



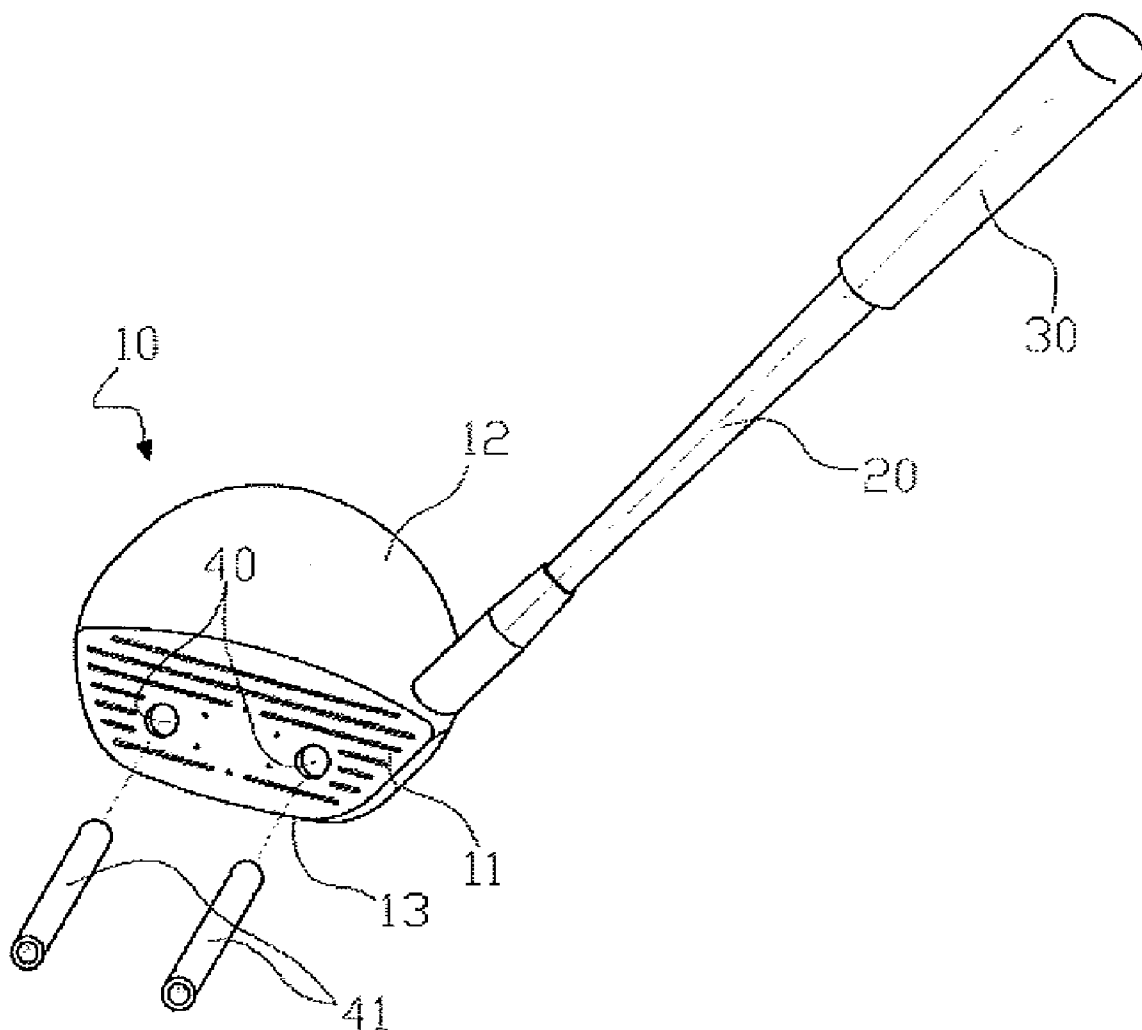
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JEONG(10) **Pub. No.: US 2007/0293341 A1**(43) **Pub. Date: Dec. 20, 2007**(54) **GOLF CLUB**(52) **U.S. Cl. 473/327**(76) Inventor: **Ji-Young JEONG**, Jeollabuk-do
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A63B 53/00 (2006.01)(57) **ABSTRACT**

Provided is a golf club for leisure and sports of a new concept which is an application of a golf game. More particularly, the golf club includes a head, a shaft and a grip in which the head has a plurality of air vent holes to reduce weight of the head to thereby shorten a flight distance of a golf ball when struck and in flight. Accordingly, an effect of saving a land can be obtained by reducing the golf club's head weight, in view of a practical use of the land, when a golf playing field is constructed. Particularly, the golf club enables leisure and sports of a new concept including a new golf playing method, to thereby lead to a popular base spread of the golf play, and to thus provide public effects of making use of people's spare moments such as recreational pastime and promoting fitness and welfare, by change of work situation such as five working days a week or change of social situation such as member's graying.



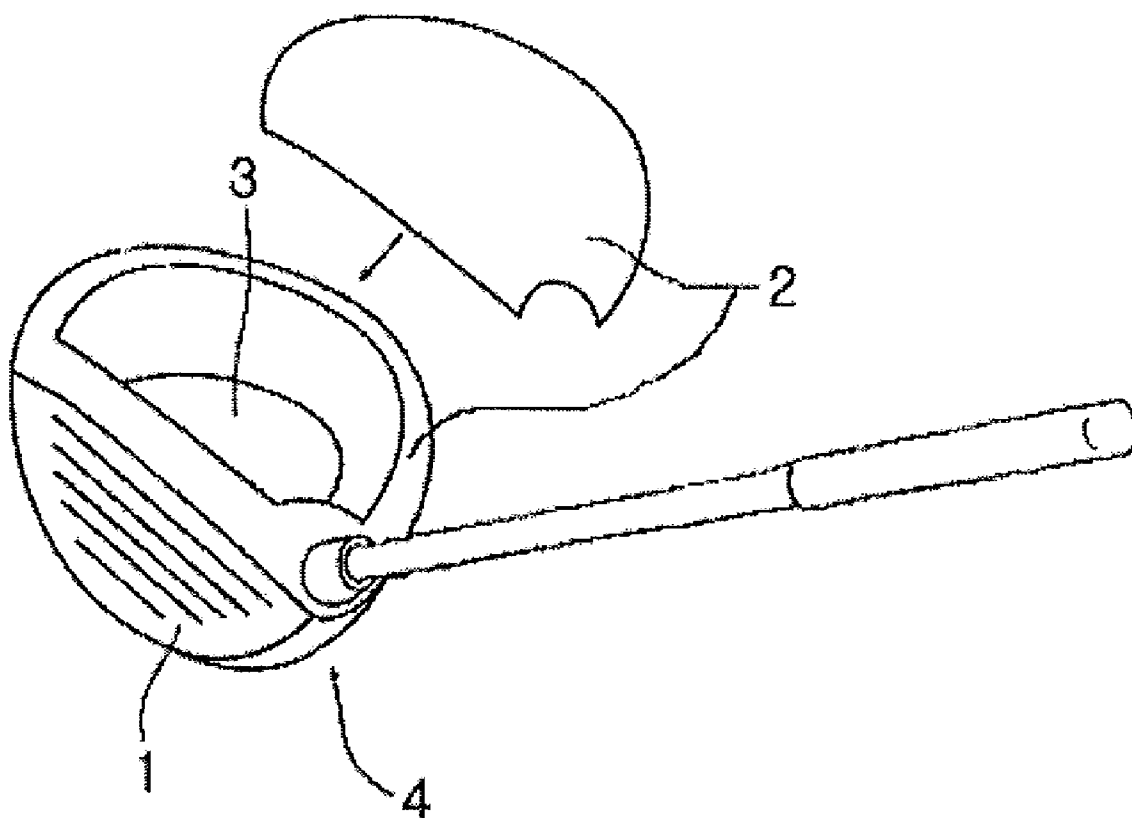


FIG. 1 (PRIOR ART)

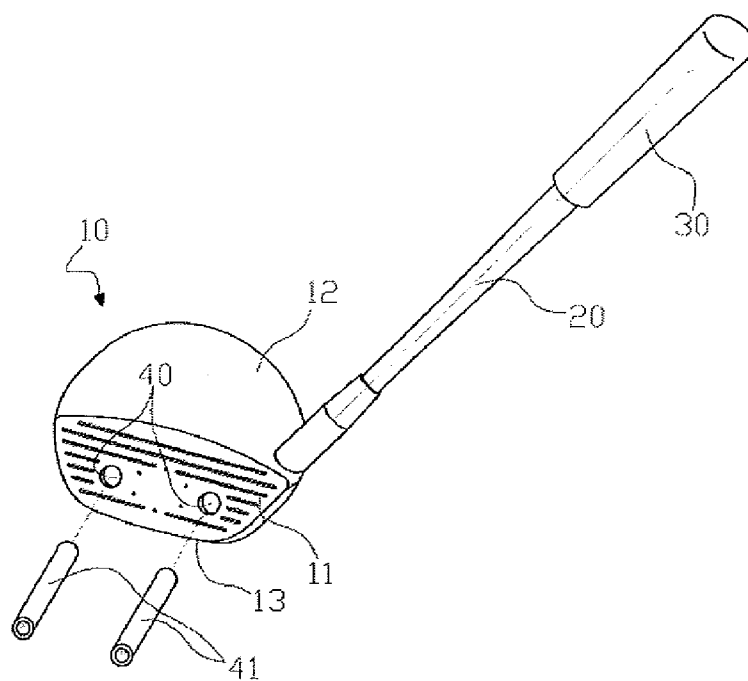


FIG. 2

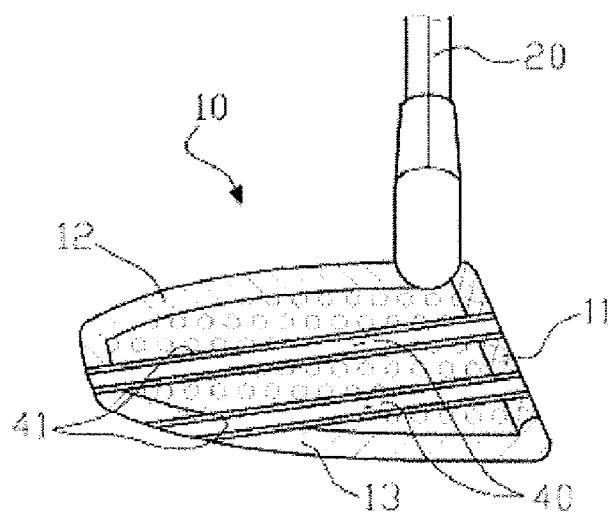


FIG. 3

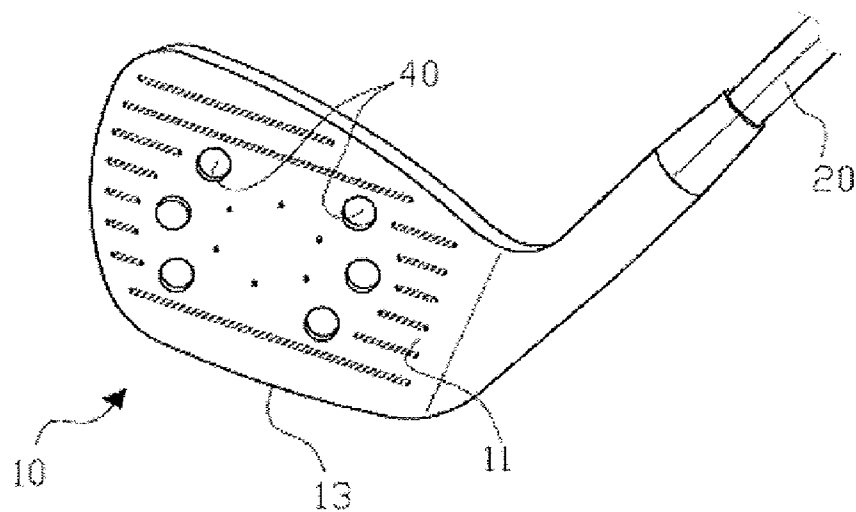


FIG. 4A

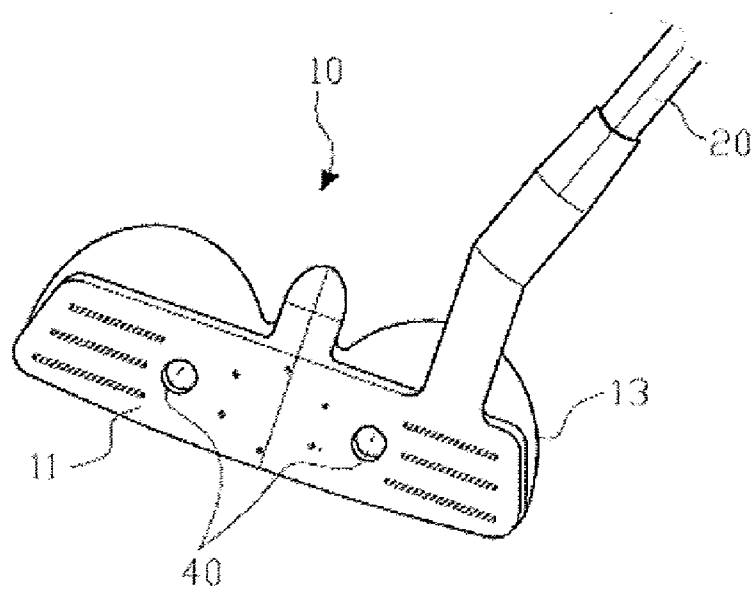


FIG. 4B

GOLF CLUB

CROSS-REFERENCE TO RELATED PATENT APPLICATION

[0001] This application claims the benefit of Korean Patent Application No. 10-2006-0054805, filed on Jun. 19, 2006, in the Korean Intellectual Property Office, the disclosure of which is incorporated herein in its entirety by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a golf club for leisure and sports of a new concept which is an application of a golf game, and more particularly, to a golf club which includes a head, a shaft and a grip in which the head has a plurality of air vent holes to reduce weight of the head to thereby shorten a flight distance of a golf ball when struck and in flight.

[0004] 2. Description of the Related Art

[0005] In general, as is well known, golf clubs are classified into three kinds of 'Wood', 'Iron', and 'Putter' according to shape and quality of the material of a head which is used to strike a golf ball, respectively. These three kinds of golf clubs have respectively different usage and functions. Accordingly, golfers can be allowed to follow rules of golf games so as to select a golf club which is fit in circumstance during playing a golf game. Therefore, golf clubs are core factors to accomplish golfer's technique which is displayed during playing a golf game, and golf club's performance has a close interrelation with golfer's scores.

[0006] General techniques developed regarding golf clubs taking into account the above-described situation, lean to vanguard materials or manufacturing methods of golf clubs in order to secure a maximum flight distance of a struck golf ball and make the struck golf ball drop correctly at a target site. For example, Korean Laid-open Patent Publication No. 2005-85378 (29 Aug. 2005), which is hereinafter called conventional art, discloses a "golf club and a method of designing the same" for improving a flight distance of a golf ball. According to the structure of the conventional golf club with reference to FIG. 1, the conventional golf club includes a hollow head 4 having a face portion 1, a crown portion 2 and a sole portion 3, in which a conversion hardness ratio of the smaller hardness ratio in terms of the greater hardness ratio of respective conversion hardness of the crown portion 2 and the sole portion 3 becomes 0.75 or below.

[0007] The conventional technology provides a golf club which can reduce a back spin to thus enlarge a striking angle, and provides an effect of improving a flight distance of a golf ball when struck and in flight. But, in the case of the conventional technology for increasing a flight distance of a golf ball, as the flight distance becomes longer, a wider and longer land should be prepared to make a golf course capable of prolong the flight distance. As a result, the conventional art cannot solve the defect of accelerating encroachment of the land such as forest or field, because a wider space must be secured. Of course, the conventional golf club should be designed and developed after taking into account the regulations about golf clubs in order to prevent the essence of golf games from changing by development of equipment such as golf clubs. However, in the case of the conventional golf club, alteration of shape or form of the

golf club is nothing but a narrow limit. In addition, in the case of the conventional golf club, it is substantially difficult to judge whether or not a degree of improvement of performance that increases a flight distance of a golf club violates the regulations about golf clubs. Further, in the case of the conventional golf club cannot solve fundamental problems that cost incurred for constructing golf-playing facilities and maintenance fees thereof are burdensome in order to increase the flight distance of golf balls.

SUMMARY OF THE INVENTION

[0008] To solve the above problems of the conventional art, it is an object of the present invention to provide a golf club which includes a head, a shaft and a grip in which the head has a plurality of air vent holes to reduce weight of the head to thereby shorten a flight distance of a golf ball when struck and in flight.

[0009] It is another object of the present invention to provide a golf club which can shorten a flight distance of a golf ball when struck and in flight, to thereby solve a problem of land encroachment for constructing a golf playing field, and to thus lead to a popular base spread of a golf play through new conceptive leisure and sports employing an application of a golf game method.

[0010] To accomplish the above objects of the present invention, there is provided a golf club comprising a head, a shaft and a grip wherein the head comprises a plurality of air vent holes, to thereby reduce the total weight of the golf club and diminish an effect of a striking power of the golf club due to friction with air passing through the air vent holes when swing and weight of the golf club.

[0011] Preferably but not necessarily, each air vent hole has an identical diameter in a linear form from the front portion and the rear portion of the air vent hole and perforates from a face of the head to a crown or sole of the head, in which annular insertion tubes are inserted into and integrated with the head through the inner circumferential surfaces of the perforated air vent holes, respectively.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] The above and other objects and advantages of the present invention will become more apparent by describing the preferred embodiment thereof in more detail with reference to the accompanying drawings in which:

[0013] FIG. 1 is an exploded perspective view schematically illustrating a conventional golf club;

[0014] FIG. 2 is an exploded perspective view schematically illustrating a golf club according to a preferred embodiment of the present invention;

[0015] FIG. 3 is a perspective view cut along a line "A-A" of FIG. 2; and

[0016] FIGS. 4A and 4B are perspective views respectively illustrating a golf club's head according to an exemplary embodiment of the present invention, in which FIG. 4A illustrates an iron head and FIG. 4B illustrates a putter's head.

DETAILED DESCRIPTION OF THE INVENTION

[0017] A golf club according to an exemplary embodiment of the present invention will be described below in detail with reference to the accompanying drawings.

[0018] FIG. 2 is an exploded perspective view schematically illustrating a golf club according to a preferred embodiment of the present invention. As shown in FIG. 2, the golf club according to a preferred embodiment of the present invention includes a head 10 which forms a striking surface, a shaft 20 which forms the overall length of the golf club, and a grip 30 which corresponds to a handle. As illustrated in FIGS. 4A and 4B, golf clubs are classified into three kinds of 'Wood', 'Iron', and 'Putter' according to shape and quality of the material of a head 10 which is used to strike a golf ball, respectively. Specially, the golf club of this invention includes a plurality of air vent holes 40 in the head 10, to thereby reduce weight of the head in the golf club.

[0019] That is, the golf club according to the preferred embodiment of the present invention has been invented considering an interrelation between a head speed made by swing a golf club and a flight distance of a golf ball when struck and in flight. In other words, the golf club is formed of a technical structure, that is, air vent holes 40, in order to reduce a flight distance of a struck golf ball on the basis of an experimental result that a head speed of a golf club is proportional to a weight or mass of a head in the golf club at the state where other conditions are equal.

[0020] In general, the head 10 of the golf club includes a face 11 contacting a golf ball, a crown 12 forming an external shape and a sole 13 forming the center of gravity for improving a sense of security and a flight distance. As shown in FIG. 3, the air vent holes 40 which are provided in the head 10 of the golf club are made in a linear form, respectively. That is, each air vent hole 40 perforates from a face 11 of the head 10 to a crown 12 or sole 13 of the head 10. The shape of each air vent hole 40 may be variously implemented into a circular form or other polygonal form. For example, the diameter of each air vent hole 40 is same in a linear form from the front portion and the rear portion of the air vent hole 40, as illustrated in FIG. 3.

[0021] In addition, it is preferable that annular insertion tubes 41 are inserted into and inserted into and integrated with the head 10 through the inner circumferential surfaces of the perforated air vent holes 40, respectively. The annular insertion tubes 41 make air smoothly flow through the air vent holes 40, respectively. Further, the annular insertion tubes 41 are made of a material which prevents the inner corrosion of the head 10 due to rainwater, dew, etc., which flows through the air vent holes 40 with air at rainfall, to thereby play a role of improving corrosion resistance and durability.

[0022] The function of the golf club having the above-described structure according to the preferred embodiment of the present invention will be described with reference to the accompanying drawings.

[0023] As illustrated in FIGS. 2, 4A and 4B, the golf club according to the preferred embodiment of the present invention includes a head 10 having air vent holes 40 in all kinds of 'Wood', 'Iron' or 'Putter' golf clubs. Accordingly, since weight of the head 10 itself can be reduced, a striking power applied at the moment of striking a golf ball by the head 10 from the peak height when back swing the golf club for striking the golf ball, is sharply decreased. As a result, a flight distance of the struck golf ball is finally reduced.

[0024] In particular, the air vent holes 40 which are perforated in a circular or polygonal shape increase a friction area between the head 10 of the golf club and air when swing the golf club. Further, since the weight of the head 10 is decreased, a force which is converted into a repelling power

is reduced at the moment when the face 11 in the head 10 of the golf club strikes the golf ball. Accordingly, the flight distance of the struck golf ball is reduced.

[0025] Here, the insertion tubes 41 according to the preferred embodiment of the present invention are inserted into and integrated with the air vent holes 40 whose inner surfaces are finished neatly, and made of a material which prevents the inner corrosion of the air vent holes 40 formed in the head 10 due to rainwater at rainfall, dew which is formed on the grass of the golf playing field, etc., which flows through the air vent holes 40 with air, to thereby play a role of improving corrosion resistance and durability. That is, the insertion tubes 41 according to the preferred embodiment of the present invention make rainwater at rainfall, dew which is formed on the grass of the golf playing field, etc., which is introduced into the inner portion of the air vent holes 40 flow through the inner surface of the air vent holes 40 to then be easily discharged out, and to thereby prevent corrosion by moisture remaining in the air vent holes 40. As a result, durability of the head 10 in the golf club is enhanced.

[0026] As described above, the present invention has been described with respect to a particularly preferred embodiment. However, the present invention is not limited to the above embodiment, and it is possible for one who has an ordinary skill in the art to make various modifications and variations, without departing off the spirit of the present invention.

[0027] As described above, the present invention provides a golf club including a head, a shaft and a grip in which the head has a plurality of air vent holes to reduce weight of the head of the golf club to thereby shorten a flight distance of a golf ball when struck and in flight. Accordingly, an effect of saving a land can be obtained in proportion to as much as a relatively shortened flight distance obtained by reducing the golf club's head weight, when a golf playing field is constructed. As a result, the present invention provides an effect of preventing waste of unnecessary land for constructing a golf playing field.

[0028] Specially, the golf club according to the present invention enables leisure and sports of a new concept including a new golf playing method, and does not only have excellent corrosion resistance and durability but also reduces a production cost, to thereby lead to a popular base spread of the golf play, and to thus provide public effects of making use of people's spare moments such as recreational pastime and promoting fitness and welfare, by change of work situation such as five working days a week or change of social situation such as member's graying.

What is claimed is:

1. A golf club comprising: a head; a shaft; and a grip, wherein the head comprises a plurality of air vent holes, a golf club comprising a head, a shaft and a grip wherein the head comprises a plurality of air vent holes, each air vent hole of which diameter is same in a linear form from the front portion and the rear portion of the air vent hole and which perforates from a face of the head to a crown or sole of the head, and wherein annular insertion tubes are inserted into and integrated with the head through the inner circumferential surfaces of the perforated air vent holes, respectively.

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