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⑤④ Arrangement for training and practising a game of golf.

⑤⑦ According to the invention an arrangement is proposed for training and practicing ball games, in particular golf. The arrangement can be used indoors as well as outdoors and comprises, on the one hand, a scoring means, preferably a panel (20) with a specifically prepared surface (28) and, on the other hand, a number of "golf balls" (10) having a surface likewise specifically prepared. The said surface preparation is such that the panel immediately catches and retains a ball when hit by it, so that the hitting point on the panel can be observed and taken down. However, the balls do not cling to each other or to carpets, curtains etc. occurring indoors. The surface of the panel (20) is prepared with so called Velcro material (25). By means of the arrangement a game of golf can be practiced while imitating the play on a real golf course and while using the so called score card of this course. For training so called "putt" strokes the panel (20) can be replaced by a small cylindrical body or a thin circular plate of the same diameter. To catch the ball upon a hit the periphery of the body and the top side of the plate are prepared in the same way as the surface of the score panel (20) mentioned above.

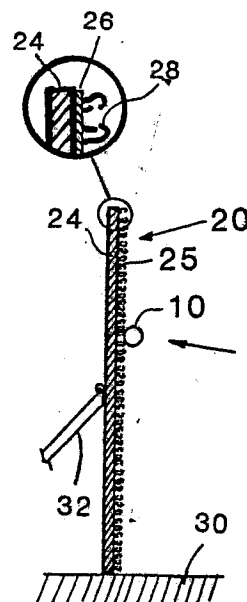


Fig.5

Description

Arrangement for training and practicing a game of golf

The present invention relates to an arrangement for training ball games, golf in particular. The invention is aimed at a simple and effective training arrangement, the training primarily intended to be exercised indoors within a limited space, but the arrangement according to the invention can be used outdoors as well. It is to be noted that the invention can be exercised by a single player for the purpose of practicing as well as by several players who compete with each other during the training.

Especially as to the game of golf many arrangements have been proposed for training and exercising the game which, as a matter of fact, when practiced normally means a certain extensiveness as it is played in the open air on vast golf courses. To train the game, in particular the necessary stroke skill, within limited areas there has been built, particularly in Japan, separate, elongated compartments along which the player can strike one ball after another, the balls being collected automatically. Also more sophisticated devices occur, for example, as disclosed in the patent 6415811-0 (= USA 3 410 563) where an optical system is proposed which illustrates by means of a computer the path a ball struck in the optical model system would follow in reality, the player thus being informed in such a way of the result of his strokes. For practicing indoors, e.g. at home, the usual, very hard golf ball is unsuitable for obvious reasons, but very light and from this point of view harmless balls, as to size and appearance coinciding with ordinary golf balls, are available for practicing indoors.

According to the invention the player strikes such balls from a "tee" towards a score panel located at a suitable distance, the play or practice being organized in accordance with a certain plan of play which can be arranged such that the training game be developed according to the conditions prevailing from hole to hole at known, real golf courses. According to the invention the ball struck against the score panel is adapted to cling to the panel in order to mark truly and distinctly the point of hit, whose location is made of record.

It is previously known to provide hand missiles, which for the purpose of play or competition are thrown toward a target in order to cling thereto, with a cover of so called "teasel" material which occurs on the market under the name of Velcro (reg. trademark), a textile like material provided on its surface with a large number closely spaced, fine hooks of plastics, preferably nylon. The hooks are adapted to get stuck in a material cooperating with the Velcro material, said second material having a fluffy fibrous form, preferably of thin, loop forming filaments. Such missiles can comprise darts, balls, rings etc. and such missiles provided with Velcro material are proposed in e.g. the US Patents Nos. 3 967 823 and 4 240 639. However, in exercising the invention it is not possible to provide the light golf balls used with Velcro material in this way in order to make the balls cling to the score panel, and

this because of an annoying effect: the balls would adhere strongly to each other in storing and, above all, they would get stuck in carpets, curtains etc. According to the invention the balls are covered instead with a neutral, fluffy material for clinging cooperation with the score panel which, in contrast to known equivalents, is covered with Velcro material.

The invention will now be described with reference to the accompanying drawing in which Fig. 1 shows a training ball according to the invention, whereas Fig. 1a shows, on a strongly enlarged scale, a small fragment of the ball in order to illustrate the fluffy surface of the ball. Figs. 2 and 3 show a strip of the fluffy material which is shaped in known manner to cover completely, in a cooperating pair, the ball according to Fig. 1. Fig. 2 showing a section along the line II-II in Fig. 3. Fig. 4 is a plan view of an embodiment of the scoring panel according to the invention and Fig. 5 shows a vertical section V-V according to Fig. 4 through the panel erected on a base. Figs. 6 and 6a, finally, show an alternative scoring panel.

In Figs. 1-3 there is thus shown an example of a training or practice ball 10 according to the invention, intended for the game of golf. The ball per se is light and made of plastics and has the same diameter as an ordinary golf ball. According to the invention such a ball is provided with a cover, substantially in the same manner as a tennisball, that is, by two symmetrically bean-shaped pieces 15' and 15'' according to Fig. 3 of a fluffy fiber material, a so called velour, being applied and glued to the ball so that this is covered by the velour material. Looked upon more closely this material consists of a thin, strong but stretchable substrate 16 joined with the fluff of loop material 18 proper. Balls made in this way can be stored without clinging to each other or to textile material in the surroundings.

Figs. 4 and 5 exemplifies a score panel 20 according to the invention. In the embodiment shown the front side thereof has a series of concentric squares 22 numbered from "0" to "5" whereby the vertical and lateral position of a hit can be observed directly. As a matter of course, for other purposes also the conventional target board having concentric circles can be used.

From the vertical section in Fig. 5 it is seen that the score panel 20, which according to the figure, is erected on a floor 30 by means of a rear support 32, has its front side completely covered with Velcro material 25 (drawn exaggerated in scale) applied to a body 24 of e.g. expanded plastics. In analogy with the velour material 15 mentioned above the Velcro material 25 exhibits a substrate 26 wherefrom a dense "wood" 28 of tiny plastic hooks rises.

In Fig. 6 an alternative embodiment of the scoring panel is shown which has the advantage that it will ensure almost absolutely that any ball hitting the panel will be actually caught. The panel described above may in certain, although rare cases subject a

ball, flying in at great force, to a kind of bounce action, so that the ball does not stick, a calamity which cannot occur with the scoring panel 20' shown in Figs. 6 and 6a. For a change, this panel is shown suspended on a wall 31, but of course it can be provided, like panel 20, with means for erecting it on a floor.

The panel 20' can be described as a "double panel", that is, it is composed of two rather thin, parallel boards 35 and 36 united by upper and lower spacing ribs 34 and 38, respectively, so that an air gap 40 is formed between them. The Velcro mat 25 is applied on the front board 35, which preferably consist of a comparatively thin and hard plastics material. The air gap 40 should have width or thickness of at least 8-10 mm, and with regard to the boards the front one could be a sheet of polystyrene, some 1,5-2 mm thick, and likewise could the back board comprise such a sheet although this board could be made of a simpler and more coarse material, e.g. fibre board. In the most simple case the back board 36 may be omitted completely, the wall 31 forming a substitute. The decisive condition is that an air gap or "air cushion" must exist behind the front board 35. In addition, there is a further condition which concerns the suspension of the front board, see below.

Thus it has to be noted that the front board 35 should be "free" in the sense that it is allowed a limited freedom of movement or resilience in a direction normal to its own plane. In the illustrated embodiment this condition is fulfilled by the feature that the front board 35 is only suspended and supported by its upper and lower ribs 34 and 38, respectively, while its vertical sides are free. The rear board can also be developed into a box which surrounds the front board and the air gap and which is provided with means for suspension on a wall, or for erection on a floor. Also, the condition of air gap and suspension could be met by the front board 35 being provided with a surrounding elastic frame, which holds the board with the necessary resilience as well as air gap.

At a suitable distance from the vertical score panel 20 or 20' the player or players now take their starting position to drive the ball 10 against the panel on the understanding, for example, that the ball is to land on a green of a golf course. In doing so the player has of course to possess a general precision of aim which the player trains by trying to hit the central field 22 of the panel 20, marked "0". How he succeeds is immediately revealed as the ball clings to the panel exactly in the hit position and this is made of record.

By the player having the unique opportunity immediately to see, determine and also make of record what becomes of the ball he hits during a training or competition round with the arrangement according to the invention, he can adapt his playing continuously by directing deliberately the ball towards various areas on the score panel, depending on the path he believes the ball will follow in reality, e.g. when being driven onto a green. In accordance with this concept the score panel may be designed in a more sophisticated way than with those simple

squares shown in Fig. 4, for the purpose of precisising the training game and make it more interesting. As a whole the invention makes a great variation in choice possible when it comes to training and playing possibilities. As a further example of such possibilities it can be mentioned that by the arrangement according to the invention also a complete round on a certain, existing golf course can be imitated, thanks to the fact that for each golf course the degree of difficulty of each course section or "hole" has been established, firstly, by the minimum number of strokes ("pair") which a player is deemed to need at the various holes for propelling the ball from a starting point ("tee") to the final goal, "the cup" in the green of the course section and, secondly, by the mutual degree of difficulty, "handicap", of the course sections or holes. This information, thus about pair and handicap for each hole, is available in the form of a so called score card valid for each golf course where said information is given. Hence, if one has at one's disposal such a score card from some famous international golf course, e.g. St Andrews in Scotland, one can carry through an interesting round of golf while imitating the conditions prevailing at this course, in doing which it is assumed that one has hit the green at every section. Then a number of strokes, predetermined according to the score card, are made against the score panel and the number of points according to the hit locations is noted. In the same way as in real golf the players take their personal handicap into account for judging best result when summing up the number of strokes/points.

According to the invention the player can also practice the concluding strokes, "putts", which are made on the green when the ball is to be hit into the cup of the green. For this practice the above mentioned score panel is replaced by a low cylinder of a certain weight and with a diameter approximately corresponding to the diameter of the green cup less the diameter of the ball. The periphery of the cylinder is covered by the said hook material. Alternatively a thin circular plate is used, which has a somewhat larger diameter than the above mentioned cylinder and whose top side is provided with the hook material. In both cases the cylinder/plate forms a target against which the players are "putting" the ball, and a hit is immediately and permanently marked by the ball being caught in the manner disclosed above.

Claims

1. An arrangement for training and practicing golf, in doing which balls are hit against a target in the form of a portable scoring means (20, 20') arranged to indicate on its surface the points where it is hit by the balls (10) by catching and retaining the balls by means of an adhering surface contact in the points of impact, characterized in that the surfaces of the balls (10) and the scoring means (20, 20') are of such a nature that, on the one hand, the surfaces (18) of the

balls adhere to the surface (28) of the scoring means when contacting said means whereas, on the other hand, the surfaces (18) of the balls do not adhere to each other at mutual contact of the balls, said effect being brought about by the surface of the scoring means (20, 20') having a cover (25) of a so called stretch hook material (e.g. type "Velcro") whereas the surfaces of the balls have a cover (15) for gripping cooperation with the cover (25) of the scoring means (20, 20'), said ball cover comprising a fluffy or fibrous material (e.g. type "Velour").

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2. An arrangement according to claim 1, characterized in that the scoring means has the form of a panel (20, 20') whose surface exhibits a pattern of images, e.g. comprising numbered squares, circles or other figures.

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3. An arrangement according to claim 2, characterized in that the scoring panel (20') comprises a vertically arranged board (35) consisting of a comparatively thin and hard sheet of plastics which is provided on its front surface with said stretch hook material (25), the board being suspended on a back member (36, 31) in such a way that, (a), an air gap (40) is formed between the board and the back member and, (b), the board is allowed a limited freedom of movement or resilience in a direction normal to its own plane.

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4. An arrangement according to claim 3, characterized in that the board (35) is spaced from the back member (36) to form said air gap (40) and supported thereby only at its top and bottom parts, leaving its vertical sides free to allow said limited freedom of movement or resilience.

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5. An arrangement according to claim 1, characterized in that the scoring means comprises a low cylindrical body of a diameter less than the diameter of the hole of "cup" in the green of a golf course, the periphery of the body being provided with said stretch hook material in order to catch the balls (10).

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6. An arrangement according to claim 1, characterized in that the scoring means comprises a thin circular plate of a diameter less than the diameter of the hole of "cup" in the green of a golf course, the top side of the plate being provided with said stretch hook material in order to catch the balls (10).

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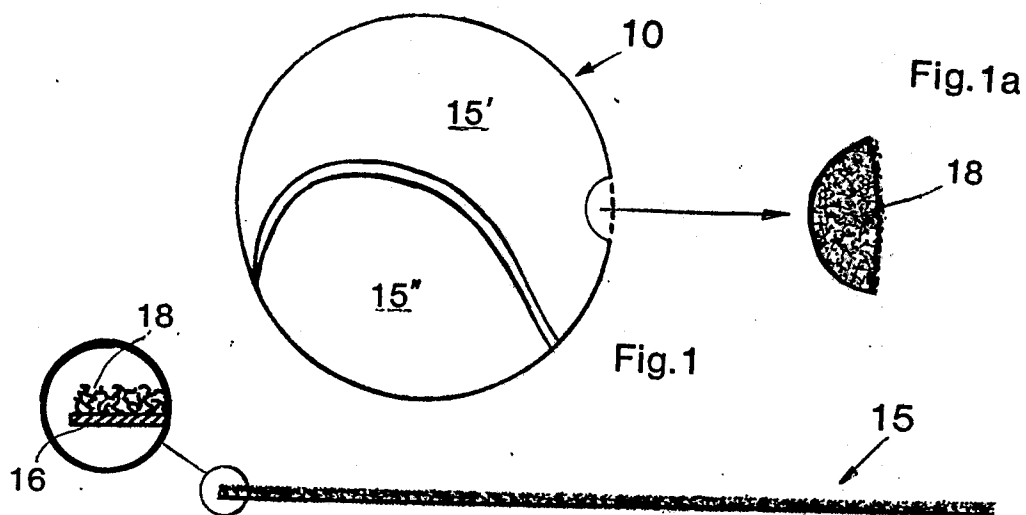


Fig. 2

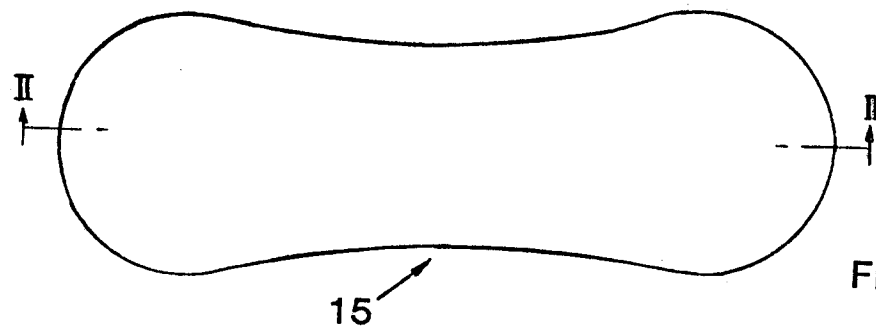


Fig. 3

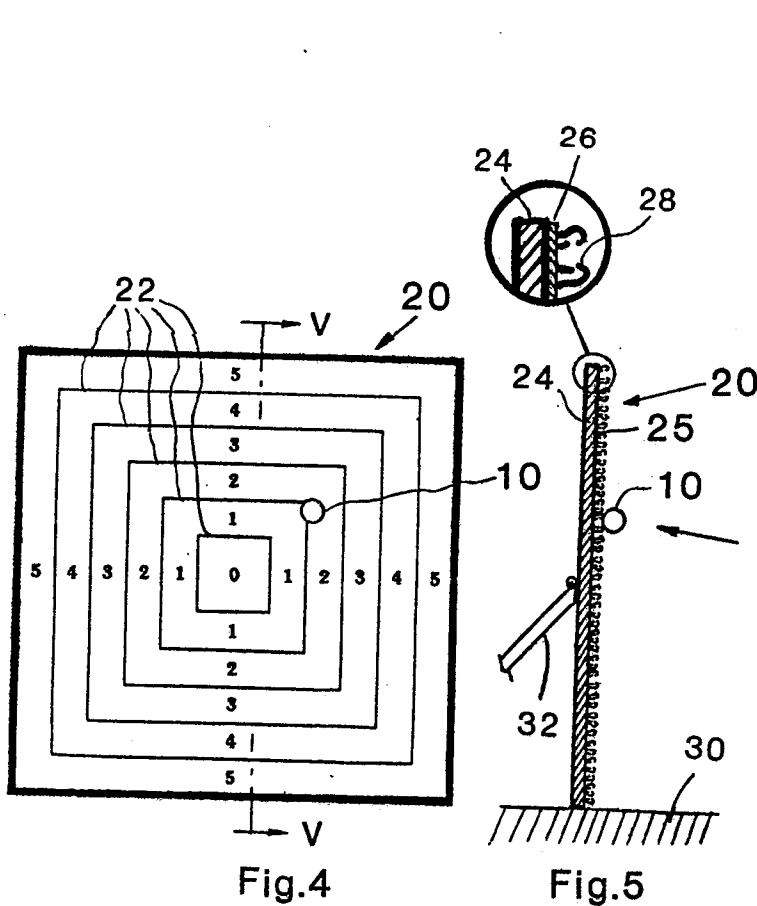


Fig. 4

Fig. 5

Fig. 6

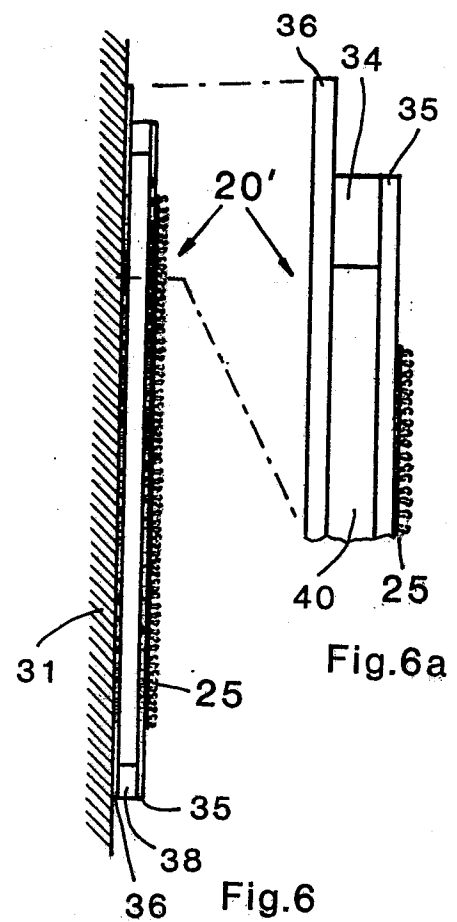


Fig. 6a



DOCUMENTS CONSIDERED TO BE RELEVANT			EP 88850071.7
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
Y	US - A - 4 596 392 (WALKER) * Abstract; fig. 1 * --	1,3	A 63 B 69/36
Y	US - A - 3 857 566 (LEMELSON) * Abstract; fig. 1,3,4; claims 1,2 *	1,3	
A	* Abstract; fig. 1,3,4; claims 1,2 *	2	
Y	GB - A - 2 163 964 (CUNNINGHAM) * Abstract; fig. 2; page 2, right column, lines 92-96 * --	1	
Y	US - A - 3 927 881 (LEMELSON) * Abstract; description to fig. 2 (last break of column 2) *	1	
A	* Abstract; description to fig. 2 (last break of column 2) *	2	
Y	US - A - 4 341 384 (THRACKREY) * Abstract; fig. 1 *	1	
A	* Abstract; fig. 1 *	6	
Y	US - A - 3 032 345 (LEMELSON) * Claims 1,2,5,6; fig. 3,4 *	1	
A	* Claims 1,2,5,6; fig. 3,4 *	2	
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 09-06-1988	Examiner SCHÖNWÄLDER
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	



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DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ⁴)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	US - A - 3 967 823 (YOUNT) * Abstract; fig. 1,2 * --	1,2,3	
A	US - A - 4 240 639 (BOLTON) * Abstract; fig.; points 1., 2. of the "field of the Invention", column 1 * --	1,2	
A	US - A - 3 917 271 (LEMELSON) * Abstract; fig. * --	1,2	
A	GB - A - 1 568 572 (MIDANA) * Page 2, left column, lines 35-44; fig. 3,4 * ----	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl. ⁴)
Place of search VIENNA		Date of completion of the search 09-06-1988	Examiner SCHÖNWÄLDER
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	