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BALL-RACE GAME APPARATUS

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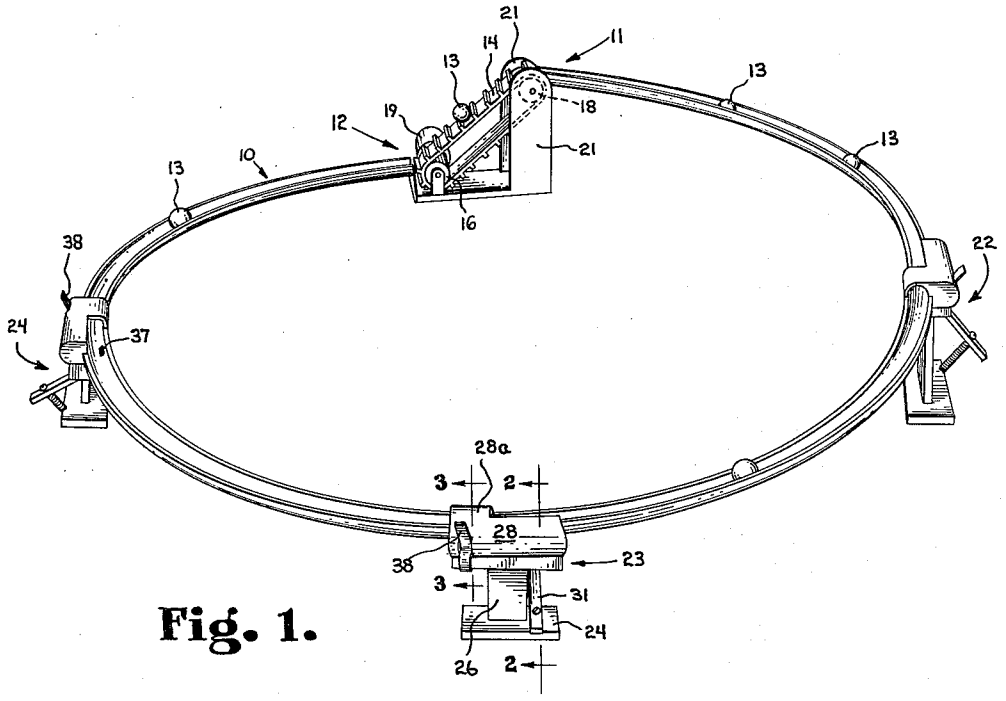


Fig. 1.

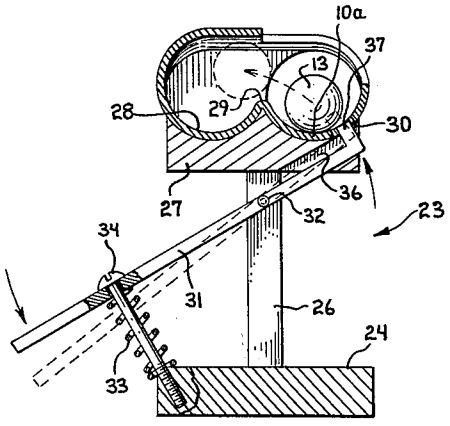


Fig. 2.

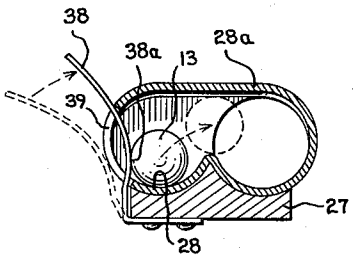


Fig. 3.

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BALL-RACE GAME APPARATUS

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This invention relates generally to game apparatus and in particular to a game apparatus using a helically or spirally shaped track for balls which may be selectively removed from or deposited on the track by manually operated elements of the apparatus.

The apparatus of the present invention comprises a grooved track or race which is circular and declines in height along its length and is, therefore, of generally helical configuration. The lowest area and highest area of the track are joined by a motor-operated belt-type elevator which transports balls traveling the track from the low end of the track to the high end so that the game balls may travel repeatedly around the track. The traverse of the balls around the track may be selectively interrupted by manual operation of a portion of the apparatus, this manually operated portion also providing for reinsertion into the race of game balls previously removed therefrom. There are several manually operated portions of the apparatus spaced at intervals about the track and each represents a player position. In general, the thesis of the game from a player's standpoint is to capture (by removal from the track) certain of the game balls while avoiding accidental capture of others.

The primary object of the present invention is to provide a game apparatus which lends itself to the playing of games requiring a modicum of skill, alertness and visual acuity by the players.

This and other objects will become apparent as the description proceeds with reference to the accompanying drawings in which:

FIG. 1 is a perspective view of a game apparatus embodying the present invention.

FIG. 2 is a sectional view of one of the support members taken generally along the line 2—2 of FIG. 1.

FIG. 3 is a sectional view of one of the support members taken generally along the line 3—3 of FIG. 1.

Referring to the drawings, the game apparatus comprises a generally helically shaped track, referred to generally at **10**, which is trough or channel shaped in cross-sectional configuration. The track is disposed so that the helical axis is vertical and the track itself is discontinuous, the high area of the track being indicated at **11** and the lower area of the track being indicated at **12**. The channel shaped configuration of the track is such as to retain thereon game balls **13** which may progress along the track by gravity from the high to the lowest area of the track.

Any conventional means may be provided for continuously lifting the game balls from the lowest area to the high area of the track and as here disclosed this means comprises an externally ribbed conveyor belt **14** which is moved by drive sheave **16** and extends around an idler sheave **18**. The drive sheave **16** is powered by a small electric motor **19**, the vertically extending plates **21** providing bearing support for the idler sheave **18**. As indicated in FIG. 1, as the balls arrive at the low area **12** of the track the ribbed belt serves to convey them to the high area **11** from whence the balls again traverse the track under the influence of gravity.

The downwardly spiralling track **10** is supported by a plurality of support members indicated generally at **22**, **23** and **24**. The support members **22**, **23** and **24** are identical except that their height varies so as to maintain the helical configuration of the track. Referring to FIGS. 2 and 3, it will be evident that each of the support

members includes a base **24**, an upright element **26** and an upper member **27**. The upper face of the member **27** is configurated so as to accommodate the primary track portion **10***a*. Adjacent the support member the primary track is elongated laterally to provide a track segment **28**, a ridge **29** providing a barrier normally preventing game balls from moving sidewardly from the track area **10***a* into the track segment **28**. It will be understood that while FIG. 2 shows the track segment **28** as being integral with the primary track, this track segment might take the form of a separate tube or channel joined to the margin of the primary track.

A ball removal element is carried by each of the support members and includes a lever **31** pivotally mounted at **32** on the end face of the upright member **26**. At its lower end the lever is urged in clockwise direction about its pivot by means of a compression spring **33** and the limit of such clockwise movement is defined by a screw head **34** which acts as a stop, the screw extending freely through an aperture in the lever **31** and being threaded into the base **24**. The upper end of the lever **31** extends through an aperture **36** in the member **27**, the aperture being sized so as to permit substantial pivotal movement of the lever. The tip of the lever **31** is flanged transversely as indicated at **37** so as to extend freely through an aperture **30** in the track portion **10***a*.

Referring to FIG. 3, it will be evident that an end portion of the track segment **28** is extended as indicated at **28***a* so as to overlie both the track segment **28** and the primary track portion **10***a*. Attached to the adjacent portion of the member **27** is a resilient blade **38** which has an intermediate portion **38***a* extending freely through a slot **39** in the track segment portion **28***a*. When, as illustrated in FIG. 3 the tip of the blade **38** is distorted and then released the portion **38***a* of the blade enters the adjacent track segment and provides an impulse which sidewardly displaces a game ball from the track segment back into the primary track portion. Both the ball return element described with reference to FIG. 3 and the ball removal element described with reference to FIG. 2 are manually operated by players whose position is established by the location of the support members **22**, **23** and **24**.

In operation, a series of distinctively marked balls may be introduced onto the track either by hand or by feeding from a container in which the balls are randomly mixed. The balls then consecutively traverse the track **10** under the influence of gravity and certain balls may be captured selectively by manipulation of the lever **31** as illustrated in FIG. 2. The game balls may be returned to the track by manipulation of the blade **38** (FIG. 3) and the removal or capture and subsequent return of selected balls, according to the game rules (which themselves form no part of the present invention) requires manual dexterity and visual acuity which provide an entertaining challenge.

While the support element **23**, identical with the support elements **22** and **24**, is here described as being formed of a base plate **24** and upright **26** and on upper element **27**, it will be understood that this assembly could take the form of a metal stamping and might be adjustable in height so as to permit various placement of the support members around the track and to permit some variation in the slope of the track. While three support members have been shown in FIG. 1, it will be understood that more support members might be utilized particularly with a track of longer and wider extent than that shown.

While the invention has been disclosed and described in some detail in the drawings and foregoing description, they are to be considered as illustrative and not restrictive in character, as other modifications may readily suggest themselves to persons skilled in this art and within the

broad scope of the invention, reference being had to the appended claims.

The invention claimed is:

1. A game apparatus comprising a generally helically shaped track disposed so that the helical axis is vertical and adapted to retain on the track game balls progressing by gravity from the high area of the track to its lowest area, means for continuously lifting the game balls from the said lowest area of the track to the said high area to accomplish repeated traverse of the track by the game balls, and support members for the track spaced along the length thereof and each defining a player position, a storage track segment carried by each of said support members in parallel adjacent relationship with said helically shaped track, a ball removal element carried by each of said support members including a portion manually movable into said helically shaped track for transversely displacing a game ball from said track into said track segment, and a ball return element carried by each of said support members including a portion manually movable into said track segment for transversely displacing a game ball from said segment to said helically shaped track, whereby the game balls may be selectively transferred between said track and said segments as they move past said player positions.

2. A game apparatus comprising a generally circularly configurated, discontinuous track having one end area elevated above the other end area and adapted to retain on the track game balls progressing by gravity from the high end area of the track to its low end area, means for continuously lifting the game balls from the said low end area of the track to the said high end area to accomplish repeated traverse of the track by the game balls, and at least one support member for the track disposed along the length thereof and defining a player position, a storage track segment carried by said support member in adjacent relationship with said circular track, a ball removal element carried by said support member including a portion manually movable into said circular track for transversely displacing a game ball from said track into said track segment, and a ball return element carried by said support member including a portion manually movable into said track segment for transversely displacing a game ball from said segment to said circular track, whereby the game balls may be selectively transferred between said track and said segment as they move past said player position.

3. A game apparatus comprising a curved track having a high area and a low area and adapted to retain on the track game balls progressing by gravity from the high area of the track to its low area, and support members for the track spaced along the length thereof and each defining a player position, a storage track segment carried by each of said support members in adjacent relationship with said curved track, a ball removal element carried by each of said support members including a portion manually movable into said curved track for transversely displacing a game ball from said track into said track segment, and a ball return element carried by each of said support members including a portion manually movable into said track segment for transversely displacing a game ball from said segment to said curved track, whereby the game balls may be selectively transferred between said track and said segments as they move past said player positions.

4. A game apparatus comprising a curved track having a high area and a low area and adapted to retain on the track game balls progressing by gravity from the high area of the track to its low area, and at least one support member for the track disposed along the length thereof and defining a player position, a storage track segment carried by said support member in adjacent relationship with said curved track, a ball removal element carried by said support member including a portion manually movable into said curved track for transversely displacing a game ball from said track into said track segment, and a ball return element carried by said support member including a portion manually movable into said track segment for transversely displacing a game ball from said segment to said curved track, whereby the game balls may be selectively transferred between said track and said segment as they move past said player position.

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