July 12, 1949. J. VERDERBER 2,475,926

GOLF CLUB

Filed March 21, 1945

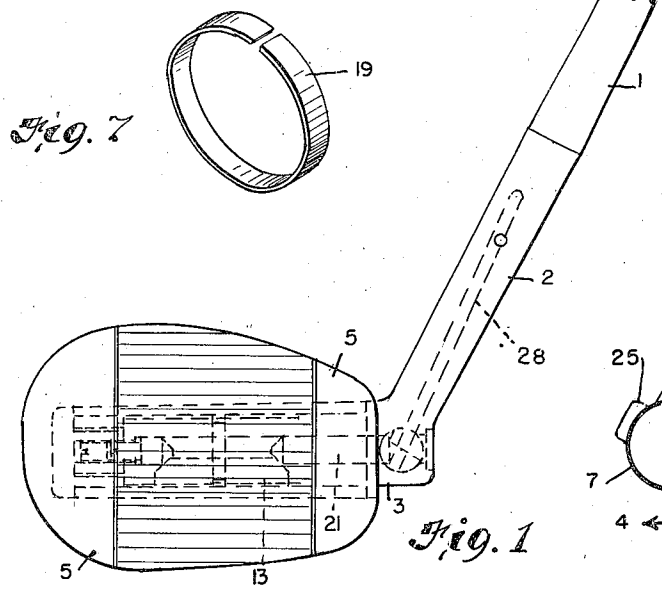


Fig. 7

Fig. 1

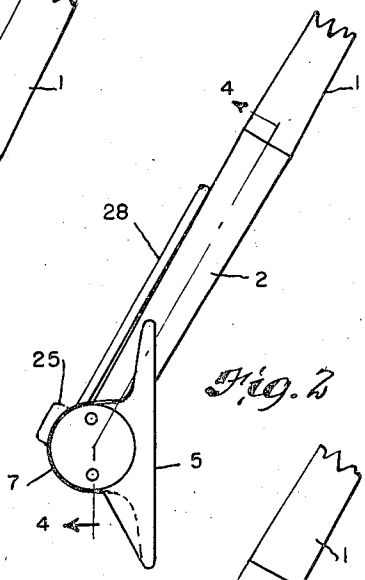


Fig. 2

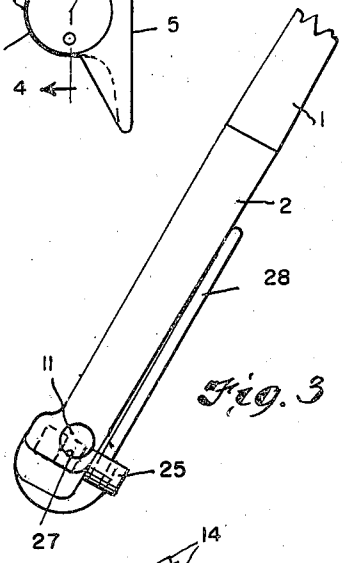


Fig. 3

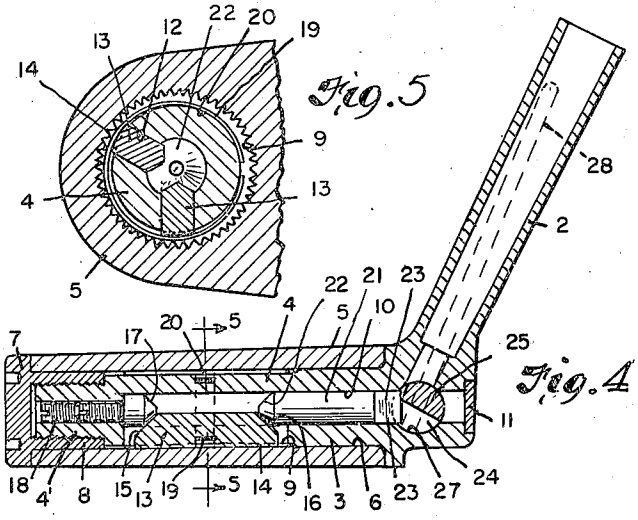


Fig. 5

Fig. 4

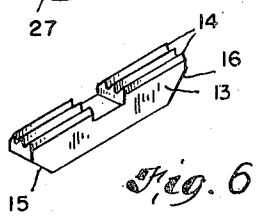


Fig. 6

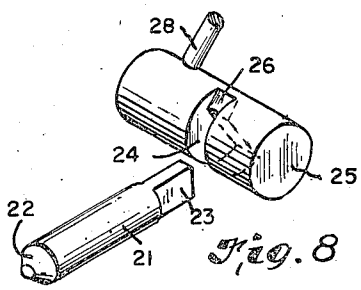


Fig. 8

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GOLF CLUB

Joseph Verderber, Cleveland, Ohio

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3 Claims. (Cl. 273—79)

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This invention relates generally to golf clubs, but has reference more particularly to golf clubs having angularly adjustable heads and to means for adjusting said heads.

In my copending application, Serial No. 527,162 now abandoned, I have described a golf club having an angularly adjustable head, in which the head is maintained in its angularly adjusted position, by means of coacting serrated surfaces on the shank and head respectively. I have found, however, that these surfaces are of such limited extent as to provide insufficient resistance against the tendency of the head to rotate about the shank as the result of repeated impacts of the head against the ball or ground.

The present invention has as its primary object the provision of golf clubs of the aforesaid character, in which better and more extended means are provided to resist the tendency of the club head to move from its adjusted position.

Another object of the invention is to provide golf clubs of the aforesaid character, having improved means for locking the club head in adjusted position, as well as improved means for effecting the release of the club head for adjustment purposes.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a fragmentary front elevational view of the lower portion of a golf club embodying a preferred form of the invention;

Fig. 2 is a view of the parts shown in Fig. 1, as viewed from the left of Fig. 1;

Fig. 3 is an elevational view of the hosel, as viewed from the right of Fig. 1;

Fig. 4 is a cross-sectional view, taken approximately along the line 4—4 of Fig. 2;

Fig. 5 is a transverse cross-sectional view, taken along the line 5—5 of Fig. 4;

Fig. 6 is a perspective view of one of the splined head-locking members;

Fig. 7 is a perspective view of the spring which acts to release the splined locking members from their locking position;

Fig. 8 is a perspective view, showing the mechanism for moving the splined members to their locking position.

Referring more particularly to that form of the invention shown in the drawing, it will be seen that the golf club comprises a shaft 1 to which

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is secured a member consisting of a hosel 2 and a shank 3 extending at an obtuse angle to the hosel and terminating in an extension 4 of slightly reduced diameter, from which a threaded stud 4' extends.

The club further includes a metallic head 5, the face of which is ribbed in the customary manner, as shown in Fig. 1, the head being mounted on the shank 3 in such a manner as to be rotatable about the shank. For this purpose, the head is provided with a longitudinally-extending bore 6, through which the shank 3 extends, the head being retained against axial displacement from the shank by means of a cap-screw, the head 7 of which abuts one end of the head 5 and the shank 8 of which is internally-threaded for engagement with the stud 4' of the shank 3, the outer surface of the shank 8 of the cap-screw constituting, in effect, a continuation of the outer surface of the shank 3, so as to form with the latter a bearing surface for the head 5.

The wall of the bore 6 is provided with a multiplicity of circumferentially-spaced serrations or teeth 9, which extend longitudinally of the head for a substantial portion of the length of the head, these serrations being practically coextensive in length with the length of the extension 4 of the shank 3.

The shank 3 and extension 4 are provided with an axial bore 10, which is closed at one end by means of a Walsh plug 11. Extending radially from the portion of the bore 10 which extends through the extension 4, is a plurality of circumferentially-spaced slideways or passages 12, in which are disposed splined head-locking members 13, each provided at its radially-outermost face with a series of parallel serrations, splines or teeth 14, which are adapted for engagement with the teeth 9 of the head 5.

The members 13 are provided at their ends with inclined surfaces 15 and 16, the surface 15 being engaged by the correspondingly tapered end of a cam member 17, which is threadedly mounted in the shank extension 4, and is retained in adjusted position by means of a set screw 18.

The members 13 are normally maintained out of engagement with the serrations 9 by means of an annular spring 19, which is seated in an annular recess 20 in the extension 4 of the shank 3, and in recesses 20' in the splined members 13, and acts to normally force the splined members 13 radially inward with respect to said extension. When the members 13 are thus disposed out of engagement with the serrations 9, the head 5 may be rotated about the shank 3 to any desired posi-

tion, and may be locked in adjusted position by the locking means to be now described.

Such locking means comprises a pin 21, which is mounted for reciprocal sliding movement in that portion of the bore 10 which extends through the shank 3, and is provided with a tapered end surface 22, which is in engagement with the inclined surfaces 16 of the members 13, and with a tenon-like projection 23, which extends into a slot 24 in a cam member 25, and into engagement with a cam element 26 of the member 25. The cam member 25 is mounted for rotation in a recess 27, which extends through the shank 3 horizontally at right angles to the bore 10, and is provided at one end with an actuating handle 28, which is disposed alongside the hosel 2.

When the handle 28 is in the position shown in Figs. 1, 2, 3 and 4, the members 13 are in locked engagement with the serrations 9. This results from the fact that the pin 21 has been forced by the cam element 26 to move to the left, as viewed in Fig. 4, thereby causing the member 17 and tapered end 22 of the pin 21 to act conjointly to force the members 13 radially outwardly into engagement with the serrations 9, and against the action of the spring 19.

In order to withdraw the members 13 from the serrations 9, so as to permit angular adjustment of the head 5, the handle 28 is rotated in a clock-wise direction, as viewed in Fig. 4, thereby permitting the spring 19 to move the members 13 radially inwardly, the action of such spring causing the pin 21 to move to the right from the position shown in Fig. 4.

It is thus seen that I have provided an adjustable head golf club having improved means for locking the club head in adjusted position, as well as improved means for effecting the release of the club head for adjustment purposes.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention, or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a golf club, the combination of a hollow shank, a head provided with a bore for the reception of said shank therein and having serrations on its inner surface, an adjustable cam member threaded into the shank at one end thereof and having a tapered end thereon, a second cam member slidably mounted in said shank and having a tapered end thereon opposing the taper on the first cam member, a serrated clutch element carried within said shank and lying between the opposed tapered ends of the cam members, said elements having inclined surfaces thereon mating with the tapered ends of the cam members and means carried by the shank and engaging the slidable cam member to force it toward the adjustable cam member to thereby force the clutch element radially outwardly of the shank and into engagement with the bore of the head.

2. A combination as defined in claim 1 in which the last named means comprises a pin extending transversely of the head and rotatably mounted therein to the rear of the slidable cam and having a slot therein intermediate its ends, the said slidable cam being provided at its rear with a tenon-like terminal projecting into said slot to thereby prevent axial displacement of said pin.

3. A combination as defined in claim 2 in which the shank and the clutch element is provided with a groove intermediate the ends thereof with the grooves in each in register with each other and a spring encircling said shank and clutch element and lying within the grooves, said spring being operable to retract the clutch element and also to prevent axial shifting thereof.

JOSEPH VERDERBER.

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