# United States Patent [19]

**Goduto**

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[54] **GOLF SWING ANALYSIS MAT**


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[52] **U.S. Cl.**..... **273/186 R,** 273/195 A, 15/159 A

[51] **Int. Cl.**..... **A63b 69/36**

[58] **Field of Search** ..... 273/195, 186, 183, 176, 273/196, 197, 198; 15/159 A



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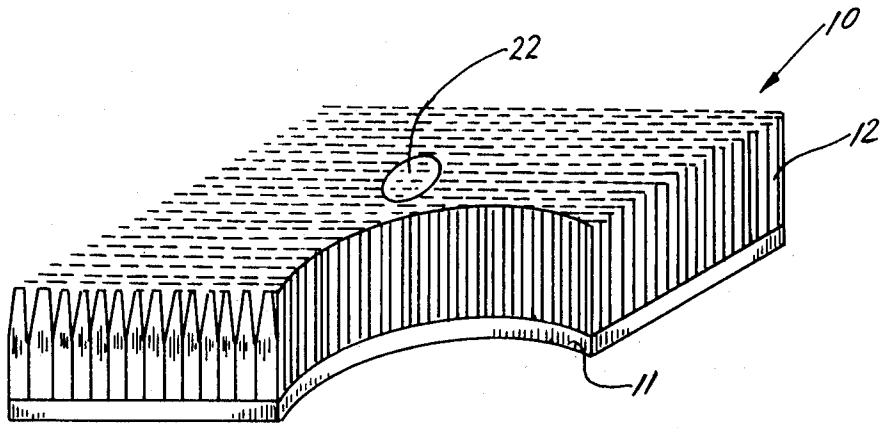
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[57] **ABSTRACT**

A golf swing analysis mat having bicolored pliable fibers secured to a backing, wherein the fibers are combed to a uniform inclined position and upon being struck by the head of a golf club will be moved to a second position thus disclosing the direction of swing of the golf club. Each fiber comprises two sections secured together and to the backing by heat fusion thus providing an extremely durable and effective mat.


**10 Claims, 5 Drawing Figures**



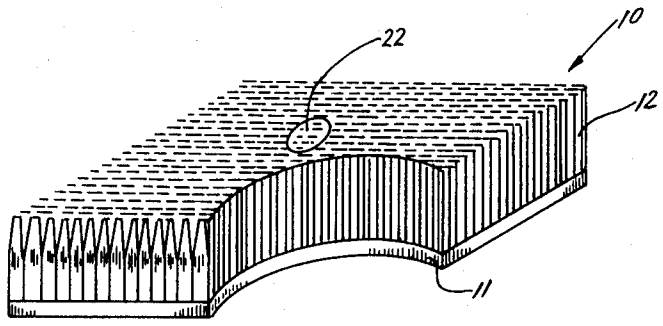



FIG. 1

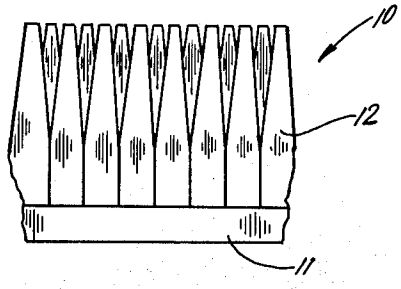



FIG. 2

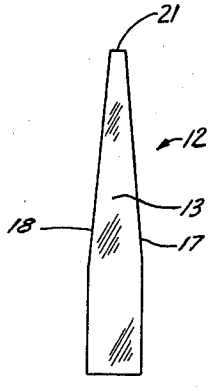



FIG. 3

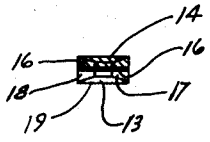



FIG. 4

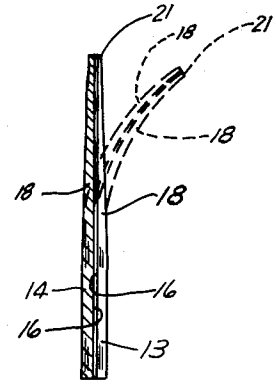



FIG. 5

# GOLF SWING ANALYSIS MAT

## BACKGROUND OF THE INVENTION

Currently, in the game of golf, and particularly in conjunction with the practicing of the golf stroke or swing, a number of aids have been developed for the golfer. However, practice is not always the panacea to the many problems that beset the golfer, in fact, practice can be harmful if bad habits are developed.

Although the golf trainee is advised to keep his eye on the ball and to actually see the club head strike the ball, about the best the average player can do is to keep his eyes on the spot where the ball was after it is hit as the normal person does not have the supernormal eyesight which would be necessary to see the direction in which the club head is moving at the moment of impact. It is substantially impossible for the trainee and his instructor to tell from a practice swing whether or not the club head is moving down the desired path of movement at substantially the moment of impact. In like manner neither can tell whether he is hitting from the inside-out, which would cause a hooked ball or from the outside-in which would cause a sliced ball. Of course, if he is actually hitting a golf ball, the actual flight of the ball will indicate what, if anything, was wrong with the path of movement of the club head. However, driving an actual ball is not always possible, as in practice at home, so it is highly desirable to have a practice device which can be used any place where there is room to swing a golf club and which device will advise the user and his instructor of his faults, if any.

Several aids have been developed which can help a golfer develop a proper swing and others are available to indicate the deficiencies of a golf stroke. For example, in U.S. Pat. Nos. 3,101,949 and 2,908,504, an analyzer and a training aid are disclosed. The analyzer utilizes a plurality of markers mounted on elastromeric tubing and disposed around a tee. During the swing, the club head contacts one or more of the marks, and an indicia from the markers is deposited on the face of the head to indicate either a correct or an improper swing. The teaching aid utilizes a pair of scribing means each in alignment with the tee and ball, wherein the swing can be analyzed from the marking deposited on a club head as it came in contact therewith. Both of the above referenced devices require the head to be cleaned after each swing.

## SUMMARY OF THE INVENTION

This invention relates generally to the sport of golf and particularly to a golf swing analysis mat for indicating deviation from a proper or desired golf club swing in the execution of a stroke. The mat includes a plurality of bicolored pliable fibers secured to a backing, wherein upon the displacement of a fiber it will remain in that displaced position and upon being combed or moved to a normal position it will remain in that position until again displaced. More specifically, the fibers in a normal position would extend generally upwardly from the backing and inclinedly away from the direction of stroke in a symmetrical pattern with all fibers arranged in rows with fibers in adjacent rows being offset. The fibers would be produced so that one side of the fiber is a dark color and the other is a light color. When a portion of the fibers are displaced they would, because of the color, immediately disclose the path of the club head. In the center of the mat, a circle having the diameter of a golf ball would be imprinted on the fibers, to serve as a target.



Each fiber can be constructed in two parts which are heat fused together and to the backing to form the mat of this invention.

The principle object of this invention is the provision of an improved golf swing analysis mat.

Another object of this invention is to provide an improved mat wherein the natural feel of striking turf is closely resembled, and wherein the fibers of the mat are pliable.

A further object of this invention is the provision of a golf swing analysis mat wherein a proper golf swing or a deficient golf swing is readily indicated without marking or damaging the club head.

Yet another object of this invention is to provide an improved mat for practicing golf swings which does not require the use of a golf ball but which substantially reflects the conditions normally found on a golf course.

Yet another object of this invention is the provision of a golf swing analysis mat having a plurality of pliable fibers which can be combed to an upright position and which upon being displaced will assume a new position, thus indicating the path of an object which contacts and displaces particular fibers.

Still another object of this invention is to provide a teaching aid that is simple of construction, extremely durable, economical in manufacture and effective in use.

These objects and other features and advantages become more readily apparent upon reference to the following description when taken in conjunction with the appended drawings.

In the drawings as hereinafter described, a preferred embodiment of the invention is illustrated, however various modifications can be made thereto without departing from the true spirit and scope of this invention.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of the golf swing analysis mat of this invention;

FIG. **2** is an enlarged partial front elevational view thereof;

FIG. **3** is a front elevational view of one fiber;

FIG. **4** is a top plan view of one fiber; and

FIG. **5** is a side elevational view of one fiber.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings and particularly to FIG. **1**, the golf swing analysis mat is indicated generally at **10.** The mat comprises a backing **11** and a plurality of upstanding bicolored fibers **12.** The mat **10,** rectangular in plan view, is approximately 2 feet long and 1½ feet wide. The backing **11** is formed from plastic or the like and provides a base for each of the fibers.

Each fiber **12** (FIGS. **3** – **5**) is formed by heat fusing two plastic segments **13** and **14** or the like together. As noted in FIGS. **4** and **5,** the upper two thirds portion of a fiber is frusto-pyramidal in shape and each segment represents one-half of a fiber. One segment **13** is light in color while the other segment is dark in color, thus upon fusing the two segments together, a bicolored

fiber is provided. Each segment upper portion has a back wall **16**, sloping sidewalls **17** and **18**, a sloping front wall **19**, and a top wall **21**. The lower third of each fiber is rectangular in front view, side view and in cross section.

In manufacture a sheet of preshaped plastic having one face represent the back wall and the other face represent the front wall is disposed adjacent a second sheet of similar shaped plastic with the sides representing the back in juxtaposition. The sheets are then fused together by heat and then die-cut to form the sidewalls, thus providing one laterally disposed row of fibers **12**. A plurality of rows are then stacked in juxtaposition with alternate rows offset one-half of a fiber. The stack of rows are then disposed on top of the backing and the backing is fused to the base of the rows by heat and the lower portion, approximately one-third, of adjacent rows are heat fused together, thus forming the mat of this invention. It has also been observed that a separate backing may be dispensed with, as the lower one-third of the fibers upon being fused together, do form a suitable backing.

Inscribed in the center of the mat (FIG. **1**) is a round circle **22** which resembles the shape of a golf ball. The circle can also be provided by utilizing a different color of fiber in those rows and in those particular fibers which are disposed at the center of the mat.

For reference purposes the vertical dimension of the backing and the lower one-third of each fiber is approximately ½ inch and the upper two-thirds of each fiber is approximately 1 inch. The depth of each segment at the top is approximately one-thirty second of an inch and at the bottom one-sixteenth of an inch, while the width of each segment at the bottom is approximately one-fourth of an inch.

Each upper portion of a fiber is pliable in that it will stand in any position in which it is placed, but is sufficiently pliable to bend either forwardly or rearwardly when struck by a club head. After a fiber has been displaced from one inclined position it can again be readily combed to that position or to an upright position.

In practice, the displaced fibers will disclose the path of the club head for any given swing. If the fibers are displaced behind the target it is possible that the head of the golfer improperly moved during the swing. Displaced fibers in front of the target disclose a high body turn. Hitting the mat outside the target, outside-in, discloses improper hand or shoulder movement while an inside-out displacement shows improper hand rollover.

One particular embodiment of the manufacture of the mat is disclosed to adequately describe the invention and it is recognized that other forms of material and methods of manufacture can be utilized.

In addition the mat can be used, wherein instead of utilizing an imprinted or inscribed target, with an actual target such as a golf ball or a facsimile thereof.

In use the mat is placed on the ground either in horizontal or inclined position to resemble a tee or the fairway terrain. The fibers are combed to an upright or inclined position facing away from the desired direction of flight of the ball. The golfer then assumes his golf stance and addresses the target or ball. The path of the club head will displace certain fibers during the swing thus indicating the direction of swing.

I claim:

**1.** A golf swing analysis mat comprising:

a backing;

a plurality of pliable substantially non resilient, integral fibers, said fibers having a lower portion secured to said backing and an upper portion being bendable from a first normally upstanding position to a second position angularly disposed thereto, whereby said fibers will remain in said first or said second position in the absence of outside forces being applied thereto; and

indicating means on said fibers for indicating whether said fibers are in said first or second position, said indicating means including a first color on a first side of said fibers and a second color on a second side of said fibers whereby when said fibers are in said second position, said second color is not visible.

**2.** A golf swing analysis mat as defined in claim **1** wherein a portion of said fibers are substantially flat on said first and second sides thereof to thereby facilitate easy flexing back and forth in a first direction and to resist flexing in a second direction perpendicular to said first direction.

**3.** A golf swing analysis mat as defined in claim **2** wherein each of said integral fibers comprises two identically shaped segments, to thereby facilitate color coding of said fibers.

**4.** A golf swing analysis mat as defined in claim **3** wherein the upper portion of each said fibers further is of a frusto-pyramidal configuration.

**5.** A golf swing analysis mat as defined in claim **3** wherein each of said fibers is tapered towards the top thereof.

**6.** A golf swing analysis mat as defined in claim **3** wherein the thickness of each of said fibers is thinner at the top than at the bottom thereof.

**7.** A golf swing analysis mat as defined in claim **6** wherein the fibers are made of plastic.

**8.** A golf swing analysis mat as defined in claim **1** wherein each said fiber lower portion sidewalls are secured to the sidewalls of adjacent fibers.

**9.** A golf swing analysis mat as defined in claim **1** including a target disposed in the center of said plurality of fibers.

**10.** A golf swing analysis mat as defined in claim **1** wherein said fibers are disposed in rows with alternate rows offset.

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