Jan. 14, 1964 R. E. STUTZKE 3,117,787

COMBINED TARGET, GLOBULAR RACEWAY AND ADJUSTABLE PROJECTOR

Filed June 2, 1961

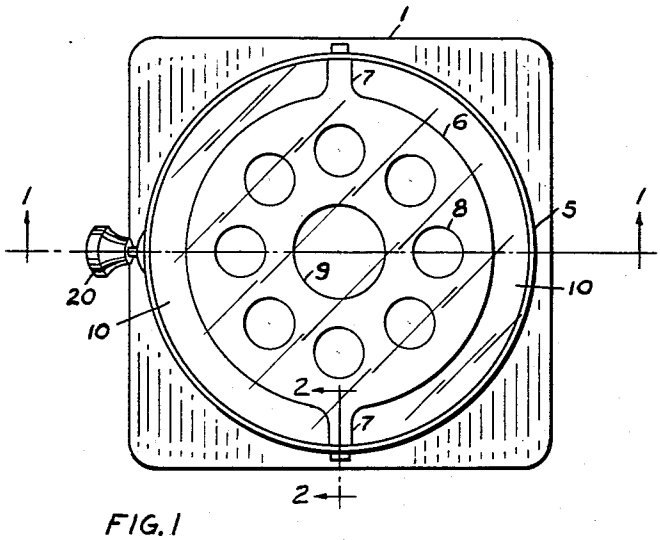


FIG. 1

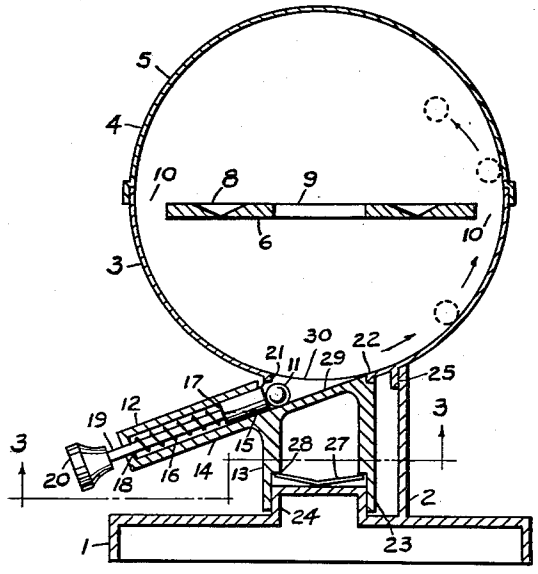


FIG. 2

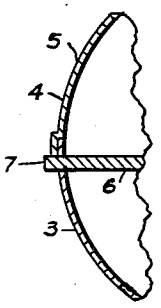


FIG. 3

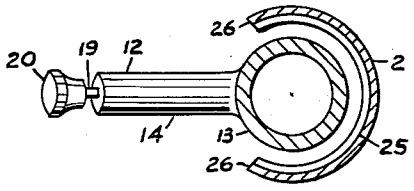


FIG. 4

Robert E. Stutzke

United States Patent Office 3,117,787 Patented Jan. 14, 1964

3,117,787

COMBINED TARGET, GLOBULAR RACEWAY AND ADJUSTABLE PROJECTOR

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Filed June 2, 1961, Ser. No. 114,405
3 Claims. (Cl. 273—101)

This invention relates to a skill game wherein a ball is projected within a transparent, hollow ball race which is generally spherical in form against which the ball will remain until its momentum is spent and, providing it is in proper position, gravitates onto a target having suitable scoring means.

An object of the invention is to provide a skill game wherein the ball may circulate the ball race one or more times before contacting the target.

A further object of the invention is to provide a skill game wherein the target is suspended within the ball race.

A still further object of the invention is to provide a skill game which is generally spherical in form wherein the player may select the initial course the ball takes on the ball race.

Another object of the invention is to provide a game for amusement wherein, in a broad sense, space flight of a missile is simulated and the player scores by landing on a target containing scoring pockets representative of the planets in the solar system.

With the foregoing in mind and other objects in mind which will appear as the description proceeds, the invention resides in the combination and arrangement oof parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiments of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

The accompanying description and drawings represent a skill game constructed in accordance with the principles of the present invention.

In said drawings:

FIGURE 1 is a top plan view of the game.

FIGURE 2 is a vertical section through line 1—1 of FIGURE 1.

FIGURE 3 is a fragmentary vertical section through line 2—2 of FIGURE 1.

FIGURE 4 is a partial horizontal section through line 3—3 of FIGURE 2.

Referring to the drawing, FIGURE 2, it will be noted that the game comprises a base 1 having a semi-circular column 2 which is joined by cementing or other suitable means to a semi-circular boss 25 on a transparent, hollow hemisphere 3 which in turn is joined to a second transparent, hollow hemisphere 4. Both hemispheres are joined by cementing or other suitable means to form a continuous transparent, hollow sphere generally designated by the numeral 5. A target 6 is supported approximately midway within the sphere on the stubs 7 as shown in FIGURES 1 and 3. The target contains one or more scoring pockets 8 and may contain one or more obstacle openings 9. The openings 10 between the target 6 and the inside of the sphere 5 are large enough to permit passage of a ball 11.

A ball projecting means generally designated by the numeral 12 comprises a housing 13 essentially cylindrical in form having a stem 14 projecting therefrom bored to receive a plunger 15 and a spring 16 interposed between the shoulder 17 and the face of rod bore 18. Motion of the plunger 15 is facilitated by the rod 19 extending through the end of stem 14 and said rod, for convenience of use, is provided with a knob 20. Housing 13 is swivel connected by reason of a journal 21 at its upper extremity pivoted in bearing 22 on the sphere 5 and a bearing 23

at its lower extremity pivoted on the journal 24 attached to the base 1.

The housing 13 is spring pressed toward the shoulder of bearing 22 by the spring washer 27 interposed between the closed end of journal 24 and the bearing shoulder 28. Stem 14 is slanted downward from the housing 13 with the lower edge of plunger bore 29 nearly tangent to the inner surface of the sphere 5. The surface 30 of the housing 13 is formed spherical to provide a continuation of the inner surface of the sphere 5. The intersection of the plunger bore 29 with the surface 30 necessarily results in a slight interruption in the spherical form in this area. The ball 11 is free to rest in the plunger bore 29 and abuts the face of plunger 15 due to the pull of gravity.

Referring to the drawing, FIGURE 4, it will be noted that swiveling of the housing 13 is limited by the stem 14 contacting the column faces 26.

The operation of the game will now be described. The ball 11 is projected from the ball projecting means 12 the player, if so desired, aiming the ball projecting means by swiveling same in the bearing 22 and on the journal 24. The spring washer 27 provides a braking action to steady the ball projecting means in the desired position and also to assure a tight fit at the juncture of the sphere 5 and housing surface 30.

The ball travels along the bottom of plunger bore 29 and thence against the inner surface of the sphere 5 rising toward the top of the sphere. The ball may, depending on the force applied to it, rise only part way within the sphere or may, if sufficient force is applied, completely circulate the inside of the sphere one or more times.

A ball that completely circulates the sphere will dip part way into the plunger bore 29 if it passes through this area of the sphere. It would appear that the ball would always pass through this area but this is not the case. The ball may deviate slightly from the selected initial course due to the normal surface imperfections of the ball and sphere and also, due to the variations in the manner of projecting the ball.

The projected ball will continue to travel around the inner surface of the sphere until its momentum is dissipated by the friction of its rolling action on the wall of the sphere and it will then gravitate to the bottom of the sphere and thence into the plunger bore. If the ball is sufficiently above the target 6 when its upward travel ceases it will fall into the area occupied by the target. If the player is skillful the ball will fall into a scoring pocket on the target or the ball may fall against the target and roll into a scoring pocket. If the player fails to score the ball will gravitate to the bottom of the sphere and thence to the plunger bore from which it may be again projected.

In the embodiment herein described a ball that is retained in a scoring pocket is returned to the plunger bore by tilting the entire device sufficiently to cause the ball to roll from the scoring pocket.

The target 6 in the embodiment herein described is intended to represent a solar system with the pockets 8 representing planets and the opening 9 representing the sun. It is understood that the target may be arranged to represent other subjects.

It is further understood that various changes and additions may be made in the embodiment disclosed without departing from the principles set forth. If it be so desired the target may be rotated through outward connected means to tilt the target and release the ball from a scoring pocket. Such means may also be used to angle the target in varying degrees to present a varying target. The scoring pockets may be constructed with electrical connections to counting means to automatically register the score of the player.

Having described my invention, I claim:

1. A rolling ball skill game comprising a transparent,

hollow ball track which is generally spherical in form; a target suspended within said ball track; a base having an upward extending member to support said ball track; and a ball projecting means rotatably journalled to swivel between said ball track and said base.

2. A rolling ball skill game comprising a transparent, hollow envelope to form a globular ball track on its inner surface; target scoring means suspended within said ball track; and a ball projecting means swivel connected through the vertical axis of said envelope whereby a ball may be projected onto said ball track.

3. A rolling ball skill game comprising a transparent, hollow sphere; a base and a column to support said sphere; a swivel connected ball projecting means interposed between said sphere and said base having an inclined ball guideway whose lower surface is nearly tangent to said sphere; and a target with suitable scoring means within said sphere.

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