

A. C. GOODRICH.  
GOLF CLUB.

APPLICATION FILED JULY 11, 1914.

1,206,104.

Patented Nov. 28, 1916.

2 SHEETS—SHEET 1.

Fig. 2

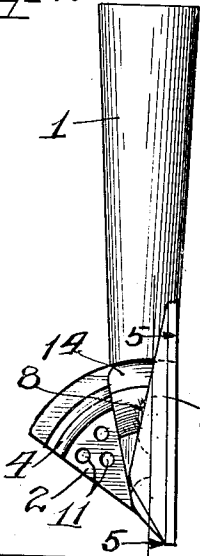


Fig. 1

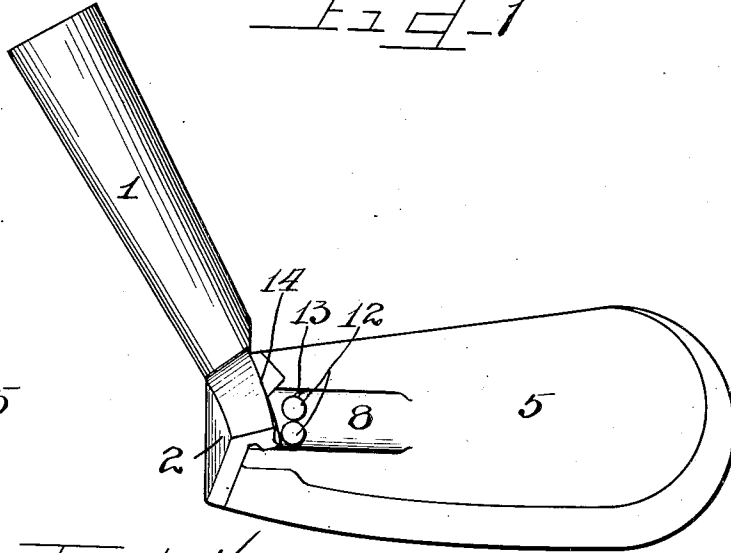


Fig. 3

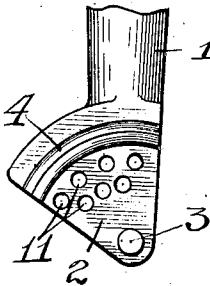


Fig. 4

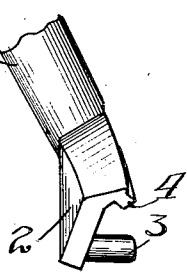


Fig. 5

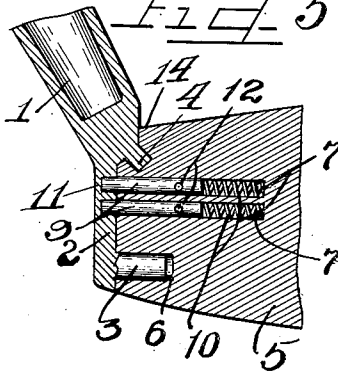
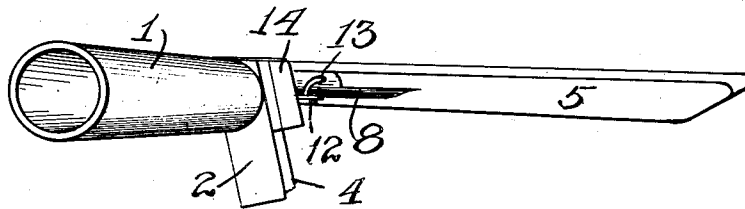


Fig. 6



WITNESSES

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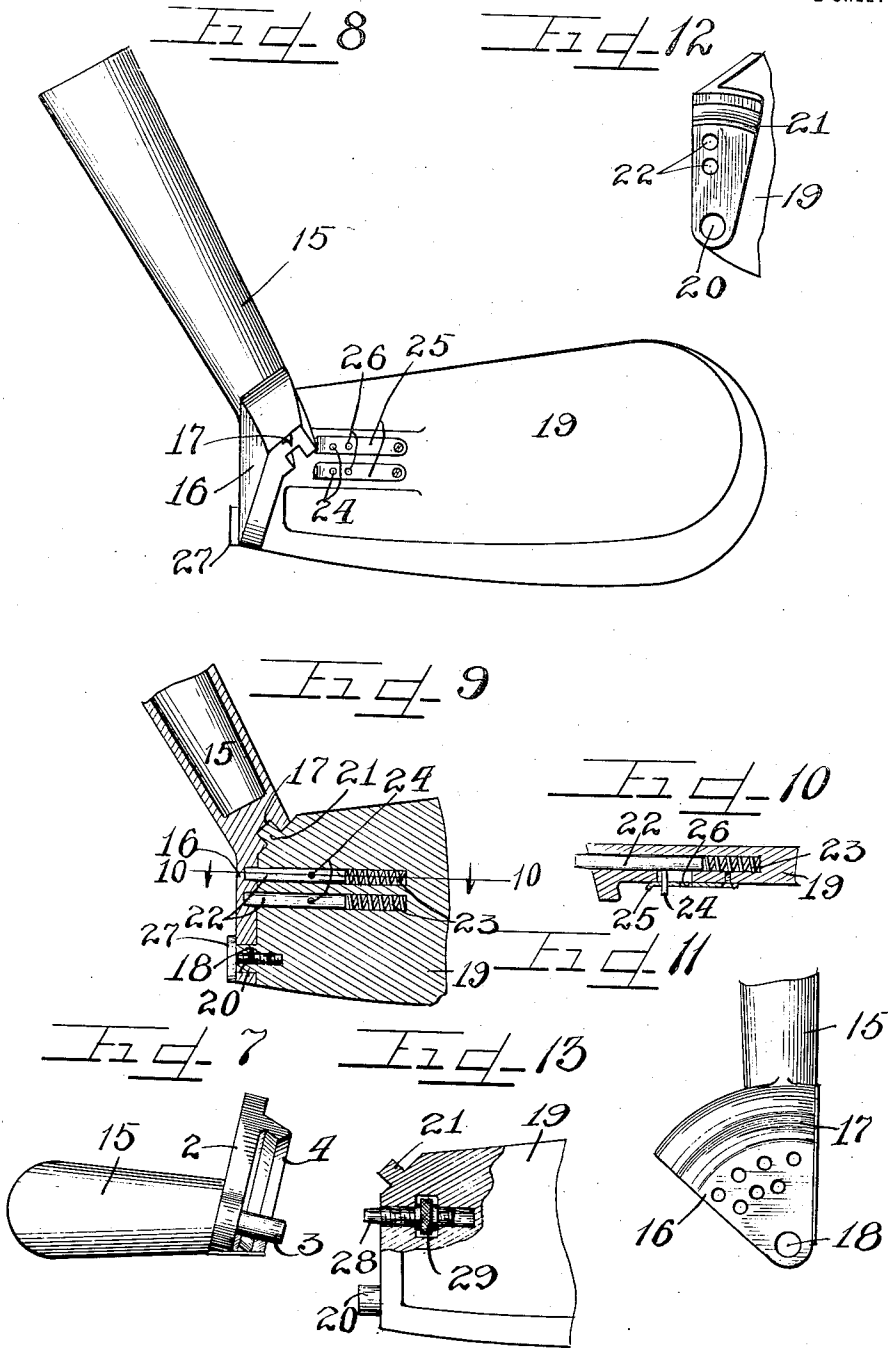
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1,206,104.

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Witnesses

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# UNITED STATES PATENT OFFICE.

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## GOLF-CLUB.

1,206,104.

Specification of Letters Patent.

Patented Nov. 28, 1916.

Application filed July 11, 1914. Serial No. 850,318.

*To all whom it may concern:*

Be it known that I, ALONZO C. GOODRICH, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Golf-Clubs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to a golf club, the head of which is adjustable on the shaft enabling a person to move the same through different angles of adjustment dependent upon the particular shot which it is desired to play, the angle of the striking face of the head, of course, determining the loft imparted to the ball.

Golf clubs with adjustable heads have been constructed heretofore, but they have been objectionable for many reasons, either due to the difficulty of effecting the adjustment, or the insufficient strength of the parts and the disadvantageous arrangement thereof. This invention, however, obviates such defects, providing a club, the head of which is exceedingly simple to adjust and when adjusted, is rigidly held in position. Furthermore, in the present construction the adjusting members are disposed in a protected position on the club, so that accidental breakage or disarrangement of the parts is effectually prevented.

It is an object of this invention to construct a golf club wherein the head is pivotally mounted and capable of being locked in various adjusted positions to vary the angularity of the face of the club according to the particular purposes of the user.

It is also an object of this invention to construct a golf club wherein the shank, which is attached to the shaft, is provided with a tracking face upon which the head of the golf club is pivotally mounted and with resilient locking means mounted within the head of the golf club adapted to engage said tracking face to hold the head in various adjusted positions rigidly locked from movement.

It is also an important object of this invention to construct a golf club, the angularity of the head of which may be varied with respect to the shaft thereof, and with a plurality of resiliently mounted locking members contained within the head capable

of engaging complemental apertures or recesses in a tracking face formed on the shank of the club to hold the head in adjusted position.

It is also an object of this invention to construct a golf club wherein the shank thereof is provided with a tracking face which coacts with a tracking face on a head, the head being pivotally mounted on said shank and held snugly thereto in all positions, and with means for locking said head in its various positions of adjustment.

It is furthermore an important object of this invention to construct a golf club wherein the shank is provided with a sector shaped tracking element and the head is similarly provided with an end face shaped complementally to engage said sector element to hold the head closely thereto in all positions and with means on the sector element engaging the head to permit pivotal movement thereof.

It is finally an object of this invention to construct an adjustable golf club of increased strength, capable of use for the many different shots which are played, with the striking face entirely free from projections or other deformations necessitated by the construction, and so constructed as to permit the adjustments of the club to be made instantly and conveniently by a user.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

In the drawings: Figure 1 is a rear elevation of the shank and head of a golf club embodying the principles of my invention. Fig. 2 is an edge view thereof. Fig. 3 is a fragmentary view of the lower end of the shank with the head removed. Fig. 4 is an end view thereof. Fig. 5 is a fragmentary section taken on line 5—5 of Fig. 2. Fig. 6 is a top plan view of the shank and head shown in Fig. 1. Fig. 7 is a bottom view of the shank portion with the head omitted. Fig. 8 is a rear elevation of the shank and head of a modified form of my device. Fig. 9 is a fragmentary detail section taken there-through similar to Fig. 5. Fig. 10 is a fragmentary section taken on line 10—10 of Fig. 9, with the shank omitted. Fig. 11 is a front view of the lower end of the shank with the head removed. Fig. 12 is a fragmentary end view of the head shown detached from the shank. Fig. 13 is a fragmentary view partly in section of a modification of my device.

As shown in the drawings, the tapered tubular shank of the club is denoted by the reference numeral 1, and, as usual, is adapted to receive the shaft (not shown) of a club secured therein. A tracking or contact engaging face is formed on an integral sector shaped extension 2, at the lower end of the shank and is provided with an integral stud or gudgeon 3, and a tongue 4, directed downwardly convergently toward said stud 3, and curved in the form of an arc thereabout. It is a noteworthy fact that said extension 2, is not in a plane at right angles to a plane, referring to Fig. 1, taken through the axis of the shank in the plane of the drawing.

The head of the club is denoted as a whole by the reference numeral 5, and at its inner end is provided with a recess 6, adapted to pivotally engage over the stud 3, and is also provided with a pair of parallel recesses 7, formed in a boss 8, on the rear surface of the inner end of the club in which are engaged slidably mounted tapered pins 9, normally impelled outwardly by small spiral compression springs 10. The extension 2, on the shank of the club is provided on its tracking face, with a plurality of tapered recesses 11, each one disposed to receive one of said pins 9, therein at different positions of adjustment of the head, so it is apparent from the number of apertures shown in Fig. 3, that the head of the club is capable of seven different positions with respect to the shank thereof. For the purpose of retracting said locking pins 9, when it is desired to effect an adjustment of the head of the club, finger pins 12, are provided, one for each of said pins 9, said finger pins engaged rigidly in the pins 9, and extending through curved slots 13, in the boss 8, the respective slots for said finger pins curving away from one another toward the top and bottom of the head of the club. The inner end of the head of said club is also provided with an integral flanged extension 14, which is recessed to engage upwardly and around the tongue 4, of the shank extension 2, so that together with said stud 3, all adjusting movements of the head are pivotal about the stud as a center, the tongue 4, acting to maintain the parts in proper alinement during adjustment, and owing to the convergency of said tongue with respect to the stud, withdrawal of the head from the shank except when the head has been rotated entirely out of engagement with the tongue, is prevented.

In the modified form of my device illustrated in Figs. 8 to 12 inclusive, I have shown a slightly different connection between the shank of the club and the head. In the present instance the shank of the club is denoted by the reference numeral 15, and as before is provided with an integral slightly angled extension 16, substantially

of sector shape and provided along the upper portion thereof with a groove 17, faced downwardly and arranged concentric with respect to an aperture 18, at the lower end of said extension 16. The head 19, of the club is provided with an integral stud 20, which interfits rotatably in the aperture 18, and an arc shaped tongue 21, integral with said head engages the groove 17. As before, the head 19, in the present case is provided with slidably tapered locking pins 22, mounted in recesses in a boss formed on the rear surface of the head of the club and the pins are normally impelled outwardly by said spiral compression springs 23, to engage complementally tapered recesses in the extension 16. However, in this form of my device a slightly different means is used for retaining said pins either in locking or in unlocked position, and for this purpose small studs or pins 24, are provided thereon which extend through longitudinal slots in the boss in the rear surface of the head, and mounted on the outer surface of said boss are a pair of strong leaf springs 25, provided with apertures 26, which are adapted to receive said stud therethrough. When it is desired to shift the locking pins from one position to another the leaf springs are elevated and snapped again over the studs 24, of the shifted locking pin 22.

The operation is as follows: In the game of golf the selection of the club for a shot is governed entirely by the distance to be made or the lay of the ball, or sometimes it is desirable to loft the ball a considerable amount and at other times to play the same along the ground, as in putting. In both of the forms of my device herein illustrated, the head of the club is capable of adjustment through seven different angles, so that the striking face may be changed to enable the player to play any shot desired or necessitated by conditions. The first position of the head upon the shank is that with the striking face substantially vertical, as used in putting, and this position of the head is clearly shown in Figs. 1, 2, and 6. It is to be particularly noticed that with the head in the adjustment for putting the lower edge of the head is alined with the shank or shaft of the club, so that the utmost accuracy (a necessary adjunct in putting) is secured.

In the form of my device illustrated in Figs. 1 to 7 inclusive, in order to shift the position of the head of the club on the shank, it is merely necessary to move the finger pins 12, over in the slots 13, and thus, owing to the curvature of the slot, the pins are retracted. Owing to the fact that the plane of the contact face of the sector extension 2, is angled slightly out of the plane of the axis of the shaft and the lower edge of the head of the club when the same is in

its first position, (such angularity being clearly shown in Fig. 6) said angled extension 2, assists in resisting the blow of impact upon the head of the club, which is, of course, imparted thereto substantially at right angles to the lower edge thereof. Said angled extension relieves the locking pins and pivot stud of a part of the stress due to the pressure thus imposed against the face of the extension 2. It is obvious that the head cannot be disengaged from the shank until said head has been rotated entirely out of engagement with the tongue 4, thereof.

15 In the modification of my device illustrated in Figs. 8 to 12 inclusive, as shown, a supplementary screw 27, is engaged through the gudgeon 20, of the head of the club, which maintains the head rotatably upon the club in all its adjusted positions, and furthermore the locking pins 22, may be retained locked in unlocked position by the resilient apertured springs 25. Otherwise the adjustments of the club are the same as in the preceding construction already described. In the latter construction, as in the former, the extension 16, is angled with respect to the shank 15, so that said extension acts to resist the impact of a blow on the ball, relieving to some extent the shearing stress upon the locking pins and pivot stud forming the connection between the head and shank.

Fig. 13 shows a modified form of mounting a locking pin in either the head or shank extension of the club and permitting the pin 28, to be readily adjusted. For this purpose the pin is threaded and a threaded collar 29, is engaged thereon and held from longitudinal movement in a slot through which the knurled periphery of the collar extends for convenient manipulation by the fingers. Rotation of said collar 29, causes longitudinal movement of the pin 28, to take place into or from a locking position.

I am aware that various details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. In a device of the class described a golf club comprising a shank, an integral extension thereon, a head pivoted to said extension, coacting tongues and grooves on said extension and head to guide and retain the head in its pivotal movement, and a plurality of independent spring impelled locking means mounted in the head of the club and engaging said extension to hold the head in various adjusted positions.

2. In a device of the class described a golf club comprising a shank to receive a shaft therein, an integral depending extension thereon angled rearwardly therefrom, a head pivoted thereto, coacting tongue and groove members formed on said respective shank and head interfitting with one another to retain and guide the head in its movement on the shank and extension, and resilient means engaged within the head adapted to interlock with said extension at different points to hold the head rigidly in different adjusted positions.

3. A golf club comprising a shank, a head pivoted thereto, coacting tongue and groove members on said head and shank to guide the head in its movement, and a plurality of resilient means mounted within the head of the club parallel to the axis of movement thereof adapted to engage the shank to hold the head in various positions of adjustment.

4. In a device of the class described a shank, an extension integral therewith angled downwardly therefrom and angled laterally and rearwardly, a head pivoted on said extension with the pivotal axis at right angles to the plane of said extension and means for locking said head in different positions of adjustment on said extension.

5. In a device of the class described a shank, an extension thereon said extension angled rearwardly with respect to the shank, a head mounted on said extension and adjustable thereon with the surface of said head in contact with the extension also angled rearwardly with respect to an axis perpendicular to the striking face of said head, and means for locking said head in different angled positions of adjustment on said extension to tilt the striking face into different planes for different shots to be played.

6. In a golf club of the class described a shank member, an extension formed thereon and angled rearwardly therefrom, a head pivoted upon said extension, a tongue formed on said head adapted to engage a groove formed in said extension, a pivot member on said extension for said head at right angles to the plane of said extension, said groove curved about said pivot member as a center, and means for locking said head in different adjusted positions on said extension.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

ALONZO C. GOODRICH.

Witnesses:

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LEON M. REIBSTEIN.