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GOLF STROKE CORRECTION INDICATOR

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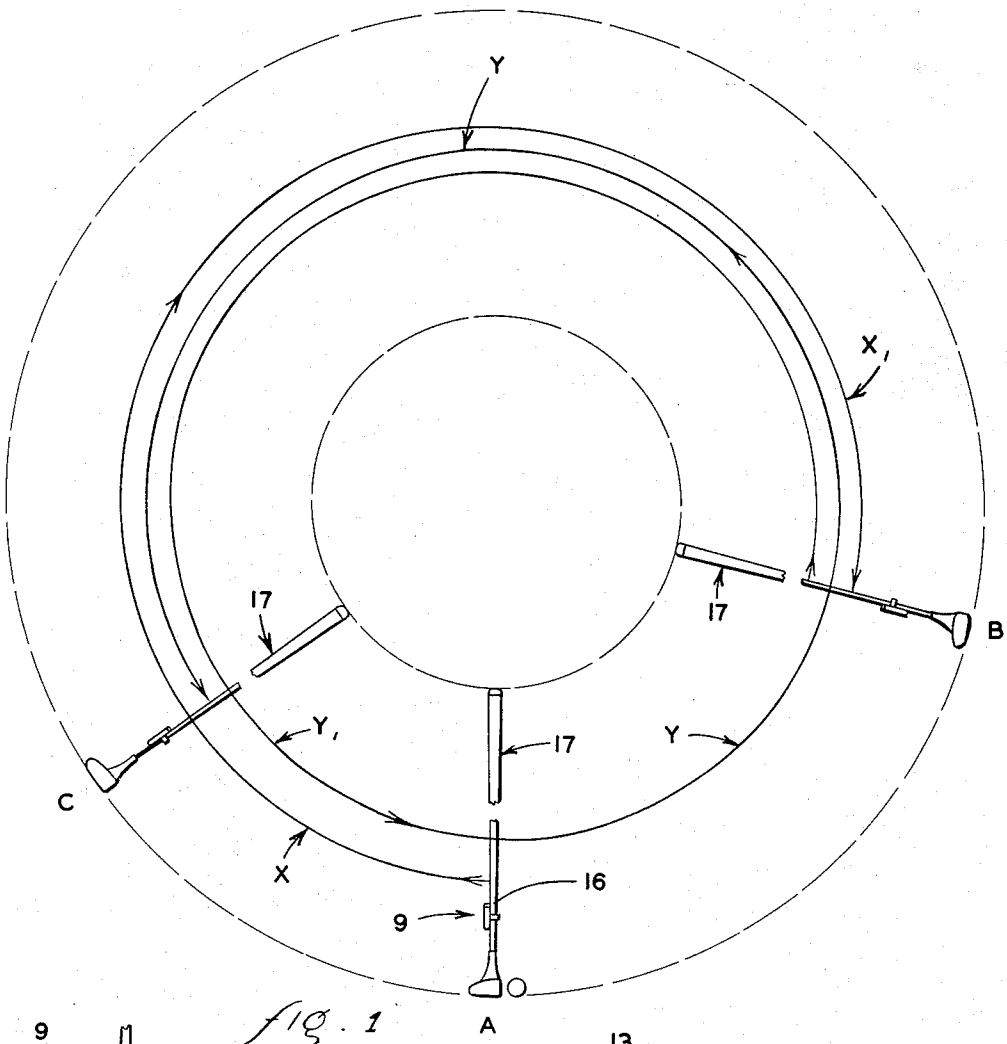


fig. 1

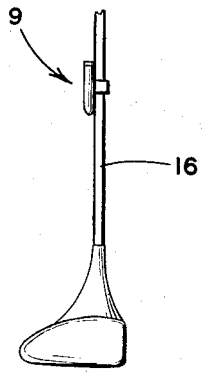


fig. 2

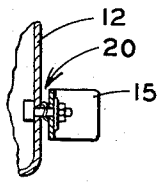


fig. 4

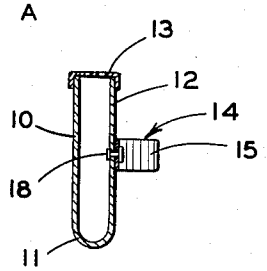


fig. 3

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GOLF STROKE CORRECTION INDICATOR

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6 Claims. (Cl. 273—186)

This invention relates to an indicator for detecting selected motions, particularly irregular or jerky motions or hesitations, or the lack thereof, in the swing of a golf club during, before and after its impact with a ball.

Persons familiar with the game of golf are well aware that success in this game is basically dependent upon the swing, or stroke, of the club. They are equally aware that individualities in the physique and stature of various golfers preclude hard and fast rules of procedure, for example, grip and stance, which will apply universally to all golfers. Those which may improve the swing of one golfer may damage the swing of another.

At the present time, the development of a successful or satisfactory swing depends upon, and arises out of, long hours of experimentation and practice, i. e. trial and error. Experienced instructors can give some aid, through comparison, by suggestion changes in grip, stance, etc. However, insofar as I know, there is no available device for positively detecting changes, or lack of changes, in rate of motion of the golf club at various points in the swing. Positive detection of such characteristics in the golf swing would greatly assist both instructors and students in analyzing a golf swing and thus materially aid in correcting errors of many kinds.

Accordingly, a primary object of this invention is to provide a stroke indicator which will detect sudden changes in the velocity or direction of a club during a swing.

A further object of the invention is to provide a device, as aforesaid, which will detect the presence or lack of smoothness in a golf swing.

A further object of the invention is to provide a device, as aforesaid, which will detect the unbalance or appreciable changes in the centripetal and centrifugal forces acting on a golf club during a golf swing.

A further object of the invention is to provide a device, as aforesaid, which will detect the degree of hesitation imparted to the club at the top of the back-swing.

A further object of the invention is to provide a device, as aforesaid, which will provide positive visual evidence of such lack of smoothness, erratic travel or hesitation.

A further object of the invention is to provide a device, as aforesaid, which will have certain entertainment value, or competitive challenge, to the golfer from the mere fact of the occurrence or non-occurrence of such visual evidence.

A further object of this invention is to provide a device, as aforesaid, which is positive and accurate in results, inexpensive to produce and simple to use and understand.

Other objects and purposes of this invention will become apparent to persons familiar with this type of equipment upon reading the following specification and examining the attached drawing in which:

Figure 1 is a partially diagrammatic, broken view of a golf club, or simulated golf club, embodying my invention in three positions of a golf swing.

Figure 2 is a fragmentary view of a golf club with one form of my indicator attached thereto.

Figure 3 is a central cross-sectional view of said indicator.

Figure 4 is a fragmentary sectional view of a modification.

In meeting the objects mentioned above, as well as others related thereto, I have provided a golf stroke correction indicator comprised, in a preferred embodiment, of a small tube which may have a removable perforated cover on its open end and having a bracket or clip secured to the side thereof for removably attaching the indicator to the shaft of a golf club. In alternate forms of my invention the said bracket may be permanently secured to the shaft of a practice golf club which closely resembles in all respects the appearance, weight and balance of a regulation golf club. Accordingly, the views of the golf club in the attached drawing may be considered to fully disclose such practice golf club also.

As shown in the drawing, my indicator 9 is comprised of an elongated tube **10** which by way of example only, may be one and one-half inches long and one-half inch in diameter. Said tube has a closed lower end **11** and an open upper end **12** which may be covered by a removable perforated cap **13**. The tube and cap are preferably fabricated from a light material, such as aluminum or plastic.

The bracket **14** (Figures 2 and 3), which may be of any convenient, conventional type, is here shown as a substantially U-shaped spring clip having a pair of coextensive resilient arms **15** by which it is mounted upon and snugly embraces the shaft **16** of a golf club **17** at any desired point thereon. Said bracket can be made of any convenient, resilient material and is pivotally secured, as by the rivet **18**, to the tube **10**. Said rivet is disposed remote from the free ends of said arms **15**. Alternately the rivet **18** may be replaced by a bolt, nut, washer and spring assembly **20** as appearing in Figure 4. Thus, said tube **10** is permitted to pivot by means of the rivet **18**, or the bolt of the assembly **20**, with respect to the bracket **14** and shaft **16** upon which said bracket is mounted.

In one modification of this form of the indicator, the golf club **17** becomes a substantially identical practice club having a shaft, to the side of which the tube **10** is pivotally and rotatably secured in a conventional manner.

Operation

As shown in Figure 1, the normal golf stroke starts with the golf club **17** in position A and, during the back-swing, proceeds approximately to position B. In the down-swing and follow-through, the head of the golf club moves from position B through position A and on around again to position C through a substantially circular or smoothly arcuate path.

The indicator **9** is attached to the shaft **16** by means of the bracket **14**. The range of angles between the axes of the tube **10** and the shaft **16** is unlimited since said tube can be pivoted through 360 degrees with respect to the bracket **14**, which in turn can be moved completely around and from one end to the other of the shaft **16**. The exact position of the tube with respect to the shaft of the club will vary unlimitedly according to the particular motion being investigated. However, a few illustrative examples may be mentioned and others will then be apparent or will be readily discovered during use.

One example will be found in one procedure for checking the smoothness, or lack of hesitation, which some persons believe is desirable at the top of the back-swing. The tube, preferably without the cover **13**, is placed on the shaft near the head of the club and with its axis parallel to the shaft of the club.

With the tube **10** full of a liquid, such as water, which may be colored for effect, the indicator is ready for use.

It will be recognized that as long as the swing is substantially circular, smooth, steady and free from hesitation at the top of the back-swing, the liquid will remain in the tube 10. However, any irregularities in the swing will disturb the balance and the steadiness of the opposed centripetal and centrifugal forces acting upon the liquid, thereby spilling it whenever the centrifugal force is less than the component of its weight tending to cause the liquid to flow out of the tube. Where the cap is used, the liquid will spill somewhat less rapidly with less spectacular effects and hence may be desirable for certain types of cases.

Where more delicate indications of smoothness or lack of smoothness are desired, the tube may be placed more closely to the grip.

With certain beginning golfers, it may be desirable to turn the tube at such an angle to the club shaft that it will be vertical when the golfer initially addresses the ball.

In instances where it is desired to check movements of the club head in a horizontal direction and perpendicular to its direction of travel, it will be preferable to turn the tube to a nearly horizontal position and use, in place of water as the indicating material, a fine, dry, powder, as talc. This will not run out as easily as water, but it will still be ejected by a sudden movement of the club in such a direction that such movement has a component in a direction parallel to the axis of the tube and away from the open end thereof. Usually the perforated cover will be used in this instance.

From these examples, it will be seen that a wide variety of movements in both the swing and the follow-through may be checked by the device of this invention by placing same in varying positions along the club shaft, placing its axis at varying angles with respect to the axis of the club shaft and by using materials of varying flowability as the indicator.

Thus, I have disclosed a device which attacks the cause of a bad golf game rather than its symptoms. Using my indicator, a golfer can scientifically and inexpensively overcome imperfections in his golf swing with assurance that his efforts will be rewarded.

Although I have specifically described and disclosed two preferred embodiments of my invention, it should be understood that such disclosure will not eliminate other modifications within the scope of the claims.

I claim:

1. In combination with a golf club, the combination comprising: a cylindrical tube closed at one end and open at the other and capable of retaining a quantity of water; a bracket pivotally secured to said tube and mounted on the shaft of said golf club near the head thereof, said tube being movable with respect to said bracket to assume a position of any desired angle with respect to said shaft and including a position such that said tube is substantially parallel with said shaft and the open end thereof faces the hand grip of said golf club; and a quantity of water disposed within said tube.

2. In a device for detecting predetermined characteristics in a golf swing, the combination comprising: a golf club having a shaft, a head at one end of the shaft and a hand grip at the other end of the shaft; a tube closed at one end and open at the other; a bracket affixing said tube to said shaft with said open end of said tube facing toward said hand grip.

3. In a device for detecting predetermined characteristics in a golf swing, the combination comprising: a golf club having a shaft, a head at one end of the shaft and a hand grip at the other end of the shaft; a tube closed at one end and open at the other; a bracket including a pivoted joint, said bracket being affixed on one side of said pivoted joint to said tube and on the other side thereof to said shaft with the open end of said tube facing toward said hand grip.

4. In a device for detecting predetermined characteristics in a golf swing, the combination comprising: a golf club having a shaft, a head at one end of the shaft and a hand grip at the other end of the shaft; a tube closed at one end and open at the other; a perforated cover on said other end of said tube; a bracket pivotally secured to said tube intermediate the ends thereof, said bracket being removably secured to said shaft for snugly embracing same near said head, said tube being movable with respect to said bracket to assume a position of any desired angle with respect to said shaft; and a flowable material disposed within said tube.

5. In a device for detecting predetermined characteristics in a golf swing, the combination comprising: a golf club having a shaft, a head at one end of the shaft and a hand grip at the other end of the shaft; a tube closed at one end and open at the other; a perforated cover on said other end of said tube; a bracket pivotally secured to said tube intermediate the ends thereof, said bracket being removably secured to said shaft for snugly embracing same, said tube being movable with respect to said bracket to assume a position of any desired angle with respect to said shaft; and a flowable material disposed within said tube.

6. In a device for detecting predetermined characteristics in a golf swing, the combination comprising: a golf club having a shaft, a head at one end of the shaft and a hand grip at the other end of the shaft; a cylindrical tube closed at both ends and provided with at least one opening thereinto; a bracket pivotally secured to said tube intermediate the ends thereof, said bracket being removably secured to said shaft for snugly embracing same near said head, said tube thereby being movable with respect to said bracket to assume a position of any desired angle with respect to said shaft; and a flowable material disposed within said tube.

References Cited in the file of this patent

UNITED STATES PATENTS

811,865	Moore	Feb. 6, 1906
986,130	Binford	Mar. 7, 1911
1,519,052	Reach	Dec. 9, 1924
2,543,722	Hetzel	Feb. 27, 1951