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HELICAL RUNWAY BALL GAME

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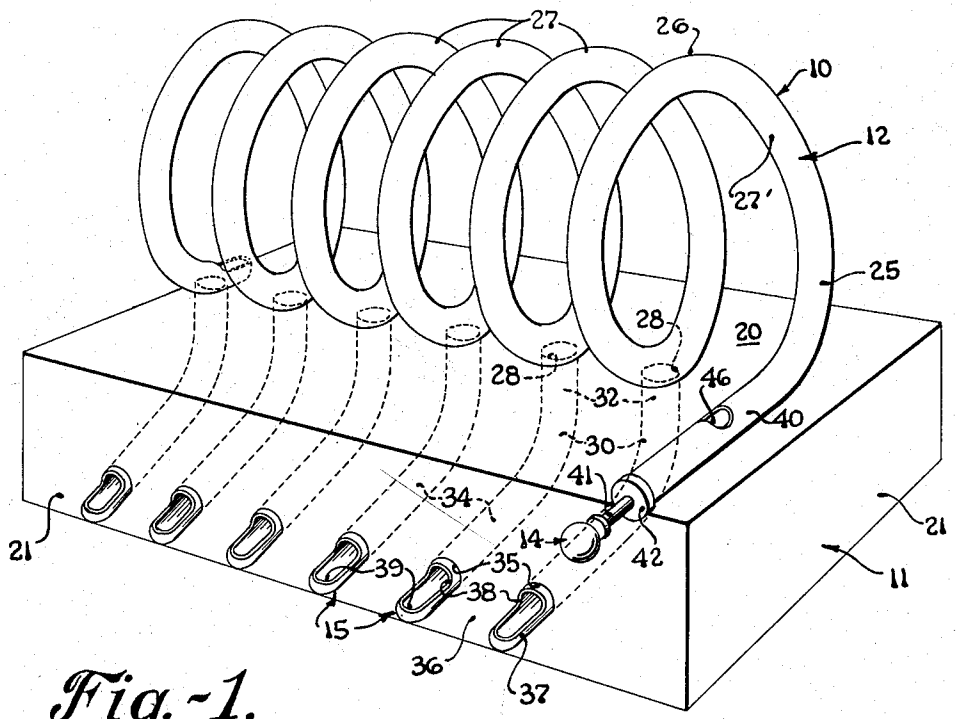


Fig.-1.

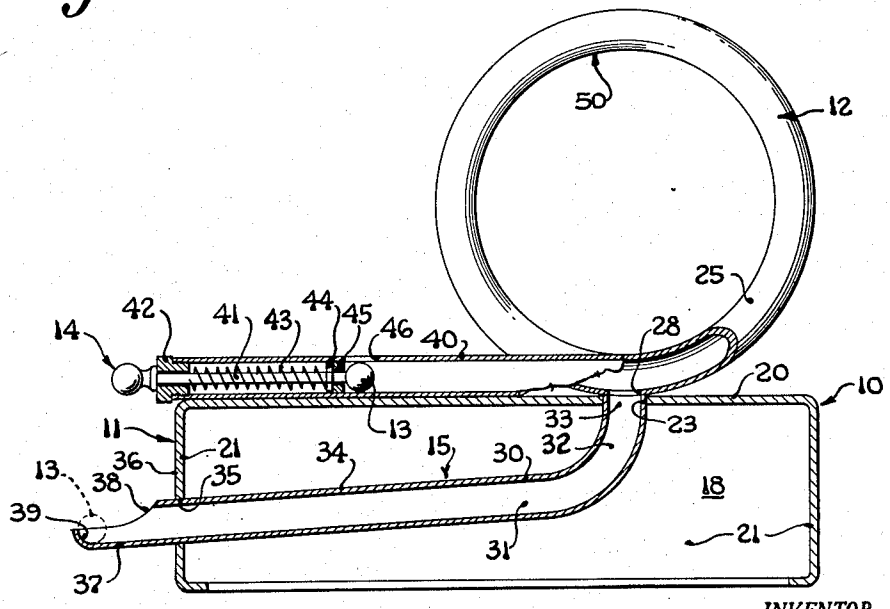


Fig.-2.

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HELICAL RUNWAY BALL GAME

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1 Claim. (Cl. 273—121)

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This invention relates to game apparatus and more particularly to new and useful improvements in a game of skill.

It is an object of this invention to provide an improved game apparatus which is relatively simple and inexpensive in construction and highly efficient in use.

Another object of this invention is to provide an improved game apparatus in which a series of equal helical loops form a ball runway.

A further object is to provide an improved game in which the skill of a player is called upon to entrap the ball in an intermediate one of the series of equal loops constituting the ball runway.

These and other objects of the present invention will become apparent in the following description in the light of the drawings in which:

Fig. 1 is a perspective view of my improved game apparatus; and

Fig. 2 is a side elevation of Fig. 1 with parts thereof broken away and shown in section for purposes of illustration.

The game, generally designated 10, includes a base 11 supporting a ball runway 12 for receiving a ball 13 from a ball projector 14 and ball return means 15 associated with the ball runway.

The base 11 is a boxlike structure 18 having a surface 20 provided with legs 21 for supporting the surface 20 at a reasonable height from a surface upon which the base is to rest. This base 11 is preferably a single unit either cast or stamped from a single piece of metal or plastic material as desired.

The surface 20 is provided with a plurality of ball exit openings 23 each of which is preferably equally spaced from the other and in alignment with each other transversely of the surface 20.

The ball runway 12 comprises a tubular element 25 having an internal passage suitable to permit the ball 13 to roll freely through the tubular element. The tubular element 25 is bent into a helical coil 26 to provide a series of convolutions 27 of equal diameter. These convolutions are spaced from each other equidistantly much the same as the threads on a straight helical screw. The distance between the convolutions corresponds to the distance between the exit openings 23 provided in the surface 20 of the base 11 and each convolution is provided with an opening 28 registerable with a corresponding opening 23 in the surface 20. Consequently, when the coil 26 is laid horizontally upon the surface 20 the openings 28 in the convolutions coincide with the corresponding ball exit openings 23 in the surface 20.

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The ball return means 15 consists of a plurality of identically formed return runways 30, each of which comprises a tube 31 having an elbowed end 32 disposed with its open end 33 extending through a respective exit opening 23 and secured to the corresponding convolution 27 in alignment with the opening 28 therein. In this manner the tubular element 25 is secured to the horizontal surface 20 of the base 11. Beyond the elbowed end 32 the tube 31 consists of an inclined section 34 having its free end extending through an opening 35 provided in the front wall 36 of the base 11.

The end 37 of tube 31 extending from wall 36 of the base 11 is cut away as at 38 and has part of the remaining periphery of the tube bent up and welded into a ball retaining cup 39.

The entrance end of the tubular element 25 which constitutes the ball runway 12 comprises a straight section 40 extending substantially tangentially from the first convolution 27' of the tube 25. This section 40 of tube 25 rests upon the surface 20 of base 11 and forms a housing for the ball projector 14 hereinbefore mentioned.

The projector 14 consists of a conventional type ball propelling means having a plunger 41 reciprocable in a cap 42 secured to the open end of section 40 of the tube 25. The plunger 41 is encircled by a compression spring 43 having one end bearing against the cap 42 and its opposite end bearing against a washer 44 secured to the plunger. The free end of the plunger 41 is adapted to extend through a guide stop 45 secured within the section 40 of the tube 25 so as to strike the ball 13 which is initially deposited within tube 25 through an entrance opening 46 formed in section 40 adjacent the guide stop 45.

It is by manipulation of the plunger 41 that skill is required, it being an object of the player to cause the ball 13 to drop out of an exit opening 28—23 as close to the plunger as possible. Ordinarily, in order to project the ball 13 over the first hump in the first loop, i. e., convolution 27', the momentum of the ball is such as to normally carry it over to the second, third and perhaps successive loops, it being obvious that the ball gains momentum during the downward travel in each loop. It is therefore apparent that it is much easier to propel a ball all the way through the runway 12 so that it discharges into the last ball return runway 30. Consequently, scoring value of each convolution enhances in proportion to its nearness to the projector 14.

Obviously, the tubular element 25 can be made transparent by the use of clear plastic tubing thereby enabling the player to see the manner in

which the ball 13 reacts with respect to a particular stroke of the plunger 41. The ball return runways in such case should also be made of the same kind of material to facilitate welding or securing the runways 30 and 12 together in accordance with the usual practices in causing adherence of such material.

It should also be noted that the ball runway 12 may be constructed of channel shaped material so that the ball is visible in troughlike convolutions. However, in order to keep the ball within the runway 12 the gap at the open side of the channel type runway should be of less width than the diameter of the ball 13. In this connection it is contemplated that the inner periphery 50 of the convolutions 27 be ground away to leave a restrictive slit (not shown) through which the ball can be seen as it travels through the runway 12.

While I have described the foregoing game in specific detail it will be apparent that it is susceptible to variations, modifications and alterations without departing from the spirit of my invention. I therefore desire to avail myself of all variations, modifications and alterations as fairly come within the purview of the following claim.

What I claim as new and desire to protect by Letters Patent is:

In an apparatus of the class described including a base having a horizontal surface provided with a plurality of ball exit openings, the combination therewith of a tubular ball runway having one straight end supported on said horizontal surface, a ball projecting means in said one straight end of said tubular ball runway, said tubular ball runway being coiled about a horizontal axis to provide a plurality of convolutions of equal diameter each having a ball drop-out opening in the lowermost extremity of its outer periphery, said convolutions being spaced from each other with their drop-out openings in register with corresponding ones of the ball exit openings in the horizontal surface of said base, and a plurality of ball return means in said base each having a ball receiving end extending through corresponding ones of the ball exit openings in said horizontal surface and into the respective drop-out opening in the convolutions of said tubular runway for securing said convolutions to said horizontal surface.

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