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(54) **GOLF SHOE**

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(57) **ABSTRACT**

Related U.S. Application Data

(63) Continuation of application No. 12/412,027, filed on Mar. 26, 2009, now abandoned.

A golf shoe is disclosed comprising an upper portion coupled to a sole. The upper portion of the shoe is sized to receive a foot. The sole may have a front portion and a rear portion. The rear portion may have an elevation that is greater than the elevation of the front portion such that, when worn by a golfer, the heel of the foot is elevated above the toes of the foot.

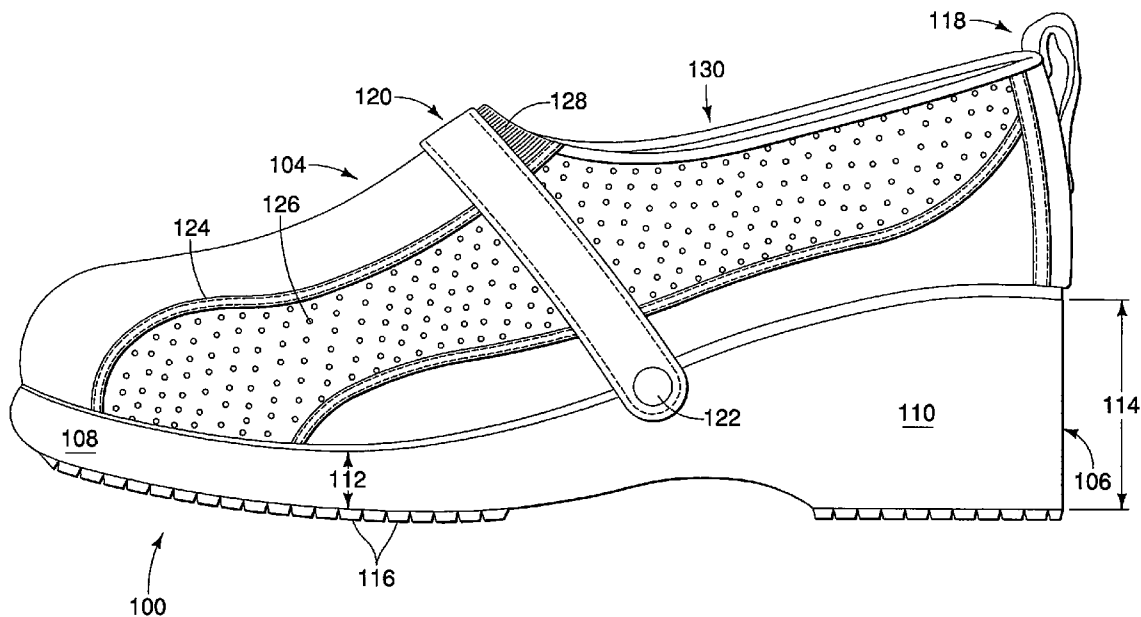


FIG. 1

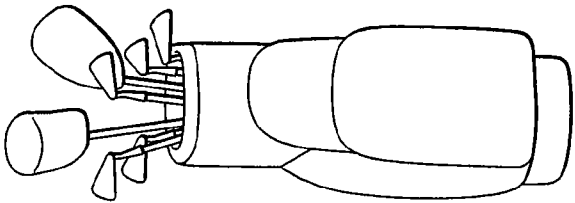
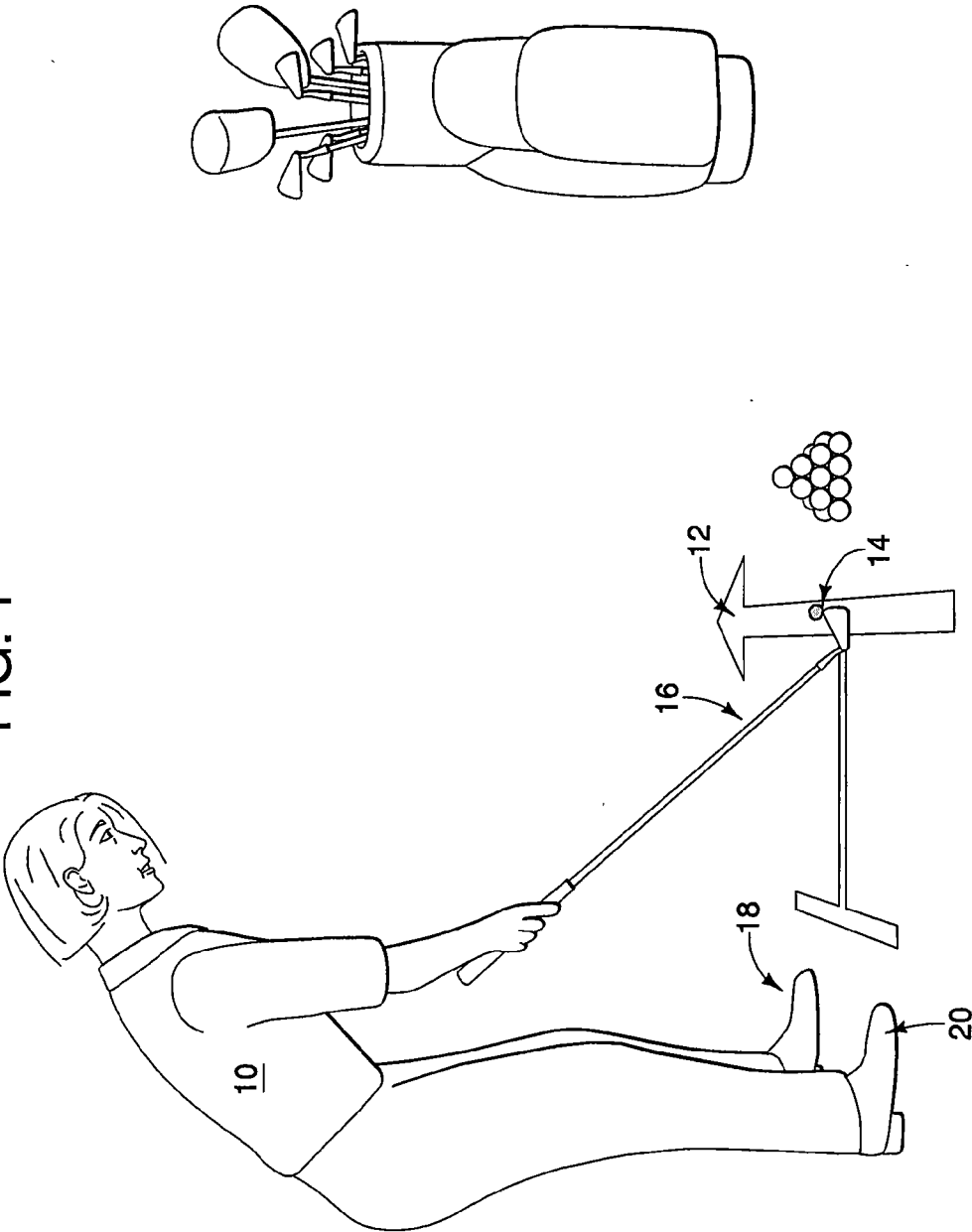


FIG. 2

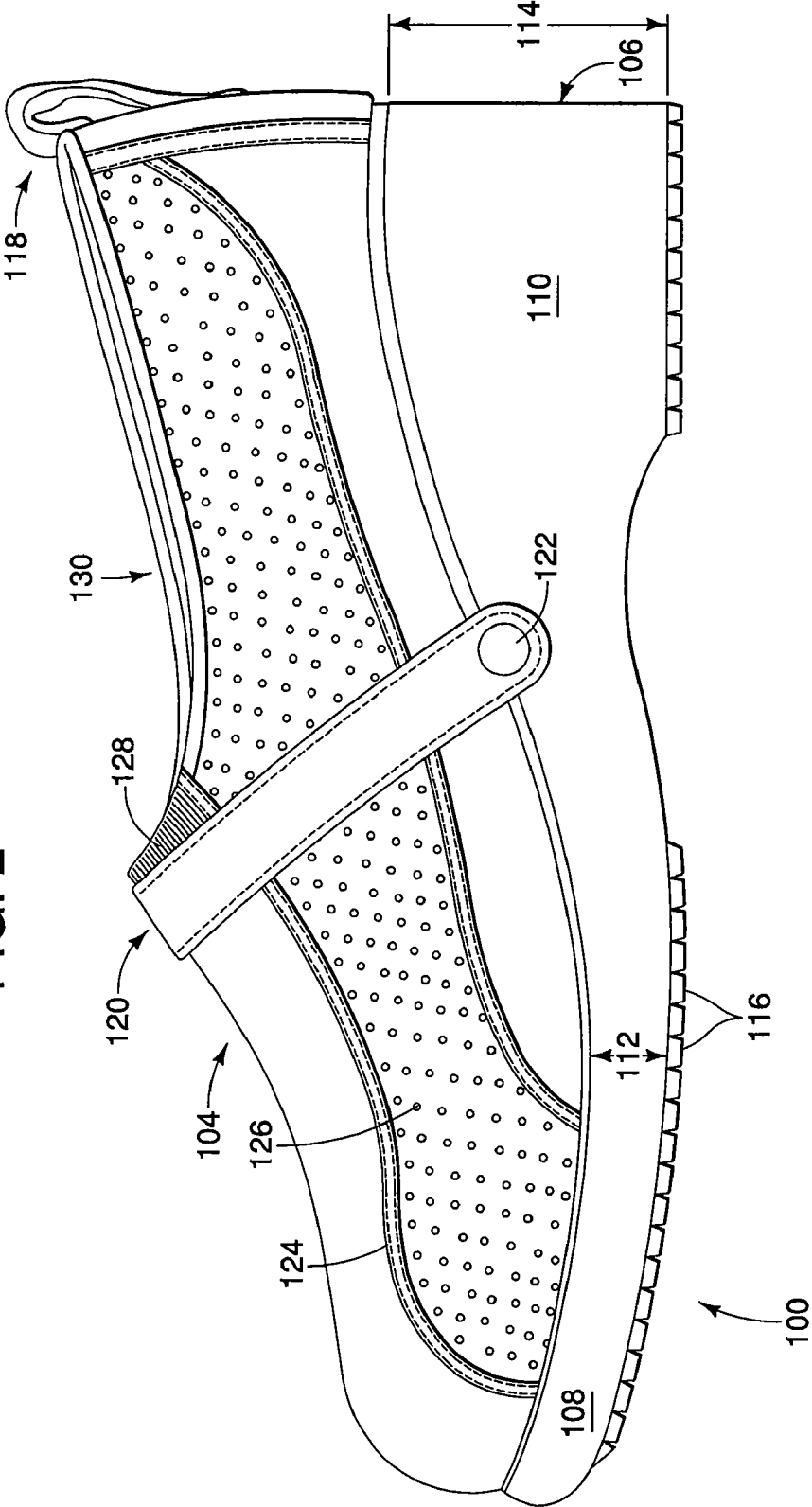
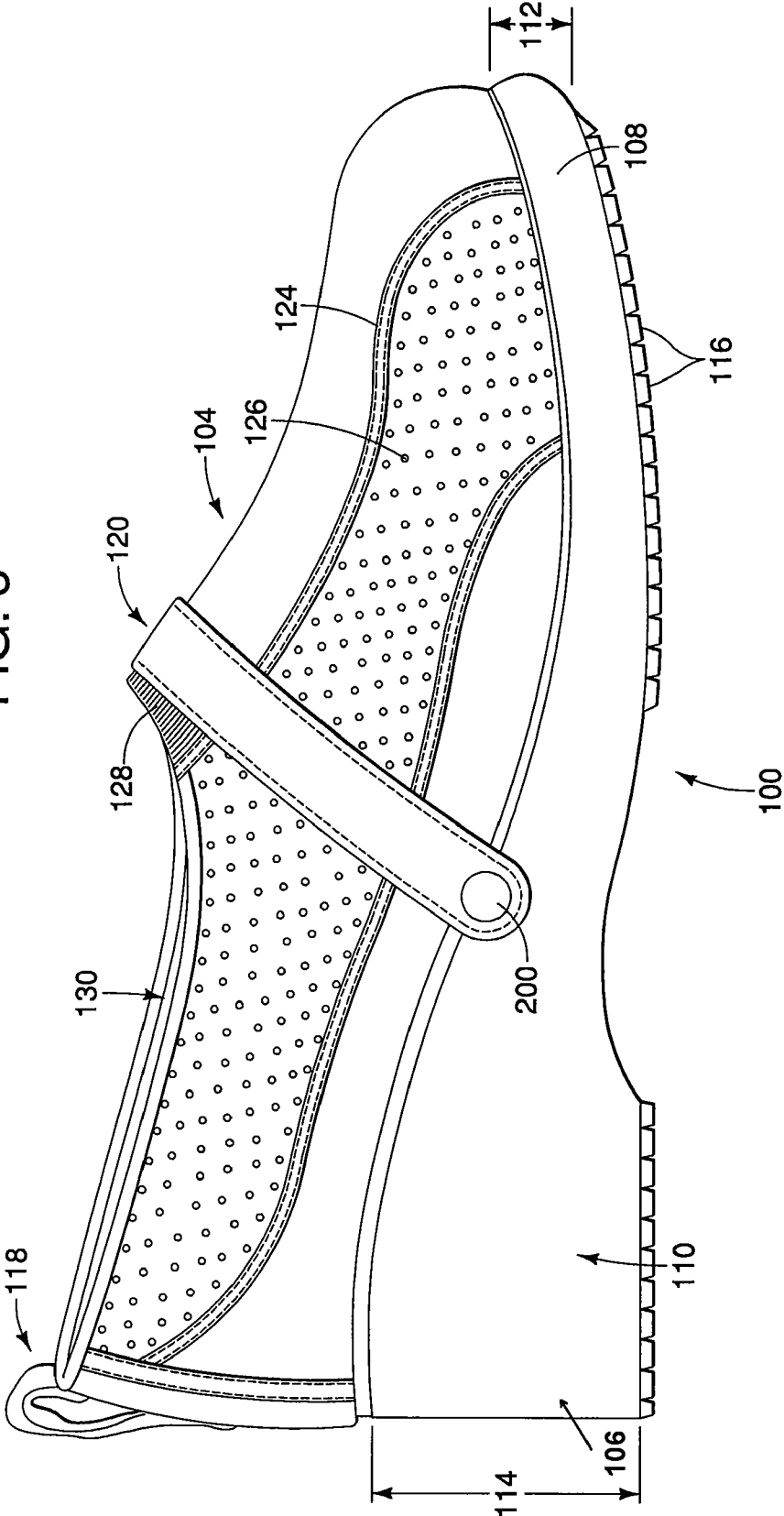


FIG. 3



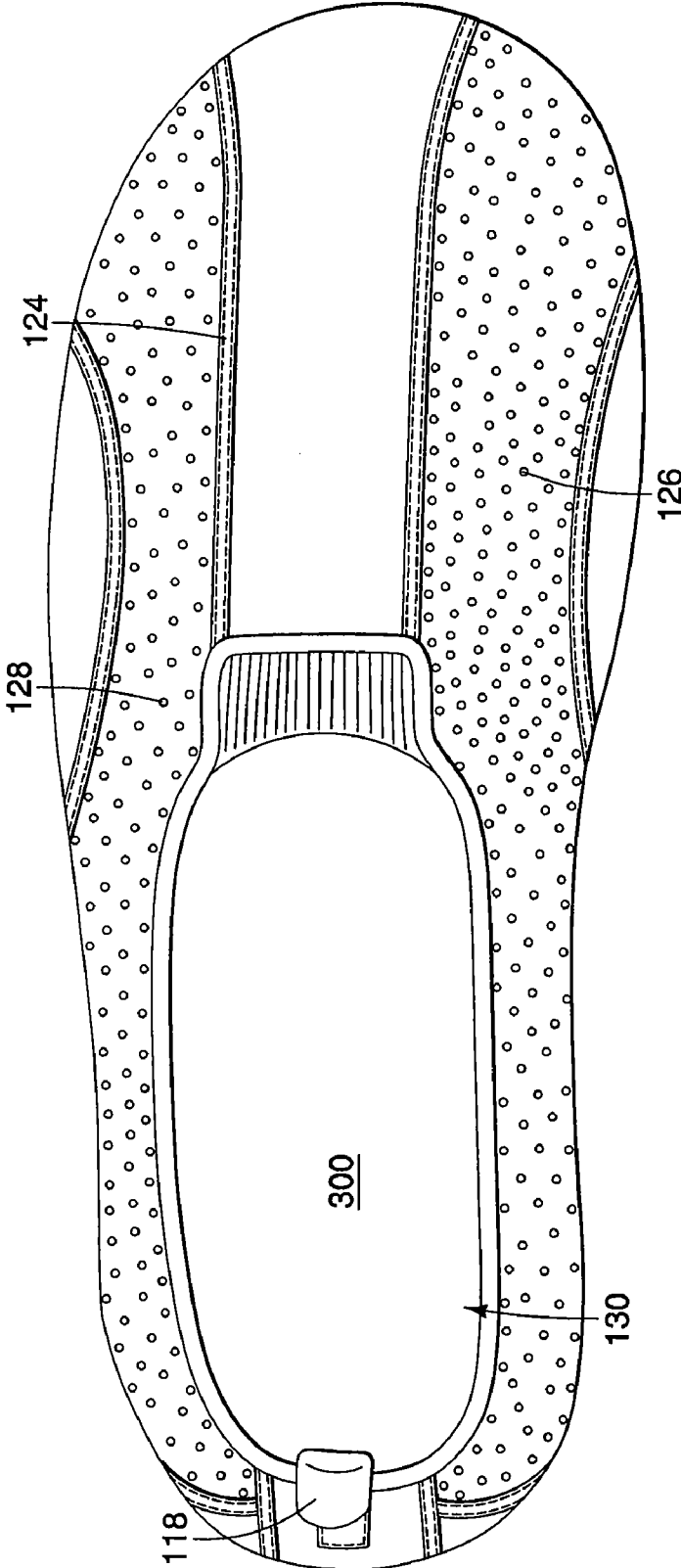


FIG. 4

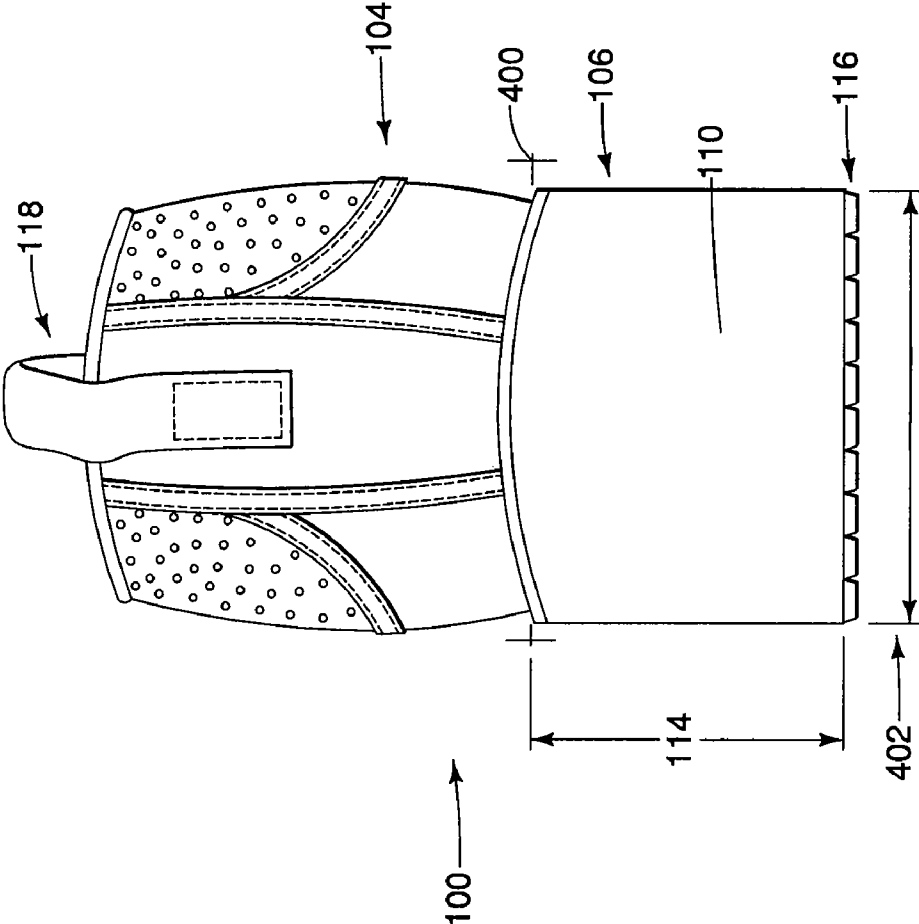


FIG. 5

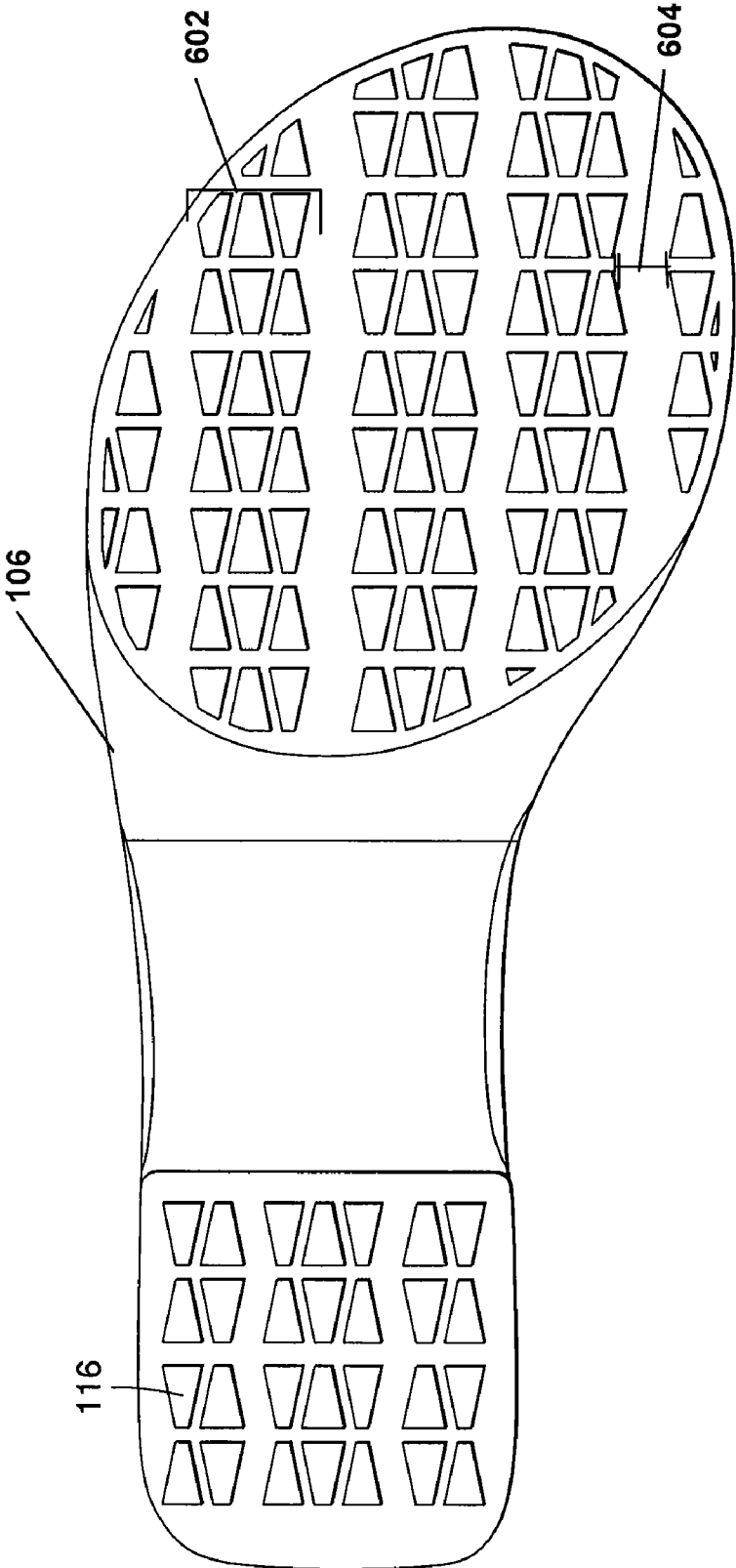


FIG. 6

GOLF SHOE

RELATED APPLICATIONS

[0001] The present patent document is a continuation of application Ser. No. 12/412,027 filed Mar. 26, 2009 and is hereby incorporated by reference in its entirety.

BACKGROUND

[0002] The game of golf continues to draw enthusiasts of many ages and backgrounds. Golf offers a social outlet for networking, skill development, and personal growth for men, women, and young people alike. Typical equipment for the golfer includes golf clubs, a bag, golf balls, a glove, and golf shoes. Most golf shoes are modeled on standard heel saddle-shoe designs.

BRIEF SUMMARY

[0003] A golf shoe is disclosed comprising an upper portion coupled to a sole. The upper portion of the shoe is sized to receive a foot. The sole may have a front portion and a rear portion. The rear portion may have an elevation that is greater than the elevation of the front portion such that, when worn by a golfer, the heel of the foot is elevated above the toes of the foot.

[0004] Other systems, methods, features and advantages of the invention will be, or will become, apparent to one with skill in the art upon examination of the following figures and detailed description. It is intended that all such additional systems, methods, features and advantages be included within this description, be within the scope of the invention, and be protected by the following claims.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0005] FIG. 1 is a view of a user in a golf environment.
- [0006] FIG. 2 is a first side view of a golf shoe.
- [0007] FIG. 3 is a second side view of a golf shoe.
- [0008] FIG. 4 is a top view of a golf shoe.
- [0009] FIG. 5 is a back view of a golf shoe.
- [0010] FIG. 6 is a bottom view of a golf shoe.

DETAILED DESCRIPTION

[0011] As golf becomes more accessible, individuals are increasingly forming small relaxed social golfing groups that are focused more on socializing and less on formal golf rules. Women are also increasingly entering the sport as a social activity and have particular interest in golf equipment that addresses their particular needs.

[0012] We disclose shoes that are designed for orienting the feet in a particular manner, such as to improve the golf stance and golf swing. The shoes have a sole. The sole has a front portion that corresponds to the toes of a foot and a back portion that corresponds to the heel of a foot. The shoe also includes an upper portion that is coupled to the sole. The upper portion of the shoe is sized to receive a foot.

[0013] The shoe may position the foot such that the heel of the foot is elevated to a height above the front or toes of the foot. By elevating the heel of the foot above the toes, a golfer may be able to create the proper knee flex, while easing the weight transfer needed to make an athletic move, thereby enhancing contact and swing.

[0014] When swinging a golf club, many factors contribute to the quality of the swing. For example, the stance, the proper

arm positioning throughout the swing, the grip, the dynamics of the swinging motion, and the tempo all contribute to the quality of the swing.

[0015] One aspect of a golf swing is the proper foot stance and how to maintain the proper foot stance throughout the swing. FIG. 1 shows a golfer 10 performing a typical golf stance. A golfer 10 typically begins the swing with the legs apart and the body (e.g., feet, knees, hips, forearms, shoulders, and eyes) positioned parallel to the target line 12. The target line 12 is the desired path that the ball 14 will take when struck by the golf club 16. The feet are typically spread apart with an approximately equal distance between each foot and the ball 14 (e.g., the ball 14 forward and/or centered between the feet). The foot that is closest to the direction that the ball will travel may be referred to as the front foot 18. The foot that is furthest away may be referred to as the back foot 20.

[0016] The golf swing involves a complex rotation of the body aimed at accelerating the head of the golf club 16 to a great speed at the target, or golf ball 14. For a right handed golfer 10, the golf swing includes of a backswing to the right, a downswing to the left, and a follow through. The ball 14 is hit during the downswing. During the backswing, the torso begins to turn. The golfer's legs, which may be positioned such that the left foot is the front foot 18 and the right foot is the back foot 20, resist the rotation, creating torque between the lower and upper body. As the body continues to turn into the back swing, up to 75 percent of the golfer's body weight may be transferred to the back foot 20, in this case, the right foot. During the transition from backswing to downswing, weight is transferred from the heel of the back foot 20 to the toes of the front foot 18, and the hips may begin to uncoil and open up. The golfer may push against the ground for added power through the downswing, which may create a more solid foundation creating greater club head speed.

[0017] A left handed golfer 10 swings back to the left and forward to the right, a downswing to the left, and a follow through. The ball 14 is hit during the downswing. During the backswing, the torso begins to turn. The golfer's legs, which may be positioned such that the right foot is the front foot 18 and the left foot is the back foot 20, resist the rotation, creating torque between the lower and upper body. As the body continues to turn into the back swing, up to 75 percent of the golfer's body weight may be transferred to the back foot 20, in this case, the left foot. During the transition from backswing to downswing, weight is transferred from the heel of the back foot 20 to the toes of the front foot 18, and the hips may begin to rotate down the line toward the ball.

[0018] With the shoe FIG. 2, 100 the golfer may improve over a standard golf shoe, the ability to maintain a more effective weight distribution (e.g., weight on the heels during upswing and on the toes during downswing), spine angle, and knee flex during the set up and throughout the golf swing. For example, as the body turns into the backswing and the weight shifts back into the heels of the foot, the elevated heel of the shoe FIG. 2, 100 may create a solid foundation for the golfer's weight. The angle of the shoe, slanting down from the back to the front, may facilitate weight transfer from the heels to the toes at impact. The elevation and support provided by the shoe may compensate for any lack of flexibility, strength, and/or consistency in, for example, amateur players, older players, less athletic players, and others.

[0019] The shoe 100 may, by improving the performance of golfers, including less athletic, experienced, or traditional golfers, make the game of golf accessible and enjoyable to a

wider range of individuals. For example, elevating the heel at impact may improve the golfer's ability to make a stronger move at the ball **14** on the down swing which may result in improving the golfer's contact with the ball **14**. Additionally, the elevated heel of the shoe **100** may create flex in the knees which may further create torque during the backswing and may eliminate locking of the back leg. The knee flex and resulting torque may allow the golfer to assume a more athletic position to make a stronger move toward the ball **14** than if the weight was maintained differently, for example, with both feet flat on the ground or weight positioned more heavily on either front or back foot.

[0020] The shoe FIG. 2, **100** may also prove useful to seasoned golfers who are seeking to improve their foot stance and thus, their swing. Placing the weight on the front of the feet is an unnatural activity. As such, golfers often forget and stand flat footed as they swing. The result is a less than ideal swing. When out on the golf course or practice range, it is not practical to place an object under the foot to approximate the appropriate stance for every swing. Due to changes in surface contours and surface type, a golfer often changes the position of his/her feet several times prior to swinging. Using foreign objects under the shoe is useful only when practicing and not permitted during actual play.

[0021] FIG. 2 illustrates a first side of a golf shoe **100**. The golf shoe **100** has a sole **106** and an upper portion **104** that is coupled to the sole **106**. The upper portion **104** may be sized to receive a foot. The upper may have an opening **130** for receiving a foot. The sole **106** may have a front portion **108** and a rear portion **110**. The front portion **108** may correspond to the toes of the human foot. The rear portion **110** may correspond to the heel of the human foot.

[0022] The sole **106** may have an elevation, for example, an elevation at the front of the foot **112** and an elevation at the heel of the foot **114**. The sole **106** may vary in elevation along its length from the front portion **108** to the rear portion **110**. For example, the rear portion **110** may be elevated and may taper toward the front portion **108**. More specifically, the rear portion **110** may have an elevation **114** which is greater than the elevation **112** of the front portion **108**, for example, the rear portion **110** may have an elevation of approximately 0.50 inches to approximately 5 inches, or may have a elevation of approximately 1.0 inches to approximately 3.0 inches, or may have a elevation of approximately 1.5 inches to approximately 2.5 inches, or may have a elevation of approximately 1.2 inches to 1.4 inches, or any elevation in between, in each case the elevation of the rear portion **110** exceeding the elevation of the front portion **108**. As an example, the elevation of the rear portion **110** may exceed the elevation of the front portion **108** by about 25%. In that case, if the elevation of the front portion **108** is 0.5 inches, the elevation of the rear portion **110** may be about 0.625 inches. However, a ratio of front portion **108** to rear portion **110** may change depending on implementation. The ratio of front portion **108** to rear portion **110** may be any ratio as long as the rear portion **110** is of greater elevation than the front portion **108**. The sole **106** may be continuous or may be discontinuous, for example, the front portion **108** and the rear portion **110** may be on one continuous piece or more than one piece, which pieces may be joined together or otherwise attached to the upper portion **104**.

[0023] The front portion of the shoe **108** may also have an elevation. For example, the front portion of the shoe **108** may have an elevation of 0-2.0 inches, an elevation of 0.1-1.8 inches, an elevation of 0.1-1.4 inches, an elevation of 0.1-1.0

inches, an elevation of 0.1-0.8 inches, an elevation of 0.1-0.5 inches, an elevation of 0.1-0.3 inches, or an elevation falling at any point between these ranges, for example but not limited to, approximately 0.1 inches, 0.2 inches, 0.25 inches, 0.3 inches, 0.35 inches, 0.4 inches, 0.45 inches, 0.52 inches, and so on.

[0024] When the shoe **100** is worn by a golfer, the elevation of the rear portion **110** above the front portion **108** may elevate the heel of the foot above the front of the foot. Having the heels elevated at impact may improve the golfer's ability to make a stronger move at the ball on the down swing which may result in improving the golfer's contact with the ball. Additionally, having the heels elevated may create flex in the knees which may create further torque during the backswing and may eliminate locking of the back leg.

[0025] The upper portion **104** of the shoe may be made of any material for example but not limited to leather; suede; neoprene; mesh; synthetics; environmentally sustainable materials such as rice husks, latex rubber, recycled materials, plant based materials, or others; materials designed to manage moisture, increase air flow and/or ventilation, increase comfort, increase or decrease foot temperature; fabrics or woven materials, such as fabrics with special moisture, comfort, breathability, or temperature management properties, fabrics with designs or embroidery, and others. Additionally, the upper portion **104** of the shoe may be made of a combination of these materials and/or other materials. The upper portion **104** of the shoe **100** may include stitching **124** or perforations **126** or other physical additions. Additionally, the upper portion **104** of the shoe **100** may include a stretchable material **128** which may be located anywhere around the opening of the shoe **130** in which the foot is inserted. The stretchable material **128** may give the opening **130** flexibility so that the foot can be easily inserted or removed from the shoe **100** while maintaining a snug fit by retracting back once the foot is safely inserted. The shoe may be secured to the foot using any method known in the art, for example but not limited to, shoe strings, buckles, VELCRO, hook and latches, elastic, straps, and otherwise.

[0026] The sole **106** of the shoe may be made of for example but not limited to a polymeric foamed material, rubber, leather, foam, gels, vinyl, or any other material. Additionally, the sole **106** of the shoe may be made of a combination of materials such as a rubber material with a foam and/or gel core. The sole **106** of the shoe may be molded in one piece or in multiple pieces and may include spikes or may be spikeless. The sole of the shoe may additionally include a random or repeating pattern **116**, which may contribute to traction between the shoe **100** and the ground.

[0027] The shoe **106** may also include additional elements. For example, the shoe may include a pull on strap **118** which may assist the wearer with positioning the foot within the upper **104** of the shoe **106** or may allow storage, drying, or carrying of the shoe **106** by hanging the shoe on a hook from a wall, a golf bag, a closet, or other. The shoe may contain a strap **120** which may be interchangeable and may allow adjustment of the shoe **104** and may be a surface for providing aesthetic details such as color, embroidery, or branding. The strap **120** may be removably attached to the shoe with a snap closure, VELCRO, or other known ways. The shoe may also include a magnetic ball marker **122** which may be position on a strap **120** of the shoe. For example, the strap **120** may be fastened to the shoe at a snap and the ball marker **122** may be positioned with the snap. Alternatively, the strap **120** may be

attached to the shoe 100 by Velcro or any other means and the ball marker 122 may be removably fasted to the shoe 100 or strap 120 at any location.

[0028] FIG. 3 illustrates a right side view of a left shoe 100. This view illustrates the right side view of the sole 106 and upper portion 104, which may be coupled to the sole 106. The shoe 100 may include an attachment point for a removable strap 120. In this example, the strap 120 may be secured with an attachment 200 which may be a snap or a button located on the sole 106 of the shoe 100 as shown, or on the upper portion 104 of the shoe, or otherwise. Alternatively, the strap 120 may be attached with VELCRO along its length, or any other attachment mechanism to maintain the strap across the top of the shoe 100.

[0029] As discussed above, the sole 106 may have a front portion 108 and a rear portion 110. The front portion 108 may correspond to the toes of the human foot. The rear portion 110 may correspond to the heel of the human foot.

[0030] The sole 106 may have an elevation, for example, an elevation that corresponds to the front of the foot 112 and an elevation that corresponds to the heel of the foot 114. The sole 106 may vary in elevation along its length from the front portion 108 to the rear portion 110. For example, the rear portion 110 may be elevated and may taper toward the front portion 108. The rear portion 110 may have an elevation 114 which is greater than the elevation 112 of the front portion 108, for example, the rear portion 110 may have an elevation of approximately 0.50 inches to approximately 5 inches, or may have an elevation of approximately 1.0 inches to approximately 3.0 inches, or may have an elevation of approximately 1.5 inches to approximately 2.5 inches, in each case the elevation 114 of the rear portion 110 exceeding the elevation 112 of the front portion 108. As an example, the elevation of the rear portion 110 may exceed the elevation of the front portion 108 by about 25%. In that example, if the elevation of the front portion 108 is 0.5 inches, the elevation of the rear portion 110 may be about 0.625 inches. However, a ratio of front portion 108 to rear portion 110 may change according to implementation. The ratio of front portion 108 to rear portion 110 may be any ratio as long as the rear portion 110 is of greater elevation than the front portion 108. When the shoe 100 is worn by a golfer, the elevation of the rear portion 110 above the front portion 108 may elevate the heel of the foot above the front of the foot.

[0031] FIG. 4 provides a top view of the shoe, with the strap 120 removed. The inside 300 of the shoe can be visualized in this view. The inside 300 of the shoe 100 may be made of fabric, leather, or any other material. For example, the inside 300 of the shoe 100 may be lined with materials that provide insulation, ventilation, moisture control, temperature control, antibacterial properties, a combination of these or others. The inside 300 of the shoe 100 may be designed to correct arch deficiencies, provide heel support, correct pronation, or otherwise address foot problems or comfort issues.

[0032] FIG. 5 illustrates a rear view of the shoe 100. The golf shoe 100 has a sole 106 and an upper portion 104 that is coupled to the sole 106. The upper portion 104 may be sized to receive a foot. The sole 106 may have a front portion FIG. 1, 108 and a rear portion 110. The rear portion 110 may correspond to the heel of the human foot. The rear portion may have an elevation 114 of approximately 0.5 inches to approximately 5 inches, or may have an elevation of approximately 1.0 inches to approximately 3.0 inches, or may have an elevation of approximately 1.5 inches to approximately 2.5

inches, or may have an elevation of about 1.2 inches to about 3.0 inches. The rear portion 110 may have a width, for example, a width where the sole 106 connects to the upper portion 104 indicated by 400 and a second width 402 where the sole 106 meets the ground. The widths 400 and 402 may be identical or nearly identical, and the rear portion 110 may be approximately square to the ground. Alternatively, the width 402 may be narrower than the width 400, or vice versa. The width 400 and 402 may vary with the size of the shoe 100. However, by way of example, the widths 400, 402 may range from approximately 1 inch to approximately 2 inches. For example, the widths 400, 402 may be approximately 1.5 inches to 2 inches, or approximately 1 5/8 inches. The stability of the shoe may be improved by varying factors such as the widths 400, 402, the ratios of the widths (e.g., 400:402), and the ratios of the elevation 114 to the width 400, 402. The stability may also be improved by other means such as weight of the materials, addition of stabilizing elements, and other ways.

[0033] FIG. 6 illustrates an exemplary view of a bottom of a shoe 100. This view illustrates that the shoe 100 may be spikeless or may include spikes. In this example, the shoe is spikeless. FIG. 6 further illustrates an alternative spikeless tread 116 that may improve traction. The tread 116 may be of any pattern or design, such as squares, triangles, or other shapes. The tread 116 may be arranged roughly in columns 602. The columns, 602, may be spaced apart and may define channels 604 in the sole of the shoe. The depth of the channel 604, for example measured from the sole to the ground, may be defined by the height of the columns 602. Alternatively, the channel 604 may be impressed into the sole of the shoe 100. The channel 604 may have a depth of 0.50 cm to 7.0 cm. When a golfer wearing the shoe 100 is standing on grass, the grass may be pressed down beneath the columns 602 but may be fully extended into the channel 604. The grass in the channel 604 may create resistance against lateral movement of the foot, which may improve lateral stability.

[0034] The tread 116 may cover the entire bottom of the shoe, or may cover only parts of the shoe, such as only the locations on the shoe which make contact with the ground. The spikeless tread 116 may allow easy transfer from the golf course to the street. It may also reduce wear on the golf course.

[0035] While various embodiments of the invention have been described, it will be apparent to those of ordinary skill in the art that many more embodiments and implementations are possible that are within the scope of the invention.

We claim:

1. A golf shoe comprising:
 - an interchangeable strap, the interchangeable strap comprising a means for securing a ball marker thereon;
 - an upper portion coupled to a sole;
 - the upper portion sized to receive a foot;
 - the sole comprising a front portion and a rear portion;
 - the front portion comprising an elevation and the rear portion comprising an elevation;
 - the elevation of the rear portion is greater than the elevation of the front portion such that when the foot is inserted, the heel of the foot is elevated above the toes of the foot; and
- wherein the rear portion of the sole has an elevation of about 1.2 to about 3 inches.

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