My invention relates to improvements in golf clubs and the object thereof is to provide an all in one golf club adapting a single club for use in lieu of the various clubs ordinarily used in playing a game of golf, thereby eliminating the necessity for carrying a large, heavy bag of golf clubs and partially bestowing balance in stance and swinging which results from the player carrying the clubs.

Another object of the invention is to provide a golf club having the form of an iron with an adjustable head adapted to be quickly adjusted for use as a putter, No. 1 or driving iron, No. 2 or midiron, No. 3 or mashie and so on to include Nos. 4, 5 and 6 to 10 irons, or others such as mashie niblick, niblick, pitcher, or any other style of club such as a, cleek, or otherwise.

Another object of the invention is to provide an iron club having an adjustable head to be set at any desired angle or pitch depending upon the stroke, including the distance and loft required, as well as whether or not it is desired to have a forward spin and roll on the ball or back spin and to drop substantially dead such as in approaching a green and also to render the device, not only quickly and accurately adjustable, but also reversible for right and left-handed golfers.

Other objects and advantages will appear and be brought out more fully in the following specification, reference being had to the accompanying drawing, in which:

Fig. 1 is a rear elevation of the golf club or iron for use by a right-handed golfer;
Fig. 2 is an end elevation thereof looking at the heel of the club;
Fig. 3 is a view similar to Fig. 1 with the club head reversed for use by a left-handed golfer;
Fig. 4 is a view similar to Fig. 2 of the club as seen in Fig. 3;
Fig. 5 is an enlarged rear elevation of a fragmentary portion of the shaft and showing the club head set for use by a right-handed golfer but partially broken away and in section;
Figs. 6 and 7 are cross-sections taken on the lines 6-6 and 7-7 of Fig. 5;
Fig. 8 is a face view of the head;
Fig. 9 is an end elevation looking at the heel end of the club head;
Fig. 10 is an elevation of the shank or lower part of the shaft for mounting the head;
Fig. 11 is an end elevation of the part shown in Fig. 10; and
Fig. 12 is a view similar to Fig. 5 with the head reversed for use by a left-handed golfer.

Referring to the drawing more particularly, 15 designates the club shaft which may be of any well-known type but preferably a steel shaft stepped or enlarged gradually toward the handle or gripping portion 18 and tapered between the shank 17 which may be straight or have a curved portion or goose neck adjacent the head 18. The toe or tip of the head is indicated at 19 and the heel at 20 while the top edge 21 and the bottom edge 22 when the head is set for use by a right-handed golfer or as a right-handed club, are preferably slightly but symmetrically beveled as shown to give a relatively sharp front edge which may cut into the turf and also a head of substantially uniform thickness from edge to edge. At the lower end of the shank 17 adjacent the goose neck, if so provided, is a ball, semi-globular, or semi-spherical and somewhat cylindrical enlargement 23 disposed with its axis horizontally and its inner face normal to the axis formed with an axially extending cylindrical trunnion or bearing portion 24 of substantially uniform size and diameter throughout its length, smooth externally and reduced relative to the enlargement 23 to form a forwardly facing annular shoulder 25 normal to the axis having oppositely bevelled radial teeth with intervening notches as shown in an annular band extending to the periphery of the enlargement. The portion 23 is also provided with a centering boss or annular collar 26 of reduced size relative to the enlargement 23 and shoulder 25, from which the latter extends radially, while the collar or shoulder 26 extends axially or longitudinally from the enlargement 23 and shoulder 25 but is larger than the bearing portion 24 and disposed radially inwardly of the teeth and notches. The free end of the bearing portion 24 has a reduced threaded portion 27, the threads of which are preferably made relatively coarse and of considerable pitch. The face 28 of the club head is made the same on both sides of its transverse center between the edges 21 and 22 so as to render the same reversible for use as a right-handed or a left-handed club. It may be provided with a center groove 29 running longitudinally and equidistantly between the edges as well as parallel thereto, with gradually shorter and parallel grooves 30 on either side. Of course, any other form of driving face may be provided to give a forward roll or spin or a back spin depending upon the angle of pitch of the club head and face but the arrangement of providing ribs and grooves located immediately of the ends and edges of the club face renders the device usable with
equal facility in reversed positions as a right-handed or left-handed club. The back face of the club head is provided with a tubular or annular boss 31 forming a projecting longitudinal axial bearing sleeve 32 intermediate of the edges 21 and 22 and parallel thereto. This sleeve has an enlarged inner end or rear edge, projecting annular flange or rim 32 toward the heel and projecting therefrom with its radial or end edge 33 provided with corresponding oppositely beveled notches and teeth with respect to those of the annular shoulder and made with those on the shoulder 25 and disposed radially in an annular series. This enlargement or boss 32 is also provided at the heel end with an internal annular groove or counter-bore portion 34 enlarged relative to the smooth bore 35 of the bearing sleeve 31, opening toward said end and adapted to snugly receive the bearing portion or boss 28 which also gives additional strength at this point. The free end 36 of the bearing sleeve 31 is disposed in spaced relation to or terminates short of the toe 19 and extends beyond the free end of the bearing portion 34 and over a portion of the latter where threaded at 27, at which point the back of the club head 18 is provided with a concave transversely arcuate recess 37 cut out substantially concentric to the axis of the bearing portion 24 and bearing sleeve 31 into which recess the latter extends together with the threaded portion 27 to take a nut 38 adapted to fit and screw on the threads 27. This nut has a finger piece 39 in the form of a radial arm and the nut is circular so as to turn in the recess but the pitch of the threads is greater than the depth of the notches and intervening teeth at 25 and 33 respectively so that a turn of 180 degrees or less by the nut between the back face of the club head at one side of the recess and the same face at the other side of the recess will not only cause the teeth and notches to firmly engage or interfit to hold the club head against turning when once clamped or adjusted at the desired angle or pitch, but will be firmly located in this position by the jamming or frictional engagement by the nut against the free end of the bearing sleeve 31. This swing of 180 degrees usually allows for adjustment as indicated by the arrows in Fig. 6 to any desired angle of inclination so that the club head may be set for use as a putter, a driver, a midiron, a mashie, a mashie niblick, or other clubs according to the distance, loft and spin required for a particular shot or stroke. In order to facilitate the adjustment which may be set tamely, the finger piece or arm 39 is loosened by swinging the thumb to turn the nut backward or in a direction tending to unscrew the nut. One of the portions 23 or 32 is provided with a notch 40 and the other portion is provided with a notch 41 adapted to be placed in registry therewith for setting the club head substantially vertically for use as a putter. A series of notches, marks or graduations 42 is also provided on one of said portions 23 or 31, being shown on both the latter for adjustment of the head at different angles for the putter P and different clubs or irons from 1 to 10 or otherwise, and vertically or simply by setting a mark 41 or 40 at P or the club number wanted. This adjustment may be within any angle range such as 60, 90 or 180 degrees. In order to reverse the club for use as a left-handed club, the nut is unscrewed from the portion 27 by first releasing the coating notches and teeth through the medium of the fingerpiece 39 turning the nut 38 away from the end 36 of the bearing sleeve 31 and then replacing the nut in a reversed position with the head in a reversed position on the diametrically opposite side of the axial trunnion or bearing portion or turned substantially 180 degrees so that the nut will tighten with the head in a reverse position. In Figs. 1, 2, 3, 4, 5, 6, and 7 of the drawing, the golf club is shown adjusted as a right-hand club, but in Figs. 3, 4, 8, 9 and 12, it is shown set or adjusted as a left-hand club in a reverse position from that shown for use as a right-hand club. It will thus be seen that I have provided in one club, means whereby the club can be adjusted for use, not only as a right-handed or left-handed club, but also as a putter or any of the various irons by reason of changing the angle of inclination or pitch thereof and that all of these clubs may be made in one so that it will be unnecessary to carry a heavy bag of clubs in playing a game of golf, to disturb one's balance and stance, in addition to the manual effort required, thus making golf a more pleasant and enjoyable game.

While I have illustrated and described the preferred form of construction and carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a golf club, a shaft having a shank portion and a bearing portion with a threaded end, the threaded being relatively coarse and of considerable pitch, said shank having an enlargement around the bearing portion provided with a radial shoulder having opposite beveled intervening teeth and notches, and a shoulder smaller than the first shoulder and larger than the bearing portion, a reversible club head symmetrically formed on opposite aisles of its transverse center and having a bearing sleeve on one face intermediate its edges engaging said bearing portion and similar oppositely beveled intervening teeth and notches on said face with the aforesaid teeth and notches, and a quick operating nut threaded on the free end of the bearing portion against the free end of the sleeve at the back face of the head adjacent but spaced from the toe end thereof, the pitch of the threads being greater than the depth of the teeth and notches whereby the same may functionally engage the toe end of the sleeve to clamp and hold said head against turning on the bearing portion in adjusted position or to release the same by turning the nut 380 degrees or less in opposite directions.

2. A golf club comprising a shaft having a bearing portion extending at an obtuse angle relative thereto and an enlargement at the juncture of the shaft and bearing portion, a head having a bearing sleeve longitudinally projecting at the back intermediate the longitudinal edges thereof, a shallower recess in the back face thereof adjacent to but spaced from the toe end thereof and an enlarged inner end and bore portion, said enlargement and end having coating oppositely beveled radial teeth and notches, and a nut threaded on the outer end of the bearing portion.
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and partially received in the recess to force the teeth and notches together to lock the head against turning in any angular position or to release the same to permit turning thereof, said nut having a radial arm for turning the same and being limited in its rotation between the portions of the back face of the head on opposite sides of the recess, the teeth and notches, and threads being so constructed as to cause interfitting engagement and disengagement of the teeth and notches by such limited rotation of the nut in reverse directions, and the outer end of the recess being spaced from the nut as to limit the unscrewing of the nut.

3. In a golf club, a shaft having a shank portion and a solid smooth cylindrical bearing portion with a reduced coarse pitch threaded end, said shank having a cylindrical enlargement at the end of the bearing portion adjacent the shaft forming an enlarged radial shoulder having oppositely bevelled radial teeth and notches and a smooth annular extension forming a reduced radial shoulder larger than the bearing portion, a head having a central longitudinal bearing sleeve intermediate the edges thereof at the back face and terminating short of the toe end thereof rotatably and axially movable on the bearing portion and an annular enlargement at the heel end, said enlargement being provided at the end thereof with similar teeth and notches opposing the aforesaid teeth and notches and an enlarged counterbore with an end shoulder to fit and engage the reduced shoulder and a nut threaded on the reduced threaded end against the free end of the bearing sleeve spaced from the toe end of the head, the pitch of the threads being such as to cause interlocking of the teeth and notches or clearance therebetween, by turning and longitudinal movement of the nut in reverse directions and adapted when loosened to permit shifting of the head along the bearing portion to cause release of the teeth from the notches or when tightened to cause clamping of the teeth and notches together whereby the head may be angularly adjusted and held.

4. In a golf club, a shaft having a shank portion and a bearing portion with a threaded end, said shank having an enlargement around the bearing portion provided with intervening teeth and notches beveled in opposite directions, a club head having a bearing sleeve fitting said bearing portion and having the inner end thereof provided with intervening teeth and notches also beveled in opposite directions interfitting with the aforesaid teeth and notches, the pitch of the threads being greater than the depth of the teeth and notches, said head being shiftable axially on the bearing portion to cause engagement and disengagement of the opposed teeth and notches and having a shallow concave recess in its back face beyond the toe end of the sleeve and spaced from the toe end of the head, a clamping nut engaged on the threaded end of the bearing portion and extending into the recess to clamp or release the head by turning on the threaded end a half revolution, or less, and a radial arm on the nut to turn the bearing portion by engagement with the back face of the head at opposite sides of the recess.

5. In a golf club, a shaft having a shank portion and a bearing portion with a threaded end and having quick-pitch threads, said shank having an enlargement around the bearing portion provided with intervening teeth and notches equally beveled in opposite directions, a reversible club head having a bearing sleeve fitting said bearing portion and having the inner end thereof provided with intervening teeth and notches also equally beveled in opposite directions interfitting with the aforesaid teeth and notches, said head being shiftable axially on the bearing portion to cause interfitting engagement and disengagement of the opposed teeth and notches and having an open recess in its back face between the sleeve and the toe end of the head, a clamping nut on the thread end of the bearing portion and extending into the recess, said recess being of such a length with respect to the nut to limit the longitudinal movement of the nut and said notches and threads being constructed to clamp or release the head by turning on the threaded end a half revolution or less within said recess, and a radial arm on the nut to turn the latter a half revolution only and to limit the turning thereof by engagement with the back face of the head at opposite sides of the recess.

6. In a golf club, a shaft having a shank portion and a bearing portion, with a reduced threaded end forming a shoulder, said shank having a circular enlargement around and at its juncture with the bearing portion, provided with a radial shoulder facing outwardly toward the threaded end, and having oppositely beveled intervening radial teeth and notches, and a central projecting shoulder smaller than the first shoulder and larger than the bearing portion, a reversible club head having a lengthwise bearing sleeve intermediate its edges, open at both ends, and receiving said bearing portion to turn thereon with the first shoulder spaced from the free end of the sleeve into which the threaded portion extends, and an enlarged circular enlargement at its inner end with similar oppositely beveled intervening teeth and notches interlocking with the aforesaid teeth and notches in rotatably adjusted position at different angular positions of pitch or loft of the head, and a quick operation nut threaded on the threaded end of the bearing portion against the free end of the sleeve, spaced from the toe end of the head and limited in its turning to approximately 180°, the pitch of the threads being greater than the depth of the teeth and notches to clamp the said head on the bearing portion in adjusted position or to release the same by such limited turning of the nut in reverse directions.

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