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"A target assembly for a golf putting game"

Introduction

5 The present invention relates to a target assembly for a golf putting game. In particular, the present invention relates to a target assembly for a golf putting game that may be used on any appropriate flat surface, or preferably on a putting mat.

10 Numerous types of target assemblies for golf putting games and aids exist. These assemblies fall predominately into two distinct types: target assemblies that have a single target and are intended for use by a single person to improve their putting, or, target assemblies that allow a number of players to use the golf ball putting assembly at the same time to play a game by using a graded scoring system.

15 Typically, the target assemblies that have a single target and are intended for use by a single person to improve their putting technique will have a golf hole or golf ball capture mouth that the player aims to putt the golf ball into. The device usually incorporates a ball return system using a mechanically operated plunger or kick-back system to propel the golf ball back to the player. This device is intended for use by a
20 single person at a time to repetitively practice their putting technique.

Such devices are good for improving putting technique however, they are not designed to be used by more than one player at a time. The devices do not allow for a putting game to be contested between a number of players. The devices only allow
25 for a simple scoring system related to either putting the golf ball into the hole/capture mouth or not putting the golf ball into the hole/capture mouth. Thus the devices can not facilitate a fun, competitive game to be played between a number of players.

30 The second type of target assembly allows a plurality of players to use the target assembly to play a fun, competitive game. These target assemblies usually comprise a graded scoring area. Usually such scoring areas comprise a plurality of concentric circles of varying diameter which form a central bull's eye circle and a plurality of adjacent rings around the central circle. The central bull's eye circle and each ring is assigned a certain score or value on a scoring system, with the central bull's eye

circle normally having the highest value, the outermost ring having the lowest value and the intermediate rings between the bull's eye circle and the outermost ring being assigned gradually reducing values in relation to their proximity to the central bull's eye circle. Thus, the central bull's eye circle and the adjacent rings are all different scoring zones. The size of the scoring zones can be altered by altering the diameter of the concentric circles and/or the central bull's eye circle.

Numerous players partake in the use of the target assembly by taking alternate turns to putt a golf ball from a predefined distance on a playing surface towards the graded target area. Each player attempts to putt the golf ball with enough speed, or alternatively known as weight, so that the golf ball rolls along the playing surface and comes to rest in the central bull's eye circle. If the player putts the golf ball with too much speed or weight, the golf ball will roll past the central bull's eye circle into one of the rings or out of the graded target area completely. Additionally, the player must putt the ball in a relatively straight line towards the central bull's eye circle. Too much variance off the straight line will result in the golf ball coming to rest to the side of the central circle in one of the adjacent rings, or the golf ball may come to rest out of the graded target area completely. Points are awarded to each player based on the scoring zone in which their golf ball comes to rest. The accumulation of points for each player and subsequent comparison of accumulated points totals between players allows for a fun, competitive game to be played. Such a device is disclosed in US Patent Publication US5,607,360 (Shiffman).

As these types of golf ball putting practice devices normally comprise a putting mat with a pre-printed graded target area on the mat, a printed line defines the boundaries between the different scoring zones. Therefore, a golf ball can come to rest on the boundary line between two different scoring zones and/or partially in two adjacent scoring zones. This creates ambiguity and uncertainty in the scoring during the game.

Furthermore, the structure of the scoring zones used in these golf ball putting practice devices, in terms of having a central bull's eye circle and a plurality of adjacent co-centric rings, does not facilitate an easily adaptable scoring system. Although the central bull's eye circle and the adjacent rings could be re-assigned

different values, if the value of one of the adjacent rings was re-assigned as the highest value, then the entire ring would have this value and there would not be a consolidated target for the players to aim at. As the highest valued scoring zone would be a ring, the main target would be disjointed. Therefore, practically speaking, 5 players are restricted to keeping the central bull's eye circle as the most highly valued target. This can be problematic as players will be continually aiming for the same target point. Therefore, after a certain amount of time, players will begin to remember the pace and line required to land the golf ball in the bull's eye circle through so called "muscle memory" rather than through putting technique. Therefore, these second 10 type of golf ball putting practice devices do not substantially improve a player's putting technique.

US Patent Publication US3,722,889 discloses a portable golf putting apparatus. The apparatus comprises two targets spaced apart from each other. Each target 15 comprises five channels; each channel comprises a number of scoring pockets; and each scoring pocket is defined by raised partitions that separate parallel channels, and, boundary ramps that separate adjacent pockets along the length of each channel. The number of pockets in each channel is different to the adjacent channel, and, the widths of each channel also vary.

20 One problem with the portable golf putting apparatus as disclosed in US3,722,889 is that the portable golf putting apparatus encourages a player to repetitively practice the same putting stroke thus leading to an artificial improvement in the player's putting technique based on "muscle memory" rather than genuine putting technique. 25 This is due to the fact that the channels in the target are formed in such a manner as to prevent any meaningful alteration to the scoring pattern. In particular, the central channel is considerably wider than the other channels and also comprises three pockets into which the golf ball could come to rest within. The remaining channels also differ in terms of the number of pockets each contains and their widths.

30 The probability of the golf ball coming to rest in one of the pockets can be calculated based on the fixed nature of the structure forming the channels and pockets of varying widths and lengths. These probabilities give rise to a fixed scoring pattern illustrated by the references (1), (2), (3) and (5) in the figures of US3,722,889. It is

also noted that in US3,722,889, the player is encouraged to putt the golf ball towards the target from the same predetermined distance on every occasion as a length of inelastic cord is provided to set the two targets at the same distance from each other every time the putting apparatus is set-up. It is intended that two players stand
5 adjacent each of the targets respectively and take turns to putt towards the opposing target from a distance defined by the inelastic cord. Thus, as the scoring system is based on mathematical probabilities which are in turn based on a fixed target structure, rearranging the scoring pattern without rearranging the structure of the channels and the pockets would result in an unmeaningful and nonsensical scoring
10 system which would greatly detract from the game.

The scoring system disclosed in US3,722,889 is not capable of being varied and the player is encouraged to putt at the target from the same distance every time, therefore, the portable golf putting apparatus disclosed in US 3,722,899 encourages
15 a player to repetitively practice the same putting stroke thus leading to an artificial improvement in the player's putting technique.

A further problem with the portable golf putting apparatus disclosed in US 3,722,899 is that the central channel is considerably wider than a conventional golf ball.
20 Therefore, if a player is aiming along a central line for the middle of the central channel, and due to an inaccurate putt the golf ball goes offline, the golf ball may still end up in one of the pockets along the length of the central channel. Inaccurate putting is not penalised by the target disclosed in US3,722,889.

25 It is a goal of the present invention to provide an apparatus that can be used by a number of players to play a fun, competitive game whilst simultaneously improving the player's putting techniques. The present invention should therefore overcome at least one of the above-mentioned problems.

30 **Summary of the Invention**

The present invention is directed to a target assembly for receiving a golf ball comprising a plurality of parallel golf ball receiving elongate channels; each channel having substantially the same width as the other channels and each channel

comprising a plurality of discrete golf ball receiving zones.

Throughout the following description and claims, the term "discrete golf ball receiving zones" shall be understood to define zones that are deigned to receive a golf ball wholly within the scoring zone or not in the scoring zone at all. The boundaries between adjacent zones may be formed to direct a golf ball into one of a plurality of adjacent zones, but do not allow a golf ball come to rest whilst partially in more than one adjacent zone and/or on the boundary itself. Similarly, the scoring zones may be formed to direct a golf ball into one of a plurality of adjacent zones, but do not allow a golf ball come to rest whilst partially in more than one adjacent zone and/or on the boundary itself

The advantage of providing such a target assembly is that a scoring system associated with the discrete golf ball receiving zones may be adjusted and adapted to provide one or more consolidated targets, such as a bull's eye or a "hole in one", for players to aim for on the golf ball putting practice device. The discrete golf ball receiving zones of each channel and the plurality of channels form a grid structure. By assigning different scores to the different discrete golf ball receiving zones of each channel, one or indeed multiple targets can be formed. These targets and the scoring system can be then altered to avoid "muscle memory" effects from assisting a player to achieve a high score. Rather, the player will improve his or her putting technique through varying the pace, line, weight and/or speed of the putt whilst enjoying a fun, competitive game that does not suffer from any ambiguous scoring structures.

In a further embodiment, each channel is defined by a pair of adjacent co-operating rails forming a golf ball receiving guide track.

In a further embodiment, adjacent channels share a common rail that is used in forming the guide tracks for both of the adjacent channels respectively.

In a further embodiment, each channel has its' own pair of rails that are used to form the guide tracks for that channel.

In a further embodiment, the discrete golf ball receiving zones are defined by

protrusions occurring along the length of each elongate channel.

The advantage of dividing each channel using a plurality of protrusions located at intervals along each channel to define a boundary between adjacent zones is that the
5 channels are divided into discrete scoring zones by use of the protrusions.

In a further embodiment, the protrusions are circumferential protrusions that are formed around the circumference of each rail.

10 In a further embodiment, the circumferential protrusions are composed of rubber rings mounted along each rail.

In a further embodiment, the circumferential protrusions are composed of radially-extended portions of rail formed along each rail.
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In a further embodiment, the discrete golf ball receiving zones are at least partially formed with indentations that occur along the length of each elongate channel.

The advantage of using indentations is that the golf ball will settle in the indentation
20 itself. Thus, if the indentation forms the discrete golf ball receiving zone, or forms part of the golf ball receiving zone along with a preceding or subsequent portion of the rail, then the indentations along the length of the rail can be used to define the scoring zones. It is envisaged that such an embodiment would require a greater degree of control of the speed or weight of the golf ball.

25 In a further embodiment, the indentations are circumferential grooves that are formed around the circumference of each rail.

In a further embodiment, the indentations are formed on a golf ball supporting surface
30 of the golf ball receiving passage.

In a further embodiment, each rail of a channel comprises a plurality of sawtooth-like deflections to define boundaries between the plurality of discrete golf ball receiving zones on that channel.

The advantage of using a plurality of sawtooth-like deflections is that the sawtooth-like deflections will slow a golf ball down in addition to forming the discrete golf ball receiving zones.

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In a further embodiment, each of the plurality of sawtooth-like deflections on any of the plurality of rails is co-incident with the corresponding sawtooth-like deflections on each of the other rails.

- 10 In a further embodiment, each rail of a channel comprises a plurality of vertical undulations along the rail; the trough of each vertical undulation forming one of the plurality of discrete golf ball receiving zones on that channel.

- 15 The advantage of using vertical undulations is that the vertical undulations will slow a golf ball down considerably in addition to forming discrete golf ball receiving zones.

In a further embodiment, each of the plurality of vertical undulations on any of the plurality of rails is co-incident with the corresponding vertical undulations on each of the other rails.

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In a further embodiment, the discrete golf ball receiving zones are defined by varying the width of each elongate channel along the length of each channel using horizontal undulations along each rail.

- 25 The advantage of using horizontal undulations is that the horizontal undulations will slow a golf ball down considerably in addition to forming discrete golf ball receiving zones.

- 30 In a further embodiment, each of the horizontal undulations along each rail is co-incident with the horizontal undulations along an adjacent rail so as to form channels that expand and contract in width along the length of each channel.

In a further embodiment, the horizontal undulations, along a rail that is common to adjacent channels, will cause an expansion in width of one channel to be coincident

with a contraction in width of the adjacent channel.

In a further embodiment, each channel is defined by a pair of adjacent partitions forming a golf ball receiving passage.

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In a further embodiment, the discrete golf ball receiving zones are defined by protrusions occurring along the length of each elongate channel.

10 In a further embodiment, the protrusions are formed on a golf ball supporting surface of the golf ball receiving passage.

In a further embodiment, the target assembly comprises a plurality of light emitting diodes (LEDs) that are operated to indicate a scoring value for each of the discrete golf ball receiving zones.

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In a further embodiment, the target assembly comprises a plurality of light emitting diodes (LEDs) that are operated to indicate which of the plurality of discrete golf ball receiving zones is the bull's eye target.

20 In a further embodiment, properties of the LEDs are altered to create the scoring value for each of the discrete golf ball receiving zones or a new bull's eye target.

In a further embodiment, the new scoring value for each of the discrete golf ball receiving zones or the new bull's eye target is randomly selected.

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In a further embodiment, the LEDs are mounted substantially beneath each of the discrete golf ball receiving zones respectively.

30 In a further embodiment, the LEDs are mounted on a backboard of the target assembly.

In a further embodiment, a portion of each channel is inclined.

The advantage of inclining a portion of each channel is that a ramp will be formed

and a player must take account of the ramp when aiming at the target assembly. The ramp increases the difficulty for the player and will force the player to improve their putting technique as the pace of the golf ball aimed at the target assembly will be important.

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In a further embodiment, the inclined portion of each channel is located in a foremost portion of the channel.

10 In a further embodiment, the target assembly further comprises a return gulley at a rearmost portion of each channel which collects golf balls and returns the golf balls towards a player.

15 In a further embodiment, the target assembly further comprises at least one sensor to detect a resting position of a golf ball received by the target assembly.

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In a further embodiment, the sensor transmits the resting position of a golf ball received by the target assembly to a scoring system comprising a processor, a memory and an output device.

20 In a further embodiment, the output device is a display.

In a further embodiment, the output device is an array of light emitting diodes (LEDs).

In a further embodiment, the output device is an audio unit.

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In a further embodiment, the plurality of channels each comprise a predetermined width that allows a golf ball to traverse a length of a first channel without contacting a stationary golf ball in an adjacent channel.

30 The invention is further directed towards a putting game comprising an elongate mat, the mat having a lower surface for placement on a flat supporting surface and an upper surface comprising a fibrous material to substantially replicate the characteristics of a conventional golf green; and, the target assembly as claimed in any preceding claim being located substantially at one end of the upper surface of the

mat and a plurality of markers being located substantially at the longitudinally opposing end of the upper surface of the mat at varying lengths from the target assembly.

5 In a further embodiment, the plurality of markers represent different putting points.

In a further embodiment, there is a multiple of nine markers on the mat.

10 In a further embodiment, the target assembly is tiltable relative to the mat so as to adjust the difficulty of the putting game.

The advantage of providing a target assembly that may be tilted relative to the mat is that the difficulty of a putting game involving the target assembly can be adjusted by tilting the target assembly towards or away from a player.

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The invention is further directed towards a target assembly for receiving a golf ball comprising an elongate channel comprising a plurality of discrete golf ball receiving zones, the elongate channel having a width less than the diameter of a conventional golf ball.

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Detailed Description of Embodiments

25 The invention will be more clearly understood by the following description of some embodiments thereof, given by way of example only with reference to the accompanying drawings, in which:

Fig. 1 is a perspective view of a target assembly in accordance with the present invention;

30 Fig. 2 is a side elevation view of the target assembly as shown in Fig. 1;

Fig. 3 is a top elevation view of the target assembly as shown in Fig. 1;

Fig. 4 is a side elevation view of a target assembly in accordance with a further

embodiment of the present invention;

Fig. 5 is a front view of a target assembly in accordance with a further embodiment of the present invention;

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Fig. 6 is a perspective side view of the target assembly as shown in Fig. 5;

Fig. 7 is a detailed view of a portion of the target assembly as shown in Fig. 5;

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Fig. 8 is a top elevation view of a target assembly in accordance with a further embodiment the present invention;

Fig. 9 is a front perspective view of a target assembly in accordance with a further embodiment the present invention;

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Fig. 10 is a rear perspective view of the target assembly shown in Fig. 9;

Fig. 11 is a top elevation view of the target assembly shown in Fig. 9;

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Fig. 12 is a perspective view of a portion of two rails, each comprising a plurality of sawtooth-like deflections in accordance with an embodiment of the present invention;

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Fig. 13 is a plan view of a portion of four adjacent rails, each comprising a plurality of horizontal undulations in accordance with an embodiment of the present invention; and,

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Fig. 14 is a side view of a portion of a rail comprising a plurality of vertical undulations in accordance with an embodiment of the present invention.

Referring to Figures 1 to 3, there is provided a target assembly in accordance with the present invention indicated generally by the reference numeral 100. The target assembly 100 comprises a plurality of parallel golf ball receiving channels indicated generally by reference numerals 102A-102K. Each golf ball receiving channel 102A-

102K is sub-divided into a plurality of discrete golf ball receiving zones indicated generally by reference numerals 104A-104K. The golf ball receiving channels 102A-102K are formed by a plurality of parallel rails 106A-106L that are mounted on a baseboard 110. The rails 106A-106L are mounted in an elevated position relative to the baseboard 110 between a forward pier 112 and a back pier 114. Each rail 106A-106L is cranked such that each rail 106A-106L runs substantially horizontally between the forward pier 112 and the back pier 114, and a foremost portion of each rail 106A-106L is angled downwardly from the forward pier 112 relative to the baseboard 110 to form an inclined portion 108 for each golf ball receiving channel 102A-102K. The end of each rail is dimensioned to provide a flat surface to abut to either the baseboard 110 or a flat playing surface (not shown). A backboard 116 is fixed to the back pier 114 and the baseboard 110. In a further embodiment (not shown), the backboard is constructed of an energy absorbing material such as plastics to reduce the magnitude of rebound on a golf ball from the backboard 116.

15 In use, a player (not shown) will putt a golf ball (not shown) from a predefined position on the playing surface towards the target assembly 100 which is placed on the playing surface. The golf ball will enter one of the plurality of golf ball receiving channels 102A-102K. Each golf ball receiving channel 102A-102K may be assigned a particular score or value. In the example illustrated in Figures 1 to 3, channel 102F is assigned 7 points, channels 102E and 102G are assigned 5 points, channels 102D and 102H are assigned 4 points, channels 102C and 102I are assigned 3 points, channels 102B and 102J are assigned 2 points and channels 102A and 102K are assigned 1 point. When the golf ball enters one of the channels 102A-102K, provided that the golf ball has been puttied by a player (not shown) with sufficient pace, the golf ball will run up the inclined portion 108 of the channel and will run a certain distance along the channel before coming to rest in one of the discrete golf ball receiving zones 104A-104K of the channel. Each discrete golf ball receiving zone 104A-104K of each golf ball receiving channel 102A-102K may be assigned a particular score or value. In the example illustrated in Figures 1 to 3, discrete golf ball receiving zone 104A is assigned 10 points, discrete golf ball receiving zone 104B is assigned 9 points, discrete golf ball receiving zone 104C is assigned 8 points, discrete golf ball receiving zone 104D is assigned 7 points, discrete golf ball receiving zone 104E is assigned 6 points, discrete golf ball receiving zone 104F is assigned 5 points,

discrete golf ball receiving zone 104G is assigned 4 points, discrete golf ball receiving zone 104H is assigned 3 points, discrete golf ball receiving zone 104I is assigned 2 points, discrete golf ball receiving zone 104J is assigned 1 point and discrete golf ball receiving zone 104K is assigned 0 points.

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Thus, a player will putt the golf ball from a predefined distance towards the target assembly 100 and when the golf ball comes to rest in one of the discrete golf ball receiving zone 104A-104K in one of the golf ball receiving channels 102A-102K, a score is awarded to the player based on the golf ball receiving channel 102A-102K and discrete golf ball receiving zone 104A-104K in which the golf ball has come to rest. If the golf ball does not have enough pace to run up the foremost portion of each rail 106A-106L, the player is awarded no score. If the golf ball has too much pace and runs up the foremost portion of each rail 106A-106L, travels through all of the discrete golf ball receiving zones 104A-104K for that channel, and rests at a rearmost portion of the target assembly 100, the player may be awarded no score. Players will take alternate turns to putt a golf ball from a predefined position towards the target assembly 100 and the scores awarded may be compared to determine the player with the highest score and declare a winner. Numerous putts may be played by each player from different predetermined distances from the target assembly 100. The scores after each turn may be added for each player to create an accumulated score total for each player. Preferably, each player may be given three golf balls to putt in a round. The points awarded for putting a golf ball in the different channels 102A-102K and the different discrete golf ball receiving zones 104A-104K may be altered.

25 In a further embodiment, light emitting diodes (LEDs) which have not been shown for clarity, may be mounted on the baseboard 110 beneath each discrete golf ball receiving zone 104A-104K. Properties of the LEDs such as colour, intensity, a flashing sequence and the like may be used to signify a score value for each discrete golf ball receiving zone 104A-104K. A score pattern on the target assembly 100 may be easily varied by changing the LEDs. Thus, a bull's eye target can be moved to
30 different locations of the target assembly 100 for each putt to assist with improving putting technique by offering a player varying distances and angles to putt the golf ball over.

The LEDs may be mounted substantially beneath each of the discrete golf ball receiving zones respectively, or they may be arranged in an array on the backboard 116 of the target assembly 100. In a further embodiment, the LEDs may be used in conjunction with one or more sensors that are used to detect a resting position of a golf ball in the target assembly 100. In this manner, the sensor can detect the score achieved by a player, and an automated scoring system can be used to display the various scores for different players. A central processor, memory and input and output devices such as switches, ports, a display, audio output units and the like may be used to implement the control of the LEDs, the automated scoring system and the pseudo-random, or random generation of scoring patterns for the target assembly 100. A similar effect may be achieved by varying the point from which a player will putt from. A mat (not shown) may be connected to the target assembly 100, and the mat may comprise three groups of putting points numbered 1-18 with each group being differentiated by having the numbering placed in a different shape such as a square, a triangle, a star or the like. The placement of the three different putting points numbered 1-18 on the mat would create three different putting games. In a further embodiment, one or more scoring sheets (not shown) may be placed beneath a transparent base (not shown) of the target assembly 100. The scoring sheets would indicate the scores attributed to the different discrete golf ball receiving zones 104A-104K of the target assembly 100. A number of scoring sheets may be provided to allow a player to alter the scores attributed to the different discrete golf ball receiving zones 104A-104K of the target assembly 100.

Referring to Figure 4 there is provided a further embodiment of a target assembly indicated generally by reference numeral 400 wherein like parts previously described have been assigned the same reference numerals. The target assembly 400 comprises a plurality of golf ball receiving channels (not shown) formed by a plurality of rails (not shown) which are mounted between a forward pier 112 and a lowered back pier 402. Both the forward pier 112 and the lowered back pier 402 are mounted on a baseboard 110 and a backboard 116 is also vertically mounted at a rearward end of the baseboard 110. An inclined portion 108 of the channels (not shown) is formed at a foremost section of each of the channels. At the rearmost section of each of the channels, a gulley, indicated generally by reference numeral 404, is formed.

In use, a discrete golf ball receiving zone of each golf ball receiving channel, which is assigned 0 points, is located in the gulley 404, and the gulley 404 will receive golf balls that rebound off the backboard 116 and assist in returning the golf ball towards a player. Players that putt golf balls which come to rest in the gulley 404 may be
5 awarded 0 points regardless of the points value of the golf ball receiving channel into and through which the golf ball was received and travelled.

Referring to Figures 5 to 7, there is provided a further embodiment of a target assembly indicated generally by the reference numeral 500 wherein like parts
10 previously described have been assigned the same reference numerals. The target assembly differs slightly in construction from the target assembly shown in Figures 1 to 3. The target assembly 500 comprises a plurality of rails 106A-106L which define a plurality of golf ball receiving channels. A forward pier 112 and a back pier 114 mount the rails 106A-106L on a baseboard 110. A backboard 116 is also provided at the
15 rearward end of the baseboard 110. An inclined portion 108 of each golf ball receiving channel is located at the foremost section of each golf ball receiving channel. The golf ball receiving channels are sloped downwardly from a position intermediate the forward pier 112 and the back pier 114 towards the baseboard 110. The target assembly 500 further comprises a half pier 502 which is used to support
20 the rails 106A-106L along the inclined portion 108 of each golf ball receiving channel.

In use, the target assembly 500 is placed on a playing surface 504. The playing surface 504 may be a putting mat comprising an elongated mat having a lower surface for placement on a flat supporting surface and an upper surface comprising a
25 fibrous material to substantially replicate the characteristics of a conventional golf green. The playing surface 504 may further comprise a plurality of pre-printed markers (not shown) at pre-determined distances from the target assembly 500, as discussed hereinbefore. Three golf balls 506 are shown at rest in different discrete golf ball receiving zones of some of the golf ball receiving channels. With particular
30 reference to Figure 7, the three golf balls 506 are shown at rest in different discrete golf ball receiving zones of some of the golf ball receiving channels. The leftmost golf ball 506 is at rest in the golf ball receiving channel 102G formed by rails 106E and 106F. Each rail is sub-divided using a plurality of circumferential protrusions along the length of each rail. As can be seen on rail 106F, rubber rings 700A, 700B and 700C

form circumferential protrusions along the length of the rail 106F.

For the sake of clarity, only three of the rubber rings illustrated in Fig. 7 have been assigned reference numerals. It will be appreciated that references to the rubber rings 700A-700C is meant to refer to all the rubber rings used in the target assembly 500. The rubber rings 700A-700C are arranged at equally spaced intervals along the rail 106F. Adjacent rubber rings 700A-700C on adjacent rails 106A-106L are arranged co-incident with one another to form the grid structure of the target assembly 500. Alternatively, the circumferential protrusions may be formed as a radially extended portion of each rail during the moulding process for each rail.

Referring to Figure 8, there is shown a further embodiment of a target assembly indicated generally by reference numeral 800 wherein like parts previously described have been assigned the same reference numerals. It will be understood that a single rail 106A-106L may not be used for defining two adjacent golf ball receiving channels 802A-802F. Each golf ball receiving channel 802A-802F may be defined by two parallel adjacent rails which are not used to define any other golf ball receiving channel 802A-802F. In such an embodiment, the leftmost rail of one golf ball receiving channel 802A-802F and the rightmost rail of an adjacent golf ball receiving channel 802A-802F would form an unwanted channel which a golf ball could run along. To avoid this scenario, the free end of the rails at the foremost end of the target assembly 800 is shaped to form capture mouths 804A-804F to each golf ball receiving channel 802A-802F and to divert golf balls away from unwanted, inadvertently formed channels.

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Referring to Figures 9 to 11, there is provided a further embodiment of a target assembly indicated generally by reference numeral 900 wherein like parts previously described have been assigned the same reference numerals as before. The target assembly 900 comprises a single golf ball receiving channel 902 having a width less than the diameter of a conventional golf ball 506. A plurality of horizontal undulations 904 are formed along the sides of the channel 902 to create discrete golf ball receiving zones. A plurality of horizontal undulations 904 appear on the left side and right side of the channel 902. The horizontal undulations 904 on the left side of the channel 902 are laterally symmetrical with the horizontal undulations 904 on the right

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side of the channel 902, about a line of symmetry running along a central mid-line of the channel 902. The target assembly 900 comprises an inclined ramp 906 leading to the discrete golf ball receiving zones, and a golf ball capture mouth 908. The return gulley 404 is provided at a rearmost portion of the target assembly 900 adjacent the backboard 116. A plurality of channels 902 may be provided in a further embodiment.

Referring to Figure 12, there is shown a plurality of sawtooth-like deflections, comprising troughs and peaks, along a portion of two adjacent rails 106 that form a channel 102, 802, 902. The peaks of the sawtooth-like deflections along one rail 106 are co-incident with the corresponding peaks of the sawtooth-like deflections along the other rail 106.

Referring to Figure 13, there is shown a plurality of horizontal undulations along a portion of four adjacent rails 106 that form three channels 102, 802, 902. The horizontal undulations form wide and narrow sections, or expanded and contracted portions of channel 102, 802, 902. A golf ball (not shown), due to its' spherical shape will co-operate with the horizontal undulations to cause the golf ball to rise and fall as it travels over the narrow and wide sections respectively. The momentum of the golf ball is reduced, and will be directed to settle in a discrete golf ball receiving zone formed by the wide section of the channel 102, 802, 902. Over a lateral line across the channels 102, 802, 902, the wide sections of the channels 102, 802, 902 and the narrow sections of the channels 102, 802, 902 alternate in adjacent channels 102, 802, 902. The angle of curvature of the horizontal undulations may be selected so as to provide a gentle undulation along the rail, or a severe undulation along the rail. The different angles of curvature of undulation will present different levels of difficulty to a player.

Referring to Figure 14, there is shown a vertical undulation along a portion of a rail 106. It can be envisaged the peaks of the vertical undulation along the rail 106 would be co-incident with the corresponding peaks of the vertical undulation along another rail (not shown).

It will also be appreciated that the grid structure formed by the plurality of discrete golf ball receiving zones 104A-104K and plurality of golf ball receiving channels 102A-

102K will allow for an adaptable scoring system. For instance in the hereinbefore given example, discrete golf ball receiving zone 104A in golf ball receiving channel 106F is the main target to aim for. However, if the scoring values for the discrete golf ball receiving zone 104A-104F are maintained to decrease from 10 points to 5 points and the scoring value for discrete golf ball receiving zone 104K is maintained at 0 points, but the scoring values for the discrete golf ball receiving zone 104G-104J are changed to increase from 6 points to 10 points respectively, then both discrete golf ball receiving zone 104A in golf ball receiving channel 106F and discrete golf ball receiving zone 104J in golf ball receiving channel 106F would be the main targets to aim for. The structure of the target assembly 100, 400, 500, 800, 900 is easily adaptable to provide different scoring system to increase or decrease the difficulty of the game. The baseboard 110 may comprise receiving holes for markers which can be used to indicate a score value for the discrete golf ball receiving zone directly above the receiving hole. Thus, a player could move markers around to alter a scoring system for the target assembly

In an alternative embodiment, it will be understood that the plurality of golf ball receiving channels may be formed by a plurality of boundary defining partitions and a running surface between the partitions. The partitions form walls for each channel and the running surface is the floor between the walls in each channel. The running surface may be ramped upwardly at the foremost end of the golf ball receiving channels to form a ramp as hereinbefore discussed and protrusions on the golf ball supporting, running surface between adjacent partitions may define the discrete golf ball receiving zones within each of the golf ball receiving channels. Similarly, other discrete golf ball receiving zone definers, such as relatively small ramps or indentations, could be used instead of the protrusions.

It will be understood that the protrusions or indentations may be co-incident on adjacent rails, or alternatively, only one of the adjacent rails may comprise the protrusions or indentations.

In the specification the terms "comprise, comprises, comprised and comprising" or any variation thereof and the terms "include, includes, included and including" or any variation thereof are considered to be totally interchangeable and they should all be

afforded the widest possible interpretation and vice versa.

The invention is not limited to the embodiments hereinbefore described which may be varied in both construction and detail with the scope of the appended claims.

CLAIMS

1. A target assembly for receiving a golf ball comprising a plurality of parallel golf ball receiving elongate channels; each channel having substantially the same width as the other channels and each channel comprising a plurality of discrete golf ball receiving zones.
5
2. A target assembly as claimed in claim 1, wherein, each channel is defined by a pair of adjacent co-operating rails forming a golf ball receiving guide track.
10
3. A putting game comprising an elongate mat, the mat having a lower surface for placement on a flat supporting surface and an upper surface comprising a fibrous material to substantially replicate the characteristics of a conventional golf green; and,
15 the target assembly as claimed in any preceding claim being located substantially at one end of the upper surface of the mat and a plurality of markers being located substantially at the longitudinally opposing end of the upper surface of the mat at varying lengths from the target assembly.
- 20 4. A target assembly for receiving a golf ball comprising an elongate channel comprising a plurality of discrete golf ball receiving zones, the elongate channel having a width less than the diameter of a conventional golf ball.
- 25 5. A target assembly as hereinbefore described with reference to the accompanying description and drawings.

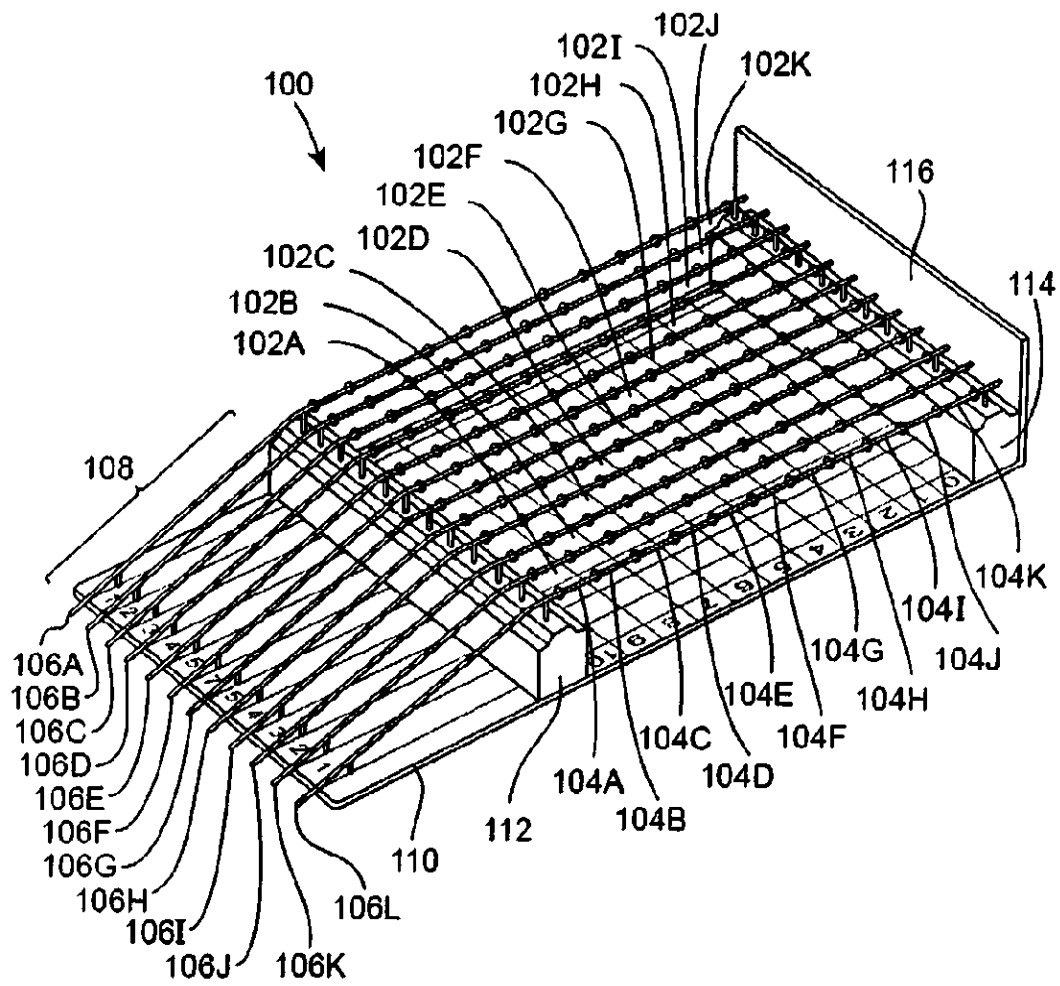


Fig. 1

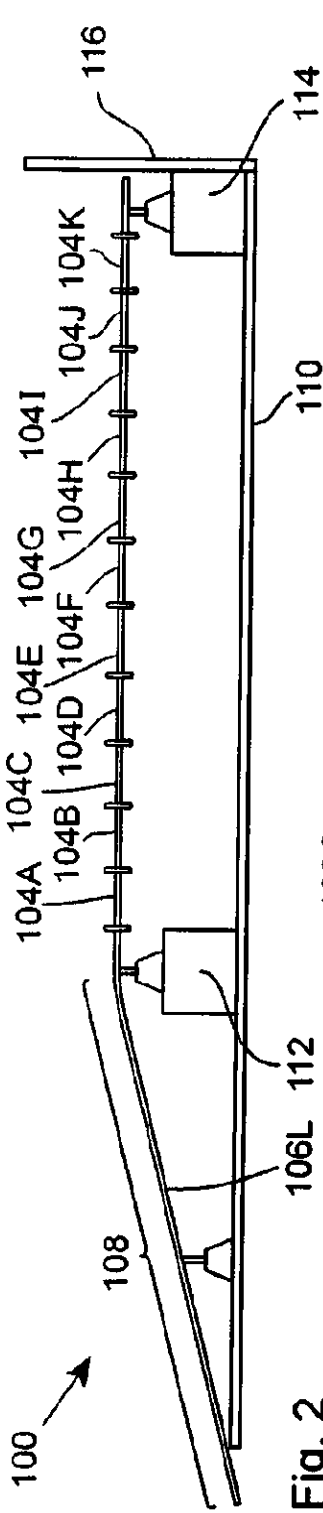


Fig. 2

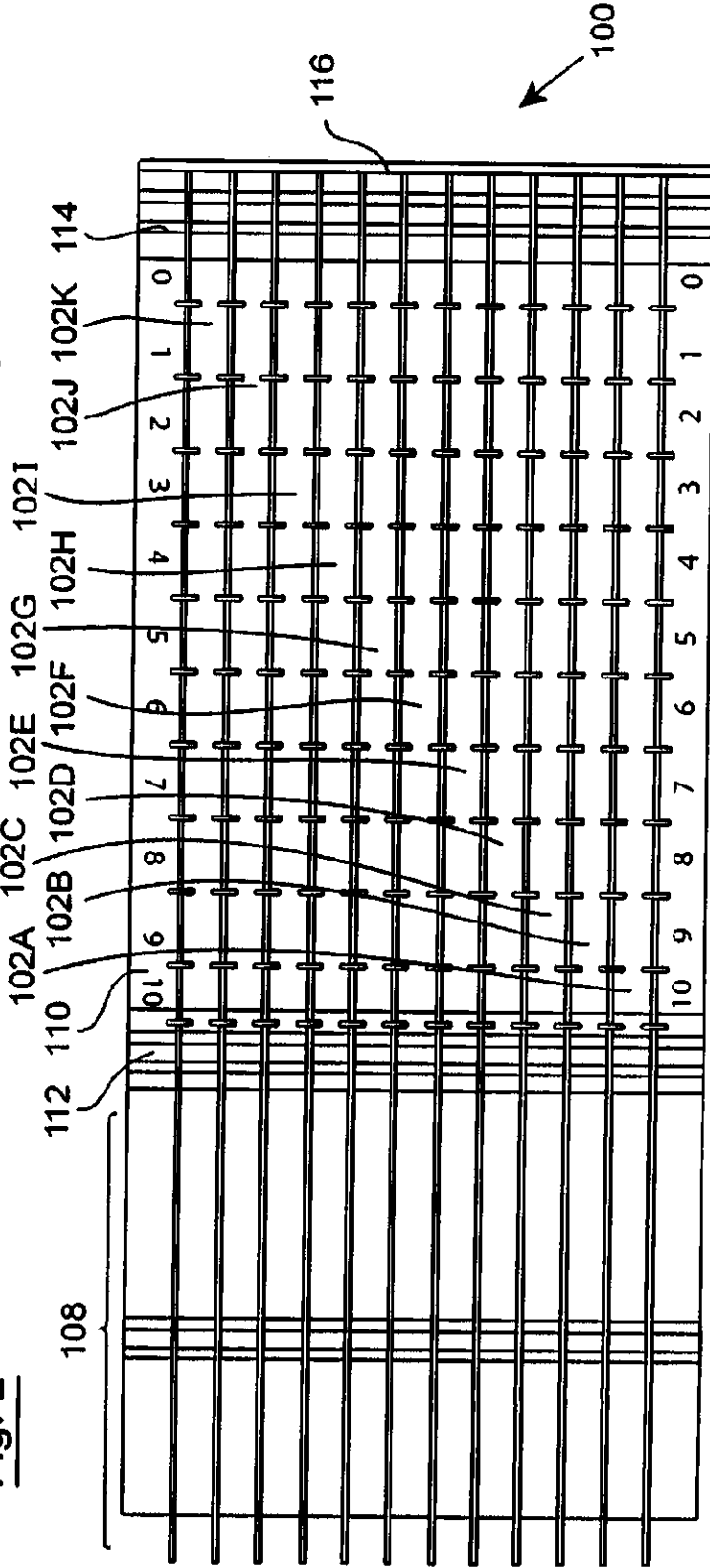


Fig. 3

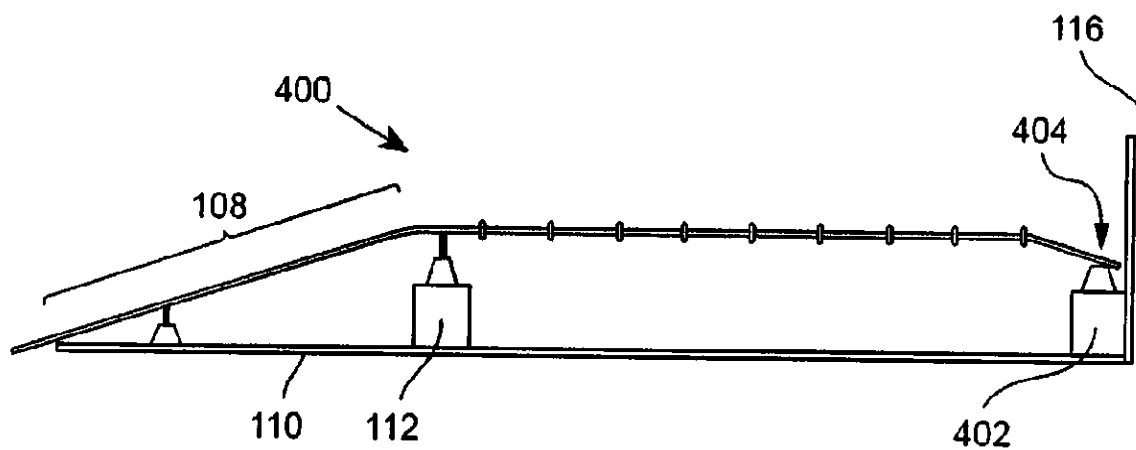


Fig. 4

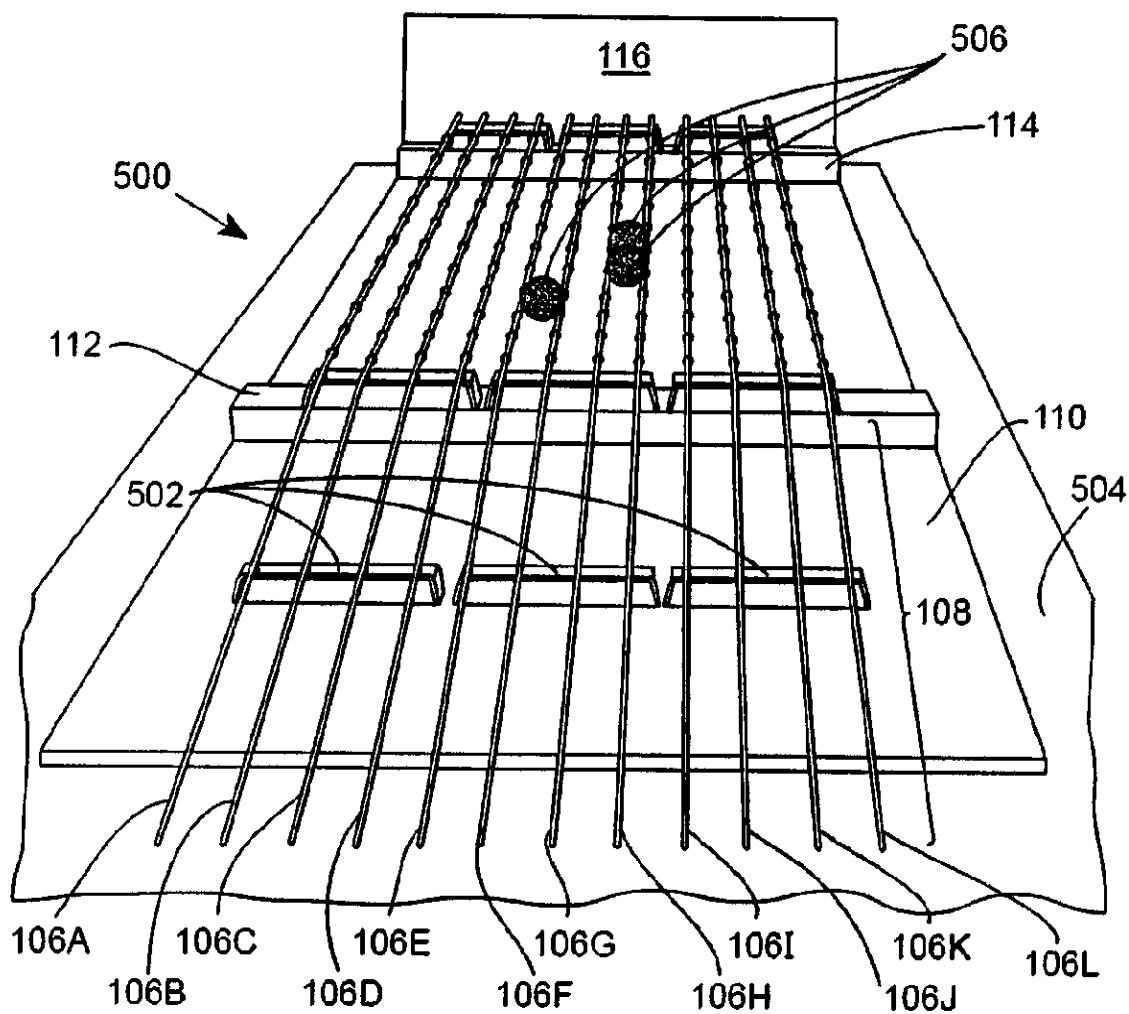
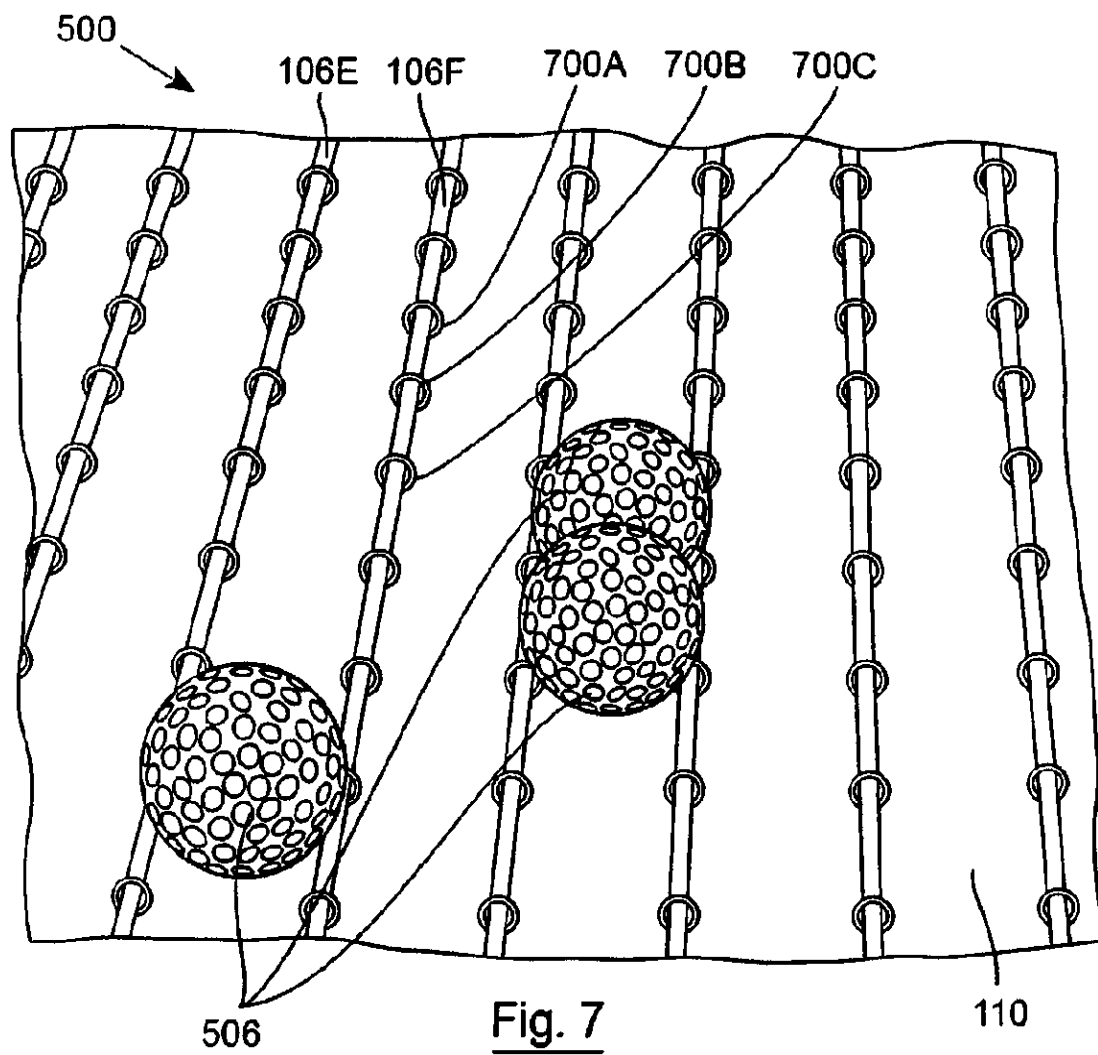
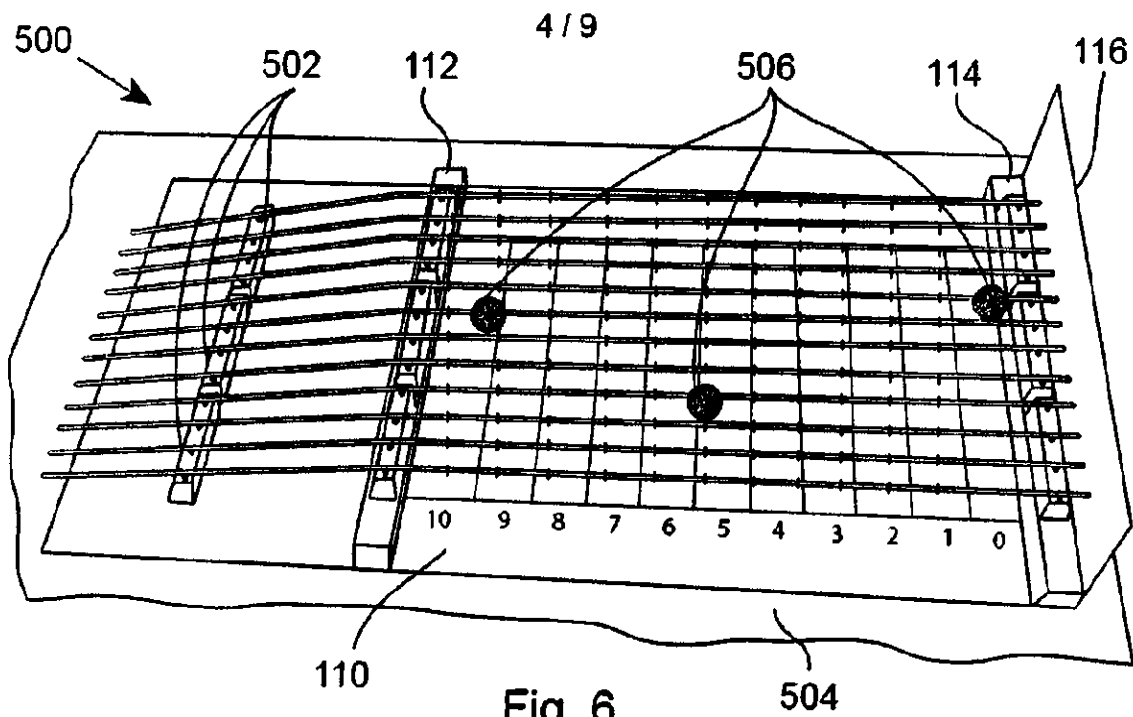


Fig. 5



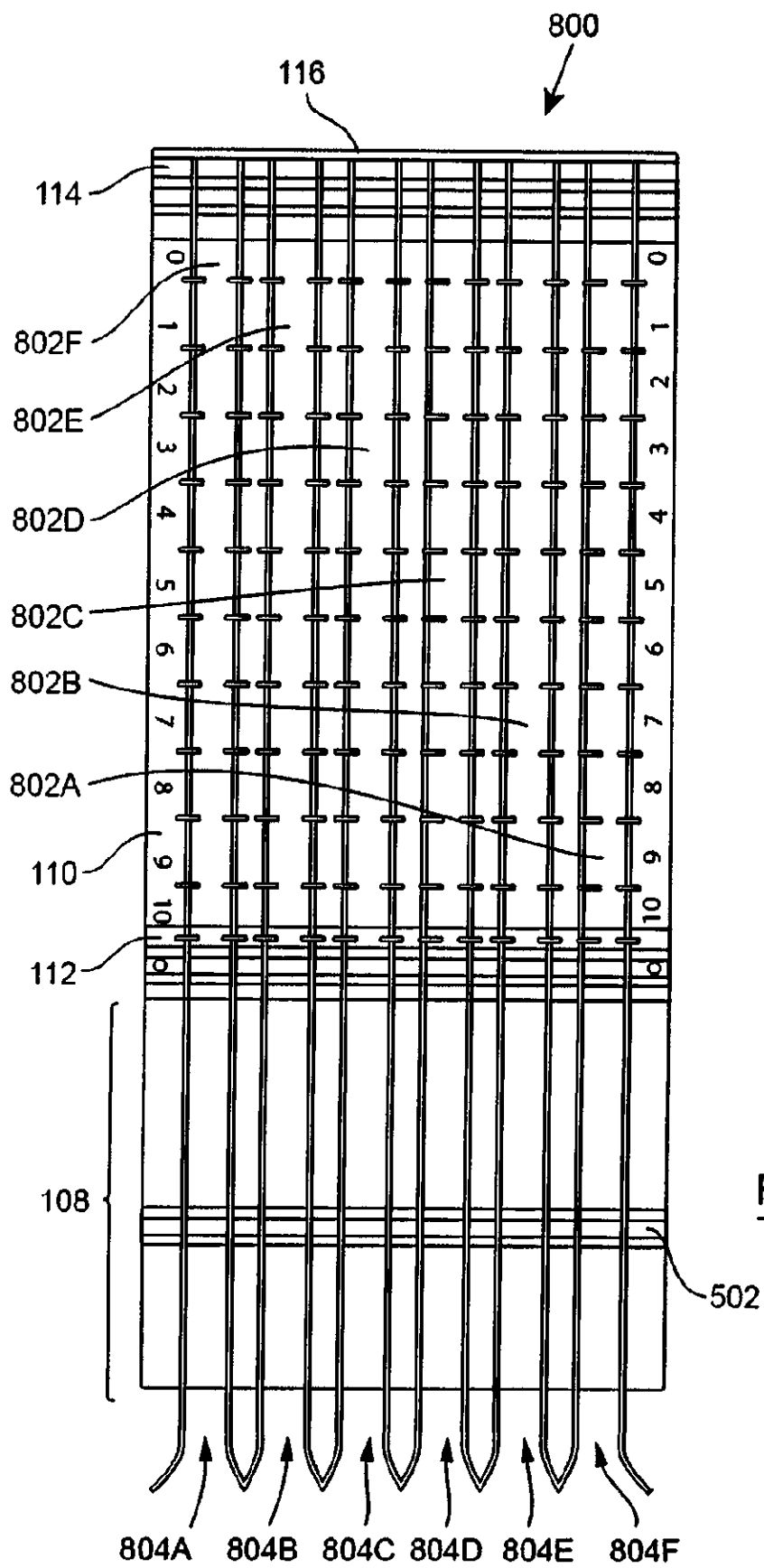


Fig. 8

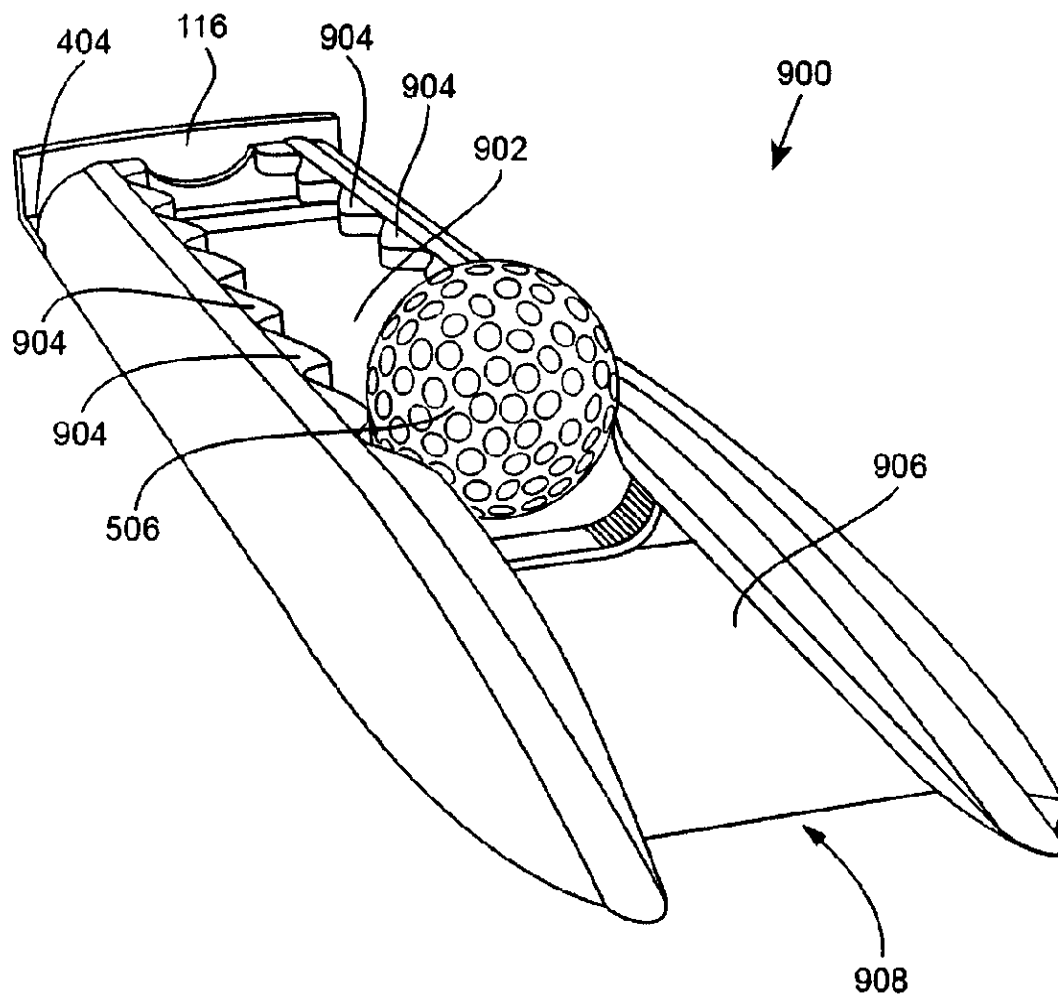


Fig. 9

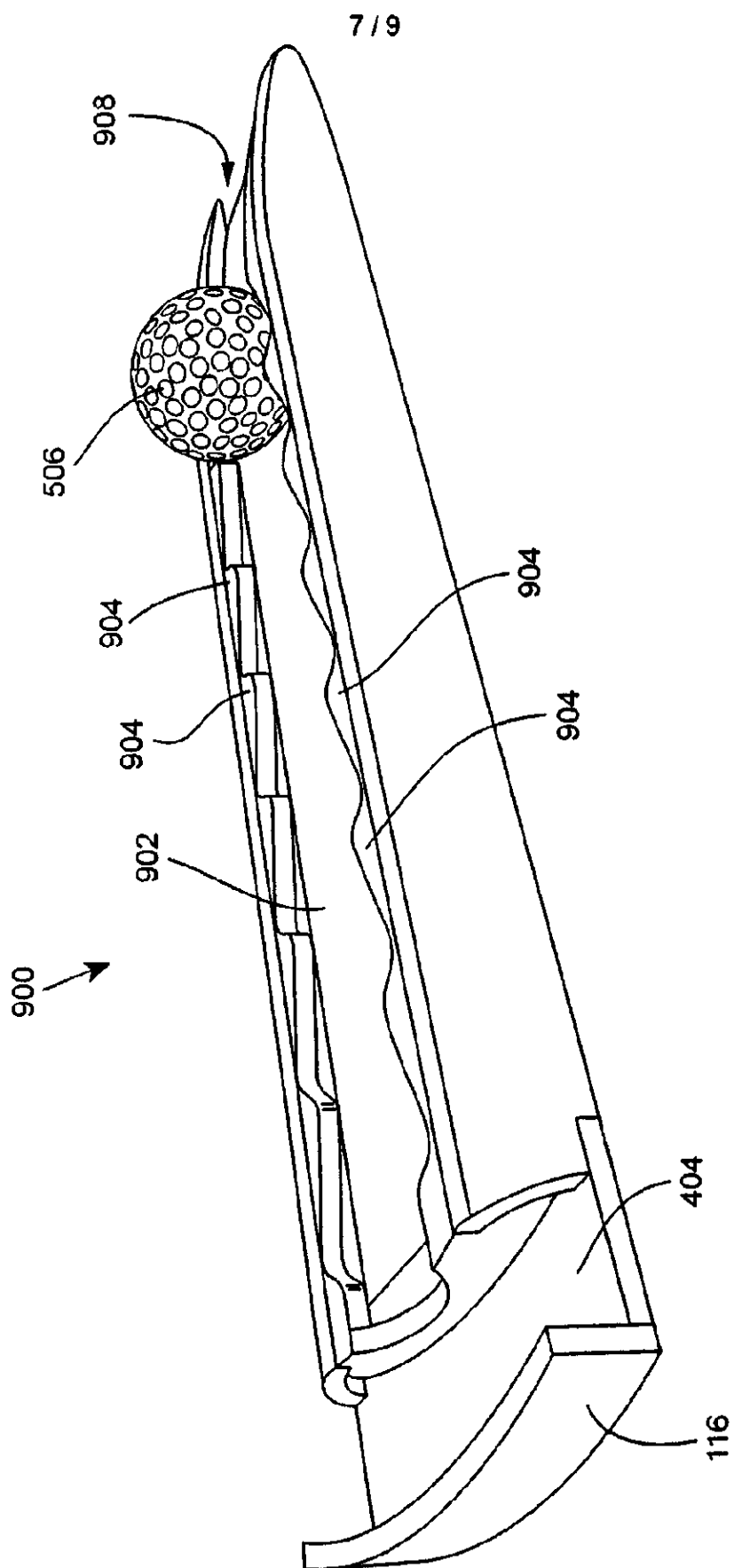


Fig. 10

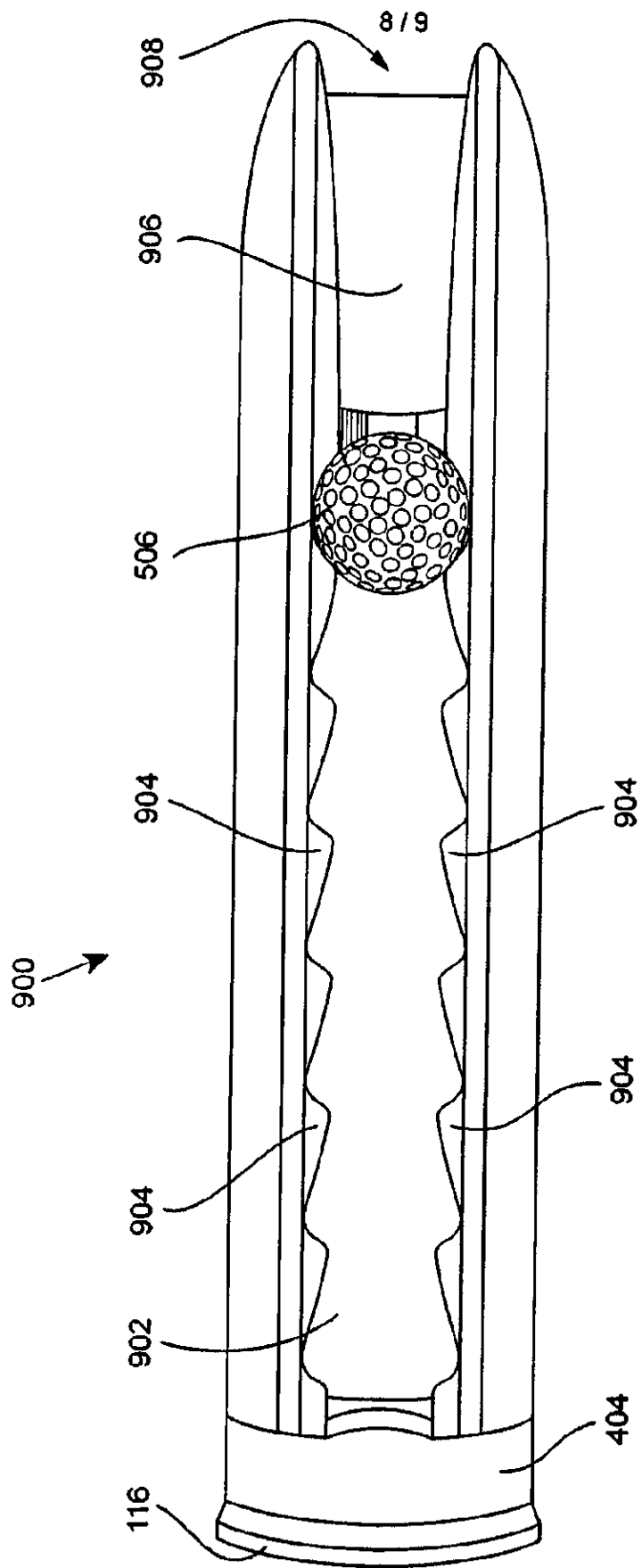


Fig. 11

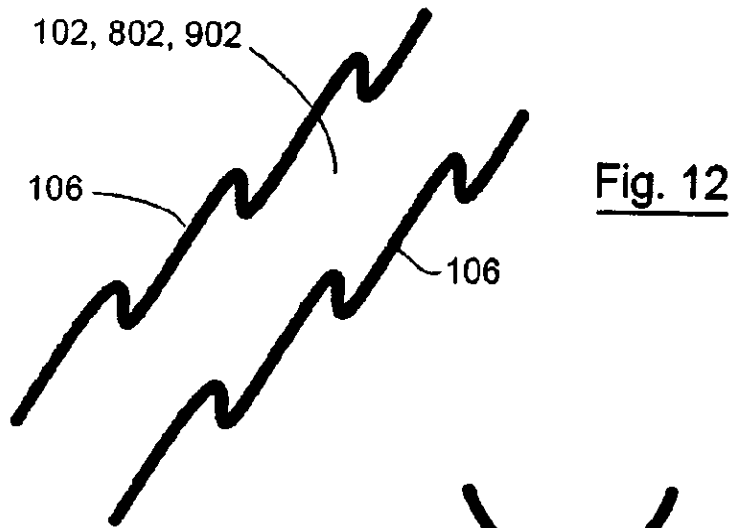


Fig. 12

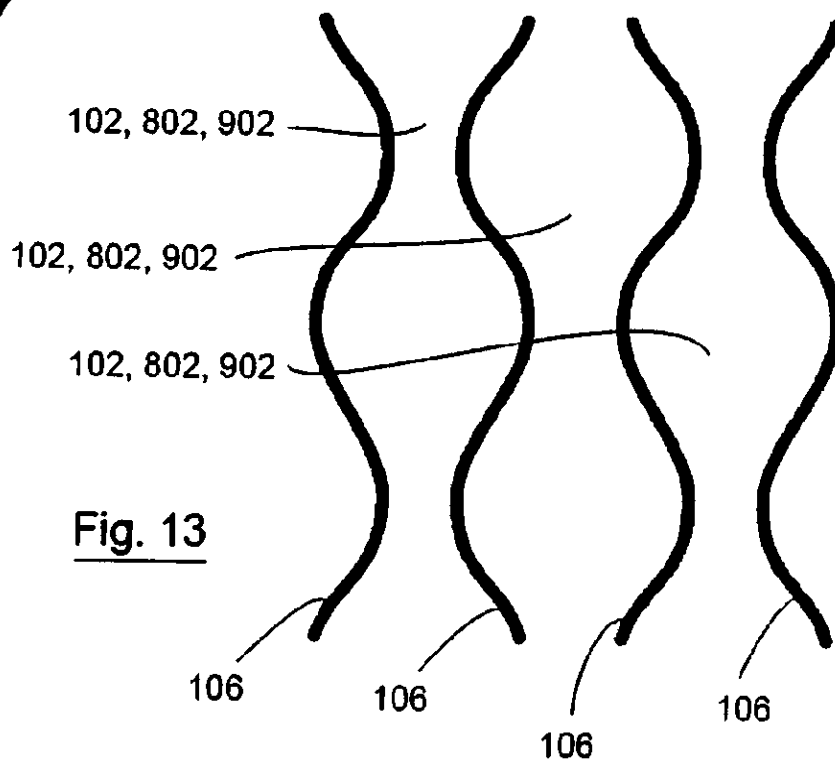


Fig. 13



Fig. 14