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(54) **ELASTIC GOLF CLUB AND CLUB HEAD THEREOF**

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(57) **ABSTRACT**

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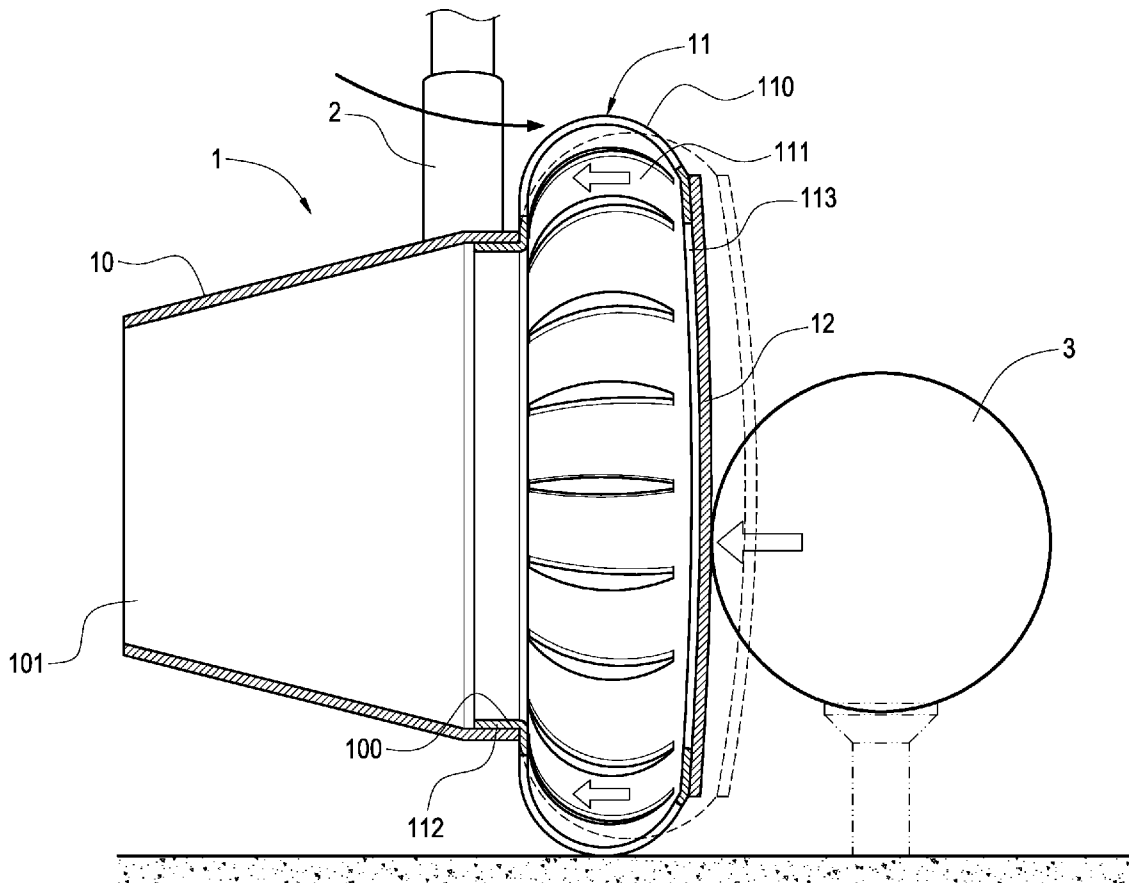
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For a golf club and a club head are provided, the golf club includes a club head and a rod extended from the top of the club head, and the club head includes a hollow club head body, an elastic structure having a hollow circular body, and a striking plate installed at a front end of the elastic structure. The club head body has a joint opening coupled to a rear end of the elastic structure, and the elastic structure has a plurality of ditches extended axially and arranged with an interval apart from each other on the circular surrounding surface of the elastic structure for facilitating a formation of a plurality of elastic ribs on the circular surrounding surface of the elastic structure, such that the elastic structure having the ditches and elastic ribs allows a golfer to strike a golf ball to a farther target position by the club head.



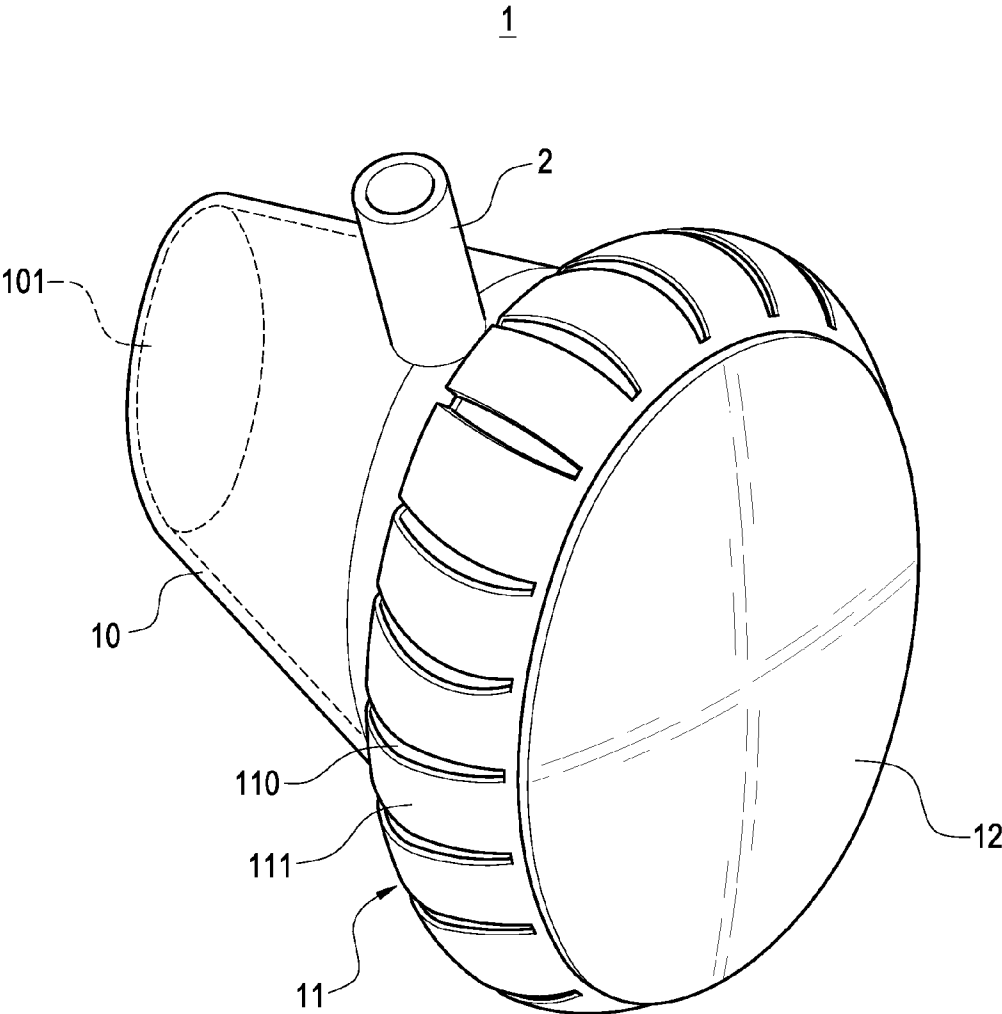


FIG.1

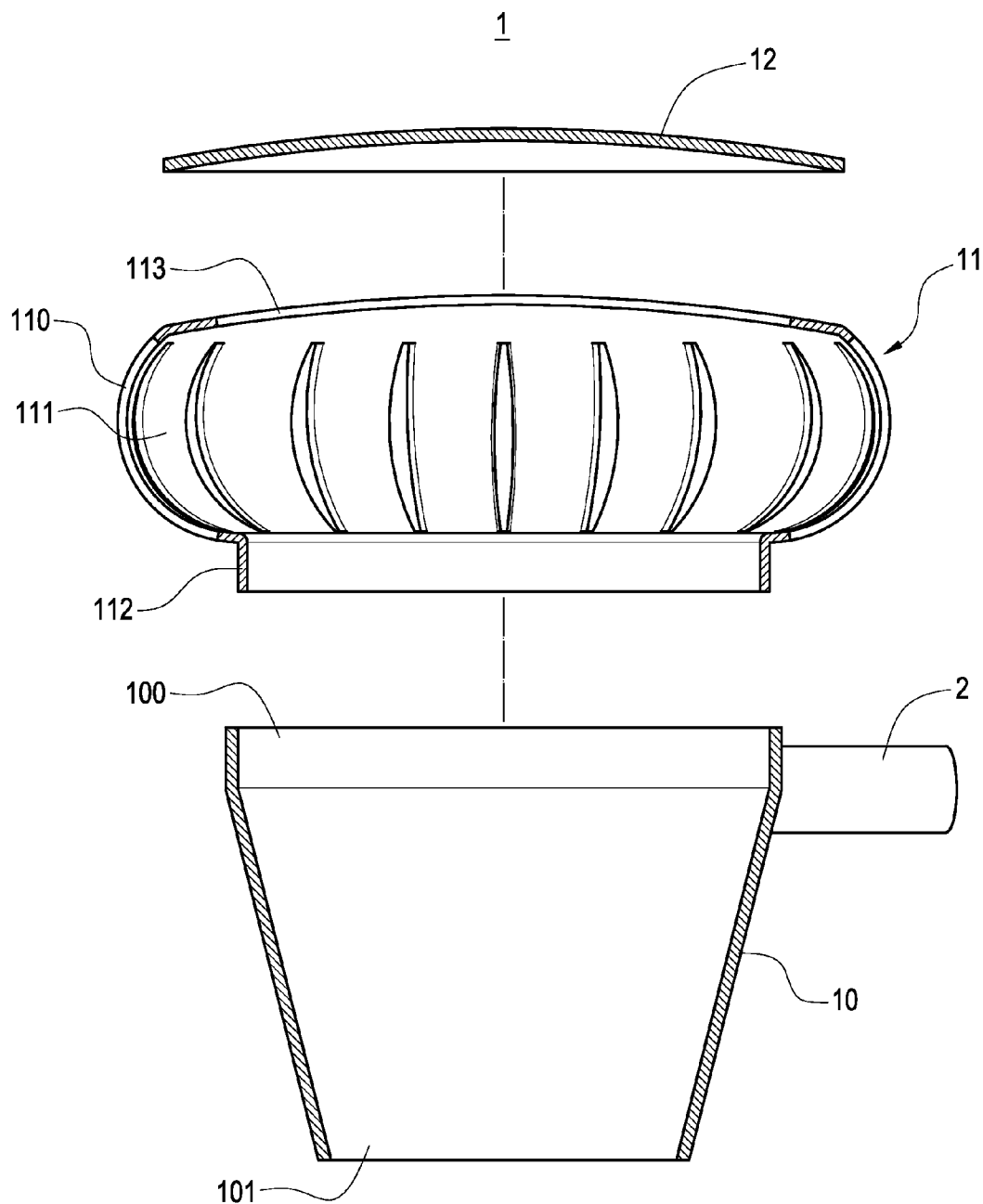


FIG.2

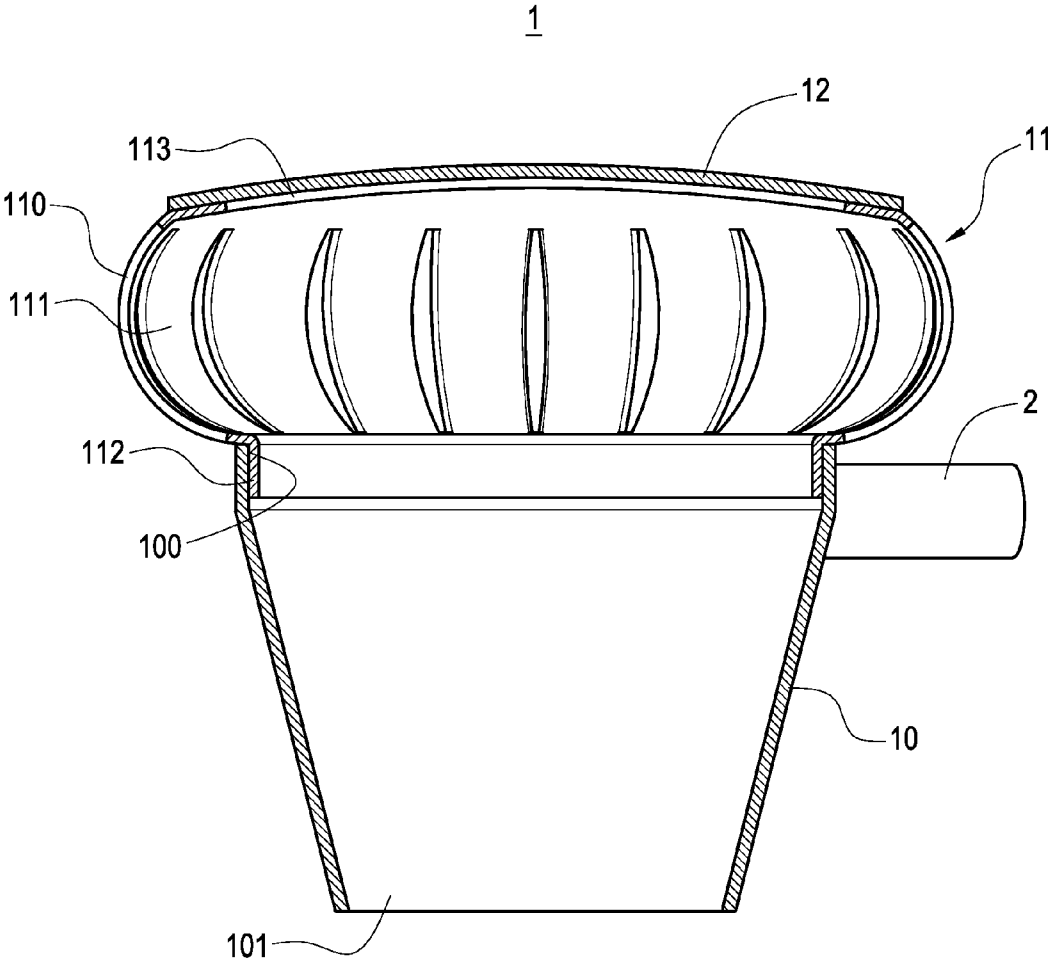


FIG.3

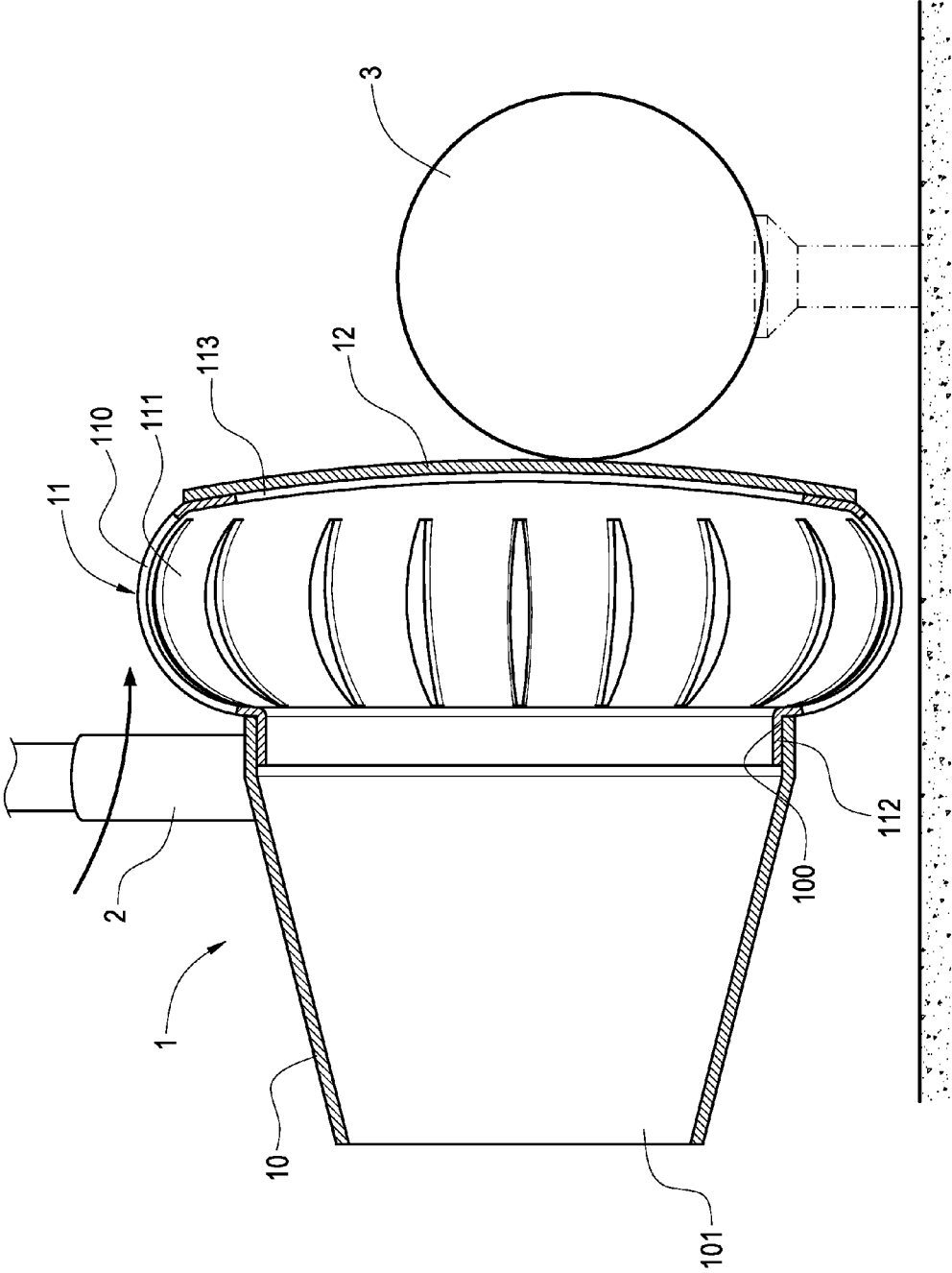


FIG.4

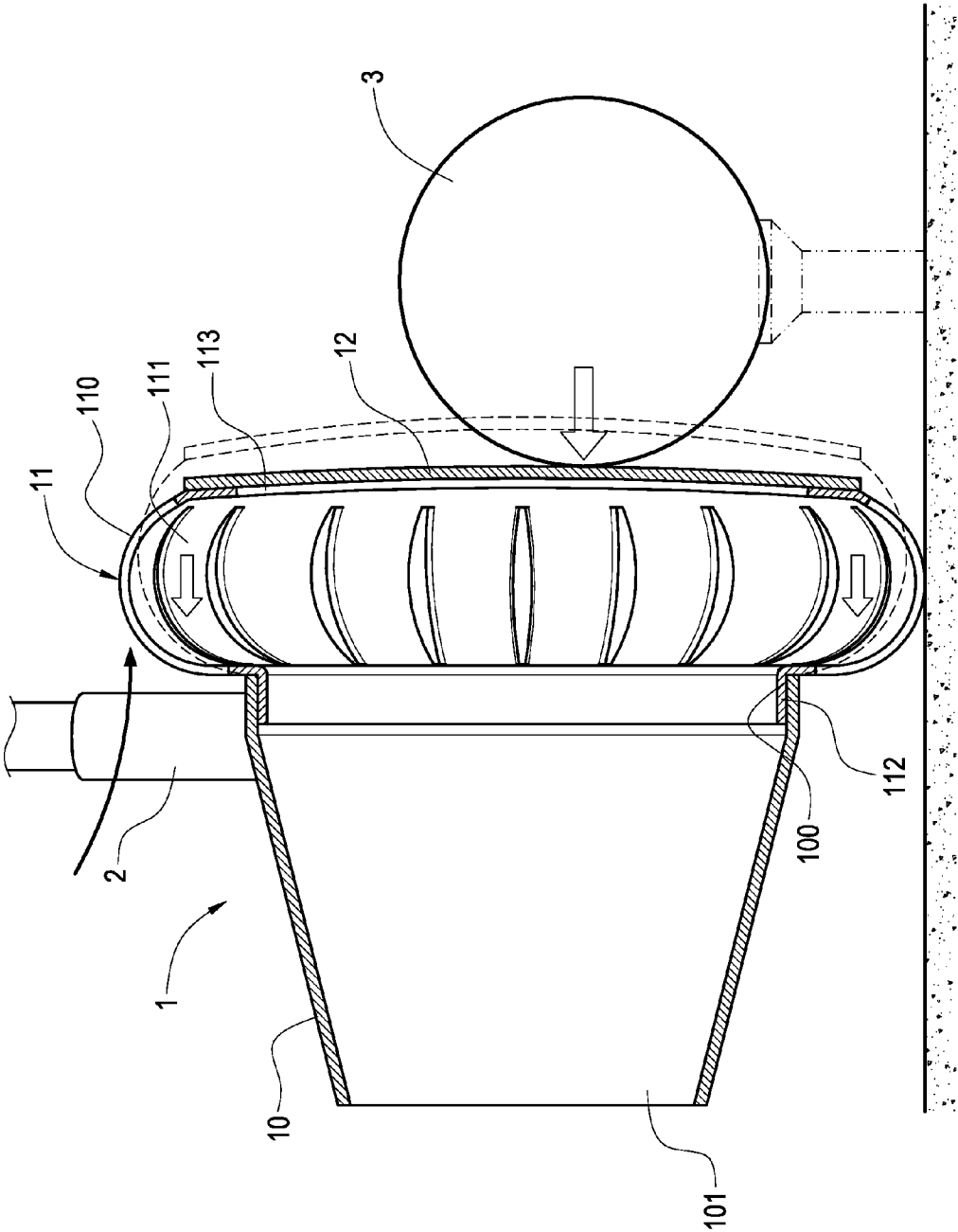


FIG.5

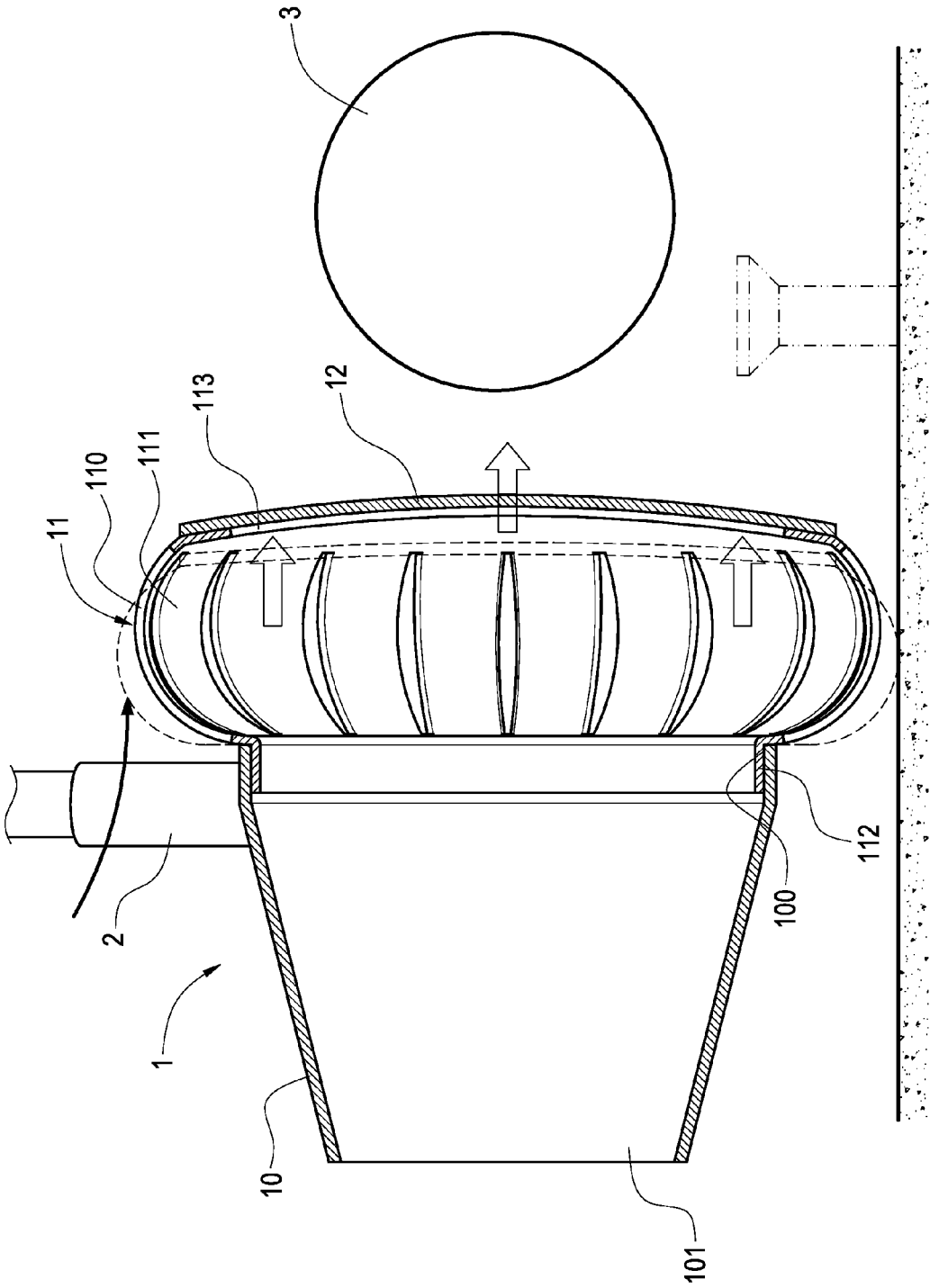


FIG.6

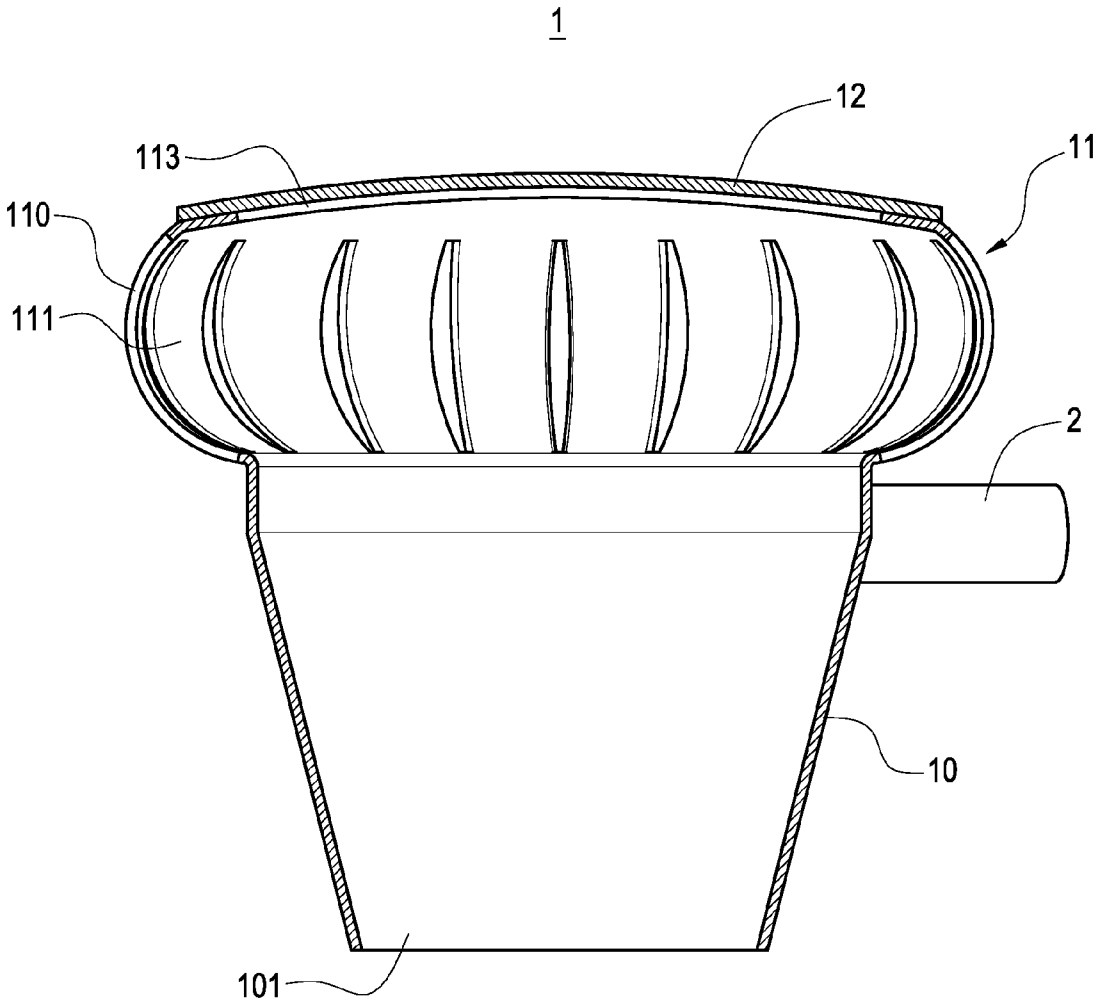


FIG.7

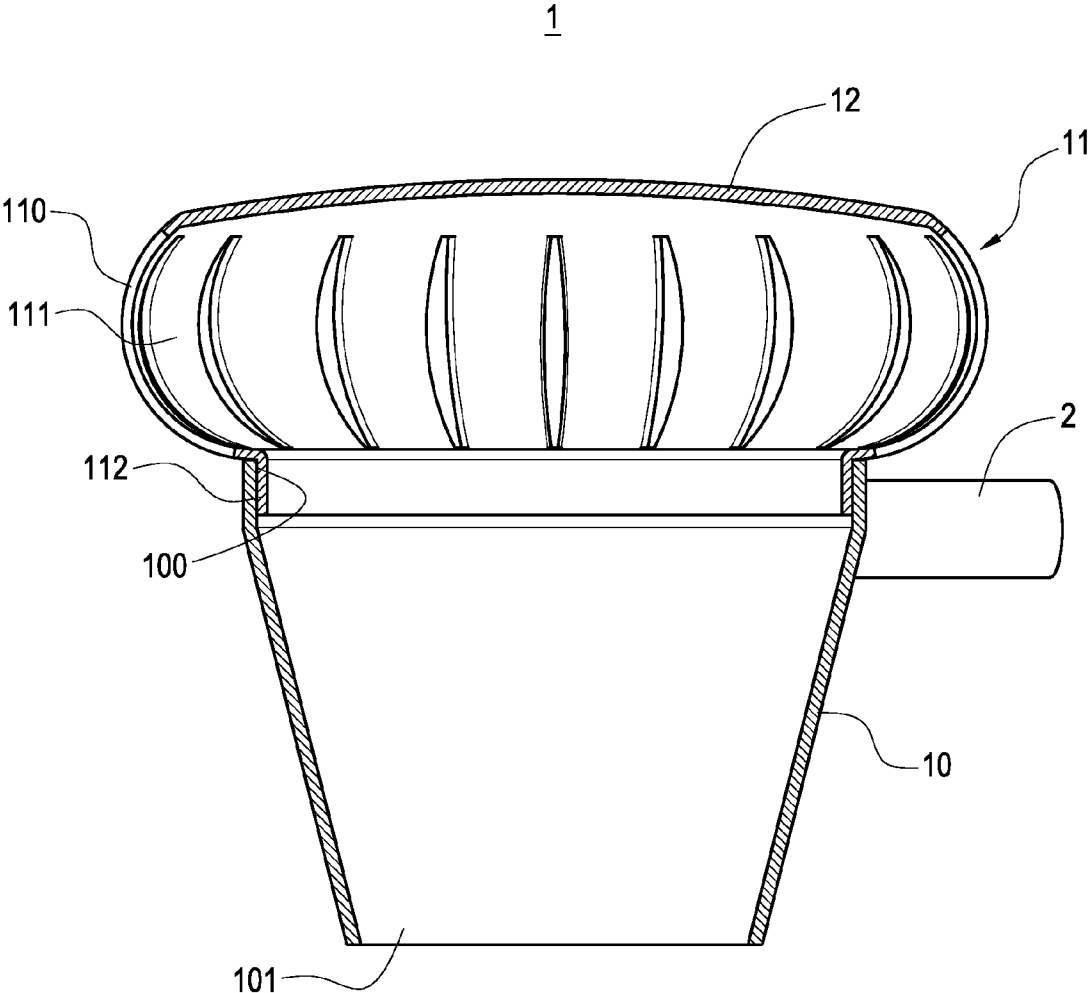


FIG.8

ELASTIC GOLF CLUB AND CLUB HEAD THEREOF

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention generally relates to golf equipments, and more particularly to a golf club and its club head.

[0003] 2. Description of Prior Art

[0004] As golf is a game of which a golfer hits a golf ball into each hole of a golf course, and the golfer usually has to control the force of striking and driving the golf ball to a desired position, and attempt to hit the ball into each hole with the fewest number of strokes for a high score. When a golf ball is still situated at a position far away from the hole, the golfer has to aim precisely at the hole while striking the ball, and also attempts to strike the ball as hard as possible to drive the golf ball as close as possible to the hole in order to minimize the number of strokes.

[0005] To make the golf sport a leisure activity and allow golfers to enjoy the fun of the game, particularly to achieve an even-par or under-par score easily, the golf clubs are manufactured with a structural design capable of striking the golf ball to a farther position. For example, a club head of an elastic device is disclosed in Taiwan Patent. No. 258932 as shown in FIG. 3, and the club head comprises a basic device, a surface device and an adaptive device, wherein the surface device and the adaptive device are connected, and the adaptive device comes with an elastic structure having another end wound around an external periphery and integrally coupled with the basic device, such that when the surface device is struck, a vertical extension and contraction can be maintained to provide a sufficient contractible distance between the basic device and the surface device. With the elastic adaptive device, an elastic force can be provided for striking a golf ball, such that the golf ball can be struck to a farther target position.

[0006] As disclosed in the aforementioned patent, the adaptive device and the surface device are integrated as a whole, so that a deformation produced by the adaptive device is relatively limited, and the elastic force is also limited. As a result, a golfer is unable strike the golf ball to a far position by using such golf club.

[0007] In view of the shortcomings of the prior art, the inventor of the present invention based on years of experience in the related field to conduct extensive researches and experiments, and finally developed an elastic golf club and its club head in accordance with the present invention to overcome the shortcomings of the prior art.

SUMMARY OF THE INVENTION

[0008] Therefore, it is a primary objective of the present invention to provide an elastic golf club and its club head, wherein an elastic structure with a plurality of ditches arranged around the periphery of the elastic structure is provided for producing a greater deformation of the elastic structure when the club head hits a golf ball, and providing a better elastic force for striking the golf ball, so that golfers can gain an even-par or better score easily and enjoy the game.

[0009] Another objective of the present invention is to provide an elastic golf club and its club head, capable of absorbing vibrations produced by striking a golf ball by a club head to reduce the golfer's uncomfortable feeling while striking the golf ball.

[0010] To achieve the foregoing objective, the present invention provides an elastic club head comprising a hollow club head body, an elastic structure with a hollow circular body, and a striking plate installed at a front end of the elastic structure, wherein the club head body includes a joint opening coupled to a rear end of the elastic structure, and the elastic structure includes a plurality of ditches extended axially and arranged with an interval apart from each other on a circular surrounding surface of the elastic structure for facilitating the formation of a plurality of elastic ribs on the circular surrounding surface of the elastic structure. Each elastic rib can produce a greater deformation to release a greater elastic force for striking the golf ball, so as to achieve the aforementioned objective.

[0011] To achieve the foregoing objective, the present invention provides an elastic golf club further comprising a rod extended from a side of the club head to constitute the golf club.

BRIEF DESCRIPTION OF DRAWINGS

[0012] FIG. 1 is a perspective view of the present invention;

[0013] FIG. 2 is a planar exploded view of the present invention;

[0014] FIG. 3 is a planar view of a structure of the present invention;

[0015] FIG. 4 is a schematic view of a status of the present invention before a golf ball is struck;

[0016] FIG. 5 is a schematic view of a status of the present invention while a golf ball is being struck;

[0017] FIG. 6 is a schematic view of a status of the present invention after a golf ball is struck;

[0018] FIG. 7 is a planar view of a structure in accordance with another preferred embodiment of the present invention; and

[0019] FIG. 8 is a planar view of a structure in accordance with a further preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0020] The technical characteristics, features and advantages of the present invention will become apparent in the following detailed description of the preferred embodiments with reference to the accompanying drawings. The drawings are provided for reference and illustration only, but not intended for limiting the present invention.

[0021] With reference to FIGS. 1 to 3 for a perspective view, a planar exploded view and a planar view of a structure of the present invention respectively, the present invention provides an elastic golf club and its club head, wherein the golf club comprises a club head 1, and a rod 2 extended from the top of a side of the club head 1, and the club head 1 further comprises a club head body 10, an elastic structure 11, and a striking plate 12. With the elastic structure 11 installed between the club head body 10 and the striking plate 12, the elastic structure 11 produces a deformation when the striking plate 12 hits a golf ball 3, so as to provide an elastic force to assist striking the golf ball 3 (as shown in FIG. 4 or 5).

[0022] The club head body 10 is hollow, and has two distal openings interconnected with each other, a joint opening 100 formed at an end of the club head body 10, and an open mouth 101 formed at another end of the club head body 10 and disposed at a position corresponding to the joint opening 100, wherein the joint opening 100 is provided for coupling the elastic structure 11, and the open mouth 101 is provided for

interconnecting the interior of the club head body **10** with the outside, such that when the elastic structure **11** is hit or compressed, air inside the elastic structure **11** is discharged to the outside to avoid a resistance produced by a pressure difference.

[0023] The elastic structure **11** is a hollow circular body and includes an elastic structure, a plurality of ditches **110** extended axially and arranged with an interval apart from each other on a circular surrounding surface of the elastic structure for facilitating the formation of a plurality of elastic ribs **111** on the circular surrounding surface of the elastic structure **11**, and each elastic rib **11** is extended outwardly into a curved shape, so that the elastic structure **11** can be deformed and compressed easily when the elastic structure **11** is hit. With a greater deformation, a greater elastic force can be released to strike the golf ball **3** to a farther target position. In addition, a circular neck **112** is disposed at a rear end of the elastic structure **11** and sheathed and coupled into the joint opening **100** of the club head body **10**, and an opening **113** is formed at a front end of the elastic structure **11** and provided for the striking plate **12** to cover onto the opening **113** of the elastic structure **11**. The club head body **10** can be integrally formed with the elastic structure **11** (as shown in FIG. 7), or the striking plate **12** can be integrally formed at a front end of the elastic structure **11** (as shown in FIG. 8).

[0024] By the aforementioned assembly, the elastic golf club and its club head in accordance with the present invention can be achieved.

[0025] With reference to FIG. 4, when a golfer swings the club, and the striking plate **12** hits the golf ball **3**, an impact force is exerted onto the elastic structure **11**, such that each elastic rib **111** is deformed by the impact force, while the surface of the striking plate **12** is also deformed by the impact of the golf ball **3**. In FIG. 5, the elastic structure **11** of the present invention includes the ditches **110** and elastic ribs **111**, such that each elastic rib **111** is pressed backward when the striking plate **12** is hit, and the formation of each ditch **110** provides sufficient space for the deformation of each elastic rib **111**. The greater the deformation produced by each elastic rib **111**, the greater is the released elastic force. If each elastic rib **11** releases elastic force as shown in FIG. 6, the elastic force will push the striking plate **12**, while the striking plate **12** also provides a pushing force by its deformation to drive the golf ball **3** to a farther target position, so as to provide a greater yardage easily.

[0026] Since the elastic structure **11** also provides a shock absorbing effect, the elastic structure **11** absorbs vibrations produced by the golfer who strikes the golf ball, so as to reduce the golfer's uncomfortable feeling when striking the golf ball.

[0027] In summation of the description above, the present invention provides an innovative product capable of achieving the expected functions, overcoming the shortcomings of the prior art, and complying with the patent application requirements, and thus the present invention is duly filed for patent application.

[0028] The present invention is illustrated with reference to the preferred embodiment and not intended to limit the patent scope of the present invention. Various substitutions and modifications have suggested in the foregoing description,

and other will occur to those of ordinary skill in the art. Therefore, all such substitutions and modifications are intended to be embraced within the scope of the invention as defined in the appended claims.

What is claimed is:

1. An elastic golf club head, comprising:

a club head body, being a hollow body and having a joint opening;

an elastic structure, being a hollow circular body, and a rear end of the elastic structure being coupled to the joint opening of the club head body, and the elastic structure having a plurality of ditches extended axially and arranged with an interval apart from each other on a surrounding surface of the elastic structure circular, for facilitating a plurality of elastic ribs to be formed on the circular surrounding surface of the elastic structure; and a striking plate, installed at a front end of the elastic structure.

2. The elastic golf club head of claim 1, wherein the club head body further includes an open mouth interconnected with the joint opening, and disposed at a position opposite to the joint opening.

3. The elastic golf club head of claim 1, wherein the elastic structure includes a circular neck disposed at a rear end of the elastic structure, for sheathing and coupling the joint opening of the club head body.

4. The elastic golf club head of claim 1, wherein the club head body is integrally formed with the elastic structure.

5. The elastic golf club head of claim 1, wherein the elastic structure includes an opening formed at a front end of the elastic structure, and the striking plate is covered onto the opening of the elastic structure.

6. The elastic golf club head of claim 1, wherein the striking plate is integrally formed at a front end of the elastic structure.

7. The elastic golf club head of claim 1, wherein each elastic rib of the elastic structure is extended outwardly into a curved shape.

8. An elastic golf club, comprising a club head, and a rod extended from a side of the club head, and the club head further comprising:

a club head body, being hollow inside and having a joint opening;

an elastic structure, being a hollow circular body, and a rear end of the elastic structure being coupled to the joint opening of the club head body, and a plurality of ditches being extended axially and arranged with an interval apart from each other on a circular surrounding surface of the elastic structure, for facilitating a formation of a plurality of elastic ribs on the circular surrounding surface of the elastic structure; and

a striking plate, installed at a front end of the elastic structure.

9. The elastic golf club of claim 8, wherein the club head body further includes an open mouth interconnected to the joint opening, and disposed at a position corresponding to the joint opening.

10. The elastic golf club of claim 8, wherein the elastic structure includes a circular neck disposed at a rear end of the elastic structure for sheathing into the joint opening of the club head body.

11. The elastic golf club of claim 8, wherein the club head body is integrally formed with the elastic structure.

12. The elastic golf club of claim 8, wherein the elastic structure includes an opening formed at a front end of the elastic structure, and the striking plate is covered onto the opening of the elastic structure.

13. The elastic golf club of claim 8, wherein the striking plate is integrally formed at a front end of the elastic structure.

14. The elastic golf club of claim 8, wherein each elastic rib of the elastic structure is extended outwardly into a curved shape.

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