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[54] **PUTTER HEAD**

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[51] **Int. Cl.**..... **A63b 53/04**

[58] **Field of Search**..... 273/77 R, 78, 80 C, 164, 273/167–175

[56] **References Cited**

UNITED STATES PATENTS

807,224	12/1905	Vaile	273/80 C
1,154,490	9/1915	Davis	273/78
1,631,504	6/1927	Redman	273/80 C
1,705,997	3/1929	Quynn	273/78
3,042,405	7/1962	Solheim	273/78 X
3,574,349	4/1971	Kropp	273/80 C X
3,578,332	5/1971	Caldwell	273/78 X
D188,857	9/1960	Mospan	273/80 C UX
D204,000	3/1966	Lubin	273/167 D UX
D204,001	3/1966	Lubin	273/78 UX
D205,229	7/1966	Reed	273/167 D UX
D207,227	3/1967	Solheim	273/167 D UX
D222,752	12/1971	Cook	273/167 D UX
D222,753	12/1971	Cook	273/167 D UX
D228,396	9/1973	Cruger	273/78 UX

FOREIGN PATENTS OR APPLICATIONS

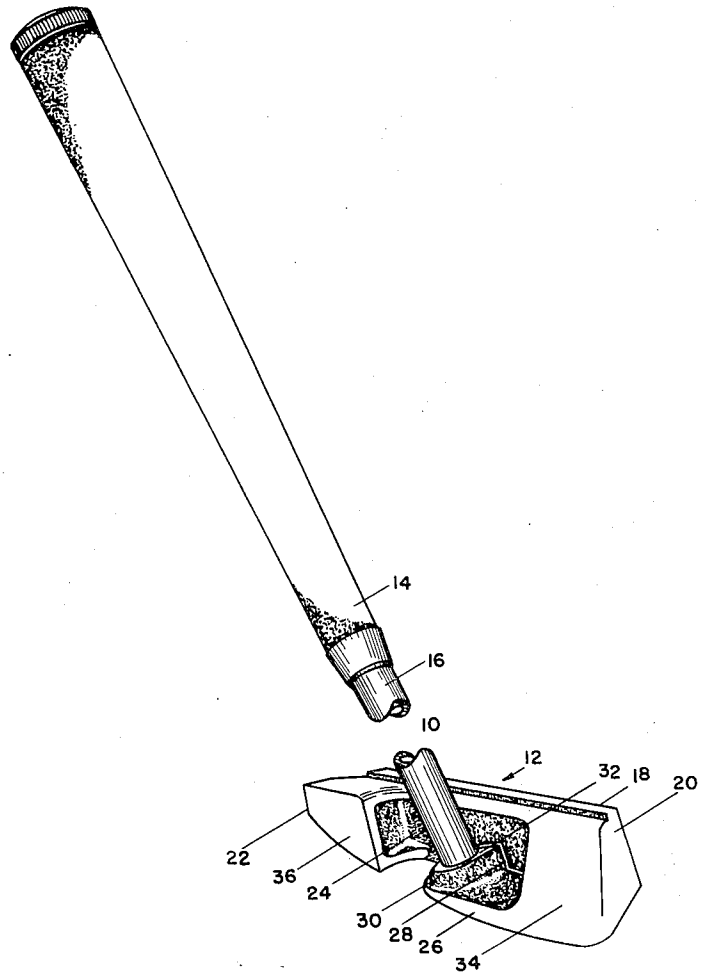
646,942	8/1962	Canada	273/78
379,032	8/1932	Great Britain	273/78
1,232,651	5/1971	Great Britain	273/80 C

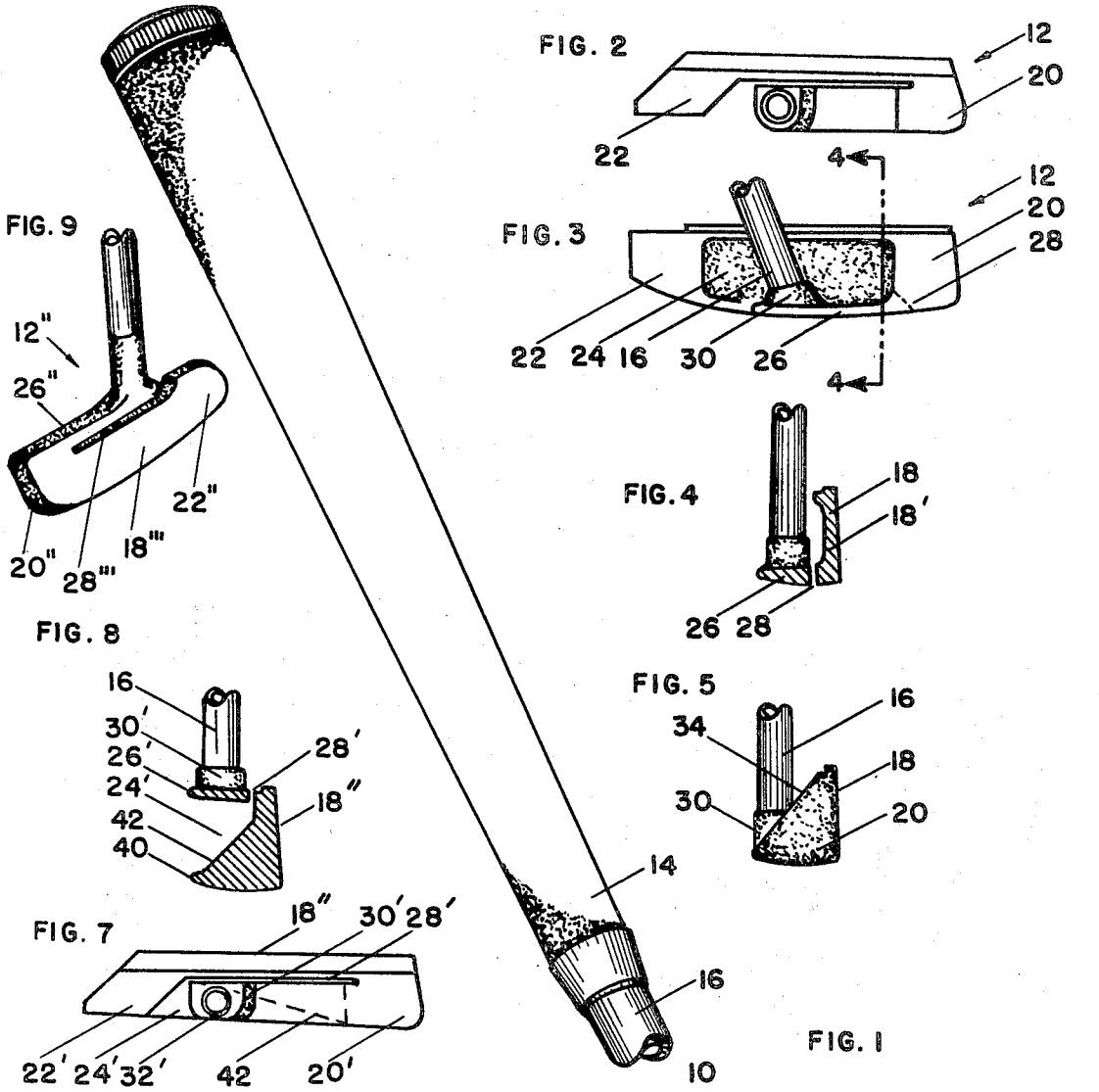
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[57] **ABSTRACT**

A golf putter having a grip, shaft and head; the head comprising a face with a toe portion at one end and a heel portion at the other; a support member cantilevered from one of those portions, extending in the direction of the other portion, and spaced from the face section; and means, on the support member, for interconnecting the support member and the shaft.

7 Claims, 9 Drawing Figures




FIG. 9
12"
26"
22"
20"
28"'
18"'
FIG. 8
16
30'
26'
24'
42
40
28'
18"
FIG. 7
18"
30'
28'
22'
24'
32'
42
20'
FIG. 6
16
8
12'
30'
18"
26'
28'
20'
22'
24'
42
40
8
14
16
10
FIG. 2
12
20
22
4
FIG. 3
12
20
28
22
24
16
30
26
4
FIG. 4
18
18'
26
28
FIG. 5
16
34
18
30
20
FIG. 1
12
32
18
20
22
36
24
30
28
26
34

PUTTER HEAD

FIELD OF INVENTION

The invention relates to a golf putter in which the shaft and striking face are interconnected by a cantilevered structure through either the toe or heel of the putter head.

BACKGROUND OF INVENTION

In the game of golf the differences in play between reaching the putting surface and play on the putting surface are diametrically opposed. The former is the game portion normally played by flying the ball and in distances measured by hundreds of yards from tee to green. Putting is reduced to rolling the golf ball on the turf in distances measured in feet and even inches. The average area of a putting green is between 5,000 and 8,500 square feet, making a putt of over 100 feet a rarity. The distance of a normal par 4 hole is generally 320–420 yards. The yardage needed in wood and iron shots requires the golfer to take the club to a shoulder height backswing in order to apply sufficient force to propel the ball lengthy distances. A putter is rarely moved past an 18 inch backswing. This difference in swing technique and in latitude in the design of putters defined by the rules of golf have led to a great number of putter configurations intended to improve the putter performance by varying such qualities as weight (both swing and dead), loft, shaft length and flex, grip, shaft positioning on the head, and head shape to name a few. The goal, however, is the same. The ability of the putter to provide the best means of producing a straight roll of the ball from the point of ball-to-putter contact to the cup.

In recent years it has been recognized that the proper weight distribution between the heel and toe of the putter enlarges the "sweet spot" (centroid area). The result is that with a putter with an enlarged centroid area a slightly mis-hit ball is not subject to the same distance and accuracy losses as would be the case with a standard club. Another approach was to put a slit behind the face between the heel and toe portion of the putter head. In another design the shaft joins the putter head heel in a roundabout manner.

SUMMARY OF INVENTION

It is therefore an object of this invention to provide an improved golf putter capable of producing a true and constant ball roll without skip or bounce.

It is a further object of this invention to provide a golf putter having improved damping characteristics.

It is a further object of this invention to provide such a golf putter which produces improved damping without overflex while enabling a good distribution of mass between the toe and heel and the main striking area of the putter face.

It is a further object of this invention to provide such a golf putter which produces a useful difference between the energy applied to a ball struck by the main striking area of the putter face and a ball struck by the heel or toe for permitting the player to adjust the effect of his stroke.

It is a further object of this invention to provide such a golf putter which maintains firmness and proper damping while being sufficiently light in weight to perform well on a fast green and heavy enough to perform well on a coarse green but not so heavy as to obscure the "feel" of its action for the player.

It is a further object of this invention to provide such a golf putter which permits a low center of gravity and connection of the shaft proximate the center of gravity.

The invention results from the realization that improved damping of a golf putter can be obtained without destroying the weight, balance and other important characteristics of the putter by using a cantilever structure to interconnect the striking face with the shaft, through the toe or heel.

The invention features a golf putter having a grip, shaft and head. The head includes a striking face with a toe portion at one end and a heel portion at the other. A support member cantilevered from one of the portions extends in the direction toward the other portion and is spaced from the face section. Means on the support member interconnect the support member and the shaft.

DISCLOSURE OF PREFERRED EMBODIMENT

Other objects, features and advantages will occur from the following description of a preferred embodiment and the accompanying drawings, in which:

FIG. **1** is an axonometric view showing a golf putter with a head having a cantilevered structure according to this invention;

FIG. **2** is a plan view of the putter head of FIG. **1** with the shaft removed;

FIG. **3** is a rear elevational view of the putter head of FIG. **1**;

FIG. **4** is a cross sectional view taken along lines **4—4** of FIG. **3**;

FIG. **5** is an end view of the putter head of FIG. **1** viewing from the toe toward the heel of the head;

FIG. **6** is a rear elevational view of a putter head similar to FIG. **1** but with the cantilevered support member proximate the top of the head;

FIG. **7** is a plan view of the putter head shown in FIG. **6**;

FIG. **8** is a cross sectional view taken along lines **8—8** of FIG. **6**; and

FIG. **9** is an axonometric view of an alternative putter head according to this invention with the support member spaced above the striking face.

The invention may be accomplished with a golf putter having a grip, shaft and head in which the head includes a striking portion or face having a toe at one end and a heel at the other. A cantilevered support member extending from the toe towards the heel is spaced from the striking face and includes means for engaging the end of the shaft. Typically the support member is laterally spaced from the striking face i.e. behind it. But the support member may as well be spaced above the striking face. The toe and heel portions extend rearward from the face of the putter and the main striking portion of the face is formed by a web like member which extends between the toe and heel portions. In one arrangement the cantilevered support member is interconnected with the toe and extends from the toe towards the heel in the area behind the sriking portion of the face but does not connect with the heel portion. Alternatively the cantilevered support member may be interconnected with the heel and extend toward the toe portion but not interconnect with the toe portion. The support member may extend behind the face along the

bottom of the head or the top of the head or any intermediate position or may extend above the head. The toe and heel portions may be increased or decreased in a rearward direction or in the direction parallel to the face of the club with concomitant decrease and increase, respectively, in the open area through which the support member extends.

In one embodiment, FIG. 1, a golf putter 10 is formed having a head 12 connected to a grip 14 by means of shaft 16. Head 12 includes a face section 18 having a toe portion 20 and heel portion 22 extending rearwardly from it forming an open area 24. Support member 26 cantilevered from toe portion 20 extends along the back of face portion 18 towards heel 22 but is separated from the back of face portion 18 by a slot 28. The length of support member 26 and the width of slot 28 may be varied to modify the stiffness and damping of the putter action. Some means, such as a raised shoulder portion 30 containing a bore 32 is provided for interconnecting support member 26 with shaft 16.

The size and shape of toe portion 20 and heel portion 22, FIG. 2, may be varied to adjust the weight and balance of head 12. While shaft 16, FIG. 3, may be made to interconnect with support member 26 anywhere along its length it is preferred that the interconnection, such as at shoulder 30, be made proximate the free end of support member 26. In addition it is desirable that shaft 16 engage shoulder 30 proximate the center of gravity of head 12. Striking face portion 18 resembles a web as shown at part 18' in FIG. 4 where is extends across open area 24 between toe 20 and heel 22. The shape and the weight of toe portion 20, FIG. 5, is made to be quite dissimilar from that of heel portion 22, as indicated by the beveled surface 34 formed on the rear of toe portion 20 as compared to the vertical surface 36, FIG. 1, formed at the rear of heel portion 22.

Although in FIGS. 1–5 support member 26 is illustrated as extending along the very bottom edge of head 12 this is not a limitation of the invention: support member 26 may be placed anywhere vertically so long as it is behind face portion 18. This is illustrated in FIG. 6 wherein like parts have been given like numbers and similar parts have been given like numbers primed with respect to FIGS. 1–5. In FIG. 6 head 12' includes a support member 26' which extends from the top of toe 20' rearward towards heel 22' through open area 24' behind striking face 18''. Toe 20' is interconnected with heel 22' by bottom section 40; however support member 26' which extends from toe portion 20' to heel portion 22' does not connect with heel portion 22' and is spaced from the back of face 18'' by slot 28', FIG. 7. For added weight and/or strength a bevelled section 42 may be added in open area 24'. Bevelled section 42 slants downwardly from the back of face 18'' to the rear of head 12' and downwardly from toe 20' to heel 22'. The relationship of section 42, member 40 and support member 26' may be better understood with respect to FIG. 8 where the cross sectional view has been modifed to the extend that the portion of head 12' such as heel portion 22' and other parts on the heel side of shaft 16 have been omitted for clarity.

Although in FIGS. 1–8 the support member is laterally spaced from the striking face i.e. it is behind the face with the slot vertical, this is not a necessary limitation for the support member may as well be spaced above the striking face with the slot horizontal as shown in FIG. 9. In FIG. 9 head 12'' includes a support member 26'' which extends from the top of toe 20'' rearward towards heel 22'' above striking face 18'''. Support member 26'' extends from toe portion 20'' to heel portion 22' does not connect with heel portion 22' and is spaced above striking face 18''' by slot 28'''. Additionally, the slot need not necessarily be horizontal e.g. it may slope in any particular direction. By adjusting the angle of the slot the firmness or softness of the putter may be controlled e.g. when the slot is vertical there is maximum softness, when the slot is horizontal there is maximum firmness. Any gradation between those two limits may be obtained by adjusting the angle of the slot. Further the slot need not be planar but may have a wave-like or other irregular contour. Although in FIGS. 1–9 the support member is shown cantilevered from the toe portion this is for illustration only as it may as well be cantilevered from the heel portion.

Other embodiments will occur to those skilled in the art and are within the following claims.

What is claimed is:

1. A golf putter having a grip, shaft and head, said head comprising:

a body section having a front face for striking the ball and a back surface behind said front face and a toe portion and a heel portion; each said portion being interconnected with said body section and at least one of said portions extending rearwardly beyond said back surface;

a support member, cantilevered from only one of said portions extending rearwardly beyond said back surface, and extending along said back surface behind said front face and spaced from said back surface to form an elongated slot between said back surface and said support member behind said front face and extending along said back surface in the direction of the extent of said front face between said toe and heel portions; and

means, on said support member and spaced from said portion from which said support member is cantilevered, for interconnecting said support member and said shaft.

2. The golf putter of claim 1 in which said support member is cantilevered from said toe portion.

3. The golf putter of claim 1 in which said support member is cantilevered from said heel portion.

4. The golf putter of claim 1 in which said means for interconnecting is disposed adjacent said back surface of said body section.

5. The golf putter of claim 1 in which said support member is disposed proximate the top of said head.

6. The golf putter of claim 1 in which said support member is disposed proximate the bottom of said head.

7. The golf putter of claim 1 in which the slot formed by the space between said support member and said body section is vertical.

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