

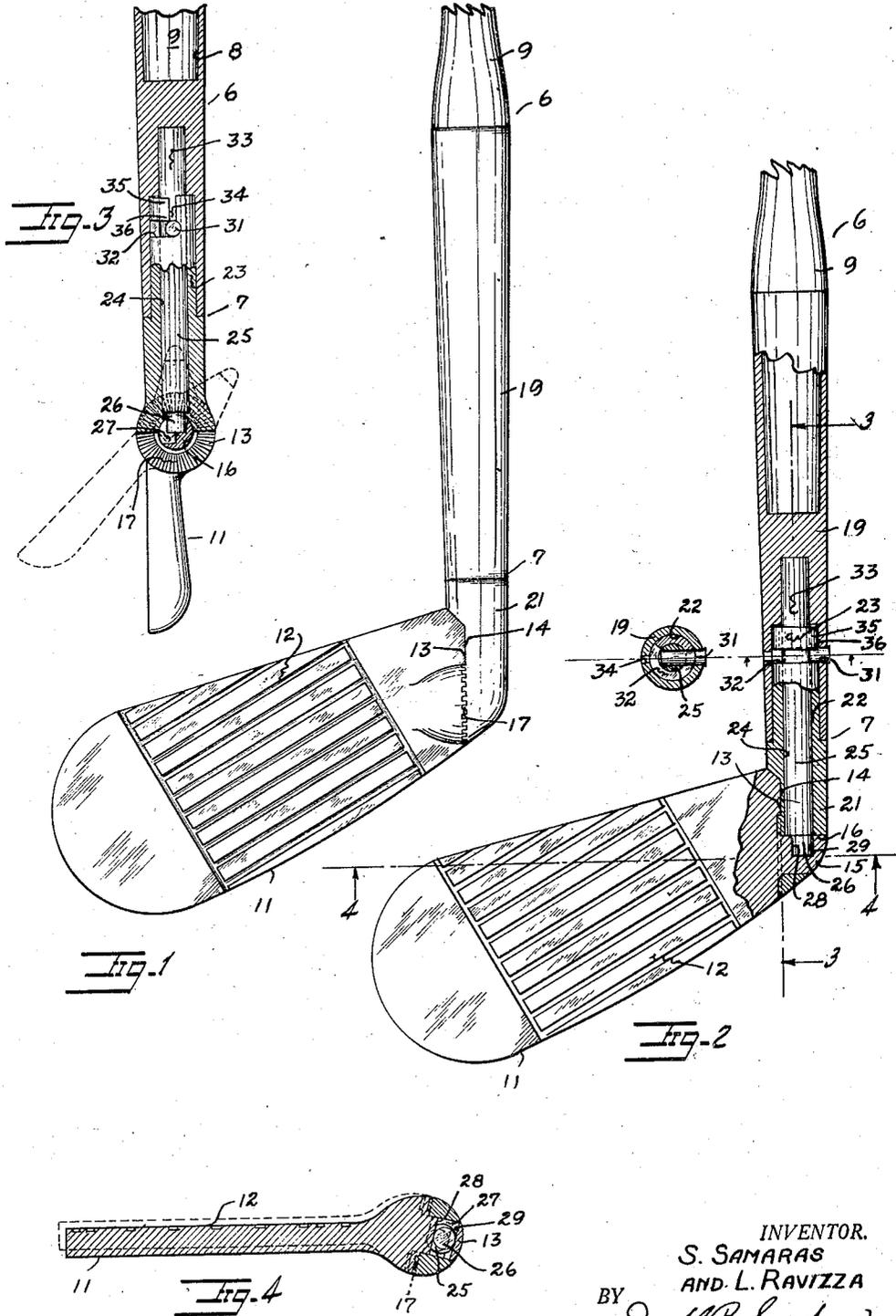
July 1, 1930.

S. SAMARAS ET AL

1,769,235

GOLF CLUB

Filed April 4, 1927



INVENTOR.
S. SAMARAS
AND L. RAVIZZA
BY *Joseph B. Gardner*
ATTORNEY.

UNITED STATES PATENT OFFICE

STEPHEN SAMARAS AND LOUIS RAVIZZA, OF OAKLAND, CALIFORNIA

GOLF CLUB

Application filed April 4, 1927. Serial No. 180,732.

Our invention relates to a golf club, and particularly to a club having the blade thereof adjustably positionable with respect to the shaft.

5 An object of the invention is to provide a golf club of the class described whereby the release of the blade for adjustment and the locking of the blade in adjusted position are effected by and upon appropriate manipu-
10 lations of the shaft with respect to the head.

Another object of the invention is to provide particularly effective blade locking means which cannot become accidentally dis-
15 engaged.

15 A further object of the invention is to provide in one structure the equivalent of a full set of metal golf clubs.

The invention possesses other objects and features of advantage, some of which, with
20 the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the draw-
25 ings accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawings and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawings,

30 Figure 1 is a fragmentary view showing the head portion of the club disposed for a full view of the driving face of the blade, with the latter disposed for the use of the club as a "driver".

35 Figure 2 is a view similar to Figure 1, with portions of the structure broken away.

Figure 3 is a view taken generally on the line 3—3 in Figure 2.

40 Figure 4 is a view taken on the line 4—4 in Figure 2.

As herewith particularly disclosed, the device of our invention is incorporated in a golf club 6 having a ferrule portion 7 provided at one end with a socket 8 for the reception of the end of a handle 9, and a blade
45 11 at the other end. The blade 11, it will be noted, is provided with a striking face 12, such face being suitably scored. As here shown, the inner extremity of the blade is
50 provided with a face 13, while the opposed

ferrule portion is cut away to provide a face 14 for registration with the face 13, it being noted that the plane of the ferrule face 14 extends generally parallel to the axis of the ferrule and handle. Extending perpendicu- 55
larly from the blade face 13 is a cylindrical member 15, which member is arranged for pivotal engagement in a perforation 16 provided in the opposed ferrule portion where-
60 by, with the pivot member 15 engaged in perforation 16, the blade 11 may be rotated about an axis extending generally transversely of the ferrule.

Preferably, and as here shown, the pivotal axis of the blade forms an acute angle with 65
the longitudinal axis thereof whereby the blade tip lies longitudinally outwardly of such axis, such angle preferably approxi-
70 mating 30 degrees. Furthermore, the pivotal axis of the blade preferably defines an acute angle with the blade face 12 whereby such blade face lies about 15 degrees rear-
75 wardly of said axis. In this manner, the blade face 12 is arranged to be disposed in the most desirable relation to the handle axis when the blade is set in its various adjusted positions.

It will now be noted that the blade 11 is arranged to be held in adjusted position 80
through a frictional engagement of the blade and ferrule faces 13 and 14 respectively. Accordingly, these faces are preferably provided with interengageable teeth 17, such teeth being here shown provided in the respective
85 faces to extend radially outwardly of the pivot member and perforation whereby the fullest possible and most effective engagement of the faces to prevent the relative rotation of the ferrule and blade will be provided.
90 Furthermore, the teeth 17 are preferably of square section whereby transverse thrusts between them will not create a thrust component longitudinally of the pivotal axis to tend to separate the members from their engaged
95 relation.

It will now be clear that with the blade and ferrule clamped together with the teeth 17 thereof mutually engaged, a change in the angular relation of the blade to the ferrule requires an axial separation of these members 100

to disengage the teeth 17, and then, after the change is made, a reengagement of the teeth in their new relation and a re-clamping of the parts together. Means are accordingly provided for effecting such release of the blade and its re-clamping in adjusted relation to the ferrule, and, as here shown, such means is arranged to cooperate between the ferrule and the pivot member 15 of the blade.

In the present embodiment of the invention, the ferrule 7 is formed with two telescopically and rotatably related sections 19 and 21, with the section 19 providing the socket 8 while the section 21 provides the bearing face 14 and is provided with a reduced end portion 22 which is arranged to be disposed in an axially disposed cylindrical cavity 23 formed in the opposed end of the section 19.

The section 21, it will now be noted, is provided with an axial perforation 24 extending through the end portion 22 and to the perforation 16, in which former perforation is arranged to be rotatably disposed a shaft 25 having an eccentrically disposed cylindrical pin 26 extending longitudinally therefrom and into the perforation 16. Formed in the pivot pin 15 to extend transversely thereacross, is a slot 27 for the reception of the pin 26, such slot being preferably of the same width axially of the pin 15 as is the pin 26. Preferably, and as here shown, the slot 27 is so shaped as to permit at least an 80 degree rotation of the blade about its axis between limiting positions thereof while the pin 26 is disposed in the slot 27. It will now be noted that rotation of the shaft 25 in the ferrule section 21 is arranged to effect a pressure engagement of the pin 26 with one or the other of the inner or outer sides 28 or 29 respectively of the slot 27 to produce a longitudinal reciprocation of the pivot pin 15 in the perforation 16 which is sufficient at one extreme to free from engagement the teeth 17 of the opposed blade and ferrule faces, while in the other extreme position the ferrule and blade will be locked in adjusted relation with their teeth engaged. And it will be further noted that the engagement of pin 26 in the slot 27 also functions to at all times hold the blade and section 21 secured together.

The operative rotation of the shaft in the ferrule section 21 may be effected in any suitable manner, but since it is particularly desirable that the use of special operating tools or auxiliary operating means be avoided, the handle 9 is arranged to be utilized for effecting such rotation. Accordingly, and as here shown, the ferrule portion 19 and shaft 25 are fixed against relative rotation and axial separation by means of a pin 31 driven into registering perforations provided in the portion and shaft. In this manner, it is merely necessary to appropriately rotate the ferrule portions 19 and 21 with

respect to each other by applying appropriate opposed twisting forces to the blade and handle to release or lock the blade.

Means are preferably provided for limiting the relative rotations of the handle and ferrule portion 21 so that at one extreme of the permitted motion, the blade and portion 21 will be fully separated, while at the other extreme said blade and portion will be positively locked together. Accordingly, and as here shown, the pin 31 is arranged to be disposed through a slot 32 provided in the ferrule portion 21 and extending circumferentially thereof, it being noted that in such event the pin 31 may extend radially from the shaft 25 in only one direction. The slot 32, it is noted, is so shaped and is so related to the pin 31 that one end thereof will provide a stop for the pin 31 when the blade is fully released. The other slot end is arranged to provide a stop for the pin 31 when the blade is locked in set position, it being noted that the rotation of the shaft 25 slightly beyond a dead center engagement of the shaft pin 26 with the side 29 of the slot 27 is preferably permitted, whereby a locking of the pin in position is effected, so that a blow on the blade tends to tighten, rather than loosen, such locking of the pin 25 in its set position. Preferably, and as here shown, the shaft end is extended beyond the ferrule portion 21 for disposal in a socket 33 provided therefor in the ferrule portion 19, whereby the centering of the shaft will be maintained and its frictional engagement with the portion 21 will be minimized.

Means are also provided for releasably securing the shaft 25 in locked position independently of the means previously described. As here shown, the ferrule portion 21 is provided with an axial slot 34 extending outwardly from the part of slot 32 which is arranged to engage the pin 31 when the shaft 25 is in position to effect the fixed locking of the blade to the ferrule. The portion of slot 32 at its juncture with slot 34 is made narrower axially than is the diameter of the pin 31 whereby as the pin 31 is moved toward said juncture, the part 35 of portion 21 which lies outwardly of the slot 32 will be forced outwardly by the pin whereby the pin may be resiliently gripped in its limiting position between the point 36 of said part 34 and the adjacent slot end. In this manner, the force necessary to force the pin out of the latter position is controllable in terms of the resistance to deflection by the part 35 which thus functions as a spring detent.

We claim:

1. In a golf club, a handle portion, a ferrule portion having a section fixedly secured to said handle portion and a second section pivoted to said first section, a blade arranged

to be releasably and adjustably fixed on said second ferrule section in locked engagement therewith, means operative upon a relative rotation of said ferrule sections to control the engagement of said blade and second ferrule section, and means associated with said first means operable to resiliently resist an unlocking rotation of said ferrule sections when said blade is locked to said second ferrule section.

2. In a golf club, a handle, a ferrule comprising a plurality of sections, one of said sections fixedly engaging said handle, a blade releasably engaging a second of said ferrule sections, and means to axially displace said blade whereby said blade and ferrule section may be engaged with or disengaged from one another.

In testimony whereof, we have hereunto set our hands at Oakland, California, this 22nd day of March, 1927.

STEPHEN SAMARAS.
LOUIS RAVIZZA.