



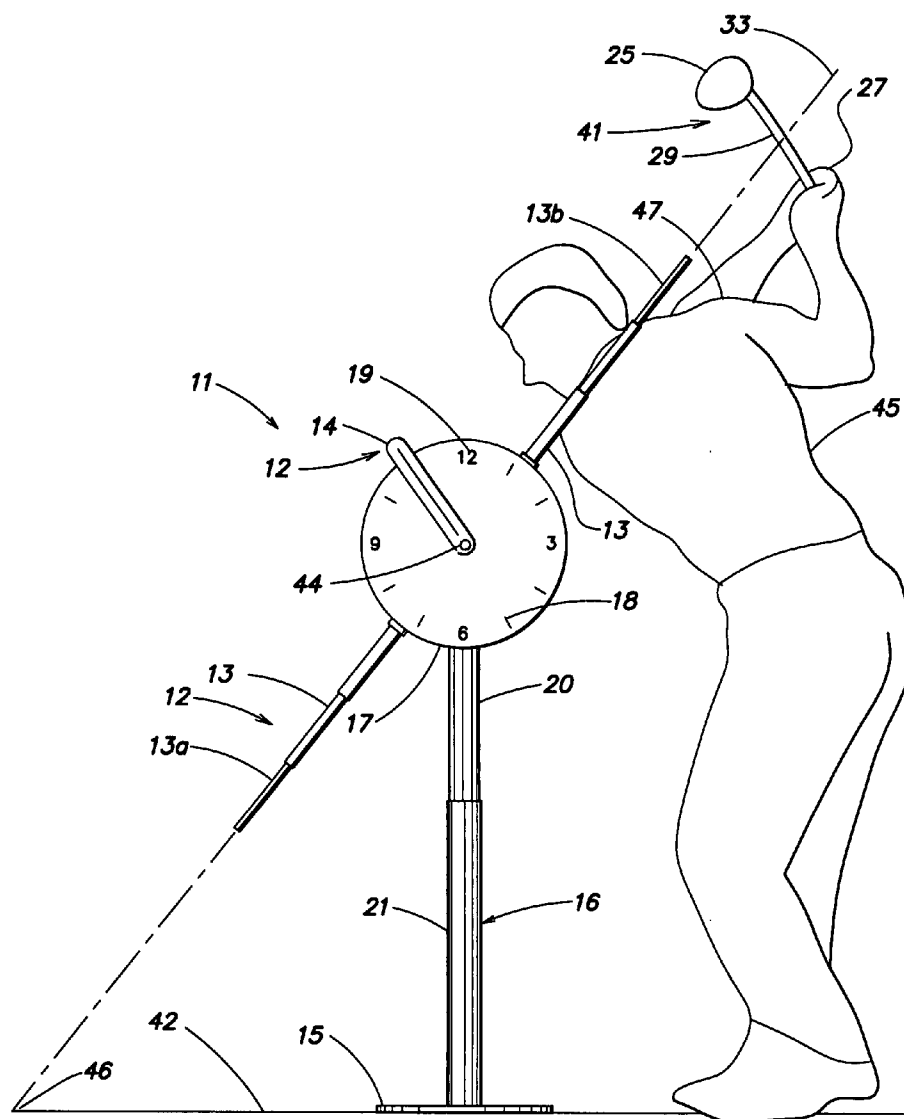
US 20080076589A1

(19) **United States**(12) **Patent Application Publication**
Tomomori(10) **Pub. No.: US 2008/0076589 A1**(43) **Pub. Date: Mar. 27, 2008**(54) **GOLF SWING INSPECTION TOOL****Publication Classification**(76) Inventor: **Eijiro Tomomori, Tokyo (JP)**(51) **Int. Cl.**
A63B 69/36 (2006.01)(52) **U.S. Cl.** **473/238; 473/257**Correspondence Address:
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OLIVERIO, LLP**
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BOSTON, MA 02114 (US)(57) **ABSTRACT**

There is provided a golf swing inspection tool in which an effective swing trajectory of a golf club to enable a ball to be hit farther and more accurately can be naturally and easily learned, and also in a case where a golf coach teaches a player, the correct swing trajectory can be pointed objectively, and the golf lesson efficiency can be improved. The golf swing inspection tool is constructed to be capable of checking the swing of the golf club by the golf player, and includes a reference index member capable of regulating the correct swing trajectory plane.

(21) Appl. No.: **11/766,180**(22) Filed: **Jun. 21, 2007**(30) **Foreign Application Priority Data**

Dec. 2, 2004 (JP) 2004-350278



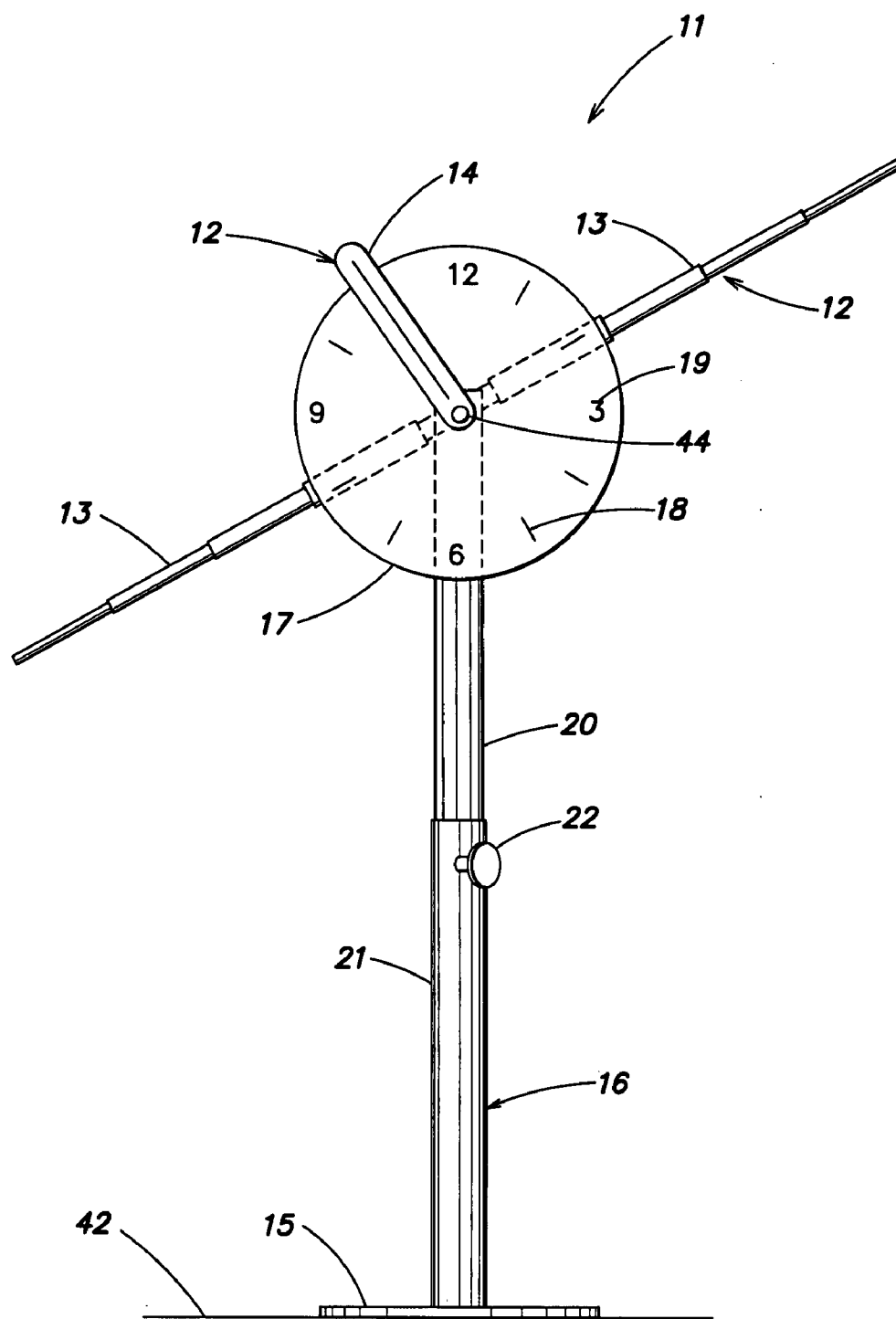


FIG. 1

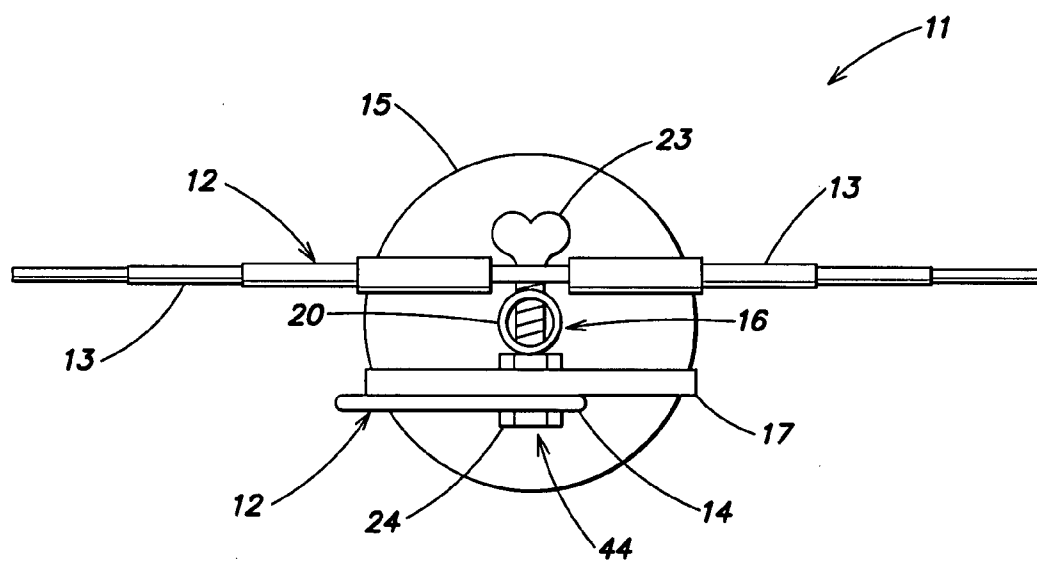


FIG. 2

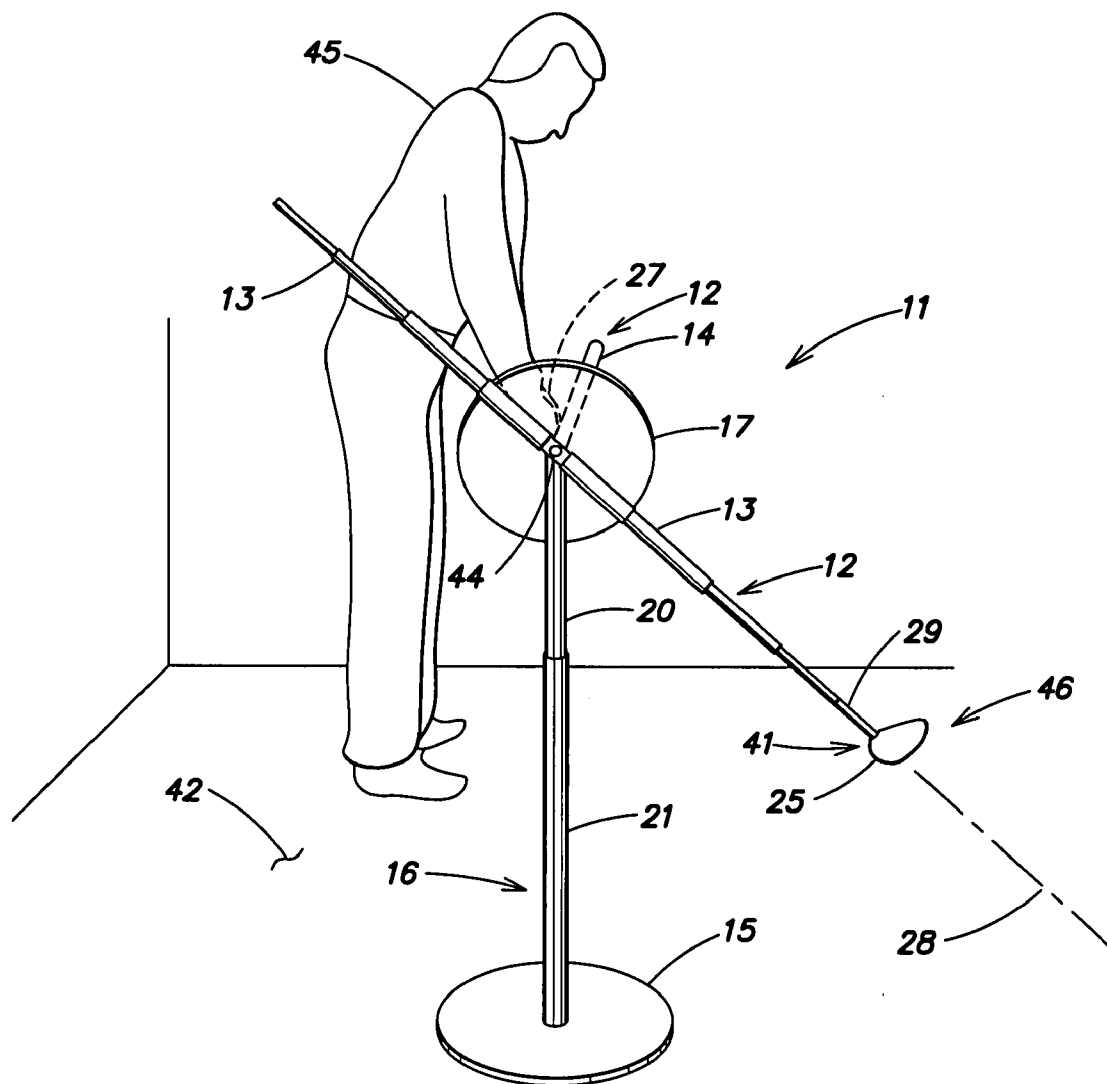


FIG. 3

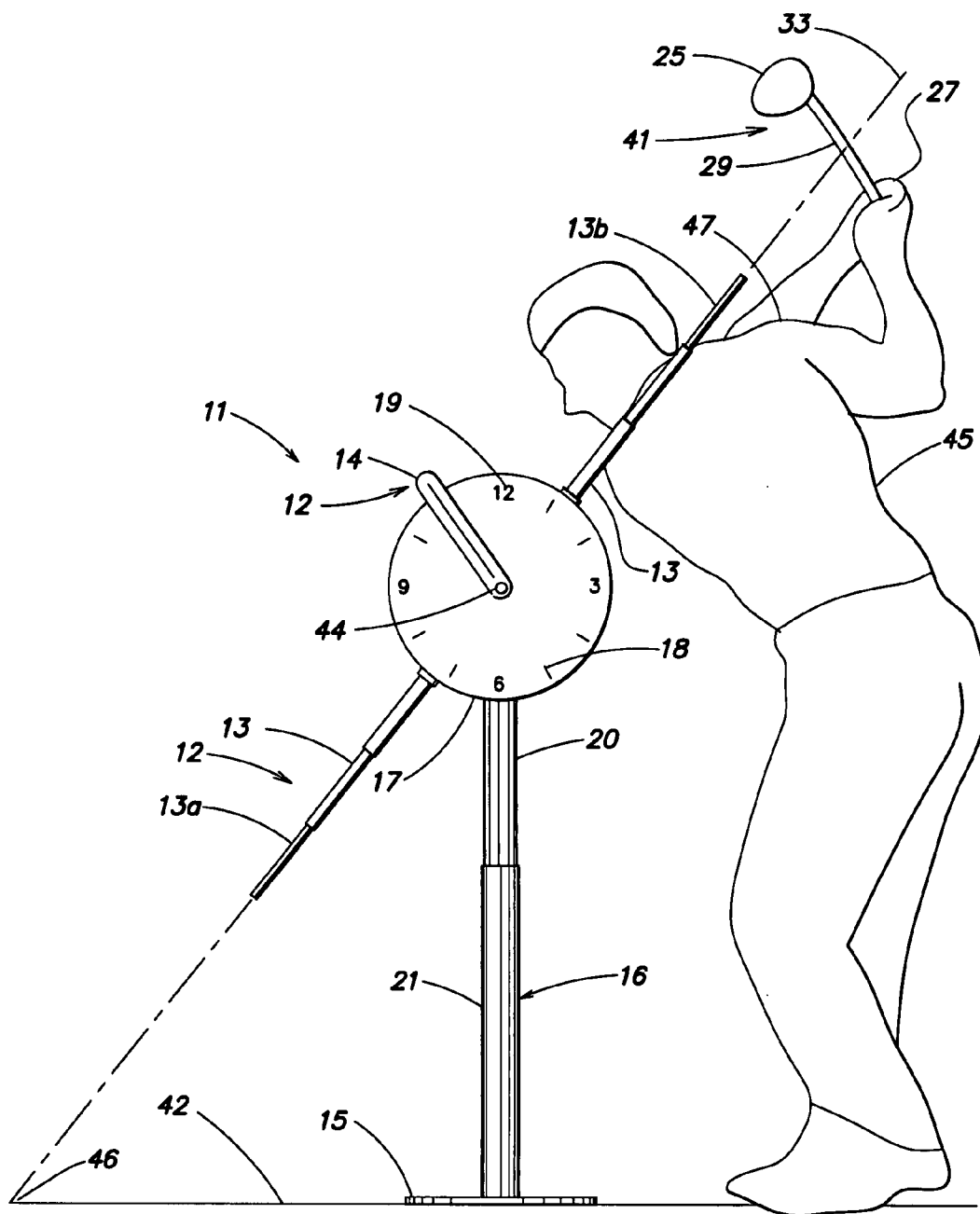


FIG. 5

GOLF SWING INSPECTION TOOL

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a golf swing inspection tool, and particularly to a golf swing inspection tool by which a golf player can learn a certain and stable swing trajectory to enable a ball to be hit farther and more accurately.

[0003] 2. Description of the Related Art

[0004] When a golf player hits a ball with a golf club, in order to hit the ball farther and more accurately, it is necessary that the forward-bent angle of the upper half of the body is optimally formed so that the energy of the body can be effectively transmitted to the ball.

[0005] Besides, in addition to the formation of the form with the correct forward-bent angle, it is necessary to master a correct swing trajectory of a golf club, which is effective to hit the ball farther and more accurately.

[0006] In order to perform the certain and stable swing of the golf club, which has the correct swing trajectory, it is most important that in the correct form with the appropriate forward-bent angle of the upper half of the body, repeated practice of the correct swing trajectory is done with practice swings of the golf club.

[0007] In the case where the repeated practice is done with the practice swings of the golf club, in order to grasp the certain and stable swing trajectory, it is an important element to appropriately set a distance between the ball and the position where the feet are placed.

[0008] This is because when the distance between the ball and the stance of both the feet is accurately set up, as a result, the position of the grip is also accurately and appropriately set up.

[0009] Besides, the angle of incidence of the club face at the time when the club face impacts with the ball, and the position of the grip of the club in the case where the backswing of the club is carried out and the club has reached the highest position are also important elements.

[0010] Accordingly, it is necessary that attention is paid to these elements and the practice swings of the golf club are done, which has been confirmed by the inventor of the invention of this patent application from long achievements as a golf coach.

[0011] By doing repeated practice while paying attention to the elements as stated above, it becomes possible to perform the swing of the club with the same swing trajectory.

[0012] From such points of view, in order to form and stabilize the correct swing trajectory of the golf club at the time of backswing, it is known from the golf theory that it is important to repeatedly practice the so-called "half swing" from the height position of the waist at the backswing side to the height position of the waist at the follow through side through the setup state where the golf club is placed at the impact position of the ball in the distance between the ball and the position where both feet are placed.

[0013] However, hitherto, there is no equipment which can objectively and visually check whether the correct swing trajectory is formed in the case where the golf player practices the "half swing" of the golf club.

[0014] Besides, in order to hit the ball farther and more accurately, the angle of incidence of the club face at the time of impact with the ball is also an important element.

[0015] That is, in the case where the club face is too open at the time of the backswing, at the time of the impact, since the club face impacts with the ball in the state where it is open relative to the ball, the ball is hit toward the right direction and the so-called slice occurs, while in the case where the club face is too closed, the ball is hit toward the left direction and the so-called hook occurs.

[0016] Accordingly, in order to hit the ball straight in the direction intended by the player, it is necessary to perform repeated practice so that the angle of the club face at the time of the backswing becomes appropriate.

[0017] However, hitherto, there is no equipment which can visually and objectively check whether the angle of the club face at the time of the backswing is appropriately formed.

[0018] Further, in order to hit the ball, in the case where the golf club is swung up to the height of the shoulder or higher, that is, the full swing up to the so-called top-of-swing position is performed, since the height position of the grip is different from that at the time of the half swing, the swing trajectory is also different from that at the time of the half swing, and there is no equipment which can visually and objectively check the correct swing trajectory at the time of the full swing.

[0019] As a result, hitherto, in the case where a golf coach coaches a player, since the golf coach must express the correct swing trajectory by language and body form itself, the expression becomes very vague, and as a result, it is difficult for the player to certainly master the correct swing trajectory, and the lesson efficiency by the coach is very low.

[0020] Hitherto, in patent document 1, a golf swing inspection tool for golf is open to the public, however, this golf swing inspection tool is for correcting the fluctuation of the body at the time of swing, and is not for visually and objectively checking the swing trajectory to facilitate the learning of the correct swing trajectory.

[0021] [Patent document 1] JP-A-9-313658

[0022] Besides, hitherto, in patent document 2, a form correcting equipment is open to the public, however, this form correcting equipment is for correcting the swing form of a player when viewed from the front, and this is also not an equipment for facilitating the learning of the correct swing trajectory of the golf club.

[0023] [Patent document 2] JP-A-2003-230649

SUMMARY OF THE INVENTION

[0024] It is an object of the invention to provide a golf swing inspection tool in which a correct swing trajectory of a golf club to enable a ball to be hit farther and more accurately can be naturally and easily learned, and in a case where a golf coach teaches a player, the teaching side and the taught side can scientifically feel bodily, the correct

swing trajectory can be pointed objectivity, and the golf lesson efficiency can be improved.

[0025] In order to achieve the object, a golf swing inspection tool according to a first aspect of the invention is a golf swing inspection tool capable of checking a swing of a golf club 41 by a golf player, and includes a reference index member capable of regulating an effective swing trajectory plane of the golf club 41.

[0026] In the golf swing inspection tool of the first aspect of the invention, since the swing trajectory plane to enable a ball to be hit farther and more accurately can be objectively regulated, it is possible to visually check whether a swing is performed in the swing trajectory plane.

[0027] Accordingly, when practice is repeatedly performed, the position and angle of the golf club at the time of setup and the time of swing can be easily checked.

[0028] According to a second aspect of the invention, in the golf swing inspection tool, the reference index member includes a swing trajectory indication member capable of indicating the effective swing trajectory plane of the golf club, and a club face angle indication member capable of indicating an effective angle of a club face at the time of backswing.

[0029] As described above, in order to hit the ball farther and more accurately, it is necessary that at the time of the swing, the correct swing trajectory of the club to enable the ball to be hit farther and more accurately can always be formed invariably, and the angle of incidence of the club face at the time of impact is set to be orthogonal to the hit-ball direction. In the golf swing inspection tool of the second aspect of the invention, since the swing trajectory indication member is provided, the correct swing trajectory is objectively indicated, and the correct angle of the club face at the time of backswing, by which the angle becomes right angles to the hit-ball direction at the time of impact, is objectively indicated.

[0030] Accordingly, when practice is done with a practice swing, by swinging the club along the swing trajectory indication member, the swing trajectory coincident with the correct swing trajectory plane can be learned. Besides, the correct angle of the club face at the time of backswing can be learned by the club face angle indication member.

[0031] Besides, according to a third aspect of the invention, in the golf swing inspection tool, the swing trajectory indication member regulates an original swing trajectory plane which includes a position of the golf club set up in a state where an upper half of a body is bent forward by a specified angle around a hip joint and has an appropriate angle of incidence for impact with a ball by the golf club at the time of swing, and an imaginary swing trajectory plane which includes a straight line connecting a right shoulder of the player in a case where backswing is performed and the golf club has reached the highest position and the ball, and in which a grip at the highest position at the time of the backswing is to be positioned.

[0032] Accordingly, in the third aspect of the invention, the original trajectory plane of the golf club at the time of impact with the ball can be regulated by the position of the golf club in the state where the setup is performed in the state where the upper half of the body is bent forward by the

specified angle around the hip joint. Incidentally, the "specified angle" by which the upper half of the body is bent forward is 30 degrees to 35 degrees.

[0033] In the case where the "half swing" is practiced, the repeated practice is performed along the "original swing trajectory plane" indicated by the swing trajectory indication member, so that the correct trajectory plane at the time of swing can be learned, and as a result, the correct swing at the time of full swing and at the time of impact can be learned.

[0034] Besides, at the time of the "full swing", the correct grip position at the full swing and at the top of the swing at the time of the backswing can be learned by the "imaginary swing trajectory plane" indicated by the swing trajectory indication member.

[0035] In this case, the "imaginary swing trajectory plane" is the trajectory plane including the straight line formed by connecting the ball to be placed and the right shoulder of the player, and it is necessary that at the top of the swing, the grip is on the "imaginary swing trajectory plane".

[0036] Then, by feeling the "original trajectory plane", at the time of down swing when the "full swing" is performed, the grip position is moved from the "imaginary swing trajectory plane" to the "original trajectory plane", and the golf club is returned to the position of the golf club in the state of setup, so that it becomes first possible to form the correct swing trajectory.

[0037] Accordingly, it can be said that the grip position on the "imaginary swing surface" at the top position at the time of the full swing is the grip position where it can be returned to the "original swing trajectory plane" in the case where the down swing is performed.

[0038] Besides, a golf swing inspection tool according to a fourth aspect of the invention includes a base to be mounted on an installation surface, and a supporting part provided on the base and formed to be capable of elongating and contracting in the vertical direction, the swing trajectory indication member is formed into an arm shape and is attached to the supporting part at a variable angle, the club face angle indication member is attached to the supporting part, and the swing trajectory indication member is formed to be capable of elongating and contracting.

[0039] Accordingly, in the golf swing inspection tool of the fourth aspect of the invention, since the swing trajectory indication member constituting the club face angle indication member is formed to be capable of elongating and contracting, the swing trajectory can be easily confirmed even in the case where the player performs the full swing.

[0040] Besides, in a golf swing inspection tool according to a fifth aspect of the invention, the supporting part is formed to be rod-shaped, the swing trajectory indication member and the club face angle indication member are axially supported to the upper end of the supporting part, and the swing trajectory indication member is formed to be capable of extending straightly from an axial support part of the supporting part to both sides of the supporting part, and is formed to have a length capable of regulating the cross section of the swing trajectory of the golf club in a case where it is elongated to both the sides of the supporting part.

[0041] Accordingly, in the fifth aspect of the invention, when being elongated from the supporting part to both

direction, the swing trajectory indication member elongated to both the sides of the supporting part can regulate the whole trajectory plane of the golf club.

[0042] Besides, in a golf swing inspection tool according to a sixth aspect of the invention, an angle display disk formed into a disk shape is fixed to the upper end of the supporting part at a center part, and the swing trajectory indication member and the club face angle indication member are attached to the support member through the center part of the angle display disk.

[0043] Besides, in a golf swing inspection tool according to a seventh aspect of the invention, time indicating characters similar to those of a dial of a clock are marked on a peripheral part of the angle display disk, and the club face angle indication member is fixed to an angle position of 11:30 at a take-back highest position when a half swing of the golf club is made.

[0044] The “half swing” is a swing between a 3:00 position and a 9:00 position in the case where the swing of the golf club 41 is seen from the front of the body and the swing angle of the golf club 41 is expressed on the basis of the dial of the clock.

[0045] Accordingly, the “take-back highest position when the half swing of the golf club is made” corresponds to substantially the height of the waist of the player.

[0046] In the golf swing inspection tool of the seventh aspect of the invention, in order to indicate the angle of the scale marked at the required position of the angle display disk, instead of numerals indicating angles, the time indicating characters similar to those of the dial of the clock are used.

[0047] According to the golf swing inspection tool of the first aspect of the invention, since the swing trajectory plane to enable the ball to be hit farther and more accurately is regulated by the reference index member, the player can visually, objectively and easily check whether the golf club coincides with the effective swing trajectory plane regulated by the reference index member at the time of the setup and at the time of the backswing.

[0048] Accordingly, in the case where the angle and position of the golf club does not coincide with the reference index member, correction can be instantaneously performed, and the appropriate swing can be learned by repeated practice.

[0049] As a result, by using the golf swing inspection tool of the invention, the golf swing to enable the ball to be hit farther and more accurately can be naturally learned.

[0050] Besides, in the case where a golf coach teaches a player, the teaching side and the taught side can scientifically feel bodily, and the golf coach can objectively point the correct swing trajectory, and accordingly, the golf lesson efficiency can be improved.

[0051] Besides, in the golf swing inspection tool of the second aspect of the invention, in addition to the effect of the first aspect of the invention, the swing trajectory plane of the golf club to enable the ball to be hit farther and more accurately can be learned by the swing trajectory indication member, and the proper angle of incidence of the club face

when the club impacts with the ball can be confirmed by the club face angle indication member at the time point of the backswing.

[0052] Accordingly, it is possible to effectively prevent the ball from slicing or hooking after the impact, and the ball can be hit more accurately and farther toward the direction desired by the player.

[0053] Besides, in the golf swing inspection tool according to the third aspect of the invention, at the time of practice of the half swing as the basis of the golf swing, the correct swing trajectory can be learned by performing the swing in accordance with the “original swing trajectory plane”, and as a result, the correct swing trajectory to the impact with the ball at the time of full swing can be learned.

[0054] Besides, by the “imaginary swing trajectory plane”, the grip position at the time of the “full swing” and at the top position in the backswing can be learned, and as a result, at the time of the full swing, when the grip position is set by the “imaginary swing trajectory plane” and practice is performed, the golf club can be easily returned to the “original swing trajectory plane” at the time of down swing, and accordingly, the correct swing can be learned.

[0055] Besides, in the golf swing inspection tool according to the fourth aspect and the fifth aspect of the invention, since the supporting part is formed to be capable of elongating and contracting in the vertical direction, it can be adjusted according to the body size of the player, and many players use it and can learn the correct swing trajectory.

[0056] Besides, the supporting part is elongated or contracted in the vertical direction, and the height position of the swing trajectory indication member can be changed, and accordingly, the “original swing trajectory plane” and the “imaginary swing trajectory plane” formed at different height positions can be formed by the swing trajectory indication member, and the player can be made to clearly recognize both the trajectory plane at the time of the “half swing” and the trajectory plane at the time of the “full swing”.

[0057] Besides, in the golf swing inspection tool according to the sixth aspect and the seventh aspect of the invention, since the time indicating characters similar to those of the dial of the clock are marked on the peripheral part of the angle display disk, at the practice, the player can easily grasp the inclined angle of the club face angle indication member by the image more easily than the case where characters indicating angles are normally expressed by numerals indicating angles. As a result, the efficiency of the swing practice can be made excellent.

[0058] Besides, according to the seventh aspect of the invention, since the club face angle indication member is fixed to the angle of 11:30 among the time indicating characters marked on the angle display disk similar to those of the dial of the clock, the leading edge of the club head at the time of the half swing is set at the club face angle indication member, so that the appropriate angle when the club is swung downward and impacts with the ball can be formed.

[0059] It is the important element for the impact with the ball by the club head that the leading edge of the face of the club head is positioned at the angle position of 11:30 at the

half swing position in the case where the backswing of the golf club is performed, which has been grasped from the past results of the inventor of this patent application as a golf coach.

[0060] Accordingly, in the invention, the optimum angle of incidence when the golf club impacts with ball can be learned by merely causing the leading edge of the club head of the golf club to coincide with the club face angle indication member at the height position of the waist in the half swing.

[0061] Accordingly, the position of the grip at the top point of the backswing is learned by the “imaginary swing trajectory plane”, the angle of the club face at the height position of the waist at the time of the down swing is learned by the regulation of the golf club face angle indication member, and the angle position of the golf club at the time of the impact can be learned by the “original swing trajectory plane”, and accordingly, the player repeatedly practice these elements, and can easily master the swing trajectory to enable the ball to be hit farther and more accurately.

[0062] Besides, also in the case where the golf swing is taught, since all the elements required for the correct swing are objectified by the “swing trajectory indication member” and the “club face angle support member”, teaching can be easily performed to the player, and the lesson efficiency can be improved.

BRIEF DESCRIPTION OF THE DRAWINGS

[0063] FIG. 1 is a perspective view showing an embodiment of a golf swing inspection tool of the invention.

[0064] FIG. 2 is a plan view showing the embodiment of the golf swing inspection tool of the invention.

[0065] FIG. 3 is a side view showing the embodiment of the golf swing inspection tool of the invention and a case where an original plane is regulated in a state at the time of setup.

[0066] FIG. 4 is a side view showing the embodiment of the golf swing inspection tool of the invention and showing a state where a half swing is performed on the regulated original plane and a club face is set at an angle position of 11:30.

[0067] FIG. 5 is a side view showing the embodiment of the golf swing inspection tool of the invention and showing a state in which a swing plane is formed and the top of the swing at the time of backswing on the swing plane is reached.

DETAILED DESCRIPTION OF THE INVENTION

[0068] Hereinafter, an embodiment of the invention will be described with reference to the accompanying drawings.

[0069] As shown in FIG. 1 to FIG. 5, a golf swing inspection tool 11 of this embodiment is constructed to be capable of checking the swing of a golf club 41 by a player 45, and includes a reference index member 12 capable of regulating an effective swing trajectory plane.

[0070] As shown in FIG. 1, the reference index member 12 includes a swing trajectory indication member 13 capable of indicating the effective swing trajectory plane of the golf

club 41, and a club face angle indication member 14 capable of indicating the effective angle of a club face at the time of backswing.

[0071] As shown in FIG. 3 and FIG. 4, the swing trajectory indication member 13 is constructed to be capable of regulating an original swing trajectory plane 28 including a position of a club shaft 29 of the golf club 41 when the player 45 sets up in a state where the upper half of the body is bent forward by 30 degrees to 35 degrees around the hip joint, and an imaginary swing trajectory plane 33 as shown in FIG. 5, which includes a straight line connecting a right shoulder 47 of the player 45 in the case where backswing is performed and the golf club 41 has reached the highest position and a position 46 where a ball is to be placed, and on which a grip 27 at the highest position at the time of the backswing is to be positioned.

[0072] The golf swing inspection tool 11 of this embodiment includes a base 15 to be mounted on an installation surface 42, a supporting part 16 provided on the base 15 and formed to be capable of elongating and contracting in the vertical direction, a swing trajectory indication member 13 fixed to the supporting part 16 at a variable angle and capable of indicating the first swing trajectory plane 28 and the second swing trajectory plane 33, and a club face angle indication member 14 fixed to the supporting part 16, and the swing trajectory indication member 13 is formed to be capable of elongating and contracting.

[0073] The supporting part 16 is formed to be rod-shaped, the swing trajectory indication member 13 is axially supported and fixed to the upper end of the supporting part 16, and the club face angle indication member 14 is axially supported to the same part. The swing trajectory indication member 13 is formed to be capable of being elongated from the supporting part 16 to both directions while an axial support part 44 of the supporting part 16 is made an intermediate part.

[0074] Besides, the swing trajectory indication member 13 is formed to have such a length size that it can indicate the swing trajectory plane also in the full swing of the golf club 41 in the case where it is elongated to both the sides of the supporting part 16.

[0075] A disk-like angle display disk 17 is mounted on the upper end of the supporting part 16, and the intermediate part of the swing trajectory indication member 13 and the base end of the club face angle indication member 14 are rotatably attached to the center part of the angle display disk 17.

[0076] A scale is marked on the angle display disk 17, the scale is marked with time indicating characters, and the club face angle indication member 14 is fixed to the angle position of 11:30.

[0077] Hereinafter, an embodiment of the golf swing inspection tool 11 of the invention will be described.

[0078] As shown in FIG. 1 and FIG. 2, the golf swing inspection tool 11 includes the base 15, the support member 16 vertically provided on the base 15, the angle display disk 17 mounted on the upper end of the support member 16, and the reference index member 12 rotatably attached to the angle display disk 17.

[0079] In this embodiment, as shown in FIG. 1, the reference index member 12 includes the swing trajectory indication member 13 and the club face angle indication member 14.

[0080] As shown in FIG. 1, the base 15 has a plane disk shape, and has such a size and weight that it can be stably mounted on the installation surface 42, such as the floor or ground, even in the case where the swing trajectory indication member 13 is elongated to both sides of the support member 16 as described later, and in this embodiment, it is formed of metal.

[0081] The whole support member 16 is formed into a metal rod shape, and includes, as shown in FIG. 1, a large diameter part 21 orthogonally fixed to the base 15 at the base end and a small diameter part 20.

[0082] As a result, in the case where the golf swing inspection tool 11 of this embodiment is mounted on the installation surface 42, the support member 16 is substantially vertically provided. The small diameter part 20 can be inserted into the inside of the large diameter part 21 and is formed to be capable of protruding, and as shown in FIG. 1, a fixing screw 22 for height adjustment is provided at the upper end of the large diameter part.

[0083] Accordingly, in the case where the height of the support member 16 is adjusted, the fixing of the small diameter part 20 to the large diameter part 21 by the fixing screw 22 is released and the height is adjusted, and at a suitable height, the small diameter part 20 is fixed to the large diameter part 21 by the fixing screw 22.

[0084] In this embodiment, the support member 16 is formed to have such a length size that the axial support part 44 can be disposed at the height position of the waist of the player 45 by extending the small diameter part 20 and fixing it at the suitable height by the fixing screw 22.

[0085] Accordingly, since the support member 16 is formed to be capable of elongating and contracting in the vertical direction and to be height adjustable, each player can use it according to his/her own physical size.

[0086] The angle display disk 17 is fixed to the upper end of the support member 16 through the axial support part 44. The angle display disk 17 has a side disk shape, and is made of vinyl chloride and is formed to be transparent as shown in FIG. 1, and a scale 18 indicating required angles is marked along the peripheral part.

[0087] Besides, as shown in FIG. 1 and FIG. 5, time indicating characters 19 similar to those on the dial of a clock are marked at required positions of the scale 18 marked on the angle display disk 17.

[0088] As shown in FIG. 1, the swing trajectory indication member 13 as the reference index member 12 is formed to have a linear rod shape by coupling three pipe members having specified length sizes and different from each other in diameter along the length direction, the respective pipe members are formed to be capable of being inserted into or protruding from the adjacent pipe member, and the whole is constructed to be elongating and contracting in the length direction.

[0089] The swing trajectory indication member 13 is constructed such that as shown in FIG. 2, the intermediate part

in the axial direction is attached to the upper end of the support member 16 and to the center part of the angle display disk 17 so as to be rotatable in the clockwise direction and the counter-clockwise direction through the axial support part 44, and can be stopped and fixed at an arbitrary angle by tightening a wing screw 23.

[0090] The swing trajectory indication member 13 can regulate the swing trajectory plane at the time of the swing of the golf club 41 along the swing forward-backward direction from the side surface side.

[0091] As shown in FIG. 1 and FIG. 2, the club face angle indication member 14 as the reference index member 12 is arranged like a needle of a clock on the angle display disk 17, and its base end is rotatably attached to the upper end of the support member 16 and the center part of the angle display disk 17 by a knurled screw 24 and by the axial support part 44.

[0092] The club face angle indication member 14 is formed to be stopped and fixed at an arbitrary inclined angle by tightening the knurled screw 24.

[0093] The club face angle indication member 14 is provided to enable the player 45 to confirm whether the club face 26 of the golf club 41 has an appropriate angle at the time of backswing.

[0094] The operation of the golf swing inspection tool 11 of this embodiment, that is, the use method will be described.

[0095] First, as shown in FIG. 3, the golf swing inspection tool 11 is installed at the left of the player 45 when viewed from the front direction of the player 45, that is, at the side where the backswing of the golf club 41 is performed. In more detail, when viewed from the backswing side, it is installed at substantially the center position between a position of both feet of the player 45 and a position 46 where a ball is to be placed.

[0096] At the time of setup, as shown in FIG. 3, the player 45 bends the upper half of the body forward by 30 to 35 degrees around the hip joint, grips and holds the golf club 41 with both hands in the most natural state based on his/her own body size, and takes the setup posture in which the club head 25 is put on the floor surface or the ground in the state where the right elbow is slightly lowered.

[0097] When the grip of the club is held, the grip end side is held with the left hand, and the anti-grip end side is held with the right hand, and accordingly, the right hand is extended and the right elbow is positioned lower than the left elbow. Accordingly, there naturally occurs the state where the right elbow is slightly lowered.

[0098] As described above, the forward-bent angle of 30 to 35 degrees is an angle at which body energy stored by twist of the upper half of the body at the time of backswing can be most effectively transmitted to the golf club 41.

[0099] At this time, when viewed from the side of the backswing side, the grip 27 is set at the waist, more accurately, substantially the same height position as the hip joint. In this state, it is necessary to place the club head 25 at a position where the most natural setup state can be taken.

[0100] Incidentally, in this state, it is desirable that the grip end of the golf club is located at an angle position where it points to the navel of the player 45.

[0101] Originally, the position where the club head 25 is placed in this state is the position 46 where the ball is to be placed.

[0102] Accordingly, the position 46 where the ball is to be placed is resultantly determined after the form is formed, and the position 46 where the ball is to be placed is finely adjusted as the need arises in relation to the form having the forward-bent posture of the player 45. Besides, adjustment is made according to the length size of the golf club 41 used.

[0103] Next, in the case where the setup is correctly performed, first, the player takes a stance while both the feet are parallel to each other, confronts the position 46 where the ball is to be placed, puts the club head 25 at the position 46 where the ball is to be placed, and stands so that the body becomes normal to the held golf club 41.

[0104] Further, the upper half of the body is bent forward by 30 degrees to 35 degrees around the hip joint, the knee is naturally slightly bent, the right elbow is naturally lowered, the grip 27 is held, and the golf club 41 is set, so that the correct posture in the case of impact with the ball, and the basis of the optimum swing form can be formed.

[0105] That is, the state position of the golf club 41 at the time of the setup is the state position where the ball can be hit toward an accurate direction and with a large and accurate flying distance when the golf club 41 impacts with the ball after the backswing and the downswing are performed.

[0106] Accordingly, in the swing of the golf club 41, in order to hit the ball farther and more accurately, it is an absolutely necessary condition that after the backswing is performed, the golf club 41 is again returned to this state position correctly.

[0107] As a result, in the case where a ball is actually hit in a golf course, a golf practice field or the like, first of all, it is necessary to address the ball at the position where the approach with the above form can be performed.

[0108] In this case, as shown in FIG. 3, in the state where the setup is completed, in the swing direction of the golf club 41, the original swing trajectory plane, that is, the "original plane"28 is formed in the swing direction including the club shaft 29 in the setup state, which is the basis of the swing of the golf club 41.

[0109] This "original plane"28 is the plane including the position of the club head 25 where the golf club 41 can finally appropriately hit the ball after the backswing of the golf club 41 is performed.

[0110] Accordingly, in order to form the correct trajectory of the golf club 41 at the time of the swing, first, the address state including the inclined angle of the upper half of the body is accurately formed, and it is necessary that in that state, the player 45 sufficiently recognizes the "original plane"28 formed at the time of the swing of the golf club 41.

[0111] A series of preparation operations at the time of setup, including the determination of the standing position, the forward bending of the upper half of the body, holding the grip, and setting the club head at the ball position are generally called "routine" in the world of golf. When this "routine" is correctly performed, the basic state in which the certain and stable swing can be performed is naturally formed.

[0112] Accordingly, in this embodiment, first, this "original plane"28 is objectively defined using the swing trajectory indication member 13.

[0113] That is, first, the height of the supporting part 16 of the golf swing inspection tool 11 of this embodiment is adjusted according to the body size of the player 45, the center part of the angle display plate 17, that is, the axial support part 44 is set at the height position of the grip 27 when viewed from the backswing side, and the swing trajectory indication member 13 is suitably inclined by operating the wing screw 23 and is elongated in both directions of the support member 16, so that the swing trajectory indication member 13 is set to be disposed in a straight line along the club shaft 29 which is set up.

[0114] Incidentally, the angle adjustment of the swing trajectory indication member 13 may be performed by another person such as a coach, or the player 45 may perform it while making confirmation by a mirror.

[0115] By this, by the swing trajectory indication member 13, the "original plane"28 as the original swing trajectory plane for the impact of the ball by the golf club 41 is visualized and objectified, and the player can objectively recognize the formation state of the "original plane"28 by the mirror or the like.

[0116] Accordingly, at the setup, when repeated practice is done so that the inclination angle of the club shaft 29 always coincides with the inclined angle of the swing trajectory indication member 13, the correct setup posture can be mastered.

[0117] By this, the optimum setup becomes possible, and the basis of execution of the correct swing can be formed.

[0118] Next, in order to form a certain and stable swing trajectory, at the time of backswing, it is most important to practice the so-called "half swing" from the height position of the waist at the backswing side to the height position of the waist at the follow through side, which is recognized in a swing theory in golf.

[0119] This is obvious from the fact that professional golfers often perform the half swing before actually hitting the ball in order to confirm the image of hitting the ball and the swing on a tournament course.

[0120] In order to perform the half swing correctly, the swing is repeatedly performed in the "original plane"28 and between the height position of the right waist at the time of the backswing and the height position of the left waist at the time of the through impact, so that the correct trajectory plane of the golf club 41 from the backswing to the impact and to the through impact can be grasped.

[0121] In this case, as shown in FIG. 4, at the time of the backswing in the half swing, when the angle of a leading edge 30 of the club face 26 of the club head 25 becomes the angle of 11:30, the club head 25 comes in contact with the ball at a correct angle, and it becomes possible to hit the ball toward the aimed direction.

[0122] That is, in this embodiment, when the half swing is practiced, at the time of the backswing, the swing is performed so that when the club head 25 is positioned at the height of the waist, the leading edge 30 of the club face 26

of the club head **25** coincides with the club face angle indication member **14** which is set at the position of 11:30.

[0123] Between the time of the backswing of the golf club **41** and the time of the impact, the upper half of the body, the arm and the club perform the rotation movement in which the center line of the body from the head to the foot is the rotation axis.

[0124] As a result, since the club face **26** of the club head **25** also goes down while rotating around the club shaft **29** from the time of the backswing to the time of the impact, the leading edge **30** of the club face **26** is made to coincide with the angle position of 11:30 at the top position of the backswing in the half swing, so that the correct angle of the club face when the face **26** of the club head **25** impacts with the ball can be formed at this position, and while this state is kept, the club is swung downward to the initial position positioned on the "original plane"**28** formed at the time of setup and impacts with the ball, so that the correct club face perpendicular to the hit-ball direction can be formed.

[0125] As stated above, by forming the club face **26** perpendicular to the hit-ball direction at the time of the impact, the ball can be hit "straight" toward the forward direction of both feet.

[0126] As stated above, in the case where the angle of the leading edge **30** of the club face **26** is smaller than 11:30, for example, in the case where the impact is performed at the angle of about 10:00, the club face **26** is in the "closed" state, and in the case where the impact is made in this state, the ball is curved toward the left direction in the hit-ball direction, and the "hook" occurs.

[0127] On the other hand, in the case where the angle is larger than 11:30, for example, in the case of about 12:30, the club face **26** is in the "open" state, the ball is curved rightward in the hit-ball direction, and the "slice" occurs, which is logically grasped.

[0128] Accordingly, by setting the leading edge **30** of the club face **26** at the angle indication needle **14**, the face plane coming in contact with the ball at right angles to the hit-ball direction can be recognized and set at this position, and accordingly, through another person or by seeing a mirror, the player can confirm whether the angle of the leading edge **30** of the club head **25** in the backswing is the correct angle.

[0129] As a result, the player can objectively recognize the club face **30** capable of forming the correct hit-ball direction at the time of the backswing in the half swing, and can easily perform correction.

[0130] As stated above, the "half swing" lies at the heart of the golf swing, and since the practice of the half swing is most important, it is necessary to repeatedly perform the practice in slow motion so that the swing can be performed with the correct trajectory.

[0131] In this case, it is important to perform the half swing in the state where both elbows point downward. That is, the half swing is performed so that the right elbow points downward at the time of the take-back, and the left elbow points downward at the time of the through impact.

[0132] Incidentally, in the case where the swing of the golf club **41** is viewed from the body front direction and the swing angle of the golf club **41** is expressed on the basis of

the dial of a clock, the "half swing" is the swing between the 3:00 position to the 9:00 position.

[0133] After the practice of the half swing as stated above, it is important to perform the stepwise practice such that the speed of the swing of the golf club **41** is gradually increased, the swing between the 2:00 position to the 10:00 position, that is, the so-called "three quarter" swing is practiced, and finally, the formation of the "full swing" between the angle position of about 11:30 at the top and the angle position of about 11:30 at the time of finish is targeted.

[0134] In this case, the "half swing" is the most basic and important swing to catch the ball, and the "three quarter" is the swing to get a carry of 100 yards to 150 yards and to advance the game while the point is certainly acquired. The "full swing" is the swing for finally hitting the ball farthest and more accurately.

[0135] Accordingly, the "full swing" is a series of operations formed by the rising of the grip position toward the right shoulder direction at the time of the take-back of the "half swing", and the "full swing" and the "half swing" are not separate from each other, but the "full swing" is on an extension of the "half swing".

[0136] In the case where the ball is actually hit by the golf club **41**, the full swing is performed, and when the swing trajectory plane in the case of the highest position of the backswing at the time of the full swing is confirmed, as shown in FIG. 5, the fixing screw **22** of the indication member **16** is adjusted to pull out the small diameter part **20** upward from the large diameter part **21**, and the axial support part **44** forming the center part of the angle display disk **17** is set at the height position of the waist of the player **45**.

[0137] Then, as shown in FIG. 5, a lower end **13a** of the swing trajectory indication member **13** is fixed in a state where it points the position **46** where the ball is to be placed, and an inclination angle is set so that an upper end **13b** intersects the right shoulder position **47** of the player **45**. As a result, the "swing plane"**33** is formed by the swing trajectory indication member **13**.

[0138] This "swing plane"**33** is an imaginary swing trajectory plane which includes a straight line connecting the right shoulder **47** of the player **45** in the case where the golf club **41** has reached the highest position after the backswing, that is, at the top and the position **46** where the ball is to be placed, and in which the grip **27** at the highest position at the time of the backswing is to be positioned.

[0139] Accordingly, it is the most important condition at the time of the backswing that at the top, the grip **27** of the golf club **41** is positioned in the "swing plane"**33**.

[0140] Then, from this at the top point, the down swing is performed while the body goes ahead of the golf club **41** and is rotated. Besides, in the case of the down swing, it is effective that at the top of the swing position, the moment of inertia is once released downward, and the grip **27** takes a trajectory close to the body.

[0141] In more detail, at the time of the down swing, it is important that until the impact with the ball by the golf club **41**, the rotation of the waist goes ahead of the downward swing of the golf club **41**, and at the time of the impact, the femoral region of the left leg and the left knee are not rotated

to the outside of the body but are fixed, the state where they are directed to the front is kept, and the club head **25** is made to pass through the front of the body instantaneously from the impact to the follow-through.

[0142] As stated above, the femoral region and the knee of the left leg are not rotated with the rotation of the upper half of the body but are fixed, so that the centrifugal force and centripetal force generated by the twist of the upper half of the body are not relieved but can be transmitted to the club head **25** of the golf club **41**.

[0143] Thereafter, it is necessary that the golf club **41** is again returned to the trajectory position of the "original plane"**28** where the golf club **41** can impact with the ball in the most natural state for the player **45** originally, and the impact with the ball is performed.

[0144] Accordingly, by using the golf swing inspection tool **11** of this embodiment, the half swing in the "original plane"**28** is repeatedly practiced, and the repeated practice is performed so that the angle of 11:30 can always be kept by setting the leading edge **30** of the club head **25** at the club face angle indication member **14** at the top-of-swing position of the half swing, and further, at the time of the full swing, while reference is made to the "swing plane"**33**, the down swing of the golf club **41** is performed in accordance with the "original plane"**28**, so that the swing to enable the ball to be hit farther and more accurately can be learned.

[0145] Accordingly, in the case where the practice of the golf swing is performed using the golf swing inspection tool **11** of the embodiment, it is learned by the "swing plane"**33** that the position of the grip **27** at the top point of the backswing is set at the position of the right shoulder, the angle of 11:30 of the club face **26** at the height position of the waist at the time of the down swing is learned by the regulation of the club face angle indication member **14**, and the angle position of the golf club **41** at the impact can be learned by the "original plane"**28**.

[0146] Accordingly, since the three points of the correct swing are clearly and objectively indicated by the swing trajectory indication member **13** and the club face angle indication member **14** in the form where determination can be visually made, the player **45** repeatedly practices the swing trajectory including the three points, and can easily learn the swing trajectory to enable the ball to be hit farther and more accurately.

[0147] Incidentally, the specific structure of the reference index member **12** and the swing trajectory indication member **13** are not limited to the above embodiment.

[0148] The invention can be applied to an equipment to check a form in a case where a golf player performs a practice to stabilize a swing trajectory.

What is claimed is:

1. A golf swing inspection tool to check a swing of a golf club by a golf player, comprising:

a reference index member to regulate an effective swing trajectory plane of the golf club.

2. The golf swing inspection tool according to claim 1, wherein the reference index member includes a swing trajectory indication member to indicate the effective swing trajectory plane of the golf club, and a club face angle indication member to indicate an effective angle of a club face at a time of backswing.

3. The golf swing inspection tool according to claim 2, wherein the swing trajectory indication member regulates an original swing trajectory plane which includes a position of the golf club set up in a state where an upper half of a body is bent forward by a specified angle around a hip joint and has an appropriate angle of incidence for impact with a ball by the golf club at a time of swing, and an imaginary swing trajectory plane which includes a straight line connecting a right shoulder of the player in a case where the backswing is performed and the golf club has reached a highest position and the ball and in which a grip at the highest position at the time of the backswing is to be positioned.

4. The golf swing inspection tool according to claim 3, further comprising a base to be mounted on an installation surface, and a supporting part provided on the base to be capable of elongating and contracting in a vertical direction, wherein

the swing trajectory indication member has an arm shape and is attached to the supporting part at a variable angle,

the club face angle indication member is attached to the supporting part, and

the swing trajectory indication member is provided to be capable of elongating and contracting.

5. The golf swing inspection tool according to claim 4, wherein the supporting part has a rod shape, the swing trajectory indication member and the club face angle indication member are axially supported to an upper end of the supporting part, and the swing trajectory indication member is provided to be elongated straightly from an axial support part of the supporting part to both sides of the supporting part, and has a length capable of regulating a cross section of a swing trajectory of the golf club in a case where it is elongated to both the sides of the supporting part.

6. The golf swing inspection tool according to claim 5, wherein an angle display disk having a disk shape is fixed to the upper end of the supporting part at a center part, and the swing trajectory indication member and the club face angle indication member are attached to the indication member through the center part of the angle display disk.

7. The golf swing inspection tool according to claim 5, wherein time indicating characters are marked on a peripheral part of the angle display disk, and the club face angle indication member is fixed to an angle position of 11:30 at a take-back highest position when a half swing of the golf club is made.

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