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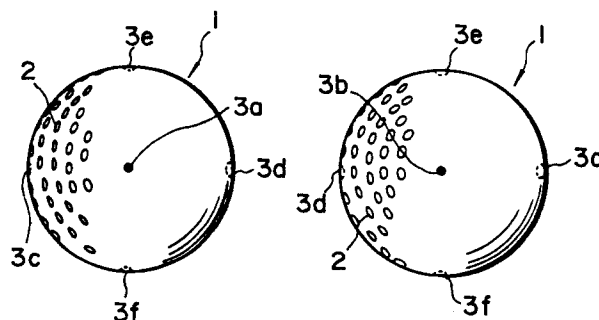
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54 GOLF BALL.

57 A golf ball having on its spherical surface at least four minute marks, which a player is to look at when he hits the ball, these marks being distributed on the same spherical surface so that at least one of the marks can be seen at a distance from any direction. Preferably a total of six marks are put on the spherical surface of a golf ball so that the marks are in such points thereon that correspond to the intersections of three circular bisectors of the ball which cross one another at right angles.



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D E S C R I P T I O N

GOLF BALL

Technical Field

This invention concerns a golf ball indicating a plurality of fine gazing point marks on the surface of a spherical body and, particularly, it relates to a golf ball in which at least one gazing point mark can be observed on the surface of the spherical body within the visual angle irrespective of the directions of the ball placed.

Background Art

Upon playing golf, it is important never to avert from a ball in a series of movements from the back swing to the impact in order to exactly hit the ball. In view of the above, although an effort has been made to gaze the ball upon ball hitting movement, if the entire ball is looked at as a target, the concentration to the ball is diverted because the target is large and thus one tends to look away too early, coupled with a mental state intending to obtain a long flying distance, thereby inducing misshot.

Although the hitting has also been conducted while looking at manufacturer's marks as the target attached on

the surface of the ball, these marks are not always satisfactory for sufficiently attracting attention since they are relatively large. Moreover, since these marks can not be observed from all of the direction of the ball, it can not always be ensured that a mark appears within the visual angle upon taking a hitting posture in the case of second or subsequent hitting, apart from the case of hitting in the teed-up state. Accordingly, it may sometime result in such a case that an aim cannot be set to the surface of the ball within the view angle, particularly, upon hitting the ball without touching it from an optional stationary position.

The object of this invention is to provide a golf ball adapted such that the attention can always be concentrated to one point of a ball standing still at any position.

Another object of this invention is to provide a gold ball capable of releaving deleterious mental strains upon swinging by improving the mental concentration to the ball.

Disclosure of Invention

In view of the above-mentioned objects according to this invention, fine gazing point marks are indicated at a plurality of positions on the spherical surface of a golf ball and the gazing point marks are distributed such that at least one of them appears on the spherical surface within

the visual angle when observed from any of the directions.

At least four marks are necessary in order that one or more of the gazing point marks are visible from any of the direction of the ball and 6 marks are, most preferably, indicated in order to obtain a probability that a mark appears at a position on the spherical surface most easy to see from the ball hitting position.

Brief Description of Drawings

Figure 1a is a front elevational view of a golf ball in a more preferred embodiment according to this invention, Figure 1b is a rear elevational view thereof,

Figure 2a is a front elevational view of a golf ball in another embodiment according to this invention and Figure 2b is a rear elevational view thereof,

Figure 3a is a front elevational view of a golf ball in a further embodiment according to this invention and Figure 3b is a rear elevational view thereof,

Figure 4 shows a golf ball of a still further embodiment according to this invention, and

Figure 5 is a reference view for determining the positions for the gazing point marks in Figure 1a and Figure 1b, as well as Figure 3a and Figure 3b.

Best Mode for Carrying Out the Invention

Embodiments of the invention will now be explained referring to the accompanying drawings.

Figure 1a and Figure 1b show an embodiment, in which fine gazing point marks 3a, 3b, 3c, 3d, 3e and 3f are indicated on 6 positions distributed on the entire spherical surface such that at least one of them can be observed when viewed from any of the directions, specifically, such that the gazing point marks are indicated each by one about at the center portion for each of the surfaces, i.e., front face, rear face, right and left side faces, plan face and bottom face when taking one surface of the ball as the front face. The positions for indicating the gazing point marks in this embodiment can be determined, for example, as shown in Figure 5, based on each of intersections 3a', 3b', 3c', 3d', 3e' and 3f' between each of three circular bisectors 4a, 4b and 4c for spherical body intersecting with each other at a normal angle on the surface of the spherical body.

The embodiment in Figure 2a and Figure 2b is adapted such that gazing point marks 3a, 3b, 3c, 3d and 3e are indicated at five positions on the spherical surface of the ball 1 so that at least one gazing point mark can be observed from any of the directions of the ball 1, for example, by disposing a first mark 3a at a point on the

spherical surface, disposing a second gazing point mark 3b at a symmetrical position on the rear side thereof (Figure 2b), and further disposing three third, fourth and fifth gazing point marks 3c, 3d and 3e substantially at an equidistance along a circular bisector 4a for spherical body that passes through the midpoint between the gazing point marks 3a and 3b.

The embodiment in Figure 3a and Figure 3b is adapted such that eight gazing point marks, 3a through 3h are distributed on the spherical surface of the ball 1 so that at least one of them can be observed from any of the directions and the position for each of the marks in this case can be determined from Figure 5. That is, since the surface of the spherical body is equally divided into 8 portions each of a trigonal arcuate plane by the intersection between each of three circular bisectors 4a, 4b and 4c for spherical body as shown in Figure 5, eight gazing point marks 3a through 3h are disposed substantially at an equidistance on the surface of the spherical body by arranging the gazing point marks each by one about at the center for each of the equally divided planes as shown in Figure 3a and Figure 3b.

Further, four gazing point marks 3a, 3b, 3c and 3d are disposed on the surface of the spherical body such that all of the respective marks are disposed so as to be at an

equi-distance between each other in Figure 4. Although they may be some time difficult to see, this can also satisfy the constitution of this invention that at least one mark can be viewed from any of the directions. 3a, 3b represent the marks indicated on the surface, while 3c and 3d represent the marks indicated on the rear face in the drawing, in which the distance between each of the marks is substantially equal.

If the number of positions for indicating the gazing point marks is less (for instance 4), exact gazing to the mark becomes difficult, whereas if the number is excessive (for instance, not less than 8), waver is resulted in the choice and the mental concentration is difficult to obtain as well. Accordingly, it is more desirable in actual use to dispose six gazing point marks 3a - 3f being distributed at an equi-distance as in the embodiment in Figure 1a and Figure 1b.

The gazing point marks are fine points pigmented black, red or like other color different from the background color of the ball and the size thereof is set to such an extent that can be recognized from the height of eyes in the ball hitting posture while it is different depending on the user's eye sight. For instance, it may be a size corresponding to that of one dimple. Further, the shape of the gazing point mark may be of a circular,

trigonal, star-like or like other symbol, letter, etc. so long as it can constitute a target and it is attached by means of printing or like other known indication means.

In the case where manufacturer's marks or the likes that can substitute the gazing point mark in this invention have already been indicated on the surface of a ball, gazing point marks according to this invention may partially be substituted with these existent indications.

Industrial Applicability

As has been described above, since at least one gazing point mark appears on the spherical surface within the visual angle when viewed from any of the directions of the golf ball according to this invention, at least one gazing mark point can be recognized as a target when viewed from the ball hitting posture even when the ball stands still at any direction. Accordingly, mental concentration can always be attracted to the fine point on the ball as a target even at and after the second shotting.

Furthermore, since the deviation of a face or head upon hitting a ball can be recognized well by aiming at a fine point as the target, checking for the swing can be facilitated, as well as deleterious strains during swinging are eliminated thereby facilitating shotting under well balanced forces.

C l a i m

(1) A golf ball wherein fine gazing point marks are indicated at least to four positions on the spherical surface of a ball 1 and said gazing point marks are distributed in such a positional relationship that at least one of them can be observed from any of the directions of the ball.

(2) A golf ball as defined in claim 1, wherein the entire spherical surface of the ball is equally divided into eight portions by three circular bisectors 4a, 4b and 4c for spherical body intersecting with each other at a normal angle on said spherical surface, and each of the gazing point marks is indicated at or near the intersection between each of the bisectors.

(3) A golf ball as defined in claim 1, wherein the entire spherical surface of the ball is equally divided into eight portions by three circular bisectors 4a, 4b and 4c for spherical body intersecting with each other at a normal angle on said spherical surface, and each of the gazing point marks is indicated about at the center for each of the divided portions.

(4) A golf ball as defined in claim 1, wherein gazing marks 3a, 3b are indicated respectively on two points on the spherical surface in symmetrical with respect to the

central axes of the ball, and three fine gazing marks 3c, 3d and 3e are indicated each at a substantially equidistance along a circular bisector for spherical body passing about the center between the two points.

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FIG. 1a

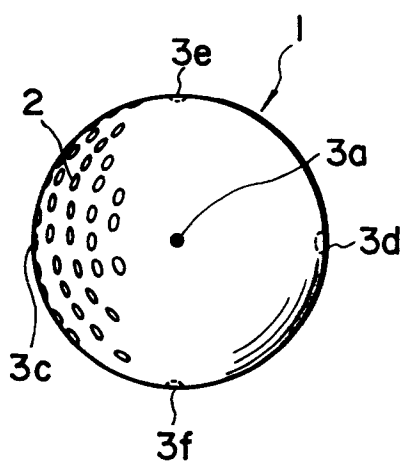


FIG. 1b

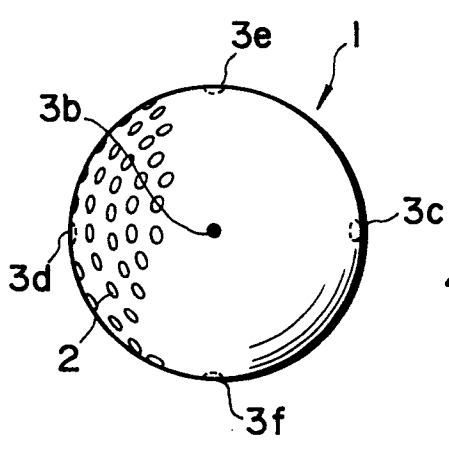


FIG. 5

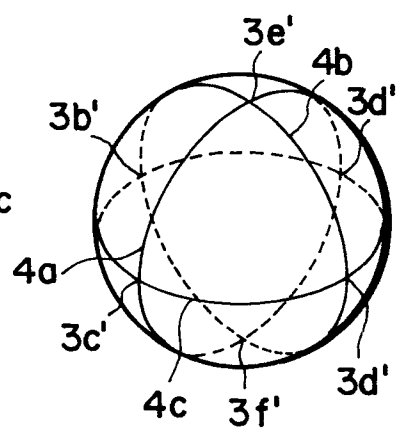


FIG. 2a

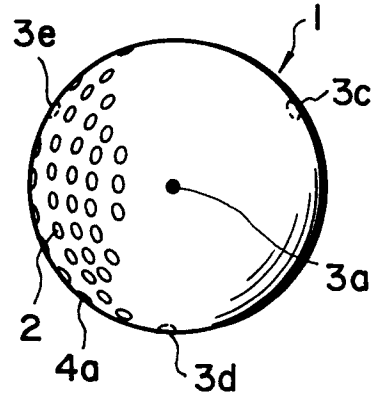


FIG. 2b

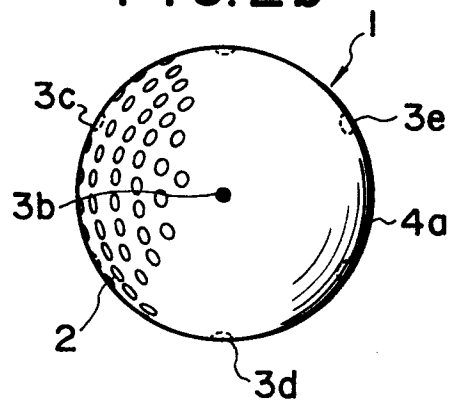


FIG. 3a

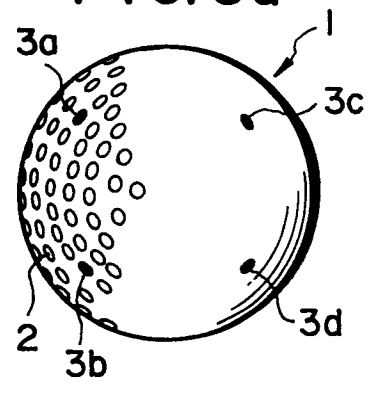


FIG. 3b

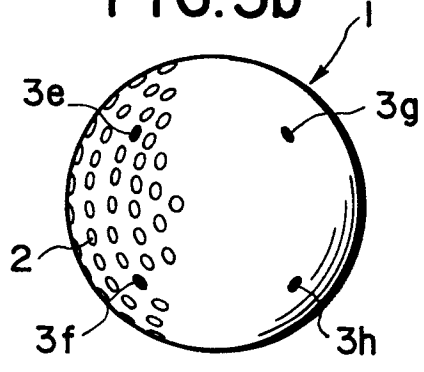
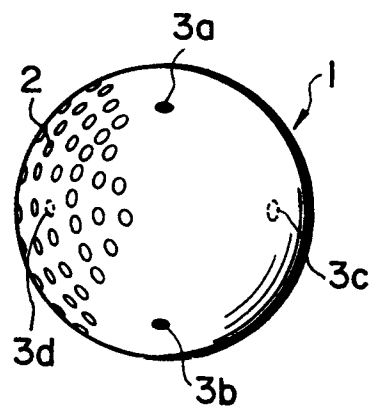


FIG. 4



INTERNATIONAL SEARCH REPORT

International Application No.

PCT/JP85/00156

0220317

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) ³		
According to International Patent Classification (IPC) or to both National Classification and IPC Int. Cl⁴ A63B 37/14		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁶		
Classification System	Classification Symbols	
IPC	A63B 37/14	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁵		
Jitsuyo Shinan Koho 1926 - 1984 Kokai Jitsuyo Shinan Koho 1971 - 1984		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ¹⁴		
Category ⁷	Citation of Document, ¹⁶ with indication, where appropriate, of the relevant passages ¹⁷	Relevant to Claim No. ¹⁸
A	JP, U, 49-96062 (Amaya Eihiro) 19 August 1974 (19. 08. 74) (Family : none)	
A	JP, U, 50-107267 (Umeda Denki Kabushiki Kaisha) 3 September 1975 (03. 09. 75) (Family : none)	
A	JP, U, 55-134866 (Hamada Jiro) 25 September 1980 (25. 09. 80) (Family : none)	
A	JP, Y2, 49-41402 (Meguro Yoshihide) 13 November 1974 (13. 11. 74) (Family : none)	
A	US, A, 4235441 (Richard Ciccarello) 25 November 1980 (25. 11. 80) (Family : none)	
¹⁵ Special categories of cited documents: ¹⁵ "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search ²		Date of Mailing of this International Search Report ²
June 3, 1985 (03. 06. 85)		June 10, 1985 (10. 06. 85)
International Searching Authority ¹		Signature of Authorized Officer ²⁰
Japanese Patent Office		