GOLF CLUB ALIGNMENT DEVICE

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ABSTRACT

An alignment device for attachment to the striking face of a golf club head includes a pair of elongate guide rods, a pair of connection plates for attachment between the proximal ends of the guide rods and the striking face of the head, and an adhesive layer for mounting the connection plates to the striking face. Each guide rod includes a magnet and each connection plate is constructed of a magnetically attractive material so that the guide rods can be used during practice and removed during play.
GOLF CLUB ALIGNMENT DEVICE

BACKGROUND OF THE INVENTION

[0001] This invention relates generally to golfing equipment, and more particularly to a device to improve the golfer’s stroke and aim when putting or otherwise driving a golf ball toward a designated target.

[0002] Prior art putters have been developed with various features to assist the golfer in properly aligning the club and the ball prior to stroking the ball toward a distant target during training and actual play. Such features have included projections integral with or removably connectable to conventional putters that extend forwardly of the striking surface or area of the putter to bracket the “sweet spot” of the putter and provide some visual alignment between the putter and the distant target. Other prior features include slots, alignment marks, and so on for enhancing alignment between the putter and the ball.

[0003] Alignment devices which extend forward of the face plate of the golf head are particularly helpful for teaching a golfer the proper position of the striking portion of the face plate with respect to the golf ball and the hole during practice or training. However, such devices are not permissible during play under current United States Golf Association (USGA) regulations. Ideally, it would be desirable to use the same putter or other golf club for both practice and play so that the reflexes and muscle memory learned with one putter during practice can be used during play without the difficulty of adapting to a different putter. Although the prior art has addressed this issue, there remains a need for quickly and effectively installing and removing alignment devices for golf clubs. In addition, there remains a need for adjusting such devices to suit a golfer’s particular skill level.

BRIEF SUMMARY OF THE INVENTION

[0004] According to one aspect of the invention, an alignment device for attachment to the striking face of a golf club head includes at least one elongate guide rod and at least one connection plate for attachment between the proximal end of the guide rod and the head. The guide rod is removable from the at least one connection plate.

[0005] According to a further aspect of the invention, an alignment device for attachment to the striking face of a golf club head includes a pair of elongate guide rods, a pair of connection plates for attachment between the proximal ends of the guide rods and the striking face of the head, an adhesive layer for mounting the connection plates to the striking face, and removable connection means operably associated with the connection plates and the proximal ends of the guide rods for removably connecting the guide rods to the connection plates.

[0006] According to another aspect of the invention, a putter includes a head having a striking face, a pair of connection plates attached to the striking face, and a pair of guide rods removably connected to the connection plates for receiving a golf ball therebetween.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The foregoing summary as well as the following detailed description of the preferred embodiments of the present invention will be best understood when considered in conjunction with the accompanying drawings, wherein like designations denote like elements throughout the drawings, and wherein:

[0008] FIG. 1 is a perspective view of an alignment device installed on the head of a golf putter in accordance with the present invention;

[0009] FIG. 2 is an exploded perspective view of the putter and alignment device of FIG. 1 and showing a further embodiment in phantom line;

[0010] FIG. 3 is a top plan view of the putter and alignment device of FIG. 1 showing relative placement of a golf ball;

[0011] FIG. 4 is a sectional view of the putter and alignment device taken along line 4-4 of FIG. 3;

[0012] FIG. 5 is a perspective view of an alignment device installed on the head of a golf putter in accordance with a further embodiment of the invention;

[0013] FIG. 6 is an exploded perspective view of the putter and alignment device of FIG. 5;

[0014] FIG. 7 is a perspective view of an alignment device installed on the head of a golf putter in accordance with another embodiment of the invention;

[0015] FIG. 8 is an exploded perspective view of the putter and alignment device of FIG. 7;

[0016] FIG. 9 is a top plan view of the putter and alignment device of FIG. 7 showing relative placement of a golf ball and guide rods;

[0017] FIG. 10 is a sectional view of the putter and alignment device taken along line 10-10 of FIG. 9.

[0018] It is noted that the drawings are intended to depict only typical embodiments of the invention and therefore should not be considered as limiting the scope thereof. It is further noted that the drawings are not necessarily to scale. The invention will now be described in greater detail with reference to the accompanying drawings.

DETAILED DESCRIPTION OF THE INVENTION

[0019] Referring now to the drawings, and to FIGS. 1-4 in particular, an alignment device 10 for golf clubs in accordance with the present invention is illustrated. The alignment device 10 can be adapted for use with a particular golf club such as a putter 12, driver, wood or the like, and is intended to help a user both align the sweet spot of the golf club striking face with the golf ball and orient the striking face of the head perpendicular to a straight line from the hole to the golf ball to thereby maximize distance and accuracy.

[0020] The alignment device 10 is shown attached to the striking face 16 of a putter head 18 on a putter 20 having a typical shaft 22 that extends from the head. Preferably, the alignment device 10 includes a pair of spaced guide rods 24 and 26 that are connected to the toe region 28 and heel region 30, respectively, of the head 18 on either side of the sweet spot 32 and above the sole 34 so as to not interfere with putter movement during use. An alignment mark 35 typically denotes the area of the sweet spot 32.

[0021] In this embodiment, the guide rods 24 and 26 are preferably of solid cylindrical construction with a diameter of about 0.25 inch and a length of about two inches. However, it will be understood that the rods 24, 26 may be hollow and/or of any shape such as conical or triangular, square, oval, or hexagonal in cross section, and so on. It will be further understood that the rods may be of any diameter or cross dimension and length. The rod 24 is preferably inserted into a bore 36 (FIG. 2) formed in the toe region 28 of the head 18. Likewise, the rod 26 is preferably inserted into a bore 38 of the heel...
region 30. Preferably, the bores, and thus the rods, are equi-
distance from the sweet spot 32, so that the golf ball may be
aligned with the sweet spot during use.

[0022] The rods 24, 26 can be permanently installed in
the bores through any well-known permanent connection means
such as adhesive bonding, welding, press-fitting, and so on.
However, the rods 24, 26 are preferably removable installed
in the bores through any well-known removable connection means
such as cooperating threads, double-sided adhesive tape, hook and loop fasteners, inter-engaging tabs, magnets, and so on. In accordance with one embodiment of the invention,
the rods are preferably constructed of magnetically
attractive material and a connection plate 37 in the form of a
magnet (FIGS. 2, 4) is installed in each bore for removable
connecting the rods to the putter head 18. In accordance with a
further embodiment of the invention, a connection plate in
the form of a thin disk of magnetically attractive material may
be installed in each bore and each rod is magnetized or at least
a distal end of each rod may be magnetized or include a
magnet. In this manner, the rods may be installed for practice
or training and readily removed for playing so as to conform
with USGA regulations. Accordingly, the muscle coordina-
tion and reflexes learned with a particular golf club during
training can continue to be used without the necessity of
adapting to a different golf club during play.

[0023] When the guide rods 24, 26 are installed on the head
18 of the putter 20 (or other golf club), they provide an area or
space 40 (FIG. 3) within which a golf ball 42 (shown in
phantom line) can be received. In order to properly aim and
strike the ball, the rods 24, 26 are aligned with the cup, hole or
other designated target with the rods on either side of the ball.
In this position, the striking face 16 is generally perpendicular
with respect to an imaginary line extending between the ball
and the distal target. Once the golfer is comfortable with
the relative positions between the putter, golf ball and distal
target, the putter is brought backward then forward in a typical
swinging motion, with adequate care to ensure that the golf
ball 42 is struck with the striking face 16 without contacting
the rods 24, 26. If the golfer executes the putting stroke so that
the golf ball is positioned either too close to the heel or toe
regions, one or the other of the rods 24, 26 will strike the golf
ball. The golfer is thereby provided with an unmistakable
indication of a faulty putting stroke. When the putter is used
for actual play, the rods are removed so that the same putter
(or other golf club) can be used for both practice and actual
play.

[0024] The width of the area 40 can be selected to accom-
modate either beginning golfers or those with intermediate
or advanced skills, since a narrower area 40 requires greater
maneuvering skill than a wider area. Accordingly, it is con-
templated that the head 18 can have two or more pairs of bores
36, 38 (shown in phantom line in FIG. 2 for example as 36A
and 38A) so that as a golfer’s stroke is improved, the rods can
be removed from the bores 36, 38 and placed closer together in
the bores 36A, 38A.

[0025] While it is preferable to employ a pair of guide rods
during use, it will be understood that a single guide rod can be
used for aiming and striking the ball, especially when the
golfer consistently strikes the ball too close to the heel or toe
regions of the striking face.

[0026] Referring now to FIGS. 5 and 6, an alignment device
50 for golf clubs in accordance with a further embodiment of
the present invention is illustrated. The alignment device 50
preferably includes a pair of spaced connection plates 56 and
58 that are connected to the toe region 28 and heel region 30,
respectively, of the head 18 via an adhesive layer 60. A pair of
spaced rods 52 and 54 are in turn removably connected to the
connection plates 56 and 58, respectively.

[0027] The connection plates 56, 58 are preferably con-
structed of a thin disk of ferromagnetic sheet material, such as
stainless steel or other magnetically attractive material, but
may alternatively comprise a magnet or the like. Likewise, the
proximal ends 62 of the guide rods 52, 54 are either magne-
tized or contain a magnetic insert for removable attachment of
the rods to the connection plates. The relatively thin nature of
the connection plates 56, 58 ensure that there is little or no
interference with the putter when the rods are removed so that
the putter may be ready for playing. It will be understood that
the magnets and magnetically attractive material may be
replaced with other removable connection means such as
double-sided adhesive tape, hook and loop fasteners, inter-
engaging tabs, and so on.

[0028] The adhesive layer 60 preferably comprises double-
sided adhesive tape that permanently attaches the connection
plates 56, 58 to the striking face 16. However, the adhesive
layer may be formulated to removably attach the connection
plates to the striking face. The adhesive layer 60 may alter-
natively comprise an adhesive coating on the connection
plates 56, 58 and/or may be formulated to removably attach
the connection plates to the striking face. It will be understood
that the adhesive layer 60 may be replaced with other remov-
able connection means such as hook and loop fasteners, inter-
engaging tabs, and so on.

[0029] As in the previous embodiment, the rods 52, 54 are
preferably of solid cylindrical construction with similar
dimensions. However, it will be understood that the rods 52,
54 may be hollow and/or of any shape, diameter or cross
dimension and/or length.

[0030] The alignment device 50 is especially advantageous
when it is impractical to form bores in the club head 18 and/or
when the head is constructed of a non-magnetic material.
Accordingly, the connection plates 56, 58 together with the
adhesive layer 60 can be positioned at any position on the
striking face 16 and the rods can be removably connected to
the plates to ensure that the golf ball is struck at the sweet spot
32 and in the intended direction during training. Prior to
actual play, the rods and, if desired, the connection plates and
accompanying adhesive layer can be removed so that the
same club can be used for both training and playing as pre-
viously described.

[0031] Referring now to FIGS. 7-10, an alignment device
70 for golf clubs in accordance with a further embodiment of
the present invention is illustrated. The alignment device 70
is somewhat similar in construction to the alignment device 50
previously described, with the exception that connection
plates 72 and 74 are elongate or oblong in shape so that the
guide rods 76 and 78, respectively, can be adjusted along the
striking face 16 of the head 18, as shown by phantom line in
FIG. 9. In this manner, the guide rods 76, 78 can be adjusted
closer together or further apart depending on the skill of the
golfer and/or the size of the golf ball. With the exception of
their shape, the elongate connection plates 72, 74 are of
similar construction to the disk-shaped connection plates 56,
58 previously described. In addition, the elongate connection
plates 72, 74 are preferably attached to the striking face 16 of
the head 18 in a similar manner as previously described.

[0032] Each guide rod 76, 78 is preferably in the form of a
hollow tube with a distal end wall 80 and a continuous side
wall 82 extending therefrom to form a hollow interior 84 (FIG. 10). It will be understood that the guide rods 76, 78 may be solid and/or of any shape, diameter or cross dimension and/or length. Preferably, each guide rod is constructed of a lightweight, nonmagnetic material such as aluminum or plastic. However, it will be understood that the guide rods may be made of any suitable magnetic or nonmagnetic material.

[0033] A magnet 86 is sized and shaped for insertion into the hollow interior 84 at the proximal end 88 of each rod. The magnet 86 is preferably permanently connected to the rod 76, 78 through adhesive bonding, although other connection means can be used, such as press-fitting and so on. Each magnet 86 can be constructed of any magnetic material as long as it is sufficiently strong for holding the guide rod during swinging and striking.

[0034] In accordance with a further embodiment of the invention, the magnet 86 may be replaced with a plug constructed of magnetically attractive material and the elongate plates 72, 74 may be replaced with magnetic material to thereby provide mutual attraction between the proximal end of the guide rods and the elongate plates. It will be understood that the rods 76, 78 can alternatively be removably connected to the elongate plates 72, 74 through any well-known removable connection means as previously described.

[0035] In accordance with yet a further embodiment of the invention, the guide rods 76, 78 may be telescopic or a set of guide rods of different lengths can be provided, as represented by phantom line in FIGS. 7 and by phantom line and arrows 90 in FIG. 9 so that as a user’s skill level increases, a longer pair of guide rods can be used. Thus, the combination of telescopic or longer and shorter guide rods together with the ability to space the rods closer together or further apart provides the golfer with greater training flexibility. It will be understood that telescopic or longer and shorter length guide rods can be used in each of the above-described embodiments.

[0036] It will be understood that the term “preferably” as used throughout the specification refers to one or more exemplary embodiments of the invention and therefore is not to be interpreted in any limiting sense. In addition, terms of orientation and/or position as may be used throughout the specification denote relative, rather than absolute orientations and/or positions.

[0037] It will be appreciated by those skilled in the art that changes could be made to the embodiments described above without departing from the broad inventive concept thereof. It will be understood, therefore, that the present invention is not limited to the particular embodiments disclosed, but also covers modifications within the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. An alignment device for attachment to the striking face of a golf club head, the device comprising:
   a. at least one elongate guide rod having a proximal end;
   b. at least one connection plate for attachment between the proximal end of the at least one guide rod and the head, the at least one guide rod being removable from the at least one connection plate.

2. An alignment device according to claim 1, wherein the at least one connection plate comprises an adhesive layer for mounting to the striking face.

3. An alignment device according to claim 2, wherein the plate and at least the proximal end of the guide rod are constructed of magnetically attractive material.

4. An alignment device according to claim 3, wherein the guide rod comprises a magnet for removably mounting the guide rod to the plate.

5. An alignment device according to claim 3, wherein the plate is elongate so that the guide rod can be adjusted to different positions along the face of the golf club head.

6. An alignment device according to claim 3, wherein the guide rod comprises a hollow tube of nonmagnetic material and further comprising a magnetic plug connected to the hollow tube for removably mounting the guide rod to the plate.

7. An alignment device according to claim 6, wherein the plate is elongate so that the guide rod can be adjusted to different positions along the face of the golf club head.

8. An alignment device according to claim 1, wherein the connection plate comprises a thin disk.

9. An alignment device according to claim 8, wherein the disk comprises one of a hook and loop fastener and the proximal end of the guide rod comprises the other of the hook and loop fastener for removably connecting the guide rod to the plate.

10. An alignment device for attachment to the striking face of a golf club head, the device comprising:
   a. a pair of elongate guide rods, each guide rod having a proximal end;
   b. a pair of connection plates for attachment between the proximal ends of the guide rods and the striking face of the head;
   c. an adhesive layer for mounting the connection plates to the striking face; and
   d. removable connection means operably associated with the connection plates and the proximal ends of the guide rods for removably connecting the guide rods to the connection plates.

11. An alignment device according to claim 10, wherein the connection means comprises a magnet positioned at the proximal end of each guide rod and each connection plate comprises a magnetically attractive material.

12. An alignment device according to claim 11, wherein each plate is elongate so that the guide rods can be adjusted to different positions along the face of the golf club head to thereby vary the space between the guide rods and accommodate different skill levels of a golfer.

13. An alignment device according to claim 12, wherein the guide rods are adjustable in length to accommodate different skill levels of a golfer.

14. An alignment device according to claim 11, wherein the magnet is located in a hollow interior of the tube for removably mounting the guide rods to the plate.

15. An alignment device according to claim 11, wherein each connection plate comprises a thin disk.

16. A putter comprising:
   a. a head having a striking face;
   b. a pair of connection plates attached to the striking face, the connection plates being relatively spaced to enable a golf ball to be positioned therebetween; and
a pair of guide rods removably connected to the connection plates for receiving a golf ball therebetween.

17. A putter according to claim 16, wherein each connection plate and at least a proximal end of each guide rod are constructed of magnetically attractive material.

18. A putter according to claim 17, wherein each guide rod comprises a magnet for removably mounting the guide rods to the connection plates.

19. A putter according to claim 17, wherein each guide rod comprises a hollow tube and further comprising a magnetic plug connected to each hollow tube for removably mounting the guide rods to the plates.

20. A putter according to claim 19, wherein each connection plate comprises a thin disk of ferrous material.

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