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E. C. ALLEN

GOLF CLUB

Filed Nov. 6, 1922

Fig-1

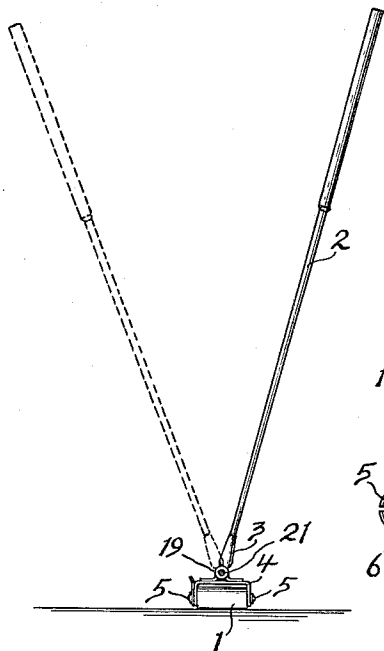


Fig-2

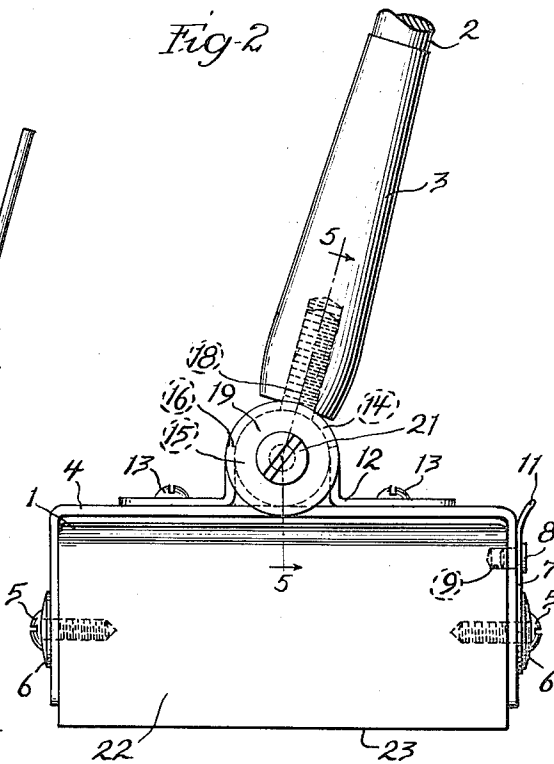


Fig-3

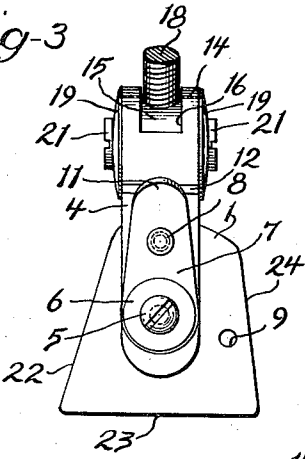


Fig-4

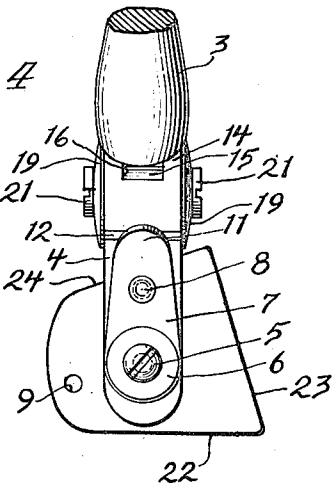
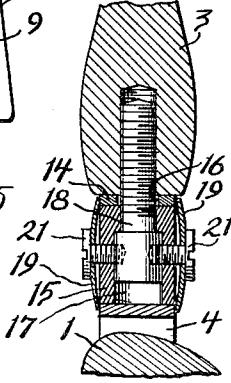


Fig-5



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UNITED STATES PATENT OFFICE.

EDWIN C. ALLEN, OF CHICAGO, ILLINOIS.

GOLF CLUB.

Application filed November 6, 1922. Serial No. 599,423.

To all whom it may concern:

Be it known that I, EDWIN C. ALLEN, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Golf Clubs, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of the specification.

My invention relates particularly to that class of golf clubs known as putters although not restricted to this class.

The main feature of the invention resides in the provision of a golf club provided with adjustment devices whereby it is adaptable to a great variety of conditions.

With this in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said features and certain other features hereinafter appearing are effected, all as fully described with reference to the accompanying drawings and more particularly pointed out in the claims.

In the said drawings—

Figure 1 is a side elevation of a golf club embodying one form of my invention.

Figure 2 is an enlarged side elevation of the lower end of the same with parts partially broken away.

Figure 3 is an end elevation with the shaft removed.

Figure 4 is a similar elevation showing the shaft with the upper portion broken away.

Figure 5 is a partial section on the line 5—5 of Fig. 2.

Like characters of reference indicate like parts in the various views.

In the said drawings 1 designates a head of a golf club, and 2 designates a usual shaft which has a lower metal terminal portion 3 in which the main portion of the shaft is secured. An inverted U-shaped member 4 has the legs thereof overlying the ends of the head, and the head is pivotally secured thereto for angular adjustment on a horizontal axis extending longitudinally of the head by means of a pair of headed screws 5 passing through holes in respective of a pair of spring washers 6 and of the legs of the U-shaped member 4 and screwthreaded into respective ends of the head. See Figs. 2 and 3. The head is releasably locked in either of two angular adjustments thereof

with respect to the U-shaped member 4 by a flat spring 7, secured by one of the screws 5 passing through a hole in the spring to secure the same against the outer surface of one of the legs of the U-shaped member 4, and a stud 8 secured to a free portion of the spring and passing through a hole in the underlying leg of the U-shaped member 4 to engage either of two holes 9 in the adjacent end of the head. The free end of the spring 7 is turned outwardly, as designated at 11, to facilitate manual movement of the spring to disengage the stud 8 from a hole 9 to permit angular adjustment of the head.

A downwardly facing journal box strap member 12 is secured to the transverse portion of the U-shaped member intermediate the ends of the head by means of headed screws 13 passing through horizontal end portions of the strap member and screwthreaded into the transverse portion of the U-shaped member. The center portion of the strap member 12 is inverted U-shaped with the transverse portion thereof semi-circular, as designated at 14, and cooperates with the transverse portion of the U-shaped member 4 to form a journal box disposed on a horizontal axis transverse to the pivotal axis of the head. An axle member 15 is journaled in this journal box. The semi-circular U-shaped portion 14 of the strap member 12 has an upwardly facing circumferential opening 16 therein, and the axle member is provided with a diametrical counterbored hole 17 alined with said opening, and a headed stud 18 is secured in said hole and extends outwardly through said opening and is screwthreaded into the lower metal terminal portion 3 of the shaft. A pair of spring washers 19 are secured in frictional engagement with the ends of the journal box by a pair of axially disposed headed screws 21 passing through holes in respective of these washers and screwthreaded into opposite ends of the axle member. The friction created by the spring washers 19 is sufficient to maintain the shaft in its angular adjustment, but if desired the shaft may be turned on the stud 18 to clamp the lower end of the portion 3 of the shaft upon the outer surface of the U-shaped portion 14 of the strap member 12 to fix the shaft in any adjustment.

It will be observed that the disposition of the last described pivotal connection intermediate the ends of the head serves to main-

tain substantially the same balance of the head with respect to the shaft in all angular adjustments of the shaft, and that the disposition of this pivotal connection immediately above the head permits the striking of a ball from opposite sides of the head as hereinafter described. It will be further observed that this arrangement permits of a neat, effective, and properly proportioned structure which does not interfere with the use of the club in any adjustment thereof.

The head 1 is provided with three striking faces 22, 23, and 24 arranged about the horizontal axis of angular adjustment of the head in planes forming a triangle and with two of said faces forming opposite sides of the head to be in striking position in the same angular position of the head on the axis of angular adjustment thereof and with the third striking face, 23, facing downwardly. See Figs. 1, 2, and 3. These two faces 22 and 24 are disposed at different striking angles, and by angularly adjusting the shaft 1 either of these faces are available for either right or left handed stroking. Opposite angular positions of the shaft 1 are shown in Fig. 1, one position being shown by full lines and the other by dotted lines. Within it is desired to bring the face 23 into striking position, as shown in Fig. 4, the head is adjusted on its pivotal axis in an obvious manner after first releasing the locking device comprising the spring 7 and stud 8, the holes 9 being positioned for locking the head in either of said positions thereof.

The weight of the head is so distributed by reason of the described arrangement of the striking faces that the center of gravity thereof is disposed differently with respect to the ball striking point in the several angular positions of the head as will be observed, which is of decided advantage in adapting the club to various conditions. Thus as respects striking faces 22 and 23, which, as shown, have substantially the same striking angle, the center of gravity is higher with respect to the ball striking point when the striking face 22 is in striking position than it is when the striking face 23 is in striking position.

While I have herein shown and particularly described the preferred embodiment of my invention I do not wish to be limited to the precise details of construction shown as changes may readily be made without departing from the spirit of my invention, but having thus described my invention I claim as new and desire to secure by Letters Patent the following:—

1. A golf club including a shaft, a head, and a pivot joint between the shaft and head disposed intermediate the ends of the head on an axis transverse to the plane of a striking face of the head whereby to per-

mit pivotal adjustment of the shaft with respect the head on said axis, said joint including a journal box structure provided with an upwardly facing circumferential opening therein, an axle member journaled in said journal box structure, and a stud secured to said axle member and extending radially through said circumferential opening and screwthreaded into the lower end of the shaft.

2. A golf club including a shaft, a head, and a pivot joint between the shaft and head disposed above the head and intermediate the ends of the head on an axis transverse to the plane of a striking face of the head whereby to permit pivotal adjustment of the shaft with respect to the head on said axis, said joint including a journal box structure provided with an upwardly facing circumferential opening therein, an axle member journaled in said journal box structure provided with a diametrical hole alined with said circumferential opening, a stud secured in said hole of the axle member and extending outwardly therefrom through said circumferential opening and secured to the lower end of the shaft, and a pair of spring washers secured to said axle member at opposite ends thereof and engaging respective end surfaces of said journal box structure.

3. A golf club including a shaft, a head, and a pivot joint between the shaft and head disposed above the head and intermediate the ends of the head on an axis transverse to the plane of a striking face of the head whereby to permit pivotal movement of the shaft with respect to the head on said axis, said joint including a journal box structure provided with an upwardly facing circumferential opening therein, an axle member journaled in said journal box structure and provided with a diametrical counterbored hole alined with said circumferential opening, a headed stud secured in said hole of the axle member and extending outwardly therefrom and through said circumferential opening, and screwthreaded into the lower end of the shaft, a pair of spring washers, and a pair of axially disposed headed screws passing through holes in respective spring washers and screwthreaded into opposite ends of the axle member and securing said spring washers in frictional engagement with the ends of said journal structure.

4. A golf club including a shaft, a head provided with two striking faces arranged so that when either face is in a substantially horizontal position the other face is in striking position and having its weight distributed so that the center of gravity thereof is disposed substantially different with respect to the ball striking point in the several positions of the head, and an adjustable connection between the shaft and head per-

mitting adjustment of the head to position either striking face in striking position.

5. A golf club including a shaft, a head provided with two striking faces arranged so that when either face is in a substantially horizontal position the other face is in striking position and having its weight distributed so that the center of gravity thereof is substantially different with respect to the ball striking point in the several positions of the head, and an adjustable pivot connection between the head and shaft disposed on an axis extending longitudinally of the head, and releasable means for locking the head in either of said positions.

6. A golf club including a shaft, a head, and adjustable connecting means between the shaft and head including a pivotal connection disposed on a horizontal axis extending longitudinally of the head to permit angular adjustment of the head and a second pivotal connection between the last mentioned pivotal connection and the shaft disposed on a horizontal axis transverse to the axis of the first mentioned pivotal connection and disposed intermediate the ends of the head and immediately above the same to permit angular adjustment of the shaft.

7. A golf club including a shaft, a head provided with three striking faces arranged about a horizontal axis with two of said faces forming opposite sides of the head to be in striking position in the same position of the head with respect to angular adjustment on said axis, and adjustable connecting means between the shaft and head including a pivotal connection disposed on said axis for permitting angular adjustment of the head to position said two faces or said third face in striking position and a second pivotal connection between the shaft and said first mentioned pivotal connection disposed on a horizontal axis transverse to the first mentioned axis and disposed intermediate the ends of the head and immediately above the head to permit angular adjustment of the shaft for permitting the use of all of said striking faces in either right or left handed stroking.

8. A golf club including a shaft, a head provided with three striking faces arranged about a horizontal axis in planes forming a triangle and with two of said faces forming opposite sides of the head to be in striking position in the same position of the head with respect to angular adjustment on said axis and with the third face facing downwardly, and adjustable connecting means between the shaft and head including a pivotal connection permitting angular adjustment of the head on said axis to position said two faces or said third face in striking position and a second pivotal connection between the shaft and said first mentioned pivotal connection disposed on a horizontal axis transverse to

the first mentioned pivotal axis and disposed intermediate the ends of the head and immediately above the head to permit angular adjustment of the shaft for permitting the use of all of said striking faces in either right or left handed stroking.

9. A golf club including a shaft, a head, a U-shaped member having its legs overlying the ends of the head, means pivotally securing the head to said legs for angular adjustment, releasable means for locking the head in any one of a plurality of angular positions thereof with respect to the U-shaped member, and means securing the transverse portion of the U-shaped member with the shaft.

10. A golf club including a shaft, a head, a U-shaped member having its legs overlying respective ends of the head, a pair of spring washers, a pair of headed screws passing through holes in respective spring washers and legs of the U-shaped member and screw-threaded into respective ends of the head on said axis whereby to pivotally secure the head to said U-shaped member for angular adjustment, and means securing the transverse portion of the U-shaped member with the shaft.

11. A golf club including a shaft, a head, a U-shaped member having its legs overlying respective ends of the head, a pair of spring washers, a pair of headed screws passing through holes in respective spring washers and legs of the U-shaped member and screwthreaded into respective ends of the head whereby to pivotally secure the head to said U-shaped member for angular adjustment, a flat spring secured by one of said screws passing through a hole therein, a stud secured on a free portion of said spring and passing through a hole in the adjacent leg of the U-shaped member for engagement with any one of a plurality of holes in the head for locking the same in any one of a plurality of angular positions thereof, and means securing the transverse portion of the U-shaped member with the shaft.

12. A golf club including a shaft, a head, a U-shaped member having its legs overlying the ends of the head, means pivotally securing the head to said legs for angular adjustment on a horizontal axis, and means pivotally securing the shaft to the transverse portion of the U-shaped member for angular adjustment on a horizontal axis transverse to the pivotal axis of the head.

13. A golf club including a shaft, a head, an inverted U-shaped member having its legs overlying the ends of the head, means pivotally securing the head to said legs for angular adjustment on a horizontal axis, a journal box strap member secured to the transverse portion of the U-shaped member and cooperating therewith to form a journal

box disposed on a horizontal axis transverse to the pivotal axis of the head, and means cooperating with said journal box to secure the shaft with the U-shaped member for angular adjustment on said last mentioned axis including an axle member journaled in said journal box.

14. A golf club including a shaft, a head, an inverted U-shaped member having its legs overlying the ends of the head, a pair of spring washers, a pair of headed screws passing through holes in respective spring washers and legs of the U-shaped member and screwthreaded into respective ends of the head whereby to pivotally secure the head to said U-shaped member for angular adjustment on a horizontal axis, a downwardly

facing journal box strap member secured to the transverse portion of the U-shaped member and cooperating therewith to form a journal box disposed on a horizontal axis transverse to the pivotal axis of the head and having an upwardly facing circumferential opening therein, an axle member journaled in said journal box, a stud secured to the axle member and extending outwardly through said circumferential opening and screwthreaded into the shaft, and spring washers secured to opposite ends of the axle member and frictionally engaging the ends of the journal box.

It witness whereof I hereunto affix my signature this second day of November, 1922.

EDWIN C. ALLEN.