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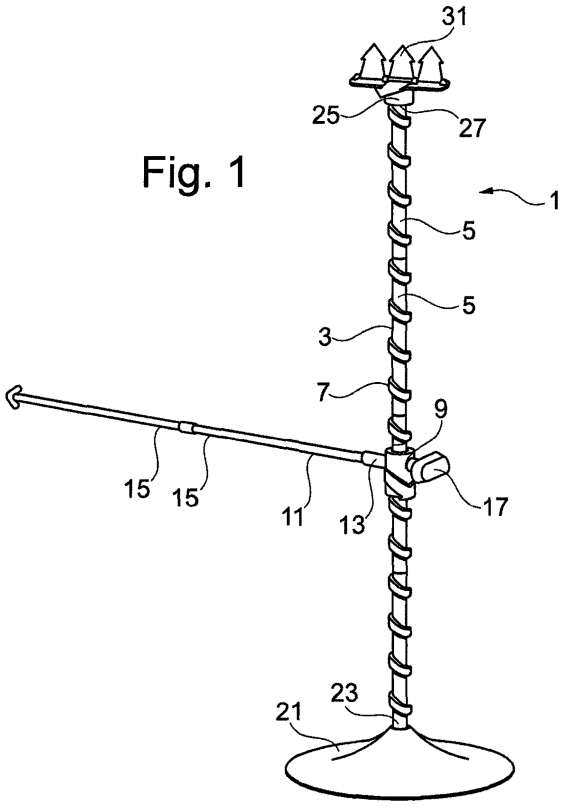
(54) Title of the Invention: **Toy apparatus and methods of manufacture and use thereof**
Abstract Title: **Rotating bar avoiding game**

(57) A game apparatus comprises an upright member 3 having movement guide means 7 located along at least a part of the length of the member and engagement means 9 associated with the upright member 3. The engagement means 9 is movable along a longitudinal axis of the upright member 3 via the movement guide means 7 and at least partially rotatable about the axis during movement. The engagement means 9 further includes or is engageable with a further member in the form of a bar 11. The engagement means 7 and bar 11 may descend under gravity along the upright 3 and are forced to rotate around the upright by the guide means 7 which may take the form of a spiral thread 7. The apparatus may be used to play a limbo or jumping game where a players try to avoid dislodging the bar 11 while passing under or over the bar 11 as it approaches a player.

Fig. 1



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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

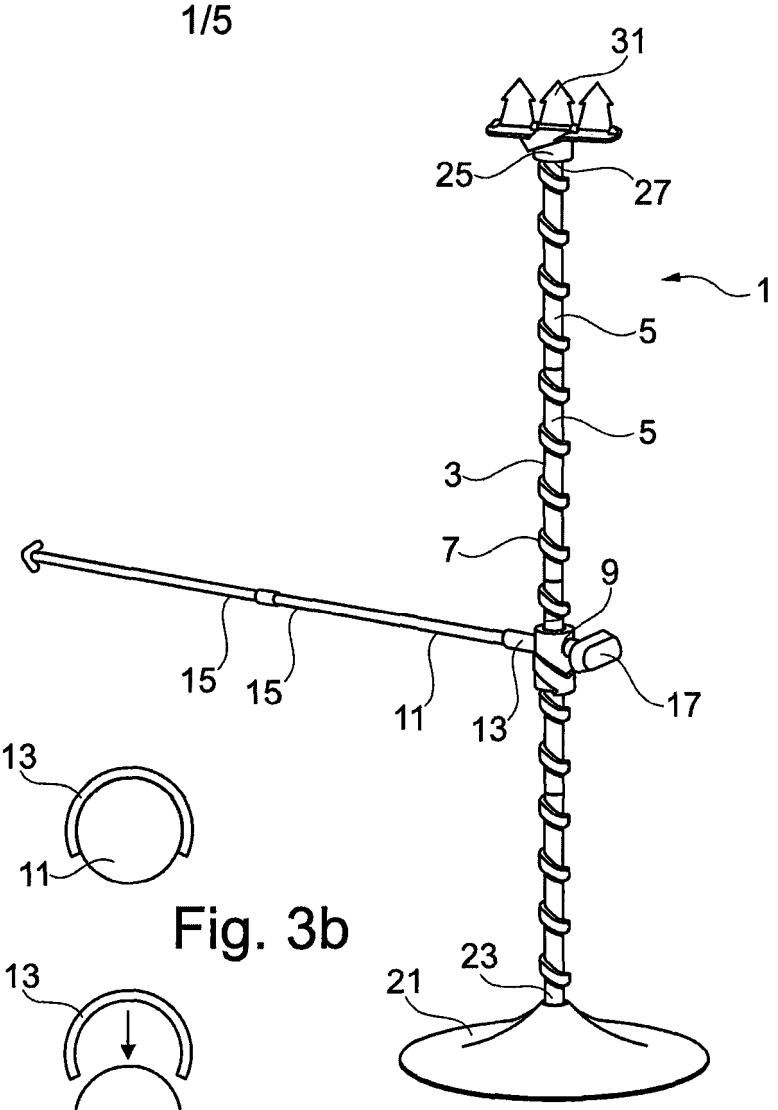

Fig. 1

Fig. 3b

Fig. 3c

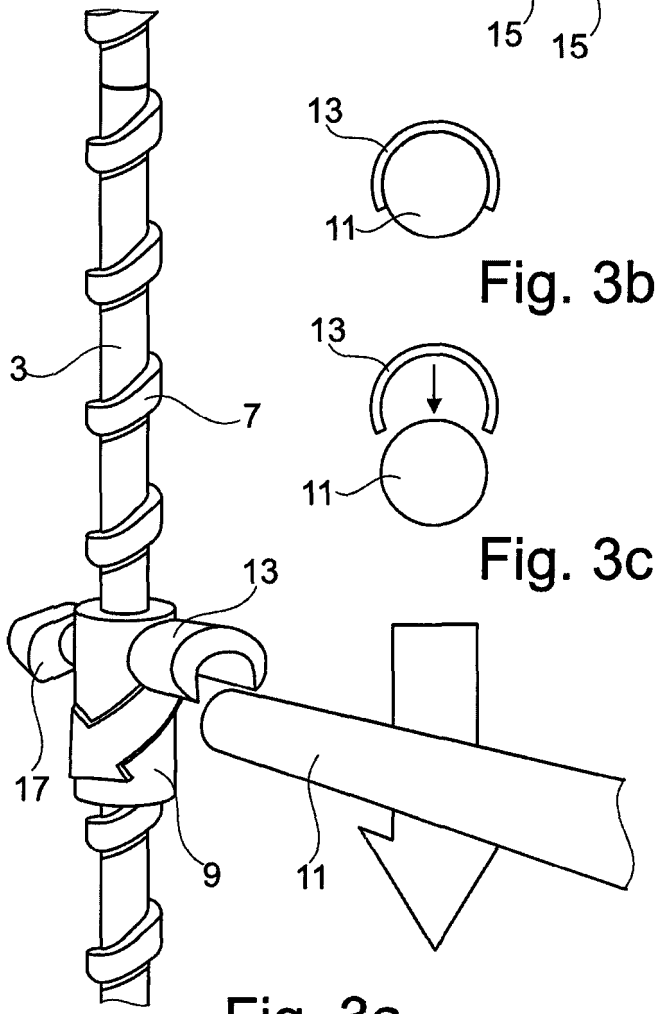

Fig. 3a

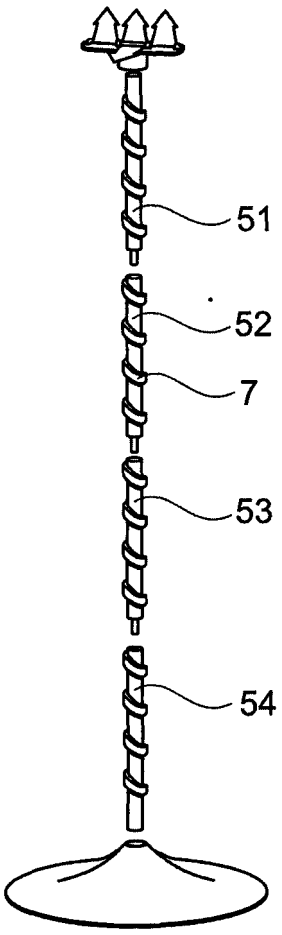

Fig. 2a

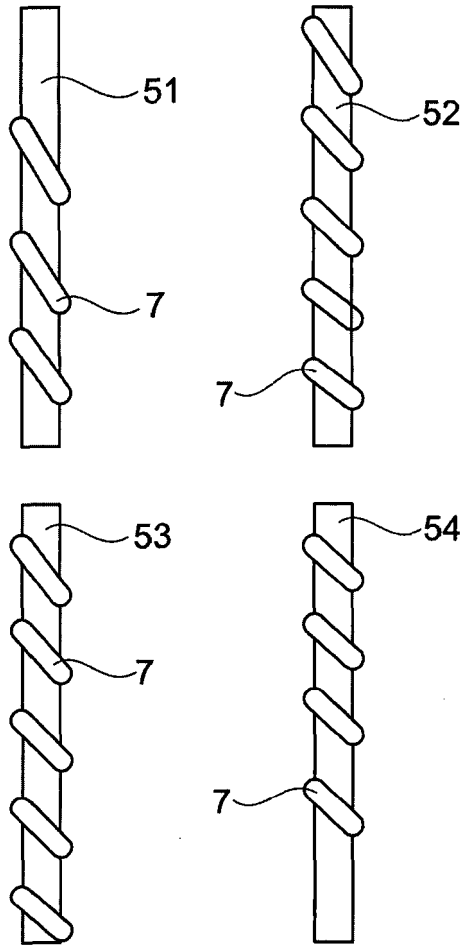

Fig. 2b

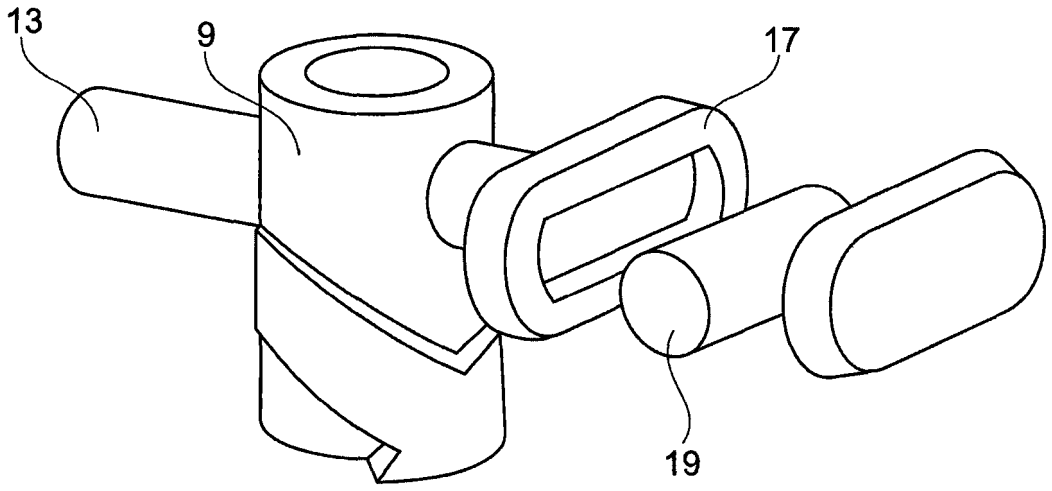

Fig. 4

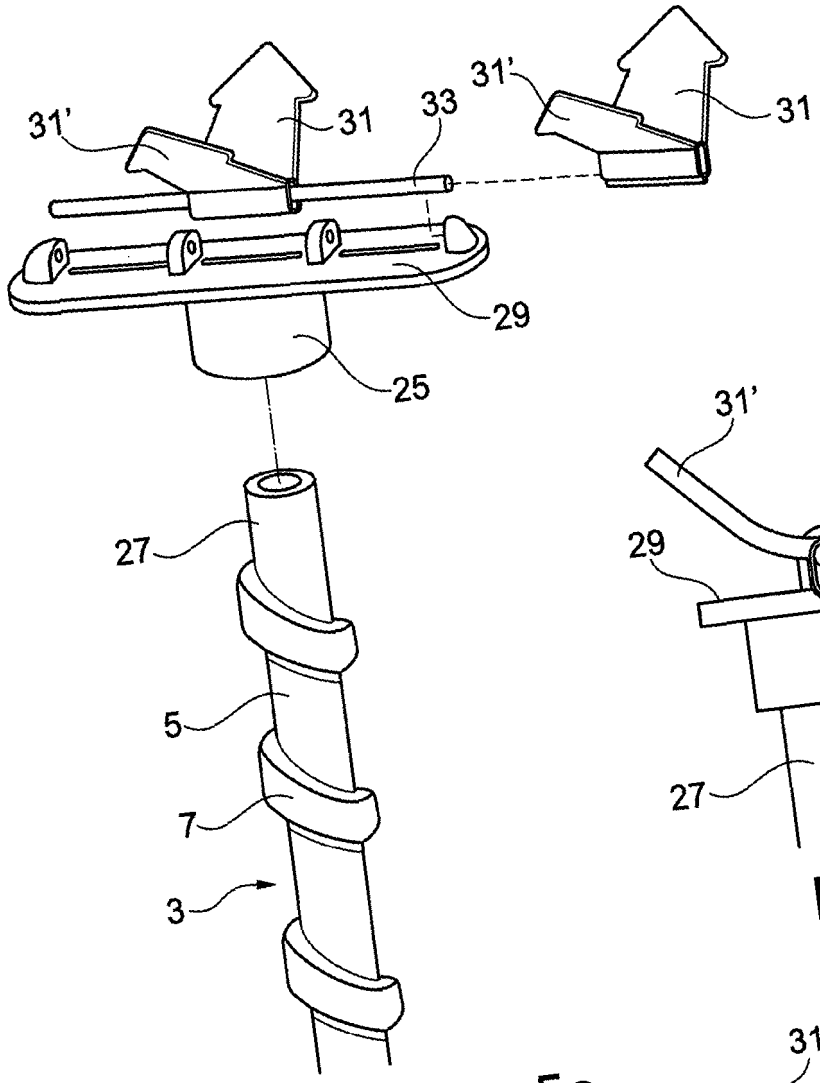

Fig. 5a

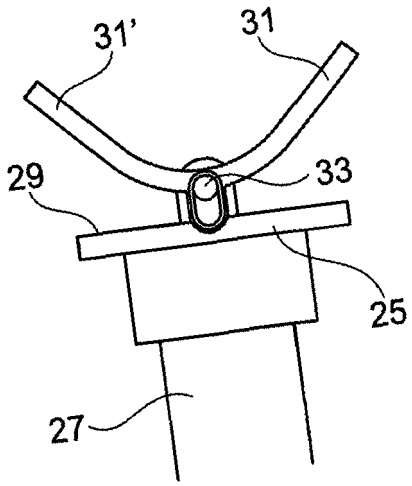

Fig. 5b

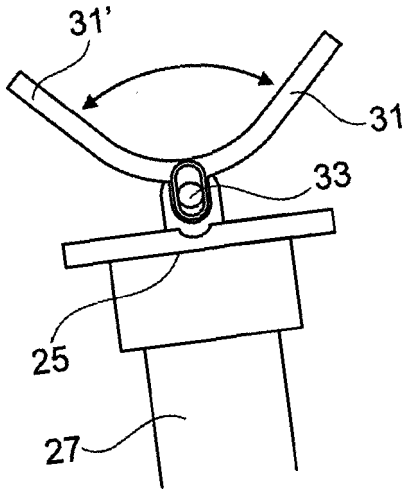

Fig. 5c

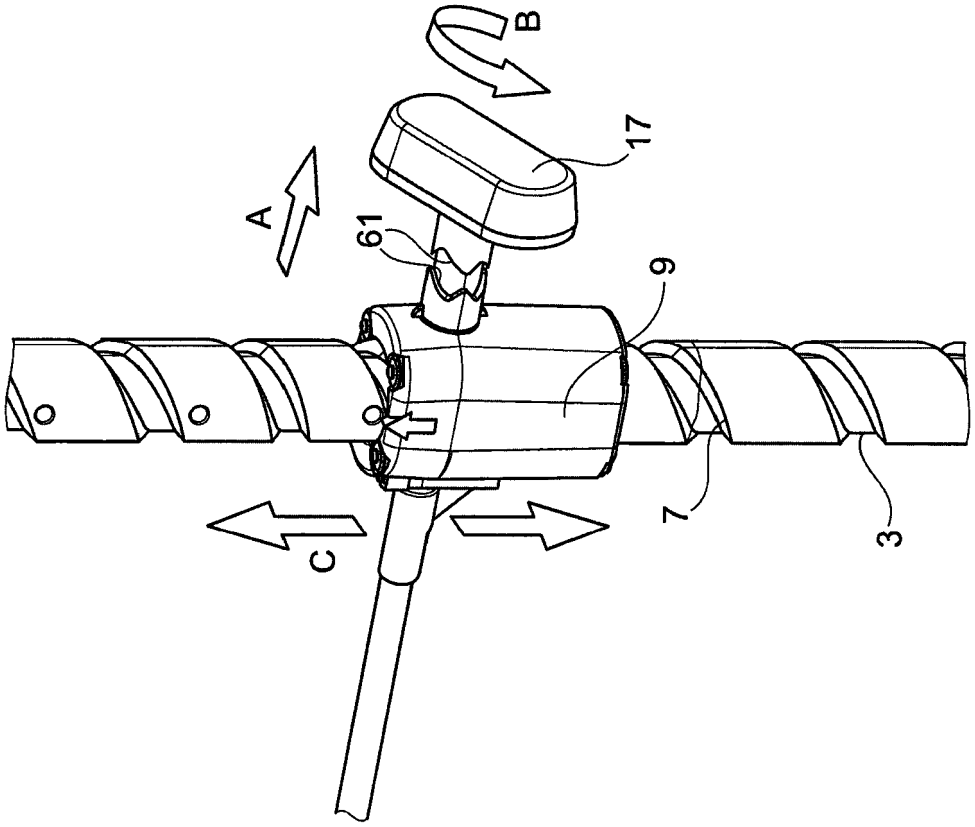

Fig. 6b

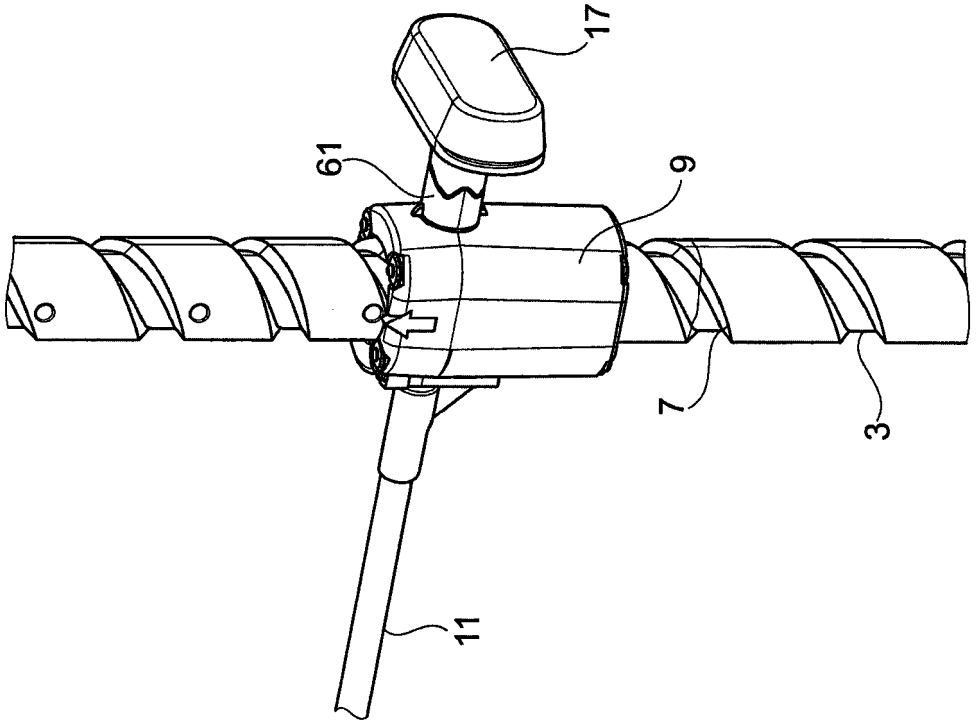

Fig. 6a

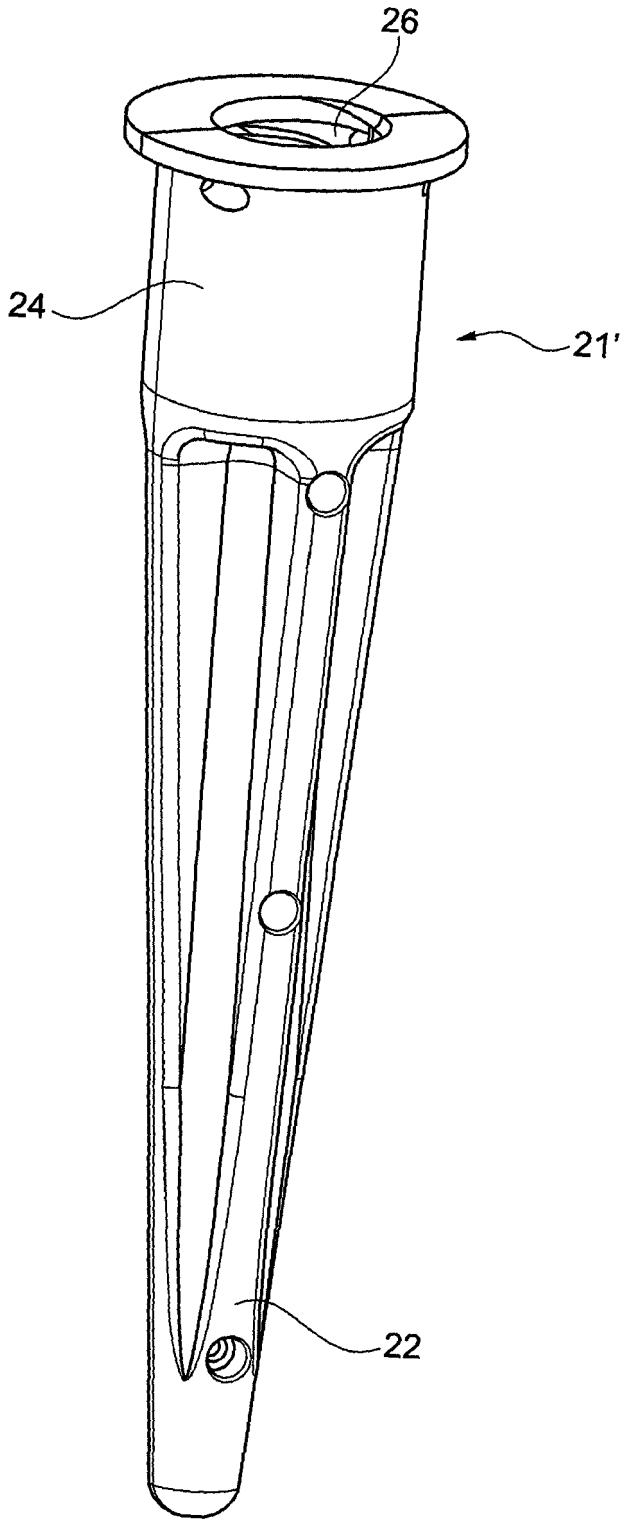

Fig. 7

Toy apparatus and methods of manufacture and use thereof

The invention to which this application relates is a toy apparatus and methods of manufacture and use thereof.

Although the following description refers exclusively to a children's toy and the use thereof, the person skilled in the art will appreciate that the present invention could also be used in adult adaptations and/or the like.

"Limbo" originated as a traditional popular dance contest in Trinidad, but has now widely become a common party game, especially with children. Generally, a horizontal bar – the limbo bar – is held in place by two spaced apart vertical bars. Each player must attempt to go under the bar with their backs facing the floor and whenever a player knocks the limbo bar off or falls, he or she is eliminated from the game. Once everyone has completed their turns, the bar is lowered slightly and the game resumes for those who have not yet been eliminated. The contest ends when only one person can successfully pass under the bar, and he or she is declared the winner.

The game itself, has remained consistent over the years, with little or no variation, and requires the provision of two vertical bars having a plurality of supports for a single horizontal bar. Therefore, there has always remained the requirement to carefully set up the parts for a game, which would generally require adult supervision due to the size of said parts etc.

It is therefore an aim of the present invention to provide an apparatus that overcomes the aforementioned problems associated with the prior art.

It is another aim of the present invention to provide a method of manufacturing an apparatus that overcomes the aforementioned problems associated with the prior art.

It is yet a further aim of the present invention to provide a method of using an apparatus that overcomes the aforementioned problems associated with the prior art.

According to a first aspect of the invention there is provided an apparatus, said apparatus including: an upright member, said member having movement guide means located along at least a part of the length of the member; engagement means associated with said upright member, said engagement means movable along a longitudinal axis of said upright member via the movement guide means and at least partially rotatable about said axis during said movement; said engagement means including or engageable with a further member.

In one embodiment, the movement guide means are provided as a helical thread, located around said upright member.

In one embodiment, the angle of the helical thread, with respect to the longitudinal axis of the upright member, is variable along at least part of the length of the upright member.

In one embodiment, said upright member includes two or more portions. Typically, the angle of the helical thread, with respect to the longitudinal axis of the upright member, differs between at least two of said two or more portions.

In one embodiment, the differing or variable angle of the helical thread varies the speed at which said engagement means moves along the length of said upright.

In one embodiment, the engagement means includes or is engageable with a further member, said further member extends from the engagement means and is substantially perpendicular to the longitudinal axis of the upright member.

Thus, an apparatus is provided that adapts the well-known form of the limbo game, and the components that are required. In particular, the present invention only requires the presence of a single upright member from which a further member may extend, and negates the need for two upright members having a number of protrusions for supporting a horizontal member (i.e. a limbo bar) thereon. Further, the rotatable nature of the engagement means and, hence, the further member when attached, allows two or more users to play simultaneously, unlike the traditional limbo setup. In addition, where a helical thread is provided along the upright member, and the angle of the same is varied, this adds a new dimension to the traditional form in that the speed at which the further member descends is variable, as opposed to the traditional form whereby a person must physically lower the limbo bar after each player has had their turn.

In one embodiment, said upright member comprises three or more portions. Typically, four portions are provided to form said upright member.

In one embodiment, each portion of said upright member is provided with a helical thread having distinct angles from one another. That is to say, if four portions are provided, there will be four distinct angles of the helical thread along the length of the upright member.

Thus, the portions of the upright member may be arranged so as to control the speed at which the further member rotates about

and descends the helical thread. For example, portions having a steeper gradient or pitch of the helical thread may be provided as an upper portion of the upright member and those having more shallow gradients/pitches provided as lower portions of the upright member. Consequently, as the further member is released from an upper end of the upright member it will increase in speed under gravity. By adjusting the gradient of the helical thread such that it becomes shallower lower down the upright member, this prevents or substantially reduces the ability for the speed of the further member to increase as it descends the upright member.

In one embodiment, two distinct portions of the upright member are provided, each having a helical thread having distinct angles from one another. Typically, at least two of each portion is provided. That is to say, if four portions are provided, there will be two distinct angles of the helical thread along the length of the upright member.

In an alternative embodiment, each portion of the upright member may be identical.

In one embodiment, two or more portions of the upright member are connectable to one another. Typically, said two or more portions can be connected, disassembled and reassembled in any order/arrangement as a user so chooses.

In one embodiment, said engagement means at least partially surrounds said upright member.

In one embodiment, said engagement means forms a sleeve located substantially fully around said upright member. Typically, said engagement means moves along said upright member via said helical thread.

In one embodiment, said further member is detachably attached to the engagement means. Typically, said further member is attached to the engagement means via a snap-fit arrangement. Further typically, said further member detaches from the engagement means upon substantially downward force and/or impact.

In one embodiment, said further member comprises one or more connectable portions. Typically, said further member is arranged substantially perpendicular to said upright member.

In one embodiment, where two or more connectable portions are provided, these may be provided in at least two different lengths.

In one embodiment, where two or more connectable portions are provided, one of said portions may be provided weighted with respect to the other portion or portions.

In one embodiment, a base member is provided associated with said apparatus. Typically, a lowermost portion of said upright member is locatable in said base member.

In one embodiment, said base member is formed from one or more base member portions. Typically, where at least two base member portions are provided, said members are detachably attachable to one another. Further typically, said two base member portions may be connectable via a sliding mechanism. In one embodiment, attachment of a lowermost portion of the upright member to the base member, serves to reinforce the attachment between the at least two base member portions.

Alternatively, said attachment between base member portions is a snap-fit attachment.

In one embodiment, said base member is formed so as to be driven into the surface on which the apparatus is to be located. Typically, said base member includes a first end, formed to be driven into said surface, and a second, opposing end, formed for receipt of a lowermost portion of said upright member. Further typically, said second end includes an aperture for receipt of the lowermost portion of said upright member.

In one embodiment, said aperture includes interior walls having a screw thread for receipt of a complementary screw thread formed at a bottom end of the lowermost portion of said upright member. In another embodiment, a detachably attachable snap-fit arrangement may be provided for between the second end of said base member and the lowermost portion of said upright member.

Thus, the base member of the apparatus may be provided in various forms depending on the location of the apparatus. In particular, where outdoor use is desired, the base member may be provided to be driven into the surface on which the apparatus is to be located, i.e., it may act as a steak member to be driven into soft ground such as grass in a garden, thereby utilising the ground itself to sturdy the apparatus in an upright position.

In one embodiment, said engagement means is provided with ballast means thereon. Typically, said ballast means are provided on a substantially opposite side of the engagement means to where the further member is attachable. Further typically, said ballast means are provided to counter-balance said further member, when attached.

In one embodiment, scoring means are provided on the apparatus. Typically, said scoring means are located atop an uppermost portion of the upright member.

In one embodiment, release means are provided associated with the engagement means. Typically, release of said release means permits sliding movement of the engagement means along the longitudinal axis of the upright member. That is to say, the engagement means may slide freely up and down the upright member without having its movement restricted by the movement guide means. For example, release of said release means allows the engagement means to slide freely without having to rotate about the helical thread. Typically, engagement of said release means restricts movement of the engagement means to follow the movement guide means.

In one embodiment, said release means is provided as a handle member. Typically, movement of the handle member away from the engagement means releases the release means.

In one embodiment, ballast means are provided integral with or located within said handle member.

Thus, the provision of release means, in particular, in the form of a handle member enables a user to reset the position of the engagement means in a quick and convenient manner, without having to rotate the engagement means along the helical thread to the top of the upright member. Once at the top of the upright member, the release means can be re-engaged and the engagement means can once again travel down the upright member, under gravity, following the helical thread.

In one embodiment, all the component parts of said apparatus are detachably attachable. Such a feature allows convenient assembly and disassembly of the apparatus by a user, and convenient, cost-effective packaging by a manufacturer.

In another aspect of the present invention, there is provided a method of manufacturing an apparatus, said method including the steps of: providing: an upright member having movement guide means located along at least a part of the length of the member; providing engagement means associated with said upright member, said engagement means provided to be movable along a longitudinal axis of said upright member via the movement guide means and at least partially rotatable about said axis during said movement; said engagement means further provided to include or be engageable with a further member.

In one embodiment, the movement guide means are formed as a helical thread, located around said upright member.

In one embodiment, the angle of the helical thread, with respect to the longitudinal axis of the upright member, is variable along at least part of the length of the upright member.

In one embodiment, said upright member includes two or more portions. Typically, the angle of the helical thread, with respect to the longitudinal axis of the upright member, differs between at least two of said two or more portions.

In another aspect of the present invention, there is provided a method of using an apparatus as hereinbefore described, said method including the steps of: moving the engagement means to the top of the upright member; attaching the further member thereto, if not already attached; releasing said engagement means and allowing the same, together with the further member to

travel down the movement guide means and the upright member under gravity, while rotating about the same; having one or more users attempt to avoid contact with the further member by passing under or over the same as it approaches that user; and repeating this step until the engagement means and further member reach the bottom of the upright member or the further member becomes detached from the engagement means.

In one embodiment, said further member will detach from the engagement means upon substantially downward force and/or impact from a user attempting to pass over or under the same.

In one embodiment, scoring means are provided. Typically, if a user successfully passes over or under the further member, that user can score +1 to them, or alternatively, score -1 to their opponent.

In one embodiment, if a user unsuccessfully attempts to pass over or under the further member, or causes the detachment of the further member from the engagement means, that users scores -1, or alternatively, scores +1 to their opponent.

In one embodiment, the winner is determined when the further member reaches the bottom of the upright member.

Embodiments of the present invention will now be described with reference to the accompanying figures, wherein:

Figure 1 illustrates a perspective view of an apparatus in accordance with an embodiment of the present invention;

Figures 2a – b illustrate, in particular, several portions of an upright member of an apparatus in accordance with an embodiment of the present invention;

Figures 3a – c illustrate an engagement means located on an upright member of an apparatus in accordance with an embodiment of the present invention;

Figure 4 illustrates, in further detail, an engagement means of an apparatus in accordance with an embodiment of the present invention;

Figures 5a – c illustrate, in detail, scoring means of an apparatus in accordance with an embodiment of the present invention;

Figures 6a – b illustrate release a mechanism for an engagement means in accordance with an embodiment of the present invention; and

Figure 7 illustrates a base member of an apparatus in accordance with an embodiment of the present invention.

Referring firstly to Figure 1 there is illustrated an apparatus, provided in this particular embodiment, in the form of a rotating limbo bar toy 1. The toy 1 has a single, central pole 3, which is formed from a number of smaller, individual pole portions 5. In this particular embodiment, four pole portions 5 are provided to make up the central pole 3, however, it will be appreciated that this number can be varied as required. For example, five poles 5 may be provided. Furthermore, when setting up the apparatus 1 for use, the user may or may not wish to use all of the poles 5 that are provided, i.e., if a shorter game is desired, a user may select three or four of the five poles 5 (depending on how many are provided) for use. The poles 5 are also designed such that they may be assembled in any order or permutation by a user. The poles 5 are designed to be detachably attachable for convenient assembly and disassembly,

and can be arranged in any order a user so chooses. Each of the portions 5, and hence the pole 3 as a whole, is provided with movement guide means located along the length of each portion 5 and therefore the pole 3. In the preferred examples, the movement guide means is provided in the form of a helical thread 7 located around each of the pole portions 5, and continuing along the length of each portion 5 and therefore the pole 3. The thread 7 acts as a guide or track which an engagement means in the form of a sleeve 9, located on the pole 3, can follow. As the sleeve 9 follows the helical thread 7, it rotates about the pole 3. Attached to the sleeve 9, and extending outwardly and perpendicular to the pole 3, is a bar 11. The toy 1 may be located in the ground or, more preferably, can be free-standing having a base member 21 provided with the toy 1. Typically, the base member 21 is provided with a central aperture into which the bottom 23 of the lowermost portion 5 can be placed, securing the pole 3 in the upright position. The base member 21 is typically formed from two portions, for ease of manufacture and packaging, which are detachably attachable. The preferred form of attachment for the base member portions is via a sliding mechanism, in which two halves of the base member 21 slide together to connect. Furthermore, the connection between the two base member portions is strengthened when a lowermost portion 5 of the central pole 3 is screwed in to the base member 21, which clamps the two base member portions together. An alternative arrangement that may be used to connect the two base member portions is that of a snap-fit attachment.

Referring now to Figures 2a and b, the toy 1 is shown with the pole 3 broken down into its individual portions 5, shown close up in Figure 2b. It is a feature of the present invention that the angle of the helical thread 7, with respect to the longitudinal axis of the pole 3, differs between at least two of the portions 5.

In the particular embodiment shown in Figure 2b, each of the portions 5 of the pole 3 are distinct from one another – 51, 52, 53, 54 – in that the thread winds around each portion at a different gradient. Differing the angle/gradient of the thread 7 between portions 51, 52, 53, 54 has the effect of varying the speed at which the sleeve 9 can move along the pole 3. Such movement is generally downward (while rotating) under the force of gravity. In an alternative embodiment of the present invention, while three, four or more portions 5 of the pole 3 are provided, there are only two distinct portions 51, 52. That is to say, the angle/gradient of the thread 7 may be varied several times between two possibilities. Such an arrangement can be preferable as it significantly reduces manufacturing costs (comparing the embodiments above, the former requires four distinct moulds for the pole portions 51, 52, 53, 54, whereas the latter only requires two, for portions 51, 52). Furthermore, the portions 51, 52 (optionally 53, 54) can be arranged such that those having a thread 7 at a greater angle or with steeper gradients are placed towards the higher end of the pole 3. This enables the bar 11 to descend and rotate at a more consistent rate than if the gradient of the thread 7 was substantially the same along the length of the pole 3. This is because as the bar 11 is released from the top of the pole 3, it will naturally have to build up momentum and speed as it descends the pole 3, thereby increasing in speed along the way. If the portions 5 of the pole 3 are arranged as described above, the bar 11 will naturally have a greater starting speed, which is subsequently restricted as it descends to and through a portion with a more gentle gradient, which will help to maintain a relatively consistent speed of the bar 11 as it descends the pole 3.

Thus, the toy 1 of the present invention provides a unique adaptation of the well-known form of the limbo game and the components required to set up and play the game. In particular,

the present invention only requires the presence of a single pole 3 from which the bar 11 extends (via sleeve 9), and negates the need for two vertical poles having a number of slats/supports for supporting the limbo bar thereon. Furthermore, the rotatable nature of the bar 11, when connected to the sleeve 9, allows two or more users to play simultaneously, unlike the traditional limbo setup. In addition, where the angle of the helical thread 7 is varied, this adds a new dimension to the traditional form in that the speed at which the bar 11 descends is variable, as opposed to the traditional form of the game whereby a person must physically lower the limbo bar after each player has had their turn.

Figures 3a – c illustrate in greater detail the nature of the sleeve 9 and its attachment to the bar 11. While the sleeve 9 would be perfectly operable in the form of a member that only partially surrounds the pole 3, engaging the thread 7, a preferred embodiment, as depicted in the figures, shows the sleeve 9 fully surrounding the pole 3, having a substantially tubular main body, the interior of which engages the thread 7. A shoulder portion 13 extends from the body of the sleeve 9, to which the bar 11 is attachable. As illustrated, the shoulder 13 is formed with a C-shaped cross-section, into which the bar 11 can snap-fit securely in place. The opening of the C-shape is facing downwards, such that upon substantially downward force and/or impact of the bar 11 by a user, the bar 11 will detach from the shoulder and, hence, the sleeve 9. The bar 11, like the pole 3, may be constructed from a number of connectable portions 15, which are shown most clearly in Figure 1. In this embodiment, the bar 11 comprises two connectable portions, however, the skilled person will appreciate that this number can be varied according to packaging/manufacturing requirements. A number of connectable portions 15 can be provided with the apparatus of the present invention and used as the user so desires. It is

also envisaged that the portions 15 need not all be of a uniform length; there may be provided a number of portions 15 of a first length, and one or more portions 15 provided of a second length, so as to permit greater variation in the length of the horizontal bar 11.

The sleeve 9 is shown in further detail in Figure 4, which illustrates the presence of a ballast 17 located on the sleeve 9, on the opposing side of the sleeve from the shoulder 13 and, hence, the bar 11 when attached. The ballast 17 is provided so as to act as a counter-balance to the bar 11 when in use, and therefore adds stability to the toy 1. The ballast 17 can be provided as a solid weighted block attached to the sleeve 9 or, alternatively, as shown in Figure 4, the ballast 17 may be a hollow body having a steel weight 19 located therein. Additionally, and in order to improve performance of the apparatus when located outdoors and in, for example, potentially windy conditions, the connectable portions 15 may not only be variable in length, as discussed above, but one of said portions 15 may be provided weighted with respect to the other portions. This particular portion will preferably be located at a proximal end of the bar 11, being the portion that engages with the shoulder 13.

The ballast 17 can also double up as a handle, which may have a release catch located in its interior (not shown). Figures 6a – b illustrate the mechanism by which the catch may be released in order to move the sleeve 9 back up the pole 3. The handle 17 is pulled outwardly (shown by arrow A), away from the sleeve 9, such that interlocking formations 61 separate and allow the handle 17 to rotate (depicted by arrow B). this, in turn allows the catch to be released, which releases a wheel or other appropriate member presently engaging the thread 7 of the pole 3 from the thread 7, thereby allowing the sleeve 9 to slide freely

up and down the pole 3 (depicted by arrow C) without having to rotate about the helical thread 7. If the release catch is re-engaged, due to inward movement of the handle 17, movement of the sleeve 9 is once again restricted to movement about the thread 7 along the length of the pole 3. Inadvertent rotation of the handle 17 is prevented by the provision of the interlocking formations 61, and in order to release the catch, a user must first deliberately pull the handle 17 away from the sleeve 9, following this with the rotation of the handle 17. As mentioned above, and in order to save space, the handle may be weighted or have the steel weight 19 therein, thereby double up as the ballast attached to the sleeve 9. Thus, the provision of a release catch, in particular, in the form of the handle 17 enables a user to reset the position of the engagement means in a quick and convenient manner, without having to rotate the sleeve 9 along the thread 7 to the top of the pole 3. Once at the top of the pole 3, the release catch can be re-engaged and the sleeve 9 can once again travel down the pole 3, under gravity, following the thread 7.

The base member 21, as shown in Figure 1 allows for the toy 1 to be free standing and movable as required by a user. However, if the desired use is to be outside, it is possible that such a base may not be appropriate, either due to there being breezy or windy conditions, or the ground being too uneven for sturdy placement of the toy 1 thereon. Consequently, the toy 1 may also be provided with a further, alternative base portion 21' as depicted in Figure 7. The base portion 21' is formed, essentially, as a steak member having a first end 22 that is to be driven into soft ground, such as grass in a garden, and a second end 24, which includes an aperture 26 formed to receive the lower end 23 of the lowermost portion 5. A screw thread is formed on the interior walls of the aperture 26 for receipt of a complementary screw thread formed at the bottom end 23 of the

lowermost portion 5. Alternatively, a detachable snap-fit arrangement may be provided for between the aperture 26 and the bottom end 23 of the portion 5. Thus, the provision of a further base portion 21', which acts as a steak member to be driven into the ground serves to sturdy the toy 1 in an upright position even in windy conditions or on uneven ground.

Referring finally to Figures 5a – c, there is illustrated, in closer detail than depicted in Figure 1, a scoring unit 25, located in this embodiment on the top 27 of the uppermost portion 5 of the pole 3. The scoring unit 25 is provided to establish the on-going score between two players or teams of players during a game and, ultimately, the final score at the conclusion of the game. The scoring unit 25 has a platform 29 on which there are located a number of pairs of scoring markers 31. In the figures three adjacent pairs of scoring markers, in the form of opposing arrows 31, 31' are shown, although it will be appreciated that more or fewer pairs of markers 31 may be provided. Opposing markers 31, 31' are provided adjoining one another at a lower end and extend therefrom at approximately 90 degrees. Each pair is maintained in place on the platform 31 via a pin assembly 33. When secured on the platform 29, each pair of markers 31, 31' may be rotated through approximately 90 degrees, as shown in Figure 5c, from a point at which one marker 31' is resting at least partially on the platform 29 and the opposing marker 31 is substantially upright, to a point where the positions are reversed (marker 31 resting on the platform and marker 31' substantially upright). Such movement allows players to keep score during the game. For example, if a player successfully dodges the bar 11 during its rotation, that player may move their marker 31/31' to the upright position. If they are unsuccessful in dodging the bar 11, then they must move their marker 31/31' down, allowing the opposing marker 31'/31 belonging to the opposing player or team of players to be moved to the upright position. This

gameplay can continue until either sleeve 9 and bar 11 reach the bottom 23 of the pole 3 or the bar 11 becomes detached from the sleeve 9 due to a player unsuccessfully attempting to dodge it.

All the component parts of the toy 1 are detachably attachable, and such a feature allows convenient assembly and disassembly of the toy 1 by a user, and convenient, cost-effective packaging by a manufacturer.

CLAIMS

1. An apparatus, said apparatus including: an upright member, said member having movement guide means located along at least a part of the length of the member; engagement means associated with said upright member, said engagement means movable along a longitudinal axis of said upright member via the movement guide means and at least partially rotatable about said axis during said movement; said engagement means including or engageable with a further member.

2. Apparatus according to claim 1, wherein the movement guide means are provided as a helical thread, located around said upright member.

3. Apparatus according to claim 2, wherein the angle of the helical thread, with respect to the longitudinal axis of the upright member, is variable along at least part of the length of the upright member.

4. Apparatus according to claim 1, wherein said upright member includes two or more portions.

5. Apparatus according to claim 4, wherein the angle of the helical thread, with respect to the longitudinal axis of the upright member, differs between at least two of said two or more portions.

6. Apparatus according to claim 3, wherein the differing or variable angle of the helical thread varies the speed at which said engagement means moves along the length of said upright.

7. Apparatus according to claim 1, wherein the engagement means includes or is engageable with a further member, said further member extending from the engagement means and is substantially perpendicular to the longitudinal axis of the upright member.

8. Apparatus according to claim 7, wherein said further member comprises two or more connectable portions, and which are provided in at least two different lengths.

9. Apparatus according to claim 7, wherein said further member comprises two or more connectable portions, one of which is provided weighted with respect to the other connectable portion or portions.

10. Apparatus according to claim 2, wherein two distinct portions of the upright member are provided, each having a helical thread having distinct angles from one another.

11. Apparatus according to claim 10, wherein at least two of each distinct portion is provided.

12. Apparatus according to claim 1, wherein said engagement means at least partially surrounds said upright member.

13. Apparatus according to claim 1, wherein said engagement means forms a sleeve located substantially fully around said upright member.

14. Apparatus according to claim 1, wherein said engagement means moves along said upright member via said movement guide means.

15. Apparatus according to claim 1, wherein said further member is detachably attached to the engagement means.

16. Apparatus according to claim 15, wherein said further member is attached to the engagement means via a snap-fit arrangement.

17. Apparatus according to claim 15, wherein said further member is detachable from the engagement means upon substantially downward force and/or impact.

18. Apparatus according to claim 1, wherein a base member is provided associated with said apparatus.

19. Apparatus according to claim 18, wherein a lowermost portion of said upright member is locatable in said base member.

20. Apparatus according to claim 19, wherein said base member is formed from one or more detachably attachable base member portions.

21. Apparatus according to claim 19, wherein said base includes a first end, formed so as to be driven into the surface on which the apparatus is to be located, and a second, opposing end, formed for receipt of a lowermost portion of said upright member.

22. Apparatus according to claim 21, wherein said second end includes an aperture for receipt of the lowermost portion of said upright member.

23. Apparatus according to claim 1, wherein said engagement means is provided with ballast means thereon.

24. Apparatus according to claim 23, wherein said ballast means are provided on a substantially opposite side of the engagement means to where the further member is attachable, and are provided to counter-balance said further member, when attached.

25. Apparatus according to claim 1, wherein release means are provided associated with the engagement means.

26. Apparatus according to claim 25, wherein release of said release means permits sliding movement of the engagement means along the longitudinal axis of the upright member.

27. Apparatus according to claim 1, wherein all the component parts of said apparatus are detachably attachable.

28. A method of manufacturing an apparatus, said method including the steps of: providing: an upright member having movement guide means located along at least a part of the length of the member; providing engagement means associated with said upright member, said engagement means provided to be movable along a longitudinal axis of said upright member via the movement guide means and at least partially rotatable about said axis during said movement; said engagement means further provided to include or be engageable with a further member.

29. A method according to claim 28, wherein the movement guide means are formed as a helical thread, located around said upright member.

30. A method according to claim 29, wherein the angle of the helical thread, with respect to the longitudinal axis of the

upright member, is provided to be variable along at least part of the length of the upright member.

31. A method of using an apparatus according to claims 1-27, said method including the steps of: moving the engagement means to the top of the upright member; attaching the further member thereto, if not already attached; releasing said engagement means and allowing the same, together with the further member to travel down the movement guide means and the upright member under gravity, while rotating about the same; having one or more users attempt to avoid contact with the further member by passing under or over the same as it approaches that user; and repeating this step until the engagement means and further member reach the bottom of the upright member or the further member becomes detached from the engagement means.

Intellectual Property Office

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Claims searched:	1-31	**Date of search:**	15 December 2016

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1,2,7,8,9, 12,13,14, 18,19,23, 28,29,31	BE 905555 A (VAN DER CLEYEN) whole document
X,E	1,7,12,13, 14,18,19, 23,28	GB 2514137 A (THROWBACK LIMITED) whole document
X	1,7,12,14, 18,19,23, 28	JP S6085763 A (ISHII) whole document
X	1,2,4,7,12 - 15,18,19, 20,23,24, 27,29,29	GB 250866 A (THUILLIER) whole document
X	1,2,7,12,1 3,14,18,1 9,23,28,2 9	US 3713251 A (MARASON) whole document
X	1- 7,10,12,1 3,14,18,1 9,23- 26,28-30	US 5658200 A (ELLIS) see particularly figure 3a
A	-	KR 20030000315 A (YU)

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
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Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC[X] :

Worldwide search of patent documents classified in the following areas of the IPC

A63B; A63F; A63G; A63H

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC, TXTA, Internet

International Classification:

Subclass	Subgroup	Valid From
A63B	0005/00	01/01/2006
A63B	0005/16	01/01/2006
A63B	0005/22	01/01/2006
A63B	0071/04	01/01/2006
A63F	0009/00	01/01/2006