

[54] GOLF PRACTICE APPARATUS

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[58] Field of Search.....273/183, 186, 195, 196, 197, 273/198, 56, 193 B, 163, 194 A; 250/71; 35/29

[56] References Cited

UNITED STATES PATENTS

2,223,849	12/1940	Fogler et al. ....	35/29 A X
2,467,661	4/1949	De Ment.....	250/71
3,105,954	10/1963	Gill.....	250/71 X
3,311,377	3/1967	Holbus.....	273/195 X
280,807	7/1883	Farley.....	273/56
2,158,211	5/1939	Aitken.....	273/193 B X
2,865,635	12/1958	Jessen.....	273/163 R X
3,360,268	12/1967	Molinari.....	273/194 A X

OTHER PUBLICATIONS

"Product Engineering," July, 1947, pages 144-149

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[57]

ABSTRACT

Golf practice apparatus for use in improving the golfing techniques of a golfer is disclosed. The apparatus includes luminescent material, preferably disposed on a decal secured to the head of a golf club, and a practice mat having luminescent material disposed thereon either in the form of a decal or imprinted thereon. The luminescent material on the club head permits visual observation of the movement of the club head during the execution of a swing of the golf club and the luminescent material on the base mat provides an indication of the desired path of travel over which the club head should travel when the golfer executes a correct swing. The luminescent material, preferably emits radiation in the visible range of the spectrum when ultra-violet radiation is impinged thereon and an ultra-violet lamp is provided for producing ultra-violet radiation for impingement on the material such that visual observation of the material can be had in an environment substantially devoid of light whereby a user of the apparatus can concentrate on the arc of his swing and correct any tendency on his part to swing the golf club in a path other than the desired path. The luminescent material may be characterized by a pair of parallel strips extending longitudinally on opposite sides of a putting target which lines are spaced apart by the length of a putter head, parallel cross strips therebetween, as well as by a cross strip as a heel position marker to improve the golfer's stance. The luminescent material may also be applied to the toe portions of a golfer's shoes as well as his glove or gloves. The luminescent material may be applied as pressure-sensitive adhesive.

9 Claims, 2 Drawing Figures

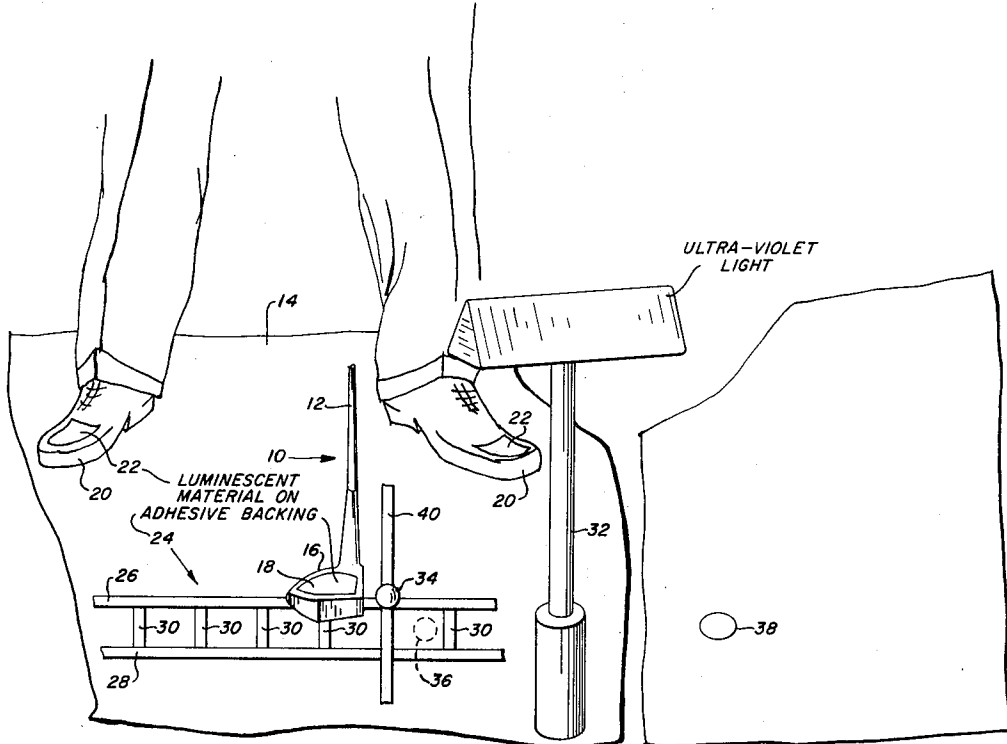
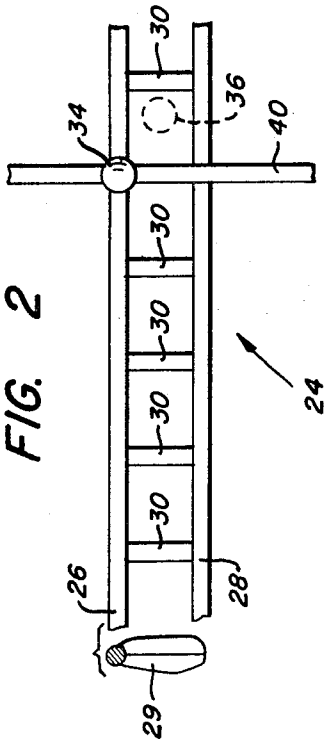
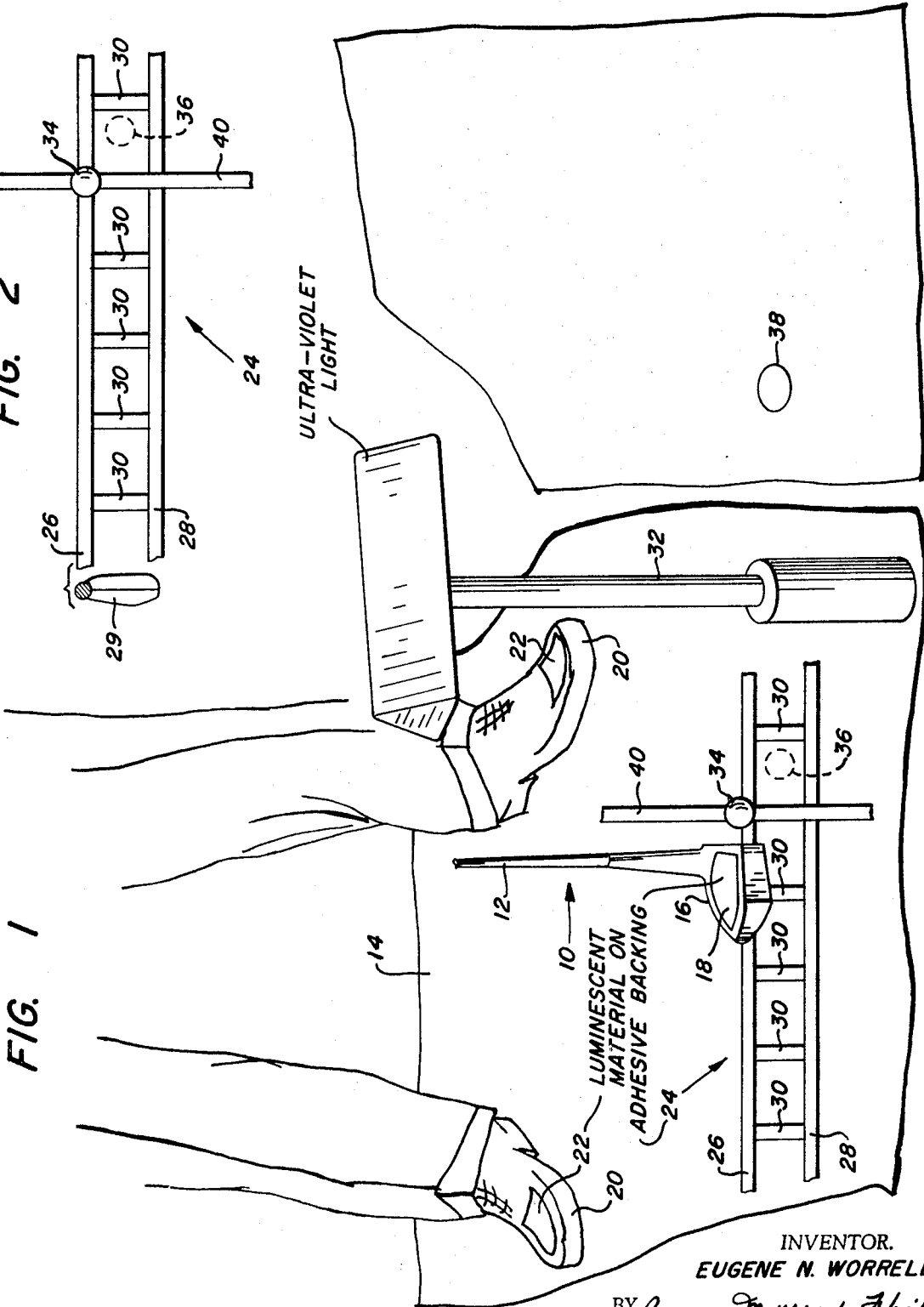


FIG. 2



ULTRA-VIOLET LIGHT

FIG. 1



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## GOLF PRACTICE APPARATUS

## BACKGROUND OF THE INVENTION

This invention relates to golf practice apparatus which will indicate visually, mainly to the user of the apparatus but also to an observer or teacher, whether or not his technique or stroke with any of the various golf clubs used by golfers is correct or proper.

Various types of swing indicators have been provided in the prior art to attempt to aid a golfer in correcting or improving his stroke either in the form of special golf clubs or as attachments for standard golf clubs. As an example of the latter type swing indicator, see the U.S. Pat. No. 3,070,373 which describes a lamp secured to a standard golf club that provides a visual indication of the nature of the swing of a golfer to him or an instructor.

## SUMMARY OF THE INVENTION

Briefly, the present invention provides in combination with a golf club having a shaft with a head on its lower end, luminescent means associated with the head of the golf club for permitting visual observation of the movement of the club head during the execution of a swing of the golf club. Preferably, the luminescent means comprises a decal having a pressure-sensitive adhesive backing for securing it to the club head. While the top surface of the decal may be of any very bright color which will enhance visual observation thereof in ordinary lighting, the top surface of the decal preferably includes a light-emitting substance adapted to emit radiation in the visible range of the spectrum when ultraviolet light is impinged thereon. In accordance with the invention, a means is provided for producing ultraviolet radiation for impingement upon the top surface of the decal such that visual observation of the movement of the club during the execution of a swing of the golf club can be had in an environment substantially devoid of light.

Also, the invention provides a second luminescent means for use in association with a golf club, as above described, and the surface of a golf practice area to substantially define a desired path of travel over which the head of the golf club should move as the club head approaches a ball hitting point during the execution of a correct swing of the golf club.

As will become evident hereinafter, the apparatus provided by the present invention is useful in improving the techniques of a golfer with respect to his stance and both his putting and driving. Other features and advantages of the invention will become apparent from the following description when taken in conjunction with the attached drawings which form a part of this specification.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagrammatic view illustrating apparatus in accordance with the invention; and

FIG. 2 is a partial plan view of the base mat shown in FIG. 1.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, there is partially shown in FIG. 1 the legs of a golfer and the lower portion of a partially shown golf club 10. It is to be understood that the club 10 is being held by the golfer by the handle portion adjacent the upper end of the shaft 12. The golfer is standing on a ground supported, practice base mat partially shown at 14.

In accordance with the invention, the club head 16 is provided on its upper surface with luminescent material 18. The material 18 may be provided on the club head as an inset containing the luminescent material or may be a coating on the club head 16, however, it is preferred that the material be disposed on the upper surface of a vinyl or paper decal provided with an adhesive backing for securing it to the club head 16. The term luminescent as used herein is to be taken in its broadest sense as meaning adapted for the production of luminescence or any emission of light not ascribable directly to

incandescence. Further, it includes light-emitting substances or materials such as fluorescent or phosphorescent metallic salts which emit radiation in the visible portion of the spectrum when ultraviolet radiation is impinged thereon.

The shoes 20 of the golfer are also provided with luminescent material 22 adjacent the toe portions thereof. The material 22 likewise may be a coating on the shoes 20 but preferably also comprise vinyl or paper decals similar to the decal on the club 10.

Disposed on the upper surface of the base mat 14 is a diagram or grid pattern of luminescent material shown generally at 24. Preferably, the base mat 14 is formed of a longitudinally extending section of clear plastic material with the luminescent pattern 24 imprinted thereon, however, the illustrated pattern may also be constructed of a single or a plurality of decals, as described above, secured to the mat 14 or any other golf practice area aside from the mat 14, such as a carpet or directly to the ground.

The pattern 24 comprises a pair of parallel longitudinally extending strips 26 and 28 which are substantially spaced apart the length of the head of a putter club 29 (FIG. 2). The reason for this spacing will appear hereinafter. The pattern 24 also includes a plurality of parallel, spaced-apart strips 30 extending transversely between the strips 26 and 28. As will appear more fully hereinafter, the strips 30 are utilized in conjunction with the strips 26 and 28 when the golfer is practicing his putting technique.

Also shown in FIG. 1 is a lamp 32. The lamp 32 provides ultraviolet radiation for impingement upon the luminescent material disposed on the club 10, the mat 14 and the shoes 20 of the golfer such that visual observation thereof can be had in an environment substantially devoid of light, that is, in a dark room or other environment normally considered to have little, if any, lighting therein.

The use of a golf ball, either of the standard or practice type, is optional with the apparatus as thus far described, however, a ball has been illustrated in the drawing in solid line at 34, which is where a ball, if used, would be located in practicing driving, and in broken lines 36 to designate a position located centrally between the strips 26 and 28, which is the general location that a ball would be positioned when practicing putting. There is also indicated in FIG. 1 a marking 38 which serves as a target when the apparatus is used in practicing putting and a transversely extending strip 40 which serves as a heel position marker when the apparatus is used in practicing driving. The marking 38, the strip 40, and the golf ball, when used, are each preferably provided with luminescent material in the form of a coating or a decal of the type as above described.

Having thus described the apparatus of the invention, its use and application in improving the golfing techniques of a golfer will now be given. As is known to those skilled in the art, in a properly executed swing of a golf club, the club head must follow a straight line approach to the ball hitting point. Any deviation from this straight line approach is the main cause of a hook or slice in driving, and the main cause of missing putts when putting.

The luminescent material provided on the golf club 10 permits the visual observation of the movement of the club head 16 during the execution of a swing of the golf club both in driving and in putting.

When practicing driving or putting, the pattern 24 substantially defines the desired path of travel over which the head of the golf club should move as the club head approaches the ball hitting point during the execution of a correct swing of the golf club. A more definite description of this path, when driving, is defined by the strip 26. In practicing driving, if the club head is moving in a path which arcs outwardly or inwardly from the club user as viewed, for example, by him, and crosses the strip 26, he will be able to visually observe such a crossing. A crossing of the strip 26 which arcs inwardly toward the club user generally produces a slice and a crossing of the strip 26 which arcs outwardly from the club user generally produces a

hook. Accordingly, when the golfer sees a crossing of the strip 26 by the club head, he can attempt to correct his driving technique and the tendency on his part to swing the golf club in a path other than the desired path.

A more definite description of the desired path of travel, when putting, is defined between the strips 26 and 28. As pointed out above, the spacing between the strips 26 and 28 is preferably about the length of the club head 29 of a putter club. In practicing putting, the golfer would attempt to swing the club such that the club head would remain between the strips 26 and 28 with the club face being maintained generally parallel to the strips 30. Any deviation from this path would generally result in a missed putt. It will be noted, that the strips 30 will also aid the golfer in gauging the length of his putting swing.

The luminescent material on the shoes of the golfer and the strip 40 aids him in visually observing the position of his feet. Those skilled in the art will, of course, recognize the necessity of proper feet positioning when executing a correct golf swing. If desired, the glove or gloves normally worn by a golfer may also be provided with luminescent material to aid the golfer in visually observing the positioning of his hands on the handle of the golf club.

It will be apparent from the above description, that the golf practice apparatus provided by the invention may be used in a well lighted area, and can be also used in an environment substantially devoid of light with the use of the lamp 32. When used in a darkened area, only those portions of the apparatus having luminescent material, in accordance with the invention, can be visually observed, thus enabling the golfer to concentrate more effectively on the arc of his swing and the position of his feet.

I claim as my invention:

1. In combination with a golf club having a shaft with a head on its lower end and a golf practice surface, golf practice apparatus comprising means on said golf practice surface for defining a desired luminescent path over which said club head should travel as the head approaches a ball-hitting point during the execution of a correct swing of the club, said luminescent means comprising at least one strip of luminescent material extending backwardly from the ball-hitting point along the desired path of the club, and second luminescent means on the top of said club head to permit visual observation of the movement of the head relative to said path during said swing.

2. The combination defined in claim 1, in which said second luminescent means is a luminescent decal provided with pressure-sensitive adhesive backing securing it to the top of said club head.

3. The combination defined in claim 1, in which said second luminescent means is a luminescent decal provided with pressure-sensitive adhesive backing securing it to the top of said club head, and the first-mentioned luminescent means is luminescent decal means provided with pressure-sensitive adhesive backing securing it to said golf practice surface.

4. The combination defined in claim 1, in which said first-mentioned and second luminescent means include a light-emitting substance adapted to emit radiation in the visible range of the spectrum when ultraviolet radiation is impinged thereon, said combination including means for producing said ultraviolet radiation.

5. The combination defined in claim 1, including third luminescent means adapted to be secured to the shoes of a user of said golf club to permit visual observation of the position of his feet during said swing.

6. The combination defined in claim 1, in which said golf practice surface is the upper surface of a base mat adapted to be laid on a substantially flat support.

7. The combination defined in claim 6, in which said mat is provided at a point spaced longitudinally from one end of said luminescent path with a luminescent marking for use as a target when said golf club is a putter.

8. The combination defined in claim 6, in which said golf club is a putter, and said first-mentioned luminescent means include a pair of parallel strips spaced apart a distance substantially equal to the length of the club head and a plurality of cross strips extending transversely between said parallel strips perpendicular thereto and spaced apart lengthwise thereof.

9. The combination defined in claim 1, in which said golf club is a putter, said golf practice surface is the upper surface of a base mat adapted to be laid on a substantially flat support, said first-mentioned luminescent means include a pair of parallel strips spaced apart a distance substantially equal to the length of the club head and a plurality of cross strips extending transversely between said parallel strips perpendicular thereto and spaced apart lengthwise thereof, and said mat is provided at a point spaced longitudinally from one end of said strips with a luminescent marking for use as a target when the user of the golf club is practicing putting.

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