March 4, 1969 E. R. ANDIS 3,430,957

LOCKABLE GOLF CLUB HEAD ADJUSTMENT

Filed June 1, 1967

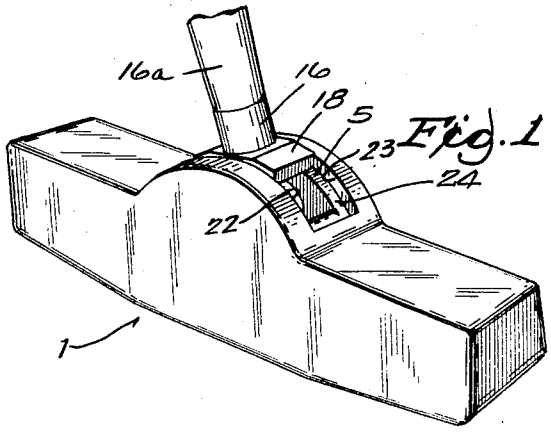


Fig. 1

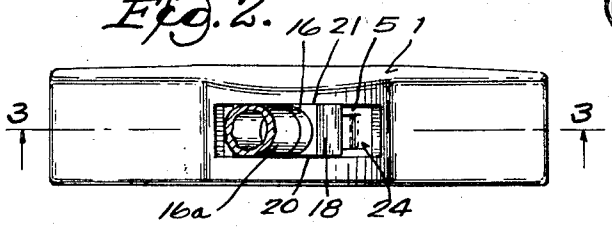


Fig. 2

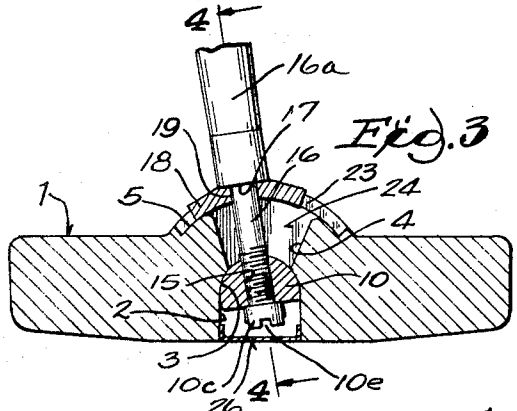


Fig. 3

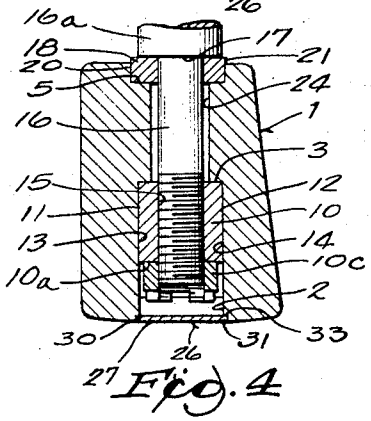


Fig. 4

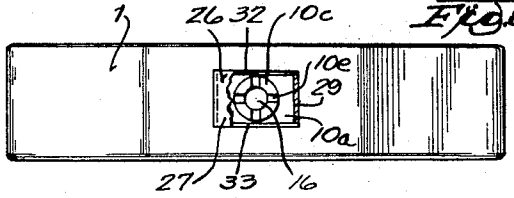


Fig. 5

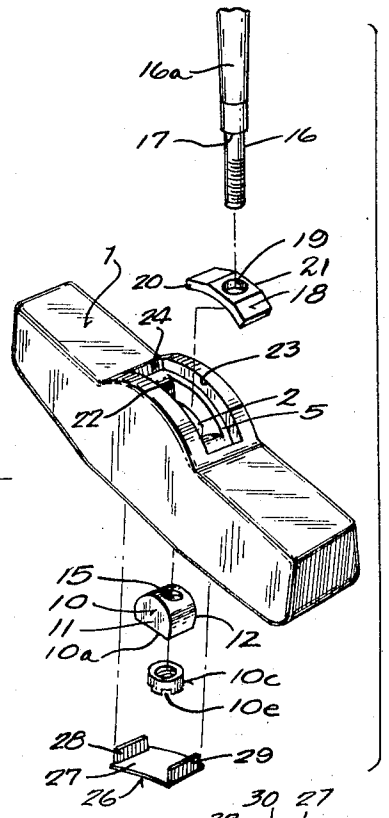


Fig. 6

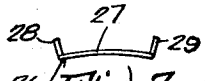


Fig. 7

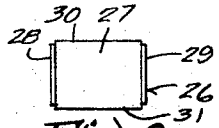


Fig. 9



Fig. 8

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LOCKABLE GOLF CLUB HEAD ADJUSTMENT

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ABSTRACT OF THE DISCLOSURE

An adjustable head for a golf club having means for preventing inadvertent adjustment after the desired head position has been selected. A snap-in shield is provided whereby special tools must be used to remove the shield before the adjustment can be changed.

CROSS REFERENCE TO A RELATED PATENT

The present invention is in the nature of an improvement over the adjustable golf club shown in my co-pending U.S. application, Ser. No. 533,620, filed Mar. 11, 1966, and entitled, "Adjustable Pivotal Connection Mechanism With Locking Means."

BACKGROUND OF THE INVENTION

In order to comply with tournament regulations of various professional golf associations, it is mandatory that the head of a golf club cannot be adjustable during play.

Golf clubs having adjustable heads are well known and these adjustments may be various types, for example, for varying the degree of pitch of the club face or varying the angle of the longitudinal axis of the head relative to the shaft. It is necessary to permit the player to use the club for a period and adjust the head to various positions before he can determine which position he prefers. After this determination has been made, if he desires to enter tournament play, the head must then be fixed and not be capable of adjustment thereafter, at least not during tournament play.

SUMMARY OF THE INVENTION

The present invention provides a golf club having an adjustable head in which locking nut means are oscillatingly mounted and which threadably receives the club shaft, whereby the shaft can be swung to any one of a plurality of adjusted positions, and which head has means for locking and sealing the adjustment to prevent further adjustment of the head.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a perspective view of a golf club head embodying the present invention, the club shaft being shown as broken away;

FIGURE 2 is a plan view of the head shown in FIGURE 1;

FIGURE 3 is a cross sectional view taken generally along line 3—3 in FIGURE 2;

FIGURE 4 is a cross sectional view taken generally along line 4—4 in FIGURE 3, but on an enlarged scale;

FIGURE 5 is a bottom view of the head as shown in FIGURE 3, with the shield broken away for clarity;

FIGURE 6 is a perspective, exploded, view of the parts in disassembled relationship;

FIGURE 7 is an enlarged, elevational view of the shield, when in the normal position;

FIGURE 8 is a view like FIGURE 7 but showing the shield in the compressed position; and

FIGURE 9 is a plan view of the shield as shown in FIGURE 8.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The golf head **1** has a recess **2** (FIGURE 3) with an arcuate or generally semi-circular, internal surface **3**, through which an opening **4** extends to the upper side of the head. Adjacent the upper end of the opening, the head has an arcuate surface **5** which complements surface **3**, that is to say, surfaces **3** and **5** are generally formed by radii having the same center.

A partially cylindrical nut **10**, that is one having at least a portion of its periphery formed as an arc, is located in recess **2** and is of such a width between its flat sides **11** and **12** that is forms a snug but sliding fit with the flat side walls **13** and **14** of recess **2**. Furthermore, the upper part of this cylindrical nut **10** is of such a diameter that it complements the arcuate, internal surface **3** (FIGURE 3) to form a continuous abutting engagement therewith. The lower part of the nut has been cut away so as to provide a flat surface **10***a*. A lock nut **10***c* is threaded on the end of the shaft and can abut tightly against nut **10** to lock and fix the shaft in its selected position.

The nut **10** has a threaded hole **15** which threadably receives the threaded end of a rod **16** which in turn extends into the opening **4**. Rod **16** has a shoulder **17**, and an arcuate clamp **18** has a central hole **19** for mounting the clamp on the rod where it bears against this shoulder **17**. The arcuate shape of clamp **18** is such that it complements and can bear firmly and evenly (FIGURES 3 and 4) against the arcuate external surface **5** of the head **1**.

The rod **16** is adapted to be rigidly fixed to the golf club handle **16***a* and could be made as one piece therewith. Turning of the handle in such a direction to screw the rod or handle into the nut **10** causes the shoulder **17** to force the clamp **18** tightly against surface **5**. It will be noted clamp **18** is of some length to provide a friction engaging area of substantial size, and of a width to clamp at both sides of opening **4** against the head. Furthermore, because the clamp is located radially a distance from the cylinder nut **10**, good holding leverage against accidental movement of the handle is provided. Relative movement of the parts in any other than in the intended plane is prevented because of the fit of nut **10** in the recess **2** and also because the sides **20** and **21** of clamp **18** abut against the sides **22** and **23** of the slotted recess **24** at the outer end of the opening **4**.

Once the player has determined the desired adjusted position of the head, the nut **10** is drawn up tightly and the head is then locked in place by inserting a screw driver or other tool (not shown) in the slots **10***e* in the outer end of lock nut **10***c* and tightening the latter against nut **10**. To prevent further adjustment of the head, a snap-in shield **26** is inserted in the lower end of rectangular recess **2** as follows.

The shield **26** includes a central portion **27** which is normally curved (FIGURE 7) in a concave direction at its lower side and which terminates at its ends in flanges **28** and **29** formed generally at right angles to portion **27**. When in the normal, unassembled position, the total length of the shield **26** is slightly greater than the length of recess **2** and will not fit in the latter freely. In order to insert the shield, it is necessary to flex the ends towards one another with the fingers, and against the spring action of the curve central portion **27**, thus straightening the curved portion, as shown in FIGURE 8. The shield will thus be made slightly shorter than normal, and it can be inserted in the recess (FIGURES 3 and 4) where the resilient spring action of the normally curved portion **27** forces the flanges **28** and **29** tightly against the internal ends of the recess, thus firmly holding the shield within the recess. When in position, the laterally extending sides **30** and **31** of shield portion **27** bear against shoulders

32 and 33 (FIGURES 4 and 9) formed along the inside of the sides of the lowermost end of recess 2.

The shield is thus easily snapped into sealing position, firmly seated, and lies perfectly flush with the flat bottom portion of the head from which it cannot be removed except with special tools.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. An adjustable head golf club comprising, a head having an opening therethrough, said opening defining a generally arcuate internal surface and two opposed internal flat sides within the head, a generally cylindrical nut located in said opening and having opposed flat sides which abut against said internal flat sides of said opening, said nut being of such diameter so as to provide an arcuate surface that complements and abuts snugly against said arcuate internal surface, a handle extending into said opening and threadably engaged in said nut, an external arcuate surface formed on said head and around said opening; a lock nut also threadably engaged on the end of said handle for locking engagement with said generally cylindrical nut, said lock nut having means for receiving a locking tool from the outer end of said lock nut,

and a sealing shield adapted to be snapped into the lower end of said opening for complete closing thereof.

2. A golf club as set forth in claim 1 further characterized in that said shield is made of sheet steel and has a normally curved central portion which terminates at each end in a flange, said shield being resiliently flexed to urge said curved central portion towards a flat position whereby said shield can be inserted in said opening and held therein by its resilient spring bias.

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240—78; 248—185, 299, 343; 287—14