ABSTRACT: A golf practice club guide having a standard supporting rotary and transitory motion producing mechanism at the upper end thereof, motion-transmitting mechanism attached to and actuated by the motion-producing mechanism and depending therefrom, clamp means attachable to the shaft of a club and club motion control mechanism carried and actuated by said motion-transmitting mechanism and connected to said clamp mechanism whereby the club is caused to swing with the head thereof moved in an arc. If the club is not swung perfectly, resistance in the parts of the device is met while, with the proper swing, little or no resistance is met in the mechanism as the club swing is made.
GOLF CLUB PRACTICE SWING GUIDE

SUMMARY OF THE INVENTION

Applicant's invention relates to a device for aiding a person in making a proper golf club swing and utilizes the swinging motion of the club to actuate motion-producing means at the upper end of a standard to actuate motion control means at the club through motion-transmitting means between the motion-producing means and the motion control means whereby the club is caused to swing with the head of the club moved in a desired arc. If the club is not swung perfectly, resistance in the parts of the device is met while with the proper swing little or no resistance is met in the mechanism as the club swing is made.

With the device disclosed herein the user can feel the full swing plane and by repeated use a correct swing is encouraged through muscle memory. The device promotes a one-piece take away, that is both arms and club are brought back into the back swing together. The device also promotes a correct full swing arc and encourages weight transfer from one foot to the other foot. The device further encourages full arm extension in the follow through swing and a full high swing finish. The use of the device retains the "feel" provided by the same and is able to duplicate the full swing arc with a minimal of practice with the device.

FIG. 1 is an elevational perspective view of a golf practice club guide illustrating an embodiment of the invention and showing the golf club held at address position by an operator, the arc of the club head broken in dotted lines.

FIG. 2 is a fragmentary view similar to FIG. 1 showing the club held at the top of the back swing.

FIG. 3 is a view similar to FIG. 2 showing the club at the end of the follow through swing.

FIG. 4 is a top plan view of the club guide when the parts are disposed as shown in FIG. 3 at the top of the follow through swing.

FIG. 5 is a plan view of the club guide when the parts are disposed as shown in FIG. 2 and drawn to a greater scale.

FIG. 6 is a fragmentary elevational view taken on line 6-6 of FIG. 1 and drawn to a greater scale.

FIG. 7 is an elevational side view of the club clamp and the club motion control as viewed in FIG. 1 and drawn to a greater scale.

FIG. 8 is a fragmentary sectional view taken on line 8-8 of FIG. 4 and drawn to a greater scale.

FIG. 9 is a fragmentary sectional view taken on line 9-9 of FIG. 8.

FIG. 10 is an enlarged fragmentary sectional view taken on line 10-10 of FIG. 3.

FIG. 11 is an enlarged fragmentary perspective view of the brackets mounting the mirror.

The golf practice club guide herein disclosed consists of a standard A on which is mounted a rotary and translatory motion-producing means B. Depending from this motion-producing means B is a motion-transmitting means C which terminates in a motion control means D and to which a golf club is attached. These parts will now be described in detail.

For the purpose of illustrating the method of using the invention, a golf club 30 has been shown which has a shaft 31, a head 33, and a grip 37.

STANDARD

The standard A best shown in FIG. 1 comprises a T-shaped base 10 having a stem 12 and a crossbar 14 extending across the same and welded thereto. These parts may be constructed of inverted channel stock. Welded to the stem 12 of said base is a tubular upright 16 which has slidably mounted in it a tubular extension 18 having a cap 19 screwed to the upper end of the same. Braces 34 are bolted to the base 10 and secured to the upper end of hollow upright 16 by means of screws 36.

Mounted on the cap 19 is hinge means 20 best shown in FIGS. 8 and 9 which includes a supporting member 22 having a threaded shank 24 and an axle 26 extending outwardly therfrom. The cap 19 is threaded to receive said shank 24 and a lock nut 25 holds the axle 26 in a fixed substantially horizontal position. Rotatably mounted on the axle 26 is a hub 28 which is held from axial movement toward the shank 24 by means of an unnull key 32.

MOTION PRODUCING MEANS

The motion-producing arm. These B best shown in FIGS. 5 and 8 comprises a head 40 having a main arm 42 and a crossarm 44. The arm 44 overlies the arm 42 and lies in a recess 46 in said arm. These arms are pivoted together by pivot means 48 which consists of a capscrew extending through arm 44 and screwed into arm 42. A link 52 is pivoted to the upper outer end of arm 42 by pivot means 54 and is constructed from a rod bent upwardly to form a pintle which extends upwardly through said arm. The other end of said link 52 is pivoted to a flat slope 58 welded to the hub 28 by pivot means 56 which includes a downwardly extending pintle on said link 52 and which extends downwardly through said slope.

The end of the arm 44 nearest upright 18 is pivotally connected to the hub 28 by pivot means 64 which includes a shouldered stud 29 and which is welded to said hub and extends through the end of arm 44 nearest the upright 18. A nut 66 on the end of this stud 29 holds arm 44 in position on said stud.

MOTION TRANSMITTING MEANS

The motion-transmitting means C best shown in FIGS. 4 and 8, consists of an elongated tube 72 which extends downwardly from the lower end of arm 42 and lies in alignment therewith. This tube is journalled for rotation about its axis in a bearing 74 disposed at the lower end of said arm 42. This tube is held from axial movement by means of collars 76 and 78. Slidably mounted in said tube 72 is a rod 82 which extends through a recess 84 in arm 42 between bearing 74 and a combined guide and bearing 86 located between the recess 84 and the recess 46. Extending between the other end of arm 44 and the rod 82 is a link 88. This link is similar to link 52 and is constructed from a rod bent at one end to provide pivot means 92 which extends through said arm. The rod 82 is rotatably mounted in a bore 94 in a slider 95 which is held from axial movement along said rod 82 by means of collars 96 and 98 fastened to said rod. Pivot means 102 in the form a pintle bent outwardly from link 88 with said slider. The slider 95 moves with rod 82 on which it is mounted.

MOTION CONTROL MEANS

The motion control means D comprises a short rod 112 particularly FIGS. 8, 4 and 5, which has secured to its ends tow attachments 114 and 116, FIGS. 5 and 10. These attachments being identical only the attachment 114 will be described. This attachment 114 has a bore 118 through which the rod 112 extends. A pin 122 extends through the attachment and rod 112 and secures the same together. The attachment 114 has pivot means 120 which includes a slot 124 formed in the attachment 114 in which is received an eye 126 fast on the end of the rod 82. A pintle 128 extends through said attachment and said eye and forms said pivot means between the lower end of rod 82 and rod 112. Similar pivot means 130 associated with attachment 116 pivotally connects the outer end of a link 132 with the upper end of rod 112. Slidably mounted on the tube 72 is a slider 134, particularly FIG. 10. This slider has a bore 146 through which extends said tube 72 and may be held in longitudinally adjusted position thereon by means of a thumb screw 136. The slider 134 is adjusted on tube 72 to accommodate players of various heights and players with various arm lengths. The slider 134 has a slot 138 in the same and in which is received an eye 142 formed on the other end of link 132, particularly FIG. 10. A pintle 144 extends through said slider and eye 142 and forms pivot means 147 between the link 132 and slider 134, particularly FIG. 10.
Rotatably mounted on the rod 112 is a clamp 150 for attachment to the shaft 31 of the golf club 30. This clamp has two clamping jaws 152 and 154. These jaws have coacting grooves 156 which are lined with a resilient material and receive the shaft 31 of the club 30 therebetween in clamping engagement. The numeral 156 designates a bolt which passes through the two jaws 152 and 154 and has a wing nut 162 screwed on the same, and which mounts the clamp 150 rigidly on the club shaft. The jaw 152 has a bore 164 through it which is parallel to the groove 156 wherein and which receives the rod 112 and supports the clamp 150 for rotative swinging motion relative thereto, particularly Fig. 10. A sleeve 166 encircles the lower portion of the rod 112 which together with the attachment 116 holds the clamp 150 from axial movement on said rod 112.

In order to make the club swing freely and relieve some of the weight of means C and D a counterbalance 170 is employed which is shown in detail in Fig. 9. The numeral 172 designates a cap which is secured to the end 27 of the axle 26 by means of a set screw 174. A helical coil spring 176 encircles the end 27 of said axle and is partly received in the cap 172. One end 178 of this spring has a portion 182 which extends tangentially outwardly therefrom. The extreme end of said portion is bent to form a finger 184 which extends parallel to the axis of the axle 26 and overlies the spoke 58 issuing from the hub 28. The other end 186 of this spring is bent outwardly parallel with the axis of axle 27 and extends through an opening 188 in the end wall 189 of cap 172.

For the purpose of assisting the golfer to note and correct errors in stance and swing for making a golf shot, a mirror 190 is employed which is mounted on brackets 192 attached to the upright 18 by means of cap screws 194. The brackets 192 are pivotally connected to the pair of trunnions 196 mounted on the back 198 of the mirror 190 by means of the bolt 202 and the wing nut 204. The bolt and wind nut allow for adjustment of the mirror. The parts are resiliently urged together permitting the mirror to be manually adjusted and when adjusted remains in adjusted position.

In the various pivot means not described in detail M-shape spring keys are employed to restrain axial movement between the parts.

The method of using the invention is as follows. The clamp 150 is attached to the shaft 31 of the club 30 directly below the wrapping 37 as shown in Fig. 1 with the club head 33 resting on a mat 38 on which a ball 39 may be placed. The mat 38 is supported on the rigid flat member 39. The clamp 150 is tightened upon the club. The extension 18 is now adjusted to the weight of the golfer 190 the mirror 190 is adjusted clamped to the tube 72 so that the head 33 of the club rests on the mat and the golfer is in a suitable and comfortable position. The golfer now swings the club back to the top of the back swing position shown in Fig. 2, then through the address position shown in Fig. 1, and thence to the follow through position shown in Fig. 3. If the operator meets with opposition in the swinging of the club, he is swinging improperly and must adjust his swing until the club passes freely throughout the swing indicated by the arc S in Fig. 1 and no extra resistance is felt.

In using the device the same operates as follows. With the club secured in the device as shown in particular in Fig. 1 and the operator assuming the address position of Fig. 1, the club is started into the back swing. As the club is started into the back swing the hub 28 is caused to rotate on the axle 26 in a clockwise direction looking at Fig. 8 which movement rotates the crossbar 44 about the axis of the axle while at the same time the main arm 42 pivots on pivot means 48 simultaneously with a pivoted movement on stud 29 through crossarm 44. With these movements the crossarm 44 pivots on the stud 29 in the direction of the arrow as shown in the lower right area of Fig. 4. 70
Simultaneously the link 52 pivots at 54 on the outer end of arm 42 and pivots at 56 on spoke 58. Simultaneously with the above movements the rod 82 is pulled outwardly from the tube 72, and as the club is drawn further back and upwardly, the clamp 150 rotates upon the short rod 112. Simultaneously with the above movements which includes the above movement of the rod 82, the slider 95 secured on the rod 82 moves with the rod to the left viewing Fig. 4, while there is a pivoting of the link 88 at one end at 102 on the slider 95. Simultaneously there is a pivoting of the other end of link 88 at pivot 92.

At the top of the back swing, as in Fig. 2, the slider 95 has returned to the position of Fig. 1. As the club is swung from the top of the back swing back to the position of Fig. 1, the above described movements are caused to occur in reverse order. As the club is moved to and through the address position toward the follow through position of Fig. 3, the crossarm 44 pivots on 64 in the direction of the arrow in Fig. 4. Slider 95 moves downwardly with rod 82 and there is pivotal movement at 54 and 56 at the ends of link 52 together with rotation of the hub 28 on the axle 26. As the follow through progresses there is a slight pivotal movement at 92 and 94 as to link 88. Simultaneously the clamp 150 pivots on the short rod 112 in a direction opposite to such a pivot in the aforementioned movement of the club to the back swing position. At the top of the follow through as in Fig. 3 the slider has returned to the initial position of Figs. 1 and 4. As the club is returned to the address position of Fig. 1 from the follow through position the movements described from address position to follow through position are reversed.

The advantages of the invention are manifest. The club guide is automatic and when once adjusted to the individual, teaches the golfer to swing a club in the proper arc and procure a straight shot of greater yardage than before having practiced with the club guide. The club guide can be used with any of the clubs, wood or iron, by proper adjustment of the extension 18 within the upright 16. With a shorter club, such as an iron, the extension 18 is lowered in the upright 16 and is moved according to marks 200 which indicate settings for different length clubs. The extension 18 is adjustably secured in position by means of the wing bolt 202 extended through a hole in the standard 16 and a slot 204 in the extension where it threadedly engages a block 206 internally of 18. The club guide is adjustable to accommodate tall or short golfers or with golfers having different lengths of arms and clubs. The golfer by looking in the mirror can view his actions and see how he is swinging the club as well as feeling the swing.

Having now therefore fully illustrated and described out invention, what we claim to be new and desire to protect by Letters Patent is:

1. A golf club practice swing guide comprising:
   a. standard,
   b. combined rotary and translatory motion-producing means at the upper end of the standard,
   c. depending motion-transmitting means attached to and actuated by the motion-producing means,
   d. clamp means securing the shaft of a golf club to the lower end of the motion-transmitting means and actuated thereby,
   e. club motion control means carried by and acting between said clamp means and said motion-transmitting means,
   f. motion-producing means including
   g. hinge means having
   h. a fixed axle mounted on said standard and
   i. a movable hub on said axle,
   j. said motion-producing means further including
   k. a head comprising
   l. a main arm,
   m. a crossarm extending transversely of said main arm,
   n. a pivot means between said arms disposed intermediate the ends thereof,
   o. pivot means between one end of the crossarm and the movable part of the hinge means,
   p. a link,
   q. pivot means between one end of said link and one end of the main arm,
   r. pivot means between the other end of said link and the movable part of said hinge means.

2. A golf club practice swing guide according to claim 1 in which a counterbalance is disposed between the axle and hub.
3. A golf club practice swing guide according to claim 2 in which:
   a. the counterbalance consists of a helical spring,
   b. coaxial with said axle and hub with
   c. one end fixed relative to the axle and
   d. one part fixed relative to the hub.

4. A golf practice swing guide according to claim 3 in which:
   a. the helical spring encircles an extension of the axle
      beyond the hub and is secured at one end to a cap fast on
      said axle and enveloping said spring and
   b. engages at its other end a spoke issuing from said hub.

5. A golf club practice swing guide according to claim 4 in which:
   a. the link pivoted to one end of the main arm is also pivoted
to
   b. the spoke extending outwardly from said hub.

6. A golf club practice swing guide according to claim 1 in which:
   a. the motion-transmitting means comprises a tube extending
      downwardly from and in the direction of the extent of the
      main arm of said head and rotatable
   b. in bearing means on said main arm,
   c. restraining means acts between said tube and arm and
      prevents axial movement therebetween,
   d. a rod is slidably disposed within and extends throughout
      the length of said tube,
   e. a link employed and
   f. pivot means between said link and the other end of said
      crossarm is utilized and
   g. other pivot means between said link and the upper end of
      said rod is had.

7. A golf club practice swing guide according to claim 6 in which:
   a. the last named pivot means between the link and the
      upper end of the rod comprises
   b. a slider which has
   c. a bore receiving said rod and guiding said rod for rotative
      movement and
   d. collar means secured to said rod for restraining axial
      movement between said slider and rod.

8. A golf club practice swing guide according to claim 6 in which:
   a. the rod extends above the bearing means and
   b. a guide on said main arm guides the extended part of the
      rod for rotational and axial movement relative to the axis
      of said rod.

9. A golf club practice swing guide according to claim 1 in which:
   a. the motion-transmitting means includes a rod longitudinally
      movable within a tube,
   b. the club motion control means includes
   c. an attachment pivoted to the lower end of said rod for
      swinging movement about an axis substantially perpendicular
to the axis of said rod,
   d. a short rod is secured to said attachment member with its
      axis lying in a plane containing the axis of said rod,
   e. a golf club clamp is rotatably mounted on said short rod,
   f. a second attachment is secured to the outer end of said
      short rod and having its axis substantially perpendicular
to the plane containing the axes of said rod and said short rod,
   g. a link, and
   h. bearing means between said link and short rod connect-
ing said link and short rod together,
   i. a sliding member slides along said tube,
   j. clamping means hold said sliding member in adjusted
      position on said tube, and
   k. pivot means between said sliding member and the other
      end of said link connect the same together.

10. A golf club practice swing guide comprising:
   a. a standard,
   b. combined rotary and translator motion-producing means
      at the upper end of the standard,
   c. depending motion-transmitting means attached to and act-
tuated by the motion-producing means,
   d. clamp means securing the shaft of a golf club to the lower
      end of the motion-transmitting means and actuated thereby,
   e. club motion control means carried by and acting between
      said clamp means and said motion-transmitting means,
      the motion-transmitting means including
   f. a tube extending downwardly from and in the direction of
      extent of a part of the combined rotary and translator
      motion-producing means and rotatable
   g. in bearing means on said motion-producing means,
   h. restraining means acting between said tube and a part of
      said motion-producing means thereby preventing axial
      movement therebetween,
   i. a rod slidably disposed within and extending throughout
      the length of said tube,
   j. a link and
   k. pivot means between said link and a part of said motion-
      producing means, and
   l. other pivot means between said link and the upper end of
      said rod.

11. A golf club practice swing guide comprising:
   a. a standard,
   b. a combined rotary and translator motion-producing
      means at the upper end of the standard,
   c. depending motion-transmitting means attached to and ac-
tuated by the motion-producing means,
   d. clamp means securing the shaft of a golf club to the lower
      end of the motion-transmitting means and actuated thereby,
   e. club motion control means carried by and acting between
      said clamp means and said motion-transmitting means,
      the motion-transmitting means including
   f. a longitudinally movable rod, and
   g. the club motion control means including an attachment
      pivoted to the lower end of said rod for swinging move-
      ment about an axis substantially perpendicular to the axis
      of said rod,
   h. a short rod secured to said attachment member with its
      axis lying in a plane containing the axis of said rod,
   i. a golf club clamp rotatably mounted on said short rod,
   j. a second attachment secured to the outer end of said short
      rod and having its axis substantially perpendicular to the
      plane containing the axes of said rod and said short rod,
   k. a link, and
   l. bearing means between said link and short rod connecting
      said link and short rod together,
   m. a sliding member along said tube,
   n. clamping means holding said sliding member in adjusted
      position on said tube, and
   o. pivot means between said sliding member and the other
      end of said link thereby connecting the same together.