Aug. 10, 1943. G. L. REENSTIERNA 2,326,495

GOLF CLUB

Filed Oct. 22, 1940

FIG 1

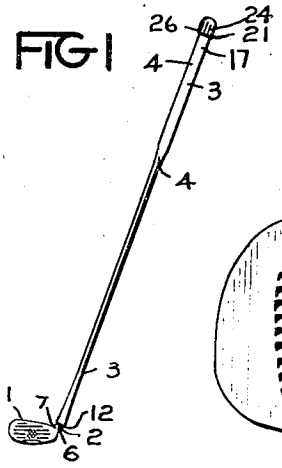


FIG 2

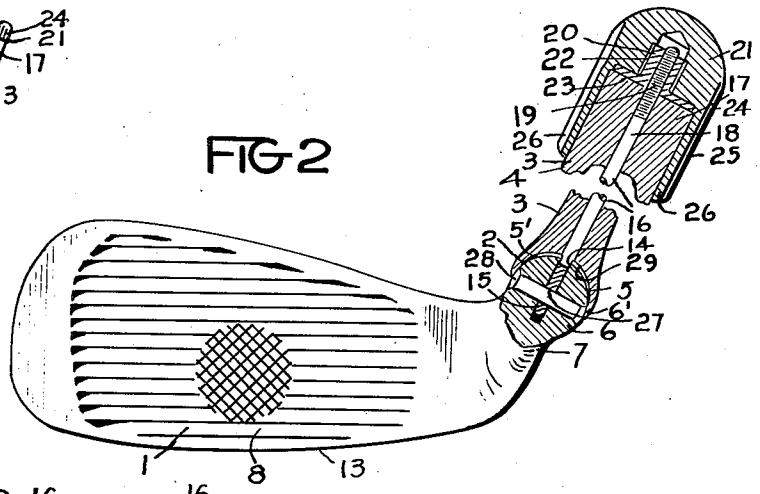


FIG 3

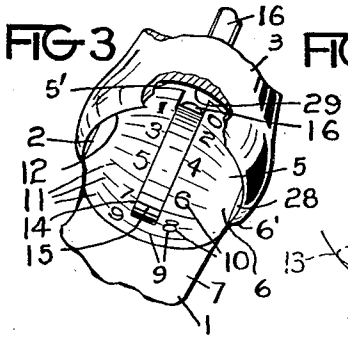


FIG 4

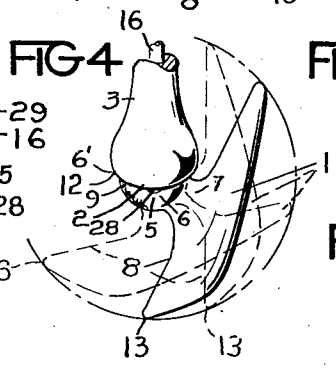


FIG 5

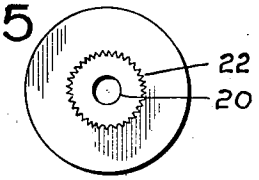


FIG 6

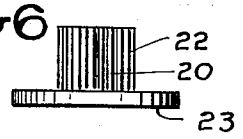


FIG 7

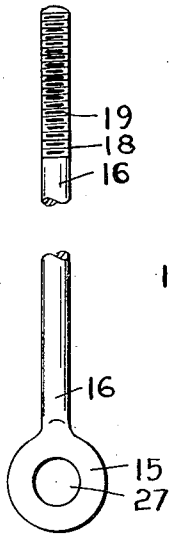
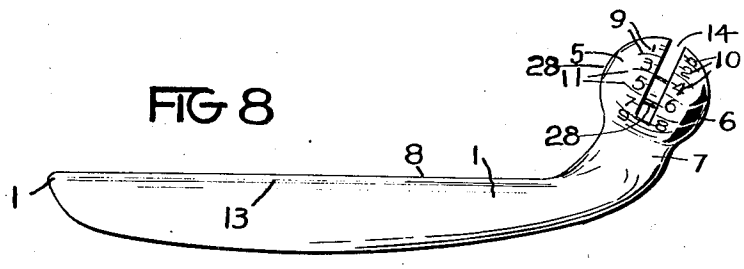


FIG 8



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UNITED STATES PATENT OFFICE

2,326,495

GOLF CLUB

Gustaf L. Reenstierna, Union City, N. J., assignor, by direct and mesne assignments, of one-third to Remo Aiazzone, Union City, N. J., and one-third to Elmon C. Gillette, New York, N. Y.

Application October 22, 1940, Serial No. 362,189

3 Claims. (Cl. 273—79)

My invention relates to a golf club, the head of which may be adjusted to various angles in relation to the shaft and grip. Among its purposes and objects are to provide:

A golf club having an easily adjusted head and an infinite number of adjustments.

An adjustable head for golf clubs having a securing means at the grip.

A neat, dirt-proof joint for adjusting the angle of the head of a golf club.

A neat indicator for adjustable golf club heads.

A compact and solid shock-proof joint for golf club heads.

A joint for golf club heads which substantially maintains the length and balance of the golf club throughout its various adjustments.

I accomplish these and other objects by the construction herein described and shown in the accompanying drawing forming a part thereof in which:

Fig. 1 is a perspective view of my golf club.

Fig. 2 is a fragmentary view of the joint and securing means.

Fig. 3 is a fragmentary detail of the joint and indicator.

Fig. 4 is a fragmentary detail showing the positions of adjustment of the head.

Fig. 5 is a plan view of the securing nut.

Fig. 6 is an elevation of the securing nut.

Fig. 7 is an elevation of the securing eye bolt.

Fig. 8 is an elevation of the head.

Similar reference characters refer to similar parts throughout the several views of the drawing and in the specifications to follow.

I am aware that adjustable heads for golf clubs have been attempted and few have met with popular demand because the joints necessary for the purpose of adjustment are too clumsy or are not of sufficient rigidness or solidity to withstand the impact and vibration, or the adjustment is too difficult to make quickly to suit the condition and requirements of the shot or drive. By the use of my invention, these difficulties are overcome. One of my clubs serves the purpose of several; in fact, it may be adjusted for a putter, driving iron, midiron, number 3, 4 or a mashie, spade mashie, spade niblick and niblick.

The advantage of a club having such a wide range of utility is obvious to most golfers. It saves the weight of the several irons it replaces. For some conditions of game, the service of a caddie may be dispensed with. The use and familiarity of grip and balance of a single club adds to accuracy. The facility of an infinite number of adjustments, in addition to those indicated, gives the variety desired for any condition of play.

The economy of having one club which serves the purpose of several, which thus reduces the cost of the golfer's outfit, is of importance to many.

For the purpose of illustration and to avoid confusion, I have not herein attempted to disclose all modifications and a variety of changes in the details of construction which may be made without departing from the principles underlying my invention. I have shown and described in detail, one of the embodiments which, it is apparent, will suggest to those skilled in the art to which my invention pertains, modifications to suit the conditions and requirements peculiar to the individual user.

Referring to the drawing, I have shown a golf club having the head 1 provided with a joint 2 which permits the head to be moved or adjusted in relation to the shaft 3 and grip 4.

The joint 2, preferably is provided with a ball or spherical surface 5 on the approximately spherical end 6 of the connecting arm 7 preferably formed integral with the end of the head and substantially central in respect to the front and rear edges, the center of the ball being substantially above the plane of the face of the head to cause the face and front edge of the head to travel on an arc in relation to the axis of rotation of the head when swung at the ball joint, the ball end of the arm being adjacent the shaft 3 which is cupped 5' at its lower end 6' to receive the spherical surface 5 and to permit the head to be partially revolved in said cupped end about 90 degrees to thus change the angle of the face 8 of said head from a position about parallel with the shaft 3 to a position generally perpendicular to said shaft, as may be seen by referring to Fig. 4 of the drawing in which the position of the face 8 is shown in full lines at an angle to the shaft while the approximate extreme positions to which the head may be swung in the joint 2 is shown in broken lines. A ball and socket joint is thus provided to effect the adjustment.

On the spherical surface 5, I have provided indicia 9 which are numerals or characters 10 preferably corresponding to the various clubs which my club replaces and which in general differ only by reason of their angular disposition with relation to their respective faces and the shaft and grip at its upper end. The several positions may be accurately set by the lines of the indicia which conform to the lower end edge 6' of the cupped pocket.

The characters may be positioned on lines 11 on said spherical surface coinciding with the bottom front edge 12 of the cupped end 6', thus establishing definite angular positions as indicated by said characters and lines. The head, however, is not limited in its travel when swung to the desired angle to being securely locked at the position indicated by the characters and the lines, as any point between the lines may be used as desired to suit the experience of the user of my club. Because of the infinite number of positions of angular relationship between the face of the head and the shaft to which my club may be locked, it may easily replace a great number of clubs which the most exacting user would desire.

The arm 7 may be of such length and so positioned as to facilitate the many adjustments between the extremes of travel of the head in its joint without greatly changing the overall length of the club as the front edge 13 may be disposed only slightly above the position it is placed as a putter when swung to the position of a niblick, as shown approximately by the broken lines of Fig. 4.

The length of the arm 7 and its spherical end 6 which determine the relative position of the face and front edge 13 to the shaft and grip may be varied to suit the requirements of the user.

The spherical end 6 is preferably slotted 14 to receive the eye 15 of the eyebolt 16 which is of sufficient length to pass through the shaft 2 longitudinally and out of its upper end 17 where its upper end 18 is provided with the threads 19 which engage the nut 20 which may be secured within the adjusting cap 21 by the splined surface 22.

The nut may be provided with the flanged thrust surface 23 to engage the end 17 of the shaft.

The outer surface 24 of the adjusting cap 21 may be grooved 25 or otherwise made easy to grip in locking and unlocking the head 1 in the position it may have been set and adjusted.

The nut may be concealed and protected from dirt by the sleeve extension 26 which may be of the required internal diameter to freely revolve around the uuper end of the shaft 3 which may be enlarged for a distance near the top end 17 to provide the usual grip 4 for the club.

The eye 15 of the eye bolt 16 is provided with the aperture 27 which receives the pin 28 secured in the spherical end 6 and the eye is free to move in the slotted spherical end 14 and to permit said end to turn in said eye as well as in the cupped end 5' of the shaft 3. The surface or radius of the cupped end is preferably less than the radius of the spherical surface on the end of the arm 7 or is recessed at a substantial part of its area 29 around said eyebolt 16 causing the spherical end 6 to become tightly wedged and clamped or locked in position when the eyebolt is pulled by tightening the adjusting cap by turning it.

The eye 15 of the eyebolt engages the pin 28 to draw the spherical end tightly into the cupped end surface of the shaft to lock it in position.

Unscrewing the adjusting cap releases the spherical end of the arm and head 1 permitting it to be turned to the angle as desired and as shown on the spherical surface by the indicia hereinbefore described.

The outer surface of the cap and the material of the cap may be plastic, wood, or heat insulating material which does not feel cool to the hands.

The joint 2 may be very inconspicuous and compact, thus causing my golf club to have the appearance of clubs of the conventional type in which the head is permanently fixed to the shaft.

The relative size of the parts and the angle of the head and also the face of the head to the shaft and grip may be varied to suit the user or popular demand. The joint, its movement, its facility for locking the head and registering the position of angular adjustment in an effective and inconspicuous manner are important practical advantages resulting from the construction above described in detail. These details may be modified within the scope of the appended claims which set forth my invention.

I claim:

1. In a gold club having a grip and shaft and a joint at its lower end and a head movably secured by said joint to said shaft and having a bolt to lock said joint and head, said bolt passing upwardly through said shaft and said grip and threaded at its top end, a nut of metal and a cap over and around said nut, said nut engaging said bolt and said cap being of material relatively less heat conducting than said nut and having a sleeve extension movable to revolve around said grip to turn said nut, thereby protecting said nut from dirt and moisture and preventing said metal nut from contacting the hands.

2. In a golf club having a shaft and a head movable in relation to said shaft, a ball and socket joint between said head and said shaft to provide a wide variation of the angles of the face in relation to said shaft and to provide a substitute for the angles of all of the clubs used in playing golf, said joint having an axis of rotation at substantially right angles to said shaft, said ball and socket on said head and in said shaft being constructed with the ball having a slightly larger diameter than the periphery of the socket, means drawing said ball into and jamming said ball in said socket to lock said joint against movement.

3. In a golf club having a shaft and a head movable in relation to said shaft, a ball and socket joint between said head and shaft to provide a wide variation of the angles of the face of the head in relation to the shaft and to provide a substitute for the angles of all of the clubs used in playing golf, said joint having an axis of rotation at substantially right angles to said shaft, the ball and socket on said head and in said shaft also being adapted to lock said joint against movement, and means drawing said ball into said socket to wedge said ball against the sides of said socket to lock said head in relation to said shaft.

GUSTAF L. REENSTIERNA.