximum stem diameter.

15. The golf tee of claim 14 where the stem if made of a first material and the peg is made of a second material.

16. The golf tee of claim 15 where the first material is more mechanically flexible than the second material.

17 The golf tee of claim 16 where the upper portion has a texture to aid in gripping the golf tee.

18. The golf tee of claim 17 where the texture includes ribs.

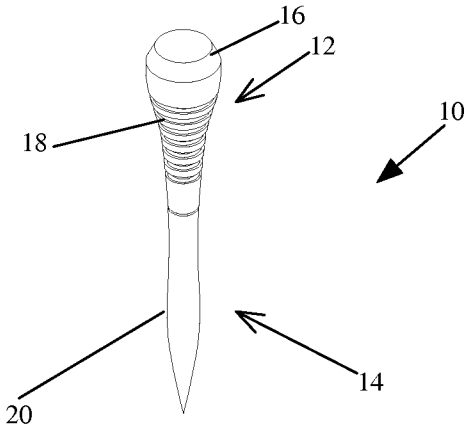


FIG. 1

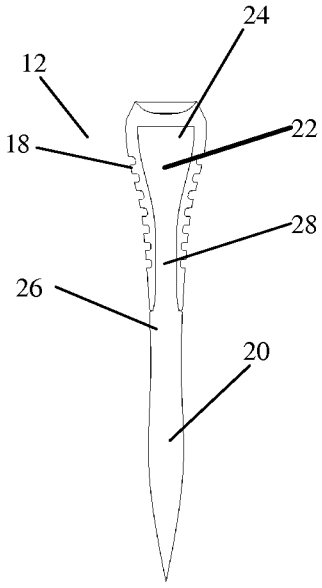


FIG. 2

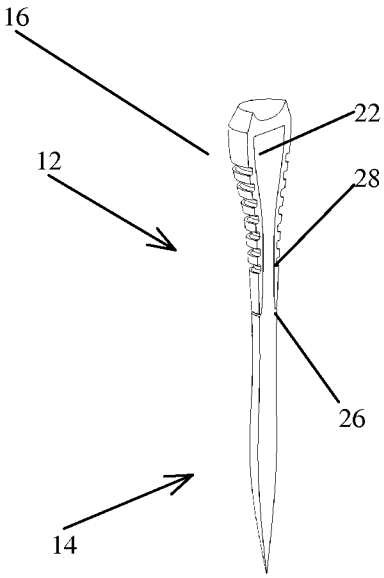


FIG. 3

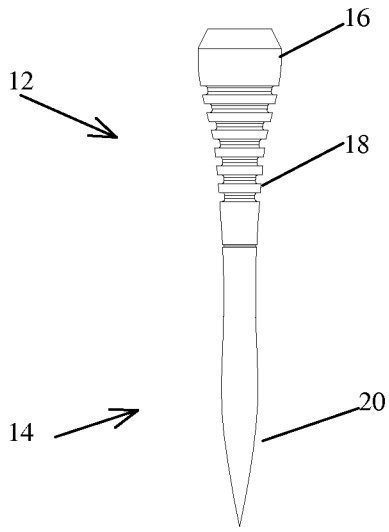


FIG. 4

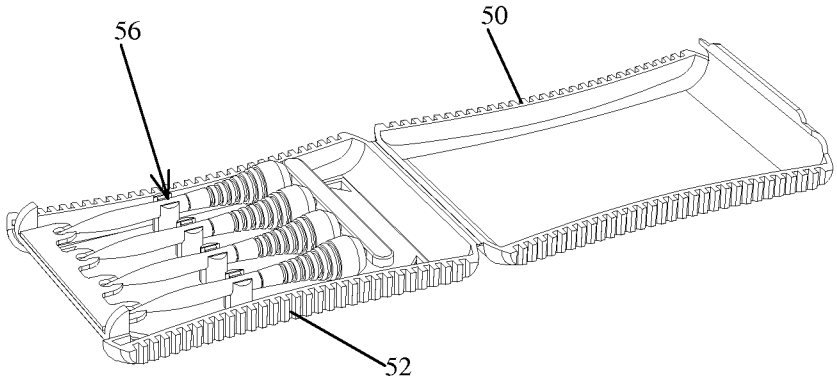


FIG. 6

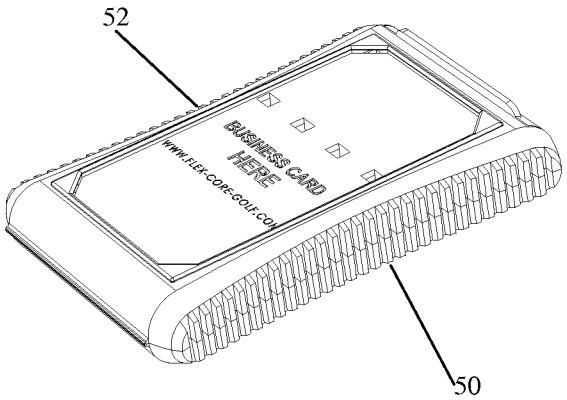


FIG. 7

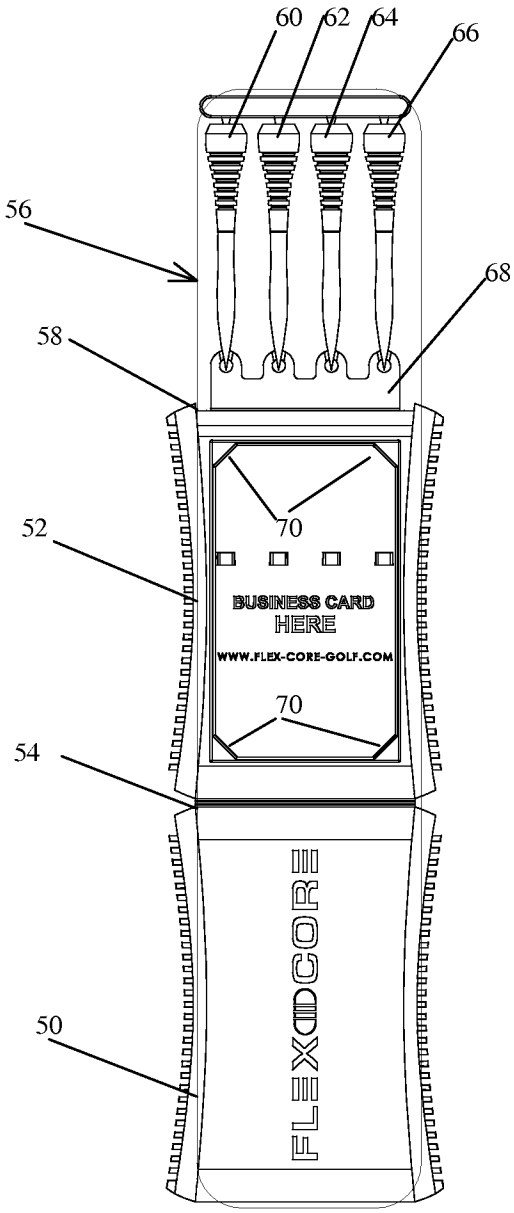

60
62
64
66
56
68
58
70
52
BUSINESS CARD
HERE
WWW.FLEX-CORE-GOLF.COM
70
54
FLEXCORE
50

FIG. 5