(12) STANDARD PATENT APPLICATION (11) Application No. **AU 2004202602 A1**
(19) AUSTRALIAN PATENT OFFICE

(54) Title
Golf putter head with increased dimensions and increased moment of inertia

(51)[7] International Patent Classification(s)
A63B 053/04

(21) Application No: **2004202602** (22) Date of Filing: **2004.06.15**

(30) Priority Data

(31) Number	(32) Date	(33) Country
10/462899	**2003.06.16**	**US**

(43) Publication Date: **2005.01.06**
(43) Publication Journal Date: **2005.01.06**

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ABSTRACT OF THE DISCLOSURE

A golf putter head includes a face member with a front surface arranged for impacting a golf ball. A rear member extends in an arcuate path of substantially 180 degrees from a heel end of the face member to a toe end of the face member. First and second struts extend from the rear member to the face member and converge toward each other as they approach the face member. A third strut extends from the rear member to the face member and lies between the first and second struts. A V-shaped marking is provided on an upper surface of the face member between the heel and toe ends thereof. One leg of the V-shaped marking is aligned with the first strut and the other leg of the V-shaped marking is aligned with the second strut.

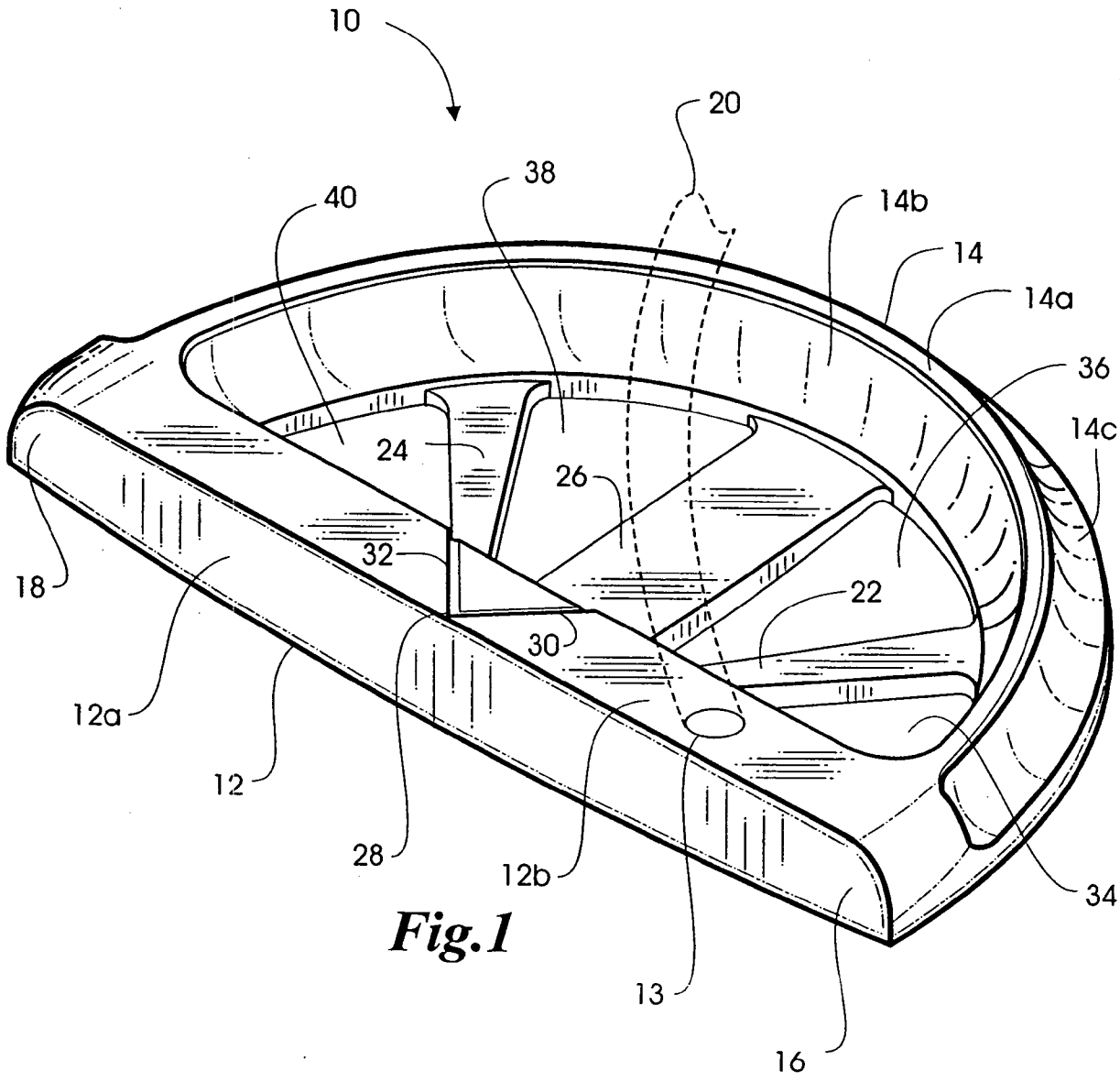

Fig.1

AUSTRALIA

PATENTS ACT 1990

COMPLETE SPECIFICATION

NAME OF APPLICANT(S)::

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INVENTION TITLE:

Golf putter head with increased dimensions and increased moment of inertia

The following statement is a full description of this invention, including the best method of performing it known to me/us:-

Docket No.: *KMC-588*
Inventors: *John C. Souza*
Anthony D. Serrano

GOLF PUTTER HEAD WITH INCREASED DIMENSIONS AND INCREASED MOMENT OF INERTIA

BACKGROUND OF THE INVENTION

This invention relates generally to golf equipment and, in particular, to a golf putter head with increased dimensions and increased moment of inertia.

Recent developments in golf equipment have resulted in golf putter heads with high moments of inertia. For example, U.S. Patent No. 5,482,281 to D. W. Anderson discloses a putter head sold under the name DANSER. The Anderson putter head has heel and toe weights mounted on a lower plate-like member. The heel and toe weights and the lower plate-like member are preferably made of heavyweight material such as bronze or steel. An upper shell-like member, preferably made of lightweight material such as plastic or aluminum, is secured to the lower plate-like material to enclose the heel and toe weights. U.S. Patent No. 5,842,935 to M. J. Nelson discloses a putter head sold under the name NELLI. The Nelson putter head has a horseshoe shaped body formed of high density material such as steel with thickened heel and toe portions. The horseshoe shaped body includes a cavity which receives an insert formed of low density material such as polyurethane. The insert preferably constitutes about 15% of the total weight of the putter head while constituting more than 50% of the total volume of the putter head.

SUMMARY OF THE INVENTION

The present invention provides a golf putter head including a face member having a heel end, a toe end and front surface arranged for impacting a golf ball. The golf putter head also includes a rear member extending in an arcuate path from the heel end to the toe end of the face member, and first and second struts extending from the rear member to the face member and converging toward each other as they approach the face member. A third strut may also be provided in the golf putter head extending from the rear member to the face member and lying between the first and second struts. The first, second and third struts may be aligned to define four triangularly shaped open spaces between the face member and the rear member. The face member has an upper surface with a generally V-shaped marking thereon between the heel and toe ends thereof. The V-shaped marking has one leg aligned with the first strut and another leg aligned with the second strut. Preferably, the first-mentioned leg of the V-shaped marking is aligned with an edge of the first strut, and the other leg of the V-shaped marking is aligned with an edge of the second strut.

DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a golf putter head according to the preferred embodiment of the present invention;

Fig. 2 is a top plan view of the golf putter head shown in Fig. 1; and

Fig. 3 is a bottom view of the golf putter head shown in Fig. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Fig. 1, a golf putter head 10 includes a face member 12 and a rear member 14. The rear member 14 extends in an arcuate path of substantially 180 degrees from a heel end 16 of the face member 12 to a toe end 18 of the face member 12. The face member 12 has a front surface 12a arranged for impacting a golf ball, an upper surface 12b with a hole 13 formed therein for receiving a shaft 20, a lower surface 12c located opposite the upper surface 12b, and a back surface 12d located opposite the front surface 12a. The rear member 14 has an upper surface 14a, an inner surface 14b, an outer surface 14c and a lower surface 14d. The upper and lower surfaces 14a, 14d of the rear member 14 are located opposite each other, and the inner and outer surfaces 14b, 14c of the rear member 14 are located opposite each other.

The golf putter head 10 further includes a first strut 22, a second strut 24 and a third strut 26. The first and second struts 22, 24 extend from the rear member 14 to the face member 12 and converge toward each other as they approach the face member 12. A generally V-shaped marking 28 is provided on the upper surface 12b of the face member 12 between the heel and toe ends 16, 18. The V-shaped marking 28 has one leg 30 thereof aligned with an edge 22a of the first strut 22 and another leg 32 thereof aligned with an edge 24a of the second strut 24. The third strut 26 also extends from the rear member 14 to the face member 12 and lies between the first and second struts 22, 24.

It will be understood that the putter head 10 is preferably made of lightweight material such as aluminum or titanium so that it will have increased dimensions. For example, the putter head 10 may have a width W of between 4.0 and 12.0 inches, preferably 9.0 inches, measured between the heel end 12a and the toe end 12b of the face member 12. Also, the putter head 10

may have a depth D of between 2.0 and 6.0 inches, preferably 4.5 inches, measured between the front surface 12a of the face member 12 and the outer surface 14a of the rear member 14. These dimensions for the width W and depth D provide the putter head 10 with an increased moment of inertia.

The first, second and third struts 22, 24 and 26 are connected to the back surface 12d of the face member 12 and to the inner surface 14b of the rear member 14 and are arranged to define four triangularly shaped open spaces 34, 36, 38 and 40 between the face member 12 and the rear member 14. Open spaces 34 and 40 are of identical size while open spaces 36 and 38 are of identical size. The open spaces 34, 36, 38 and 40 allow the putter head 10 to have the increased dimensions described above without exceeding a desired weight of approximately 350 to 500 grams.

Throughout this specification and the claims which follow, unless the context requires otherwise the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated integer or step or group of integers or steps but not the exclusion of any other integer or step or group of integers or steps.

The reference to any prior art in this specification is not, and should not be taken as an acknowledgment or any form of suggestion that, that prior art forms part of the common general knowledge of Australia.

The claims defining the invention are as follows:

1. A golf putter head comprising:

a face member having a heel end, a toe end and a front surface arranged for impacting a golf ball;

a rear member extending in an arcuate path from the heel end to the toe end of said face member; and

first and second struts extending from said rear member to said face member and converging toward each other as they approach said face member.

2. The golf putter head of claim 1, further comprising a third strut extending from said rear member to said face member and lying between said first and second struts.

3. The golf putter head of claim 1, wherein said face member has an upper surface with a generally V-shaped marking thereon between the heel and toe ends, and wherein said V-shaped marking has one leg aligned with said first strut and another leg aligned with said second strut.

4. The golf putter head of claim 3, wherein said one leg of said V-shaped marking is aligned with an edge of said first strut, and wherein said another leg of said V-shaped marking is aligned with an edge of said second strut.

5. The golf putter head of claim 1, wherein said arcuate path extends substantially 180 degrees.

6. The golf putter head of claim 1, wherein said face member, said rear member and said struts are made of aluminum.

7. The golf putter head of claim 1, wherein said face member, said rear member and said struts are made of titanium.

8. The golf putter head of claim 1, wherein said putter head has a width between 4.0 and 12.0 inches measured between said heel and toe ends of said face member.

9. The golf putter head of claim 8, wherein said putter head has a width of 9.0 inches measured between said heel and toe ends of said face member.

10. The golf putter head of claim 1, wherein said putter head has a depth between 2.0 and 6.0 inches measured between the front surface of said face member and an outer surface of said rear member.

11. The golf putter head of claim 10, wherein said putter head has a depth of 4.5 inches measured between the front surface of said face member and an outer surface of said rear member.

12. The golf putter head of claim 2, wherein said first, second and third struts are arranged to define four triangularly shaped open spaces between said face member and said rear member.

13. The golf putter head of claim 1, wherein said putter head has a desired weight of approximately 350 to 500 grams.

14. A golf putter head substantially as hereinbefore described with reference to the drawings.

10

DATED this 11th day of June, 2004
KARSTEN MANUFACTURING CORPORATION
By Their Patent Attorneys
DAVIES COLLISON CAVE

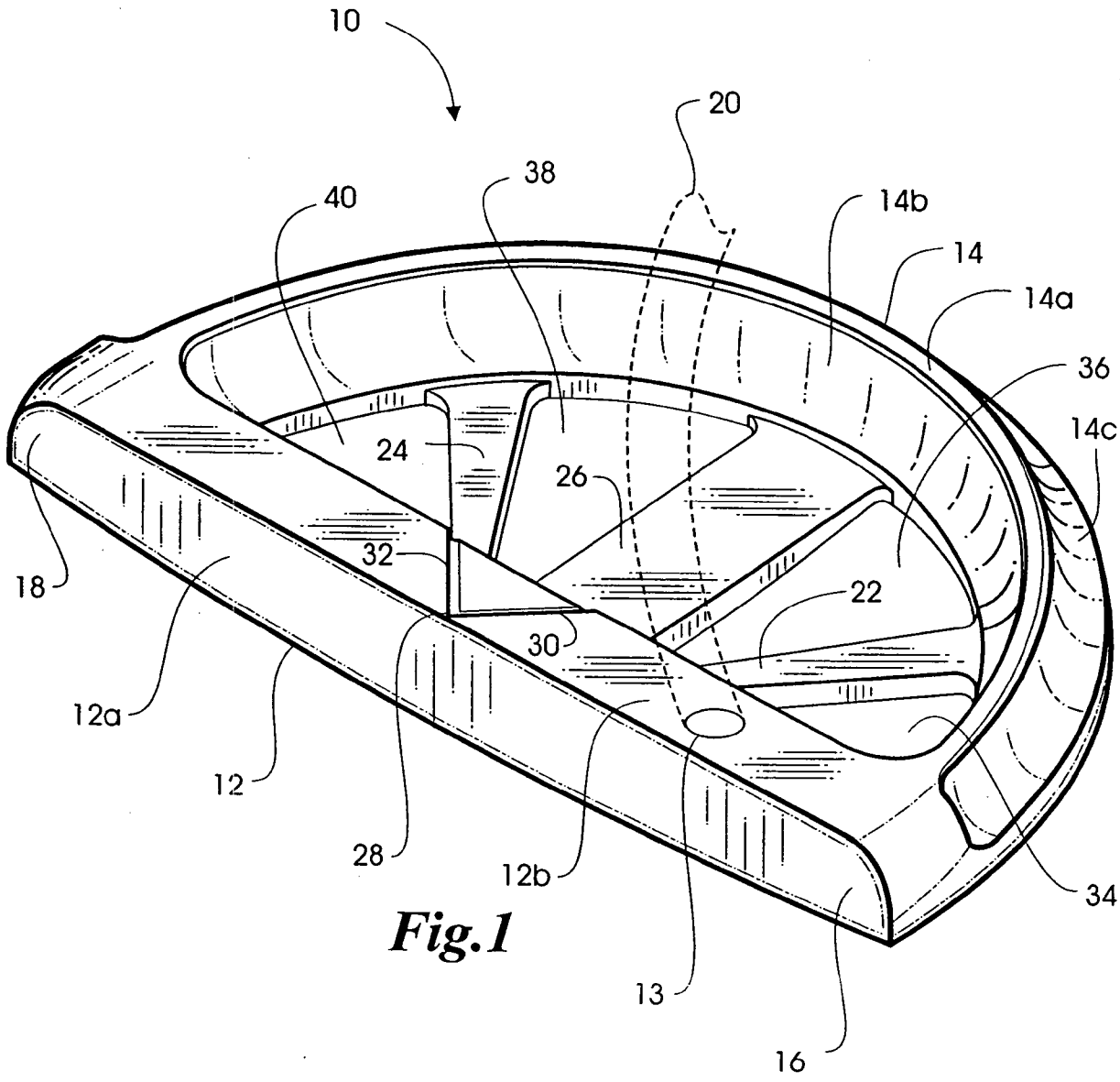

Fig.1

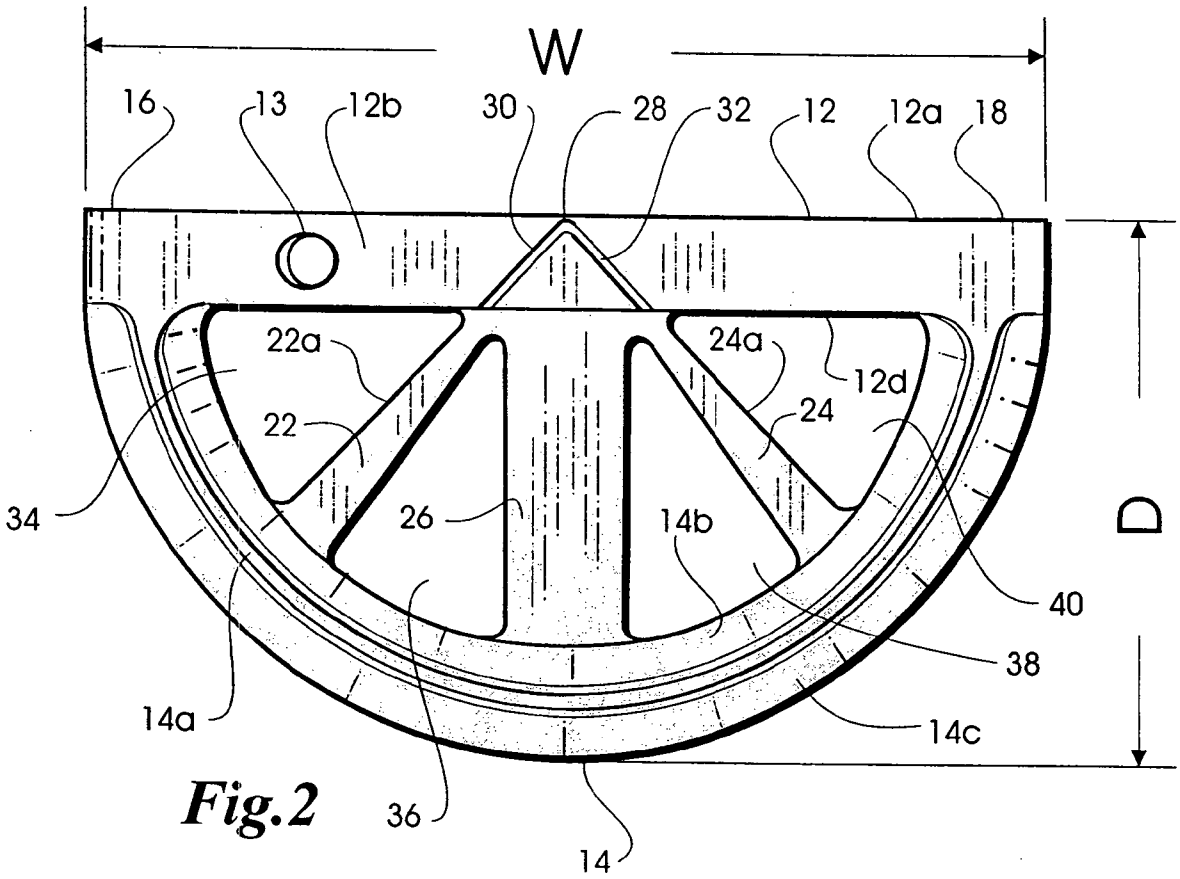
W
16
13
12b
30
28
32
12
12a
18
22a
24a
12d
22
24
34
26
14b
D
40
38
14a
14c
36
14

Fig.2

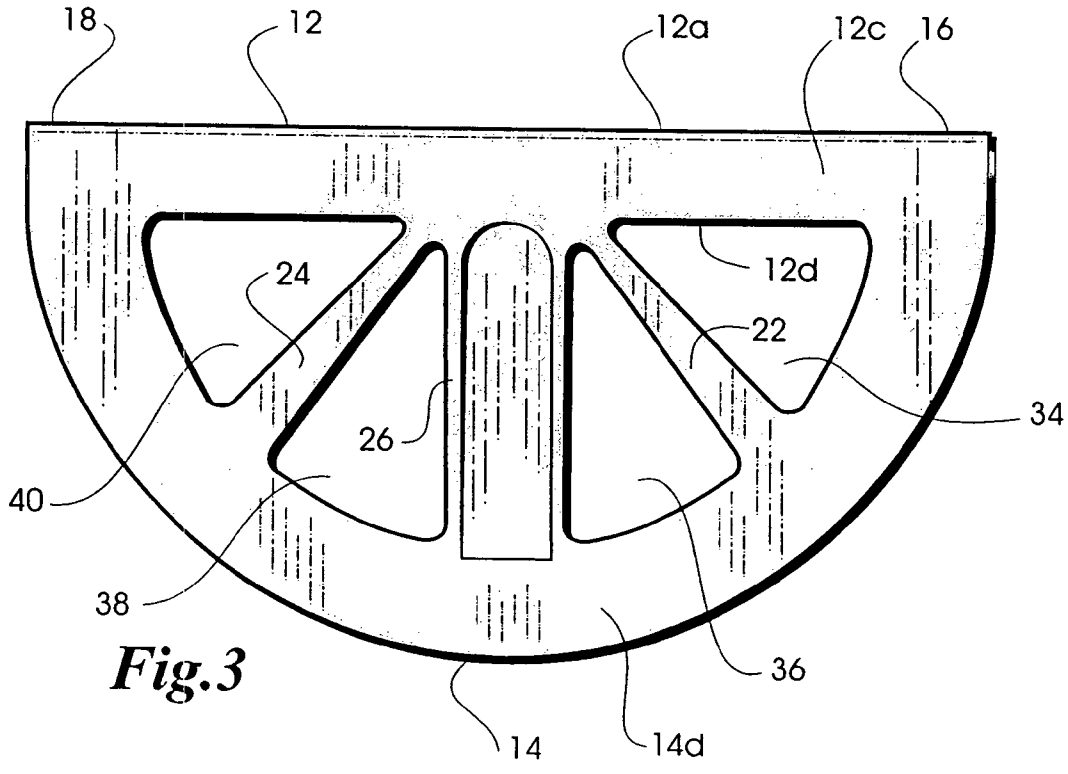
18
12
12a
12c
16
24
12d
22
34
26
40
38
36
14
14d

Fig.3