C. A. ROLFE.

GOLF CLUB.

APPLICATION FILED AUG. 6, 1914.

1,190,589. Patented July 11, 1916.

Fig 1

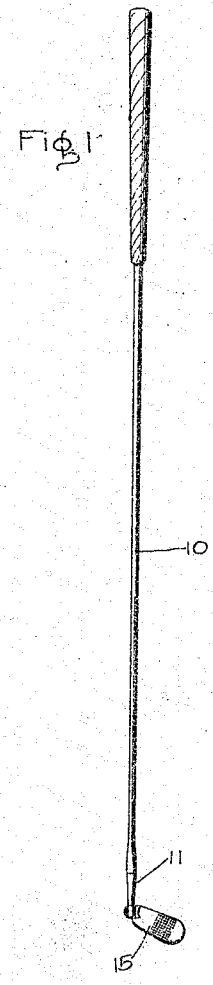


Fig 2

Fig 3

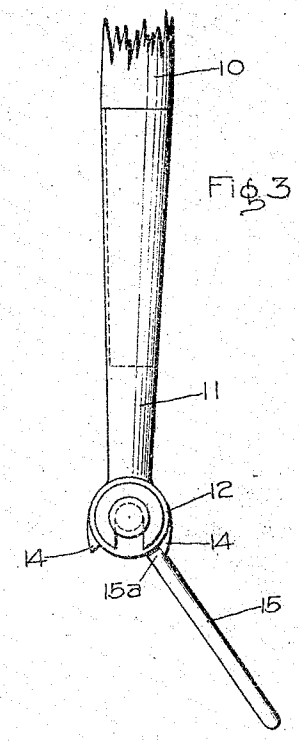


Fig 4

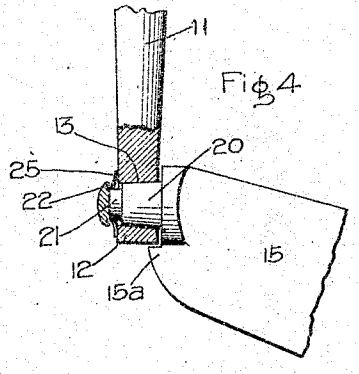


Fig 5

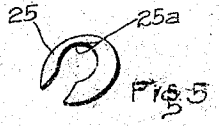
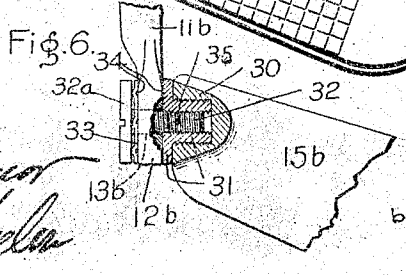


Fig 6.



Witnesses

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GOLF-CLUB.

1,190,589. Specification of Letters Patent. Patented July 11, 1916.

Application filed August 6, 1914. Serial No. 855,374.

To all whom it may concern:

Be it known that I, CHARLES A. ROLFE, a citizen of the United States, residing at Redlands, in the county of San Bernardino, State of California, have invented new and useful Improvements in Golf-Clubs, of which the following is a specification.

This invention relates to an adjustable golf club; and the invention consists in the provision of means for allowing the club to be easily and quickly adjusted to suit any requirements.

One of the primary features of the invention is the provision of a simple and efficient means for effecting the purpose of adjustability of the blade with reference to the shaft of the club; and other objects are to provide a means which, although easily adjustable without releasing any of the parts, will not be forced out of position in striking the ball, the invention being intended for use in a club designed for striking a relatively light weight ball in a game which is played in a restricted area. I accomplish these objects, and various others hereinafter noted, by means of a construction including a frictional joint between the blade or head and the shaft, the amount of friction being provided that will securely hold the head in any set position but will allow the head to be adjusted by hand without the loosening or removal of any parts. This is the primal feature of my invention; there are other features subsidiary to this leading feature and there are several specific constructions which my invention may take, all embodying the fundamental feature of frictional adjustment of the head.

In the following specification I describe two different forms of device, and from these descriptions my invention will be apparent. I also illustrate these forms in the accompanying drawings, in which:

Figure 1 is a view showing a preferred form of golf club after invention. Fig. 2 is an enlarged view of the lower end of the shaft and blade or head of the club. Fig. 3 is an end view of the same. Fig. 4 is a sectional detail showing the joint between the blade and shaft. Fig. 5 is a perspective detail showing the spring washer used in my preferred form of device. Fig. 6 is a sectional detail showing a modified form of joint between the blade and shaft.

I shall first specifically describe the two forms of club shown in the drawings and then draw attention to their similarities and variations.

In the drawings the numeral 10 may designate the shaft of the club and on the lower end of the shaft, and forming part thereof, there is the shaft end 11. To all intents and purposes, so far as my invention is concerned, the parts 10 and 11 may be considered as a single part, designated generally as the shaft. The shaft end 11 has on its lower end a boss 12 having a transverse tapered bore 13, best shown in Fig. 4. In Fig. 4 the taper is somewhat exaggerated; in the usual construction the taper of the bore is slight, for reasons hereinafter noted. This boss 12 also carries two stop lugs 14 which limit the angle of adjustment of the blade 15, the part 15^a of the blade being adapted to strike the stop lugs 14 when the blade is thrown to either one side or the other, as is shown in Fig. 3. Between these limiting positions, the blade may be adjusted to any desired angle; so that the blade may be thrown to either one side or the other of the line of the shaft to adapt the club for play either by a right handed or a left handed person; and the blade may also be adjusted to any desired angle for driving, lofting and putting, etc.

The blade 15 has on its inner end a tapered shank 20 which fits accurately and closely into the tapered bore 13. Near its outer end a groove 21 is cut around the shank 20 and the outer wall of this groove overhangs as is best shown at 22 in Fig 4. A small spring washer 25 of the configuration shown in Figs. 4 and 5 is placed around the shank 20 around the groove 21 so that the inner edge 25^a of the washer seats under the overhanging wall 22 of the groove, thereby preventing accidental removal of the washer.

The taper of the bore 13 and the shank 20 is such that a pressure such as can be exerted by the hand will press the shank into the bore to a sufficiently tight fit that the blade cannot easily be moved out of any set position. The strength of the spring washer is also such that it will hold the tapered shank in the tapered bore and will not allow the shank to be worked out of bore by repeated adjustments of the angular position of the blade 15. It is not intended that the spring 25 be used primarily for pressing the shank 20 into the initial proper position in the bore 13; although the spring action will

naturally draw the shank to a certain extent to its proper position. But, once the shank has been pressed into place by hand, the spring 25 will keep the shank from working out of the tapered bore no matter how often the shank is turned back and forth in the bore to adjust the position of the blade 15. The blade is held fairly tightly in place, but not so tightly that it cannot be adjusted by hand whenever desired; yet the frictional engagement of the shank in the bore is sufficient to prevent the blade 15 from being displaced from any set position by striking the ball. The amount of friction may be regulated by the amount of the taper of the bore and shank and also by the character of the metals used. I find bronze on bronze to be a very good combination; although, of course, other metals may be used.

I find that I can dispense with the spring washer entirely without destroying the usefulness of my club. Although the spring is useful in the manner indicated to prevent the shank working out by repeated adjustments, I find that there is very little tendency of the shank to work out under average conditions of play. Thus I may use simply a pin or the like on the end of the shank merely to prevent the shank and blade being completely disengaged from the head.

In the foregoing described form friction is obtained on a taper joint. I now describe a form in which friction is obtained on flat faces. In Fig. 6, the shaft end 11^b has a boss 12^b with a bore 13^b therethrough. The blade 15^b may have a boss 30 in which a friction flange 31 is set if the metal of the blade is not of the best kind for this purpose. For instance, where the blade is of aluminum I may use a bronze flange 31, which will face against one face 34 of the boss 12^b. A screw 32 passes through the bore 13^b and screws into the flange 31; and a spring washer 33 is confined under the head of the screw against the face 34 of the boss 12^b. The screw may be set up to any desired tightness, and a pin 35 then placed in a drill hole through the boss 30, the flange 31 and the screw, to hold the screw from backing up. This form of club is very satisfactory, especially where light balls are used; as in my game of lawn golf. The tapered shank form is less liable to displacement in striking as the frictional engagement in that form is sufficient to hold the blade very solidly.

As will appear from the foregoing detailed description, the primary feature of my golf club is its frictional joint between the shaft and blade allowing free adjustment of the blade without the removal or the loosening of any parts. This freely adjustable joint is the feature I wish to broadly secure to myself, not limiting my invention to the specific details shown and described which may be varied to meet conditions.

Having described my invention, I claim:

1. In a lawn golf club, a shaft having a blade carrying member at its lower end with a bore therethrough, a blade with a shank fitting said bore and engaging the blade carrying member exclusively frictionally, and resilient means for drawing the shank into its frictional engagement with said member, whereby the blade may be turned against the restraint of said frictional engagement without loosening said means, substantially as described.

2. In a lawn golf club, a shaft having a blade carrying member at its lower end with a taper bore therethrough, a blade with a taper shank adapted to fit said taper bore, and means for holding said shank in said bore, embodying exclusively a resilient means for drawing said shank into said bore, whereby said shank and blade are restrained exclusively frictionally against turning about the axis of the shank with reference to the blade carrying member, substantially as described.

3. In a lawn golf club, a shaft having a blade carrying member at its lower end, a blade having a shank engaging the blade carrying member and having a surface adapted to exclusively frictionally engage said member, and resilient means for drawing said surface into frictional engagement with said member.

In witness that I claim the foregoing I have hereunto subscribed my name this 31st day of July 1914.

CHARLES A. ROLFE.

Witnesses:

CLARENCE ROLL,
W. H. PIERCE.