Aug. 27, 1963 T. F. WILLIAMS 3,101,949

GOLF SWING ANALYZER

Filed Sept. 8, 1959

FIG-1

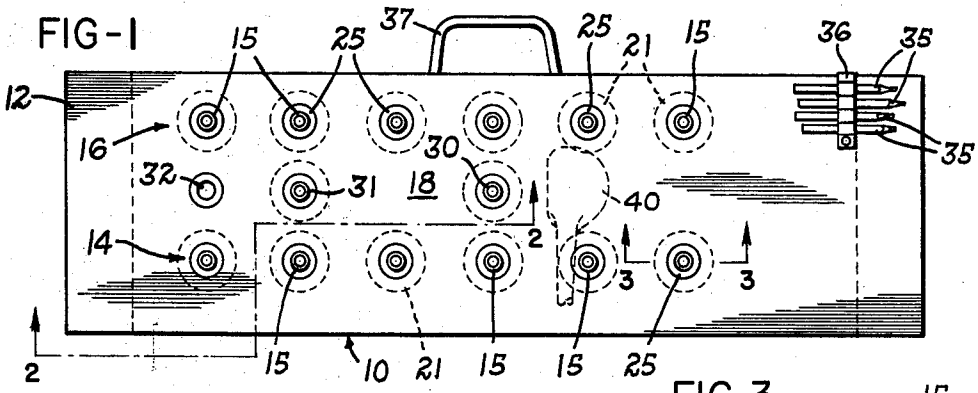


FIG-2

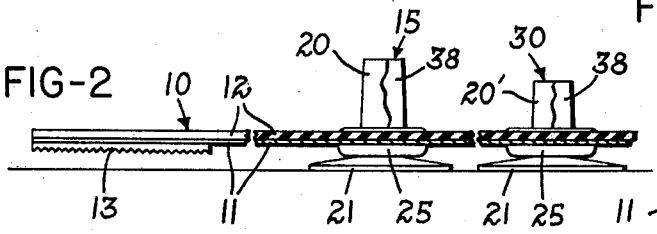


FIG-3

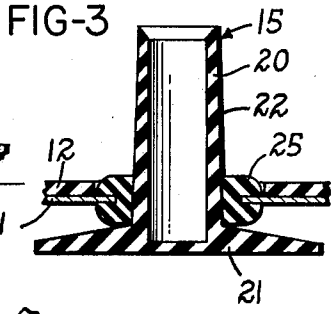


FIG-5

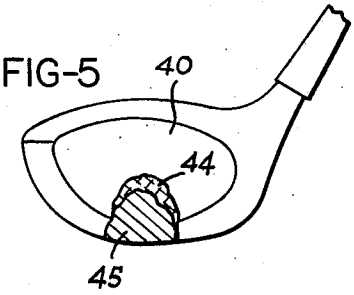


FIG-6

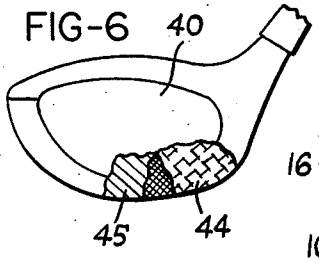


FIG-4

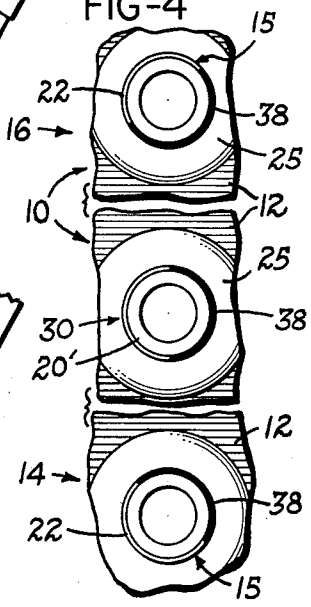


FIG-7

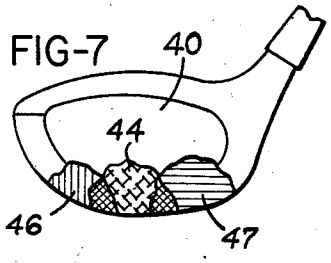
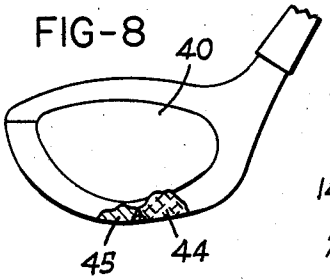


FIG-8



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GOLF SWING ANALYZER

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This invention pertains to golf swing analyzers.

A principal object of this invention is to provide a golf swing analyzer which causes an indication of the path of the swing of a golf club to be made on the head of the club.

A further object of this invention is to provide a golf swing analyzer which is suitable for identifying a great number of swing faults, and to serve as a golf practice unit.

Another object is to provide a golf swing analyzer of rugged construction for long service life without repair.

A further object of this invention is to provide a golf swing analyzer which is cushioned to absorb the shock of being hit by the head of a club.

Other objects and advantages of the invention will be apparent from the following description, the accompanying drawings and the appended claims.

In the drawings:

FIG. 1 is a plan view of the analyzer of this invention;

FIG. 2 is a section through the analyzer taken generally along line 2—2 of FIG. 1;

FIG. 3 is a section through one of the markers along line 3—3 of FIG. 1;

FIG. 4 is a fragmentary plan view of the tee and one marker from each of the inside and outside rows showing the application of colored material to the outside surface thereof; and

FIGS. 5–8 are examples of marks caused to be made on the head of a golf club illustrating the results of typical swings.

Referring to the drawing, which illustrates a preferred embodiment of this invention, the golf swing analyzer is shown as having a generally flat longitudinally extending base 10. The base 10 may be formed of sheet metal 11 with preferably a rubber coating 12 on the top surface, and a section of rubber padding 13 is mounted on the bottom surface adjacent each end of the base 10.

Means supported on the base 10 for causing a recognizable mark to be made on the head of a golf club includes an inside row 14 of markers 15 arranged in spaced relation adjacent one longitudinal edge of the base 10 and an outside row 16 of the markers 15 similarly arranged along its opposite longitudinal edge of the base 10. The inside and outside rows define therebetween a swing path 18 longitudinal of the base 10.

The markers 15 consist of short vertical upstanding sections 20 of hollow rubber tubing formed with an enlarged ground engaging disk-like foot 21 on the bottom thereof. Preferably, the markers 15 consist of golf driving practice tees, and have an outer surface 22 which may be coated with suitable colored material to make a recognizable mark on the head of a club when swung into contact with the vertical section 20. The sections 20 of the markers 15 are brought through openings formed in the sheet metal 11 and the coating 12 of the base 10 within which rubber grommets 25 have been positioned. The grommets 25 form a cushion which protect the markers 15 from being cut by the edge of the sheet metal 11 of the base when hit by a club.

A ball tee 30, which is also employed as a marker, is placed preferably in the center of the swing path 18. The ball tee 30 has a section 20' preferably of a shorter vertical extent than the sections 20 of the markers 15.

In addition to the tee 30, a marker 31, which may be identical with the markers 15, is adjustably positioned further down the swing path 18 to provide a follow through marker to cause an indication to be made on the head of a club when it has been properly swung through the path 18. An unused opening 32 in the path 18 provides for the adjustment of the position of the follow through marker 31 as desired by the golfer.

It will be seen that the markers 15, when inserted through the grommets 25 from beneath the base 10, form a cushion which holds the base 10 in spaced apart relation with reference to a supporting floor or the ground. The cushion padding 13 formed on the underside of the base 10 adjacent the ends thereof may not necessarily touch the floor when the analyzer is on a smooth surface, but serve to protect the supporting surface from being marred by accidental or sudden contact of the base 10. It is also seen that the feet 21 of the markers 15 prevent slipping of the analyzer when placed on a smooth surface.

Means for causing a recognizable mark to be made on the head of a golf club when swung into contact with the marker 15 includes marker chalk 35. The chalk 35 may consist of china marking pencils or any other material suitable for coating the surface 22 of the sections 20. The chalk 35 is conveniently attached to the base 10 by an elastic strap 36. Also, a carrying handle 37 may be fixed to one edge of the base 10.

In the operation of this invention, the portion of the outer surfaces 22 of the inside row of markers 14 is coated with one color of the chalk 35 for making a recognizable mark on the head of a club when swung into contact therewith, and the outside row 16 is coated with a different color for making a different recognizable mark. Similarly, the tee 30 and the follow through marker 31 in the swing path 18 are coated with different colors of the chalk 35 for causing still different recognizable marks. The manner in which the surface 22 is coated may be understood by reference to FIGS. 2 and 4 where the coated portion of the surface 22 of the individual markers is indicated at 38. It is, of course, understood that markers 15 may be employed which themselves have an ability to cause a desired recognizable mark to be made on the club without the necessity of applying a coating 38. However, the golf tees preferably employed, as shown, are made of durable rubber to withstand punishment rather than to apply by ablation any color of their own to the golf club.

The golfer stands at one side of the analyzer, and the side to which he stands depends upon whether he swings right or left handed. An outline of the head 40 of a club is formed on FIG. 1 to illustrate the position of a club in address for a right handed golfer. A ball, such as a practice ball for inside hitting or an ordinary golf ball if used outdoors, may be placed on the tee 30. If desired, no ball at all need be used since the golfer may swing down on the tee 30 in place of hitting a ball off the tee, with equivalent results.

It is assumed that the surfaces 22 of the inside row 14 of markers are coated with one distinctive color, such as blue for the purpose of illustration. Similarly the outside row may be coated with red, the tee 30 coated with orange, and the follow through marker 31 with green. The coating 38 is applied generally as indicated in FIG. 4 so that the surface 22 of the marker exposed to the movement of the head 40 is coated. The golfer then proceeds to make an ordinary swing. The colored marks made on the face and sole plates of the head 40 provide an accurate indication of the path of the swing.

The club heads 40 of FIGS. 5–8 have been marked for the purpose of illustrating examples of a few of the many indications which may be provided by this invention. The shadings on the heads 40 correspond to the

colors indicated above, and the shading designated by reference numeral 44 represents orange, 45 represents green, 46 represents red, and 47 represents blue, although it is understood that any combination may be used. FIG. 5 represents a perfect swing since the head 40 has contacted the tee 30 squarely in the middle as indicated by the orange 44 on the head of the club, and has proceeded through to pick up some green 45 of the follow through marker 31.

A typical swing which would result in a slice is shown in FIG. 6 where the orange of the tee 30 is shown as having been picked up adjacent the heel of the head 40, thereby imparting a clockwise rotation to any ball which might have been placed upon the tee 30. The displacement of the orange as compared to the green of the follow through marker 31 indicates a diagonal travel of the head 40 through the swing path 13. FIG. 7 shows an "inside-out" swing where some blue is shown as having been picked up near the heel of the head 40 from the inside row 14, orange from the tee 30, and red from the outside row 16. The analyzer of this invention indicates the manner in which the head of a club has contacted a marker 15, whether at the head or the heel of the club as indicated by the above examples, and whether high or low as indicated by the example of FIG. 8 where the swing was too high. High contact which would result in the "topping" of a ball and results in marks being made by the markers 15 on the sole plate only, or perhaps no mark at all.

Other examples of individual errors which may be detected by this analyzer include head up or pulling back, over reaching, arch too flat or too sharp, open or closed face, arm and wrist roll, etc. It will therefore be seen that the analyzer of this invention combines versatility and simplicity with ruggedness, and is suitable for indicating and assisting in the correction of a great number of common golfing faults.

While the form of apparatus herein described constitutes a preferred embodiment of the invention, it is to be understood that the invention is not limited to this precise form of apparatus, and that changes may be made therein without departing from the scope of the invention which is defined in the appended claims.

What is claimed is:

1. A golf swing analyzer for causing recognizable marks to be made on the face of a golf club to assist in determining the characteristics of a golf swing, comprising an elongated base, a plurality of markers arranged in a single inside row longitudinally on said base, additional said markers arranged in another single longitudinal outside row on said base in spaced relation to said inside row defining a swing path therebetween, at least one additional said marker on said base positioned between said inside and outside rows in said path, each of said markers consisting of a short section of elastomeric tubing extending upwardly from said base with a length thereabove proportioned to contact the face of a golf club swung into contact therewith, the markers constituting said inside row each being provided with a removable coated outer surface of a first characteristic color for causing a recognizable mark of said first color to be made on the face of a club swung into contact therewith, the markers constituting said second row each being provided with a removable coated outer surface of a second characteristic color for causing said second color to be made on the face of a club upon contact therewith, and said center marker being provided with a removable coating of a third characteristic color for causing a still different recognizable mark to be made on the face of a club.

2. The analyzer of claim 1 wherein each of said markers includes an enlarged elastomeric ground engaging foot received on said base adjacent the bottom thereof for supporting said base in spaced relation to the ground.

References Cited in the file of this patent

UNITED STATES PATENTS

1,419,636	MacDonald	June 13, 1922
1,542,514	Mahony	June 16, 1925
1,684,576	Connor	Sept. 18, 1928
2,626,150	Karns	Jan. 20, 1953
2,712,939	Harp	July 12, 1955
2,786,683	Shapiro	Mar. 26, 1957
2,801,857	Strunk	Aug. 6, 1957
2,908,504	Pratt	Oct. 13, 1959

FOREIGN PATENTS

464,220	Great Britain	Apr. 14, 1937
678,567	Great Britain	Sept. 3, 1952