United States Patent [19]

Harrison

[11] **3,829,102**

[45] **Aug. 13, 1974**

[54] **GOLF SWING TRAINING DEVICE**

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[21] Appl. No.: **389,953**

[52] **U.S. Cl.** ..... **273/186 A,** 273/194 A
[51] **Int. Cl.** **A63b 69/36**
[58] **Field of Search** 273/186, 193, 194, 183

[56] **References Cited**

UNITED STATES PATENTS

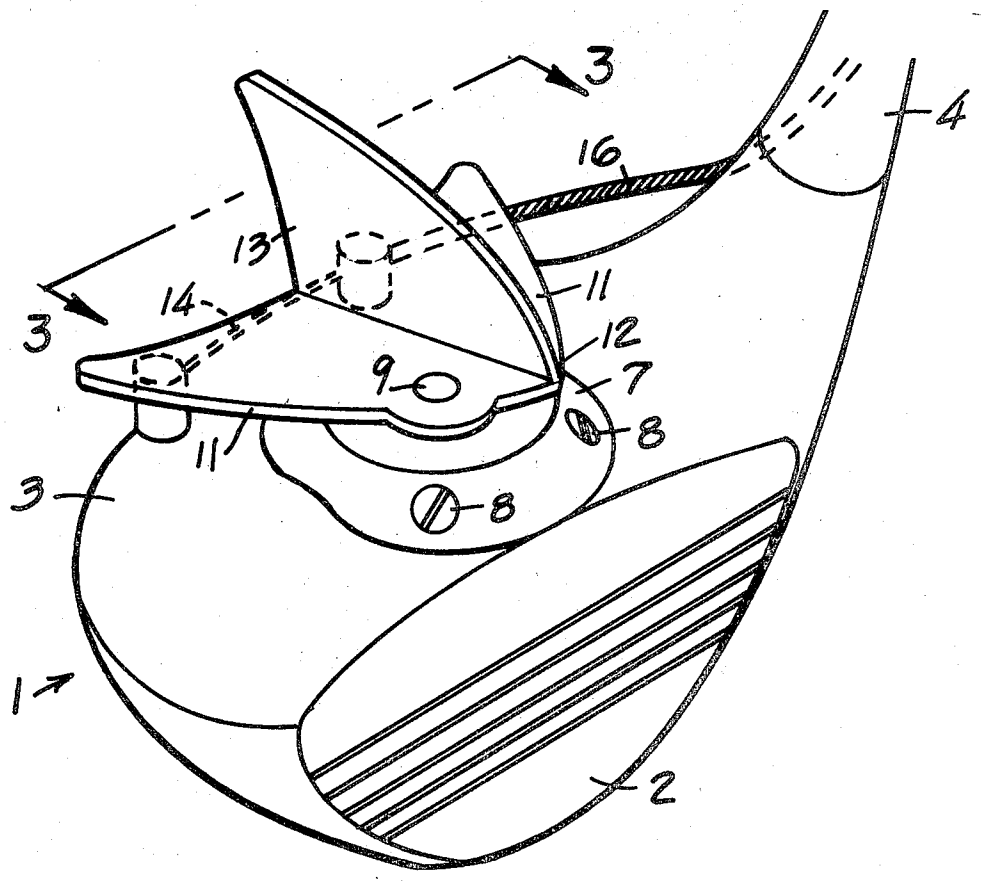
2,856,190	10/1958	Quattrin	273/193 R
3,719,363	3/1973	Harrison	273/186 A

Primary Examiner—George J. Marlo
Attorney, Agent, or Firm—George B. White

[57] **ABSTRACT**

This is an improvement on training attachments on the head of a golf club. The training attachment includes a directing member attachable to the top of the head of the golf club so that it can be turned and held in selected directions relatively to the face of the club; a remote control device is actuated from the grip portion of the shaft of the golf club; in one form the actuation is through a line extending along the shaft of the golf club to the directing member and a device near the grip whereby the line is manipulated for turning the directing member; in another form the directing member has an electrical device including electromagnets for turning the same, which electrical device is actuated through a switch on or near the grip portion of the shaft of the golf club.

7 Claims, 11 Drawing Figures



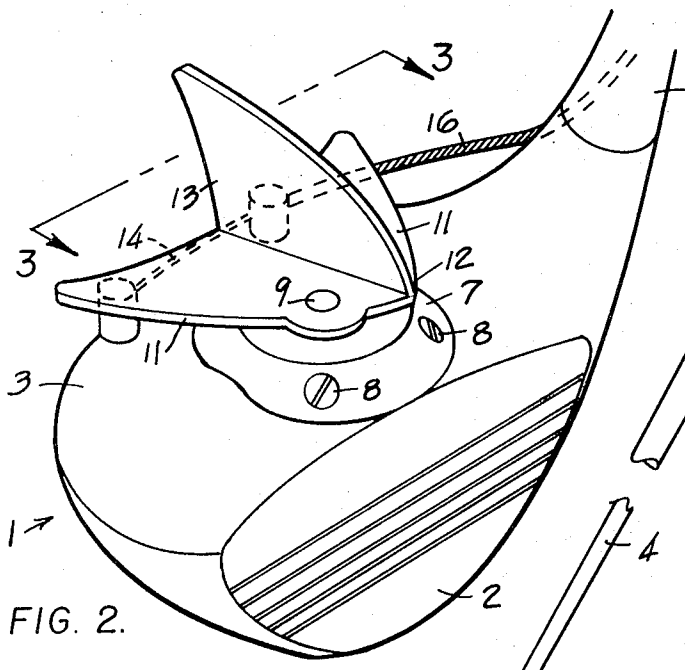


FIG. 2.

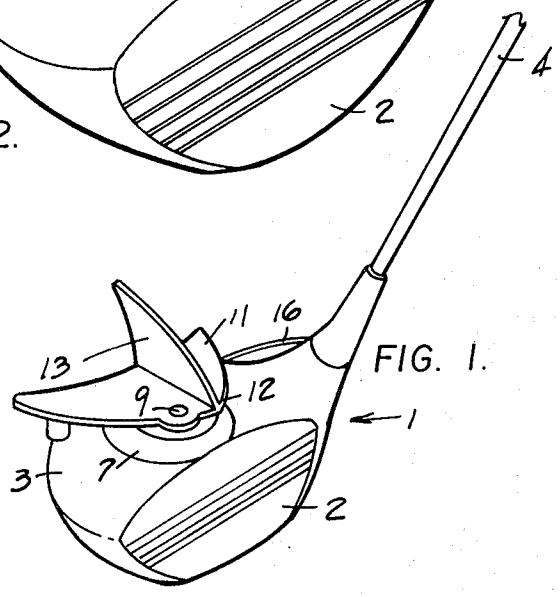


FIG. 1.

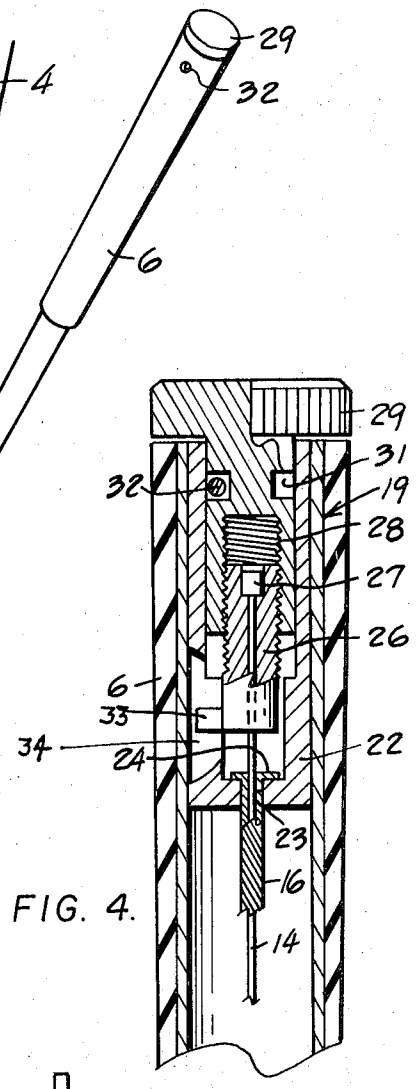


FIG. 4.

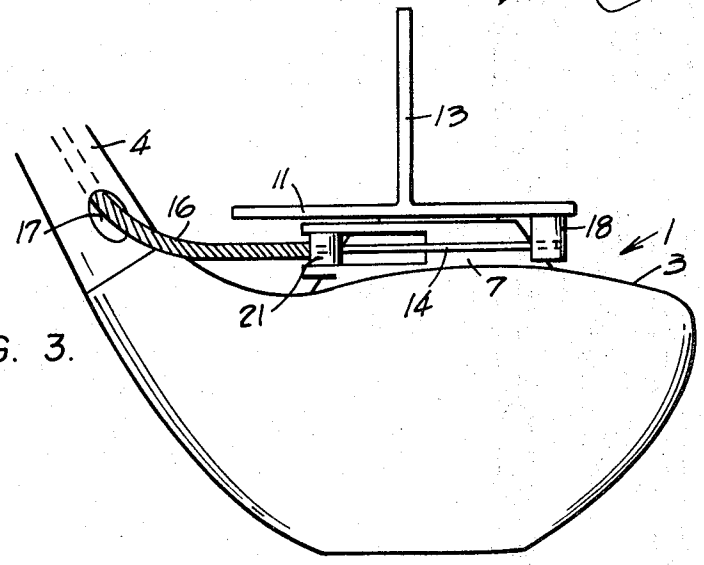


FIG. 3.

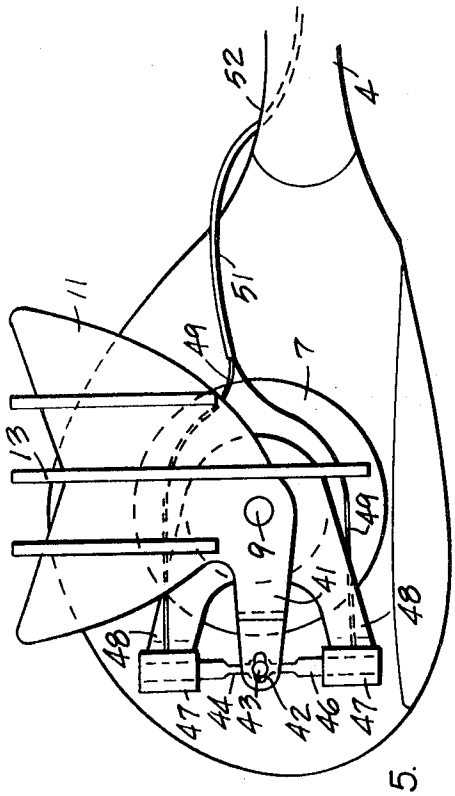


FIG. 5.

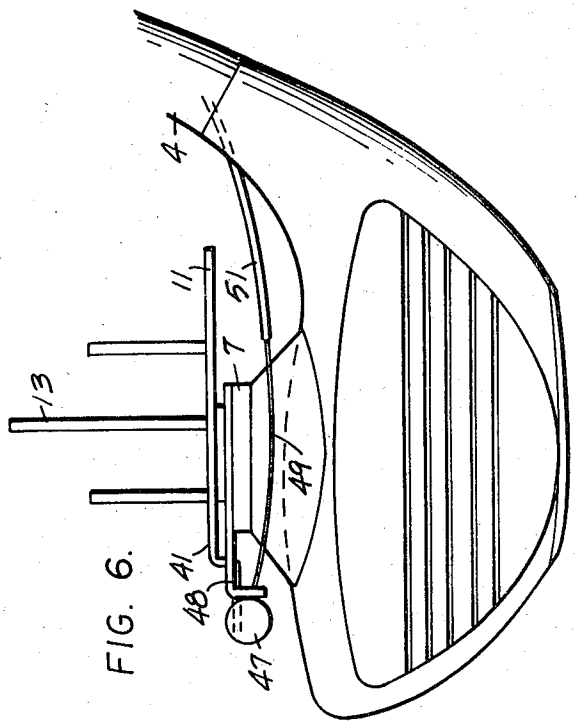


FIG. 6.

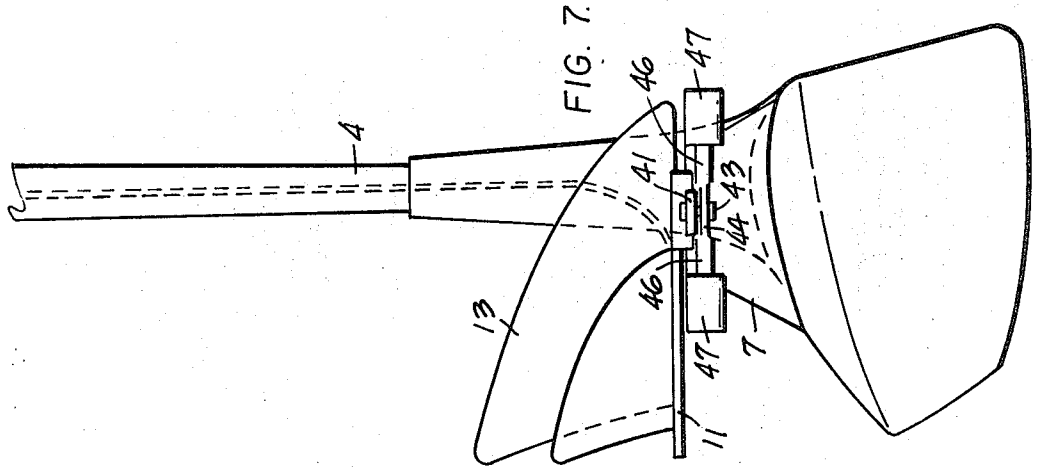


FIG. 7.

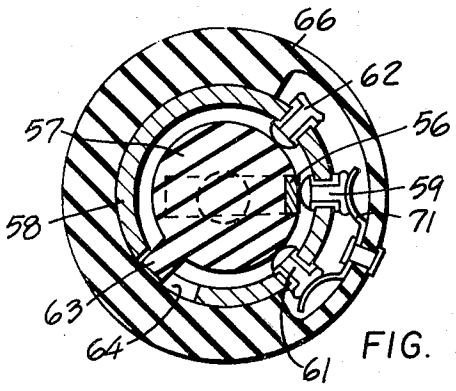
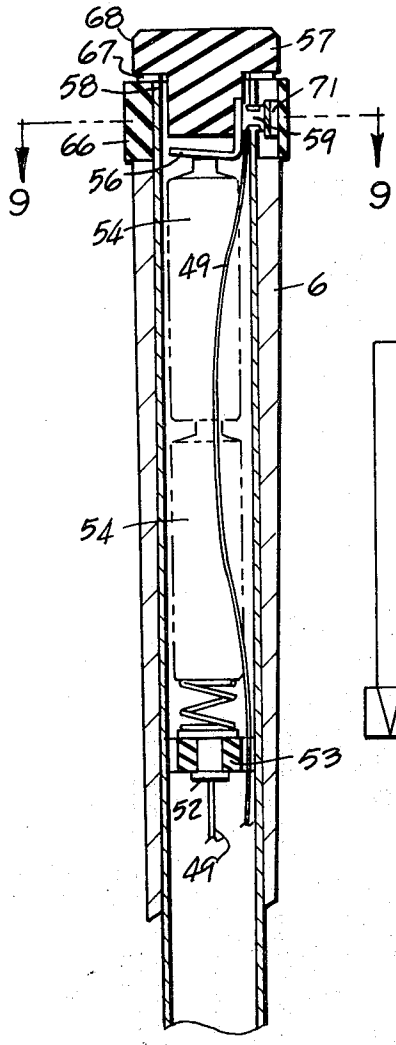


FIG. 9.

FIG. 8.



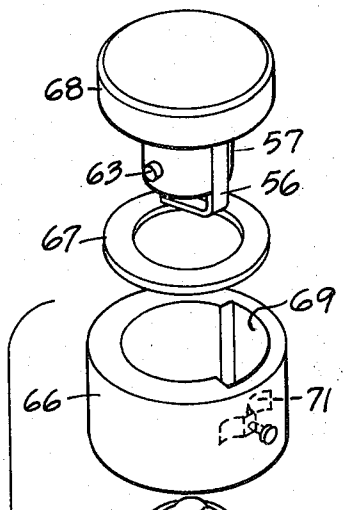


FIG. 10.

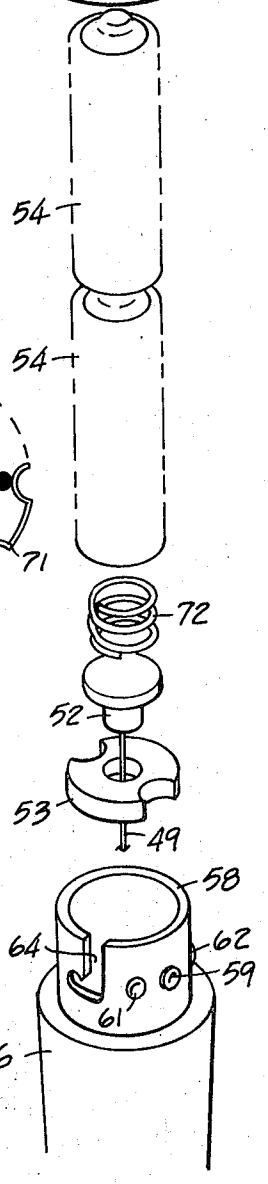
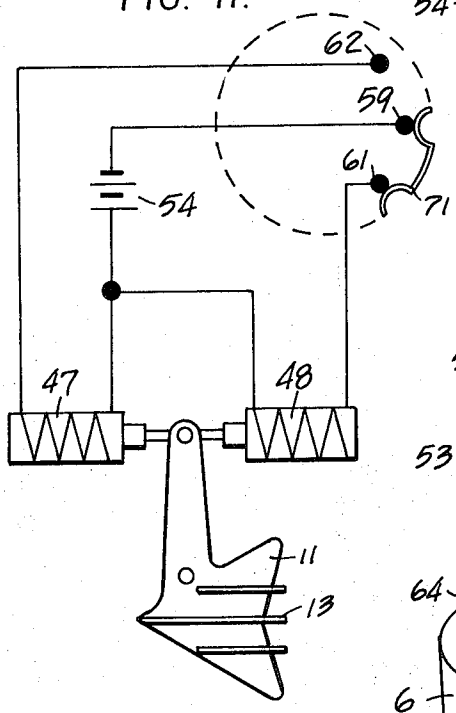


FIG. 11.



GOLF SWING TRAINING DEVICE

BACKGROUND OF THE INVENTION

Training devices are available in various forms to be attached to the head of the golf club for urging the club head along a pre-selected path thereby to train the muscles of the user to learn the desired swing. Such an attachment is shown in U.S. Pat. No. 3,719,363 issued on Mar. 6, 1973 and in some of the references cited in said patent.

The primary object of this invention is to provide a device which holds the training attachment in selected directional position and wherein the desired direction of the attachment can be adjusted by remote control from a location on the shaft of the golf club easily accessible to the player.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a golf club with the attachment thereon the shaft being broken.

FIG. 2 is an enlarged view of the head of the golf club with the attachment thereon.

FIG. 3 is a rear view of the head of the golf club with the attachment thereon, the view being taken from the direction of the arrow 3—3 of FIG. 2.

FIG. 4 is a sectional view of the grip portion of the shank of the golf club showing the manipulable adjusting mechanism.

FIG. 5 is a plan view of an electrically actuated adjustable attachment on the top of the head of the golf club.

FIG. 6 is a side view of the form shown in FIG. 5.

FIG. 7 is an end view of the form shown in FIG. 5.

FIG. 8 is a fragmental sectional view of the shank of the golf club showing the grip in section with the electrically actuating mechanism therein.

FIG. 9 is a sectional view taken on lines 9—9 of FIG 8.

FIG. 10 is a developed view of the electrically actuating mechanism.

FIG. 11 is a diagrammatic view showing the electrical circuit for the actuation.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

First Form

Referring to FIGS. 1 to 4 inclusive, there is shown a conventional golf club known as a "wood" which has a head 1 provided with a striking face 2 and an upper surface from which head extends a hollow shaft 4 terminating in a handle grip 6.

The attachment in this form includes a flat bracket 7 which is secured by suitable means such as screws 8 to the top surface 3 of the head 1. The bracket 7 is hollow and a pivot 9 is rotatably held therein substantially in any suitable manner such as the structure shown in FIG. 6 of U.S. Pat. No. 3,719,363. On the pivot 9 is fixed a horizontal stabilizer 11 which in this form takes the shape of delta outline wings tapering toward the face 2 to a point 12. A vertical stabiizer 13 is also in the form of a plate arced so as to converge to the point 12.

The adjusting mechanism in this form includes a flexible line 14 which extends through a flexible tube 16 extended along the shaft 4 to the grip 6. In the present illustration the tube 16 extends through a hole 17 in the side of the shank and then extends inside of the hollow shank, but it is understood that the same may be extended along the outside of the shank.

An end of the line 14 is anchored in a projection 18 on the underside of the horizontal stabilizer 11, the other end of the line 14 extends into the actuating device 19 shown in FIG. 4. The line 14 is guided through a guide 21 extended from the base 7 so that the projection 18 and the guide 21 are respectively below the wider portions of the opposite wings 11 as shown in FIG. 2.

The adjusting mechanism or actuating device 19 includes a sleeve 22 suitably secured inside the top portion of the grip 6. The inner end of the sleeve 22 is closed and has a hole 23 through the closed end to accommodate the flexible tube 16 the end of which latter has a retaining flange 24 resting on the inside of the closed end of the sleeve 22. The line 14 extends into an externally threaded plug 26 and is anchored therein by an enlargement 27 in a pocket in the top of the plug 26. The said plug 26 is threaded into a tubular shank 28 which latter has a knurled head 29 overlapping the end of the grip 6. The shank 28 has an annular groove 31 and a screw 32 extended through the grip 6 into the groove 31 which restrains the shank 28 against longitudinal displacement. Thus when the head 29 is turned in one direction the plug 26 advances inwardly of the shank 28 pulling the line 14, and when the head 29 is turned in the other direction the plug 26 moves outwardly of the shank 28 thereby pushing or releasing the line 14 in the opposite direction. Specifically when the head 29 is turned in the clockwise direction viewing FIG. 4, then the horizontal stabilizer 11 and vertical stabilizer 13 are turned also in a clockwise direction so that they point away from the shaft 4, and when the knurled head 29 is turned in a contra-clockwise direction the stabilizers 11 and 13 are turned in a contra-clockwise direction pointing toward the shaft 4. The plug 26 is prevented from turning by an ear 33 which travels in a slot 34 in the sleeve 22.

Second Form

The second form is illustrated in FIGS. 5 to 11 inclusive and the stabilizers 11 and 13 are mounted on the bracket 7 on a pivot 9 as described in the first form of the invention. In this form an arm 41 is extended laterally from one of the wings of the horizontal stabilizer 11 and radially with respect to the axis of the pivot 9. The other end of the arm 41 has a slot 42 which engages a pin 43 which pin extends into the middle portion 44 of a reciprocating member. At each end of the middle portion 44 is a magnetic core 46 which works in an adjacent solenoid 47. The solenoids 47 are fixedly supported on the ends of legs 48 extended from the bracket 7 as shown in FIG. 5, so that the axes of the solenoids 47 are substantially at right angles to the arm 41. Hence when either of the solenoids 47 is energized it pulls the arm 41 in that direction and thereby turns the stabilizers to point in the respective adjusted direction. Suitable electrical wires 49 extend from the respective solenoids and in a common covering 51 extend along the hollow shaft 4. In this illustration the wires are inserted through a hole 52 through one side of the hollow shaft 4 and then inside of the hollow shaft 4 to a conductor contact 52 held in a bracket 53. One or more batteries 54 are inserted in the grip 6 as shown in FIG. 8. The batteries 54 are pressed against a second contact 56 which is on the lower end of a plug 57 se-

cured in the tubular top **58** of the grip **6.** In the tubular top **58** is a middle contact **59** and side contacts **61** and **62** spaced equidistant on the sides of the middle contact **59.** The plug **57** has a button **63** on one side which fits into a bayonet slot **64,** as shown at the bottom of FIG. **10,** so spaced from the middle contact **59** that when the button **63** is locked into the bayonet slot **64** the plug contact **56** is in touch with the middle contact **59.** A cylindrical switch **66** is rotatable about the tubular top **58** and is held in place by a washer **67** which in turn is held in place by the knurled head **68** on the plug **57.** Inside the cylindrical switch **66** is a cutaway recess **69** in which is suitably secured a bridge **71** of the same width as the distance between the middle contact **59** and either of the side contacts **61** or **62** so that when the cylindrical switch **66** is turned where the middle of the bridge **71** is opposite the middle contact **59,** the circuit is disconnected, but when the cylindrical switch **66** is rotated in a clockwise direction then it will close the circuit between the middle contact **59** and the side contact **61.** When the cylindrical switch **66** is turned in contra-clockwise direction viewing FIG. **9** then the circuit is closed between the middle contact **59** and the other side contact **62.** According to the turning of the switch **66** when it is turned in clockwise direction as shown in FIG. **11,** the solenoid **48** is energized which turns the stabilizers **11** and **13** in a clockwise direction viewing FIG. **11,** and when the switch is turned to the opposite contact **62,** then the other solenoid **47** is energized to turn the stabilizers **11** and **13** in a contra-clockwise direction. A coil spring **72** between the contact **52** and the lower battery **54** presses the batteries **54** against the fixed contact **56** on the plug **57.**

I claim:

1. A golf swing training attachment for a golf club having a head and a shaft extended from the head and a handle grip on the free end of the shaft,

a pivoted directing member turnable to selected directions relatively to said head and shaft,

means for pivotably attaching the direction member to the top of the head of the golf club so that the axis of pivoting is substantially perpendicular to said top,

a manipulatable device at said grip of said golf club,

means for transmitting adjusting movement from said manipulatable device to said directing member.

2. The device specified in claim **1,** and

said transmitting means extending along said shaft from said directing member to said manipulatable device.

3. The device specified in claim **2,** and

said transmitting means including

a line connected to said directing member for exerting turning motion to said directing member,

an element in said manipulatable means to hold the other end of said line,

and means for operating said element by said manipulatable means for moving said line in either of opposite directions thereby to turn said member in selected directions.

4. The device specified in claim **2,** and

the connection of said line to said member being offset from the pivot axis of said member,

said manipulatable means including

a turnable element in said grip,

an element moving axially relative to said grip, said line being connected to said axially movable element, and

means of connection between said turnable element and said axially movable element to convert the turning of said turnable element into axial movement of said axially movable element thereby to move said line in either of opposite directions at will for correspondingly turning said pivoted directing member.

5. The device specified in claim **1,** and

said adjusting device including

electrically actuated means for turning said directing member,

and said transmitting means including means to transmit electric current to said electrically actuated means, and

said manipulatable device including switching means for energizing said electrical transmitting means for operation in opposite directions.

6. The device specified in claim **1,** and

said adjusting device including

a pair of spaced electro-magnets on said attaching means,

a reciprocable element having an armature at each end operable by the respective electro-magnets, and

means to connect said reciprocable element to said pivoted directing member for turning said directing member by the energization of the respective electro-magnet.

7. The device specified in claim **6,** and

batteries in said grip,

said manipulatable means including a switch,

said transmitting means being electrical conduits extended along said shaft connecting said batteries and said switch to the respective electro-magnets, and

said switch being operable to selectively close the circuit between said battery and the selected electromagnet thereby to turn said directing member into the selected direction.

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