June 11, 1968 M. I. GLASS ET AL 3,387,846

WHEELED TOY AND TARGET RINGS

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Fig 1

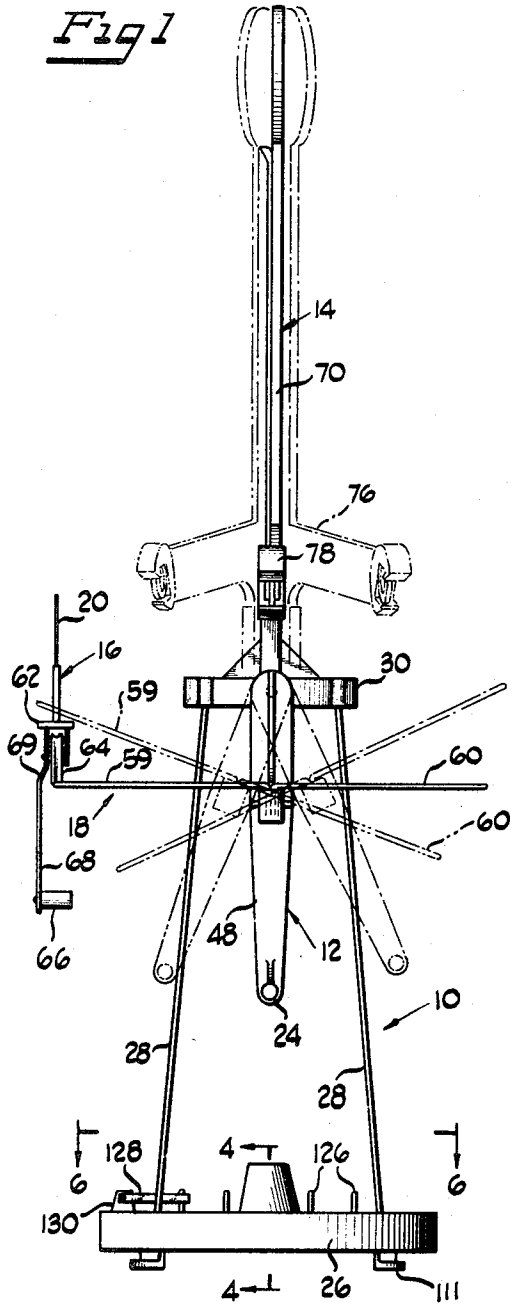
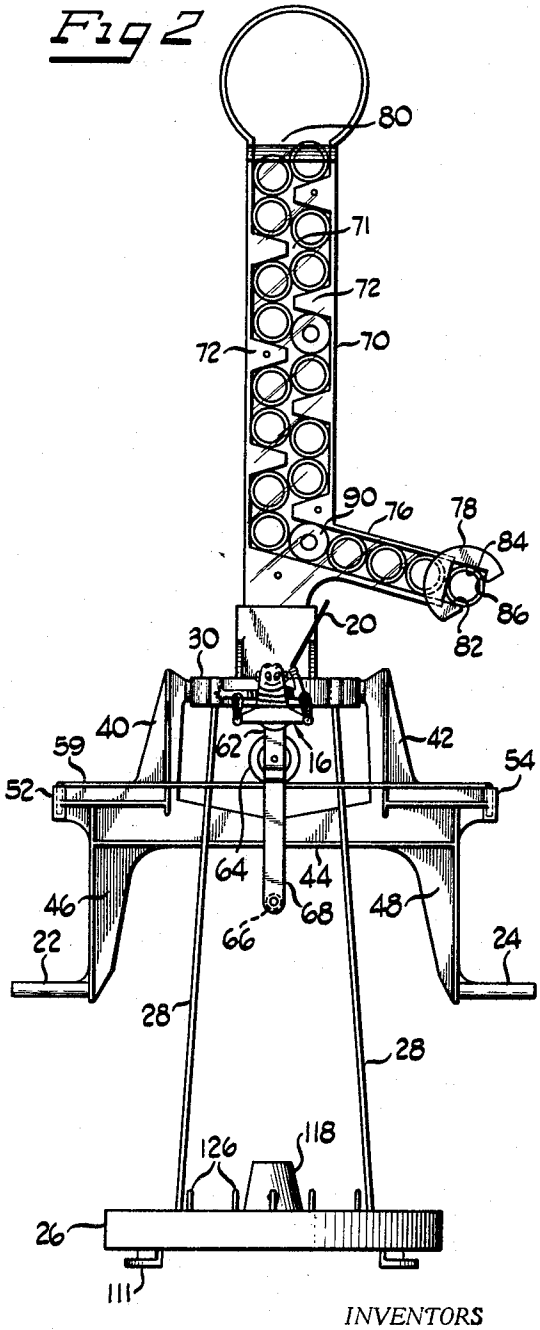


Fig 2



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Fig 3

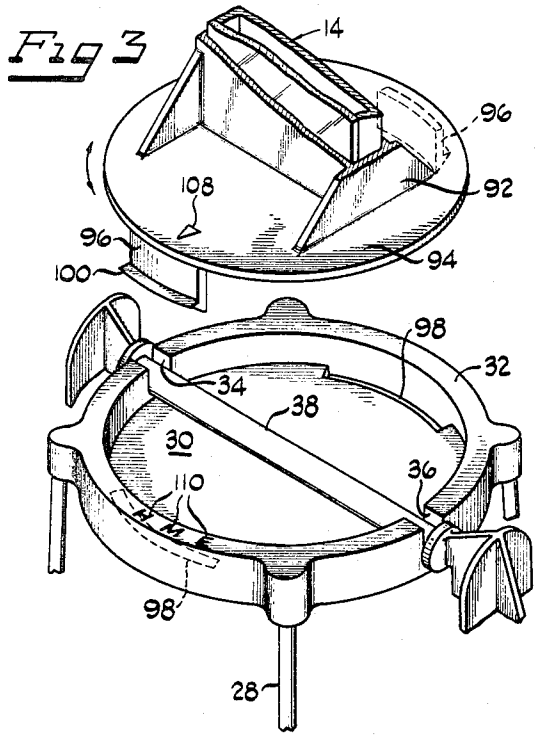


Fig 5

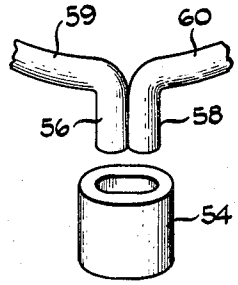


Fig 6

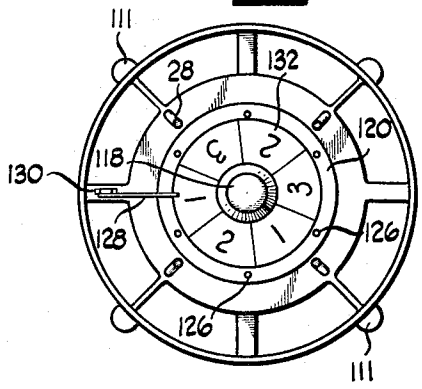
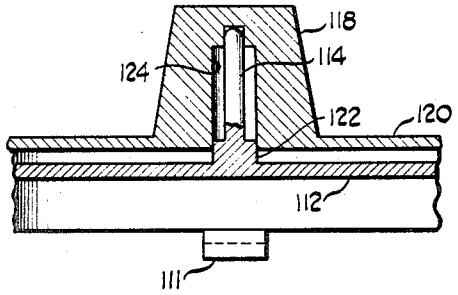


Fig 4



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WHEELED TOY AND TARGET RINGS

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ABSTRACT OF THE DISCLOSURE

A game apparatus comprising a supporting base frame structure, a platform supported on the base in elevated relation thereto, a swingable frame pivotally mounted on the platform for movement relative to a horizontal position, and a wire loop fixed on the swingable frame and providing a continuous track. A carrier member including a wheel adapted to be supported on the wire loop includes an elongated element at its upper part and a weighted portion below the wheel. The elevated platform includes a receptacle having a plurality of ring-like pieces which are adapted to be dispensed in sequence with the lowermost ring being held adjacent the path of movement of the carrier.

The present invention relates to game apparatus and is generally directed to a game of skill in which an element of chance is also involved.

Generally, the selected embodiment of this invention relates to a game which involves a manually manipulatable device, including a miniature figure which rides by gravity around a suitable runway on such device under the control of a player. A supply of rings is disposed in position for capture by the figure, and skill is required in moving the figure so as to maintain its position on the runway and also capture one of the rings.

It is a primary object of the invention to provide game apparatus, which requires the skill of a player in moving an element through a path so that such element engages a normally fixed but removable second element.

More particularly, it is an object of the invention to provide a device involving a hoop-like track which may be tilted by the players, and a small figure which rides around the track on a wheel as the track is manipulated. A further object is to provide such device with a supply chute supported adjacent to the track and containing an exposed ring in position such that, when the figure passes by, if the player has controlled the track with sufficient skill, the figure will catch the ring.

Further objects and advantages will become apparent from the following description of an illustrative embodiment of the invention, and from the accompanying drawings, in which:

FIGURE 1 is a front elevation of game apparatus involving the invention;

FIGURE 2 is a left side elevation of the same;

FIGURE 3 is an enlarged fragmentary exploded view of a combined dial and support seen in FIGURES 1 and 2;

FIGURE 4 is an enlarged vertical sectional view of a portion of a chance device indicated in FIGURES 1 and 2, taken on the line 4—4 of FIGURE 1;

FIGURE 5 is an enlarged fragmentary detail in perspective, of certain structure indicated in FIGURES 1 and 2; and

FIGURE 6 is a horizontal sectional view taken on the line 6—6 of FIGURE 1 and showing particularly the chance device.

With reference first to FIGURES 1 and 2, the illustrated game apparatus includes a stand, generally designated as 10, on which is tiltably supported a track-frame 12, and a token chute 14 is supported from stand 10 in a generally upright position and is rotatable about an upwardly directed axis. A figure 16 rolls on a curved track section 18 carried on frame 12, and the figure has a wand 20 with which to engage and catch tokens from chute 14. Figure 16 is caused to travel by tilting track-frame 12 by means of handles 22 and 24.

Stand 10 comprises a base portion 26 which has a plurality of uprights 28 engaged at their lower ends in rigid relationship with base 26 and at their upper ends with a tray-like support 30 which serves to carry track-frame 12 and chute 14. Tray 30 has a rim 32, best seen in FIGURE 3, which is notched at 34 and 36 to freely receive a pivot shaft 38 forming part of track-frame 12. Shaft 38 is therefore rockable in notches 34 and 36 and it has downwardly directed strut portions 40 and 42 outwardly of rim 32, as best seen in FIGURE 2, joined by a beam portion 44. A generally rigid, rockable frame is thus provided, which also has downwardly directed struts 46 and 48 extending to handles 22 and 24, so that the frame may be controlled rather precisely by manipulation of the handles. Beam portion 44 also has upwardly directed socket portions 52 and 54 spaced outwardly from struts 40 and 42, one of which is shown in detail in FIGURE 5, and which receive the down-turned ends 56 and 58 of track sections 59 and 60. Sections 59 and 60 are preferably formed from stiff wire and with sufficient accuracy so that the major portions thereof align with each other to form a generally continuous, substantially circular, track for travel of figure 16 therealong, when end portions 56 and 58 are received in sockets 52 and 54.

Figure 16 is seated on a carrier or trolley 62 which is carried by a grooved or flanged wheel 64 generally complementary to track sections 59 and 60, so as to be guided thereon in a resonably reliable manner. The wheel 64 is freely journaled on carrier 62, and a counterbalance weight 66 is supported on a downwardly directed arm 68 rigid with carrier 62 and is of sufficient mass to maintain the carrier and figure 16 upright in a stable manner when supported by wheel 64 on track sections 59 and 60. Arm 63 is bent or offset at 69 to provide for clearing socket portions 52 and 54 as the carrier moves around the track. As seen in FIGURES 1, 2 and 5, sections 59 and 60 meet end-to-end slightly above sockets 52 and 54 to provide a substantially continuous track, so that wheel 64 may roll freely from one to the other without serious likelihood of jumping the track. It will now be apparent that carrier 62 may be caused to travel around the track formed by sections 59 and 60 by tilting the track by means of either or both of handles 22 and 24, and also that a certain degree of skill is necessary in order to time the tilting with the travel of the carrier. Too rapid tilting of the track and/or too much speed of carrier 62 might cause the same to leave the track. Furthermore, it will be apparent that carrier 62, and accordingly figure 16, by reason of tilting of the track sections will from time to time be at different distances from the support or from base 26, and that this distance can be controlled at least to some extent by the skill of the player. This characteristic of the device can be utilized in playing the game, as will further appear.

Chute 14 comprises an upright column 70, preferably of transparent material, providing therein a passageway 71 of long and narrow cross section, and interrupted by a plurality of baffles 72. The baffles act as obstacles to a series of rings 74 which are freely disposed in the passageway so as to descend by gravity, with the baffles serving to retard the rings and to support part of the weight of the column of rings so that those near the bottom of the column will be sufficiently free to roll down an inclined hollow arm 76. Arm 76 forms a continuation of passageway 71 and extends outwardly sufficiently to overhang the track 18 and carrier 62 as it passes around the track. A chuck portion 78 is carried at the

end of arm 76 in which the lowermost ring 74 is engaged in such manner as to be secured against removal in the direction of the pressure from the weight of the column of rings, but to be readily dislodged by pressure from one side, in which case more rings will immediately descend from portion 76 to replace the one removed. The rings may be replenished in column 14 through an opening 80 near the top thereof.

Chuck portion 78, as best shown in FIGURE 2, comprises an outer shell of width greater than that of arm 76 and having a lower plane surface 82 therein contiguous to the lower interior surface of hollow arm 76 so that a ring 74 may roll freely into the chuck. A similar plane surface 84 within chuck 78 is positioned contiguous to the upper interior of arm 76 and spaced from surface 82 just sufficiently that a ring 74 may roll freely between the surfaces while being restrained against appreciable upward displacement. A downwardly directed lip 86 defines the outer end of surface 84 and extends downwardly to an extent sufficient to block outward movement of any ring 74, but lip 86 is spaced from the lower surface 82 sufficiently to leave a generous outwardly and downwardly directed opening within which wand 20 may engage any ring without interference from any part of chuck 78. It will be noted that while a ring may not escape by rolling through such opening, it may be readily displaced by movement laterally of arm 76 or directly away from the observer in FIGURE 2, the only force retaining it in chuck 78 against movement in this direction being the light frictional engagement of the ring with surface 82, lip 86 and a following ring. The engagement of wand 20 with a ring is therefore sufficient to dislodge the ring and impale it on the wand, after which the next ring will roll down and take its place. In the present instance, a portion of arm 76 encroaches slightly on the space between surfaces 84 and 82 so as to retard the lateral movement of the left edge of the ring as seen in FIGURE 2, so that the ring is given a twisting motion as it leaves the chuck, and which will tend to place it in a better position to be caught by the wand.

The game may be made more difficult by the provision of occasional rings 90 of different proportions, having much smaller interior openings than rings 74. Further, column 14 may be shifted and adjusted in position, both to make the capture of the rings easier or more difficult.

As seen in FIGURE 3, column 14 is fixed in a socket portion 92 of a combined dial and support plate 94 which fits for free rotation within rim 32 of tray-like support 30. When in place, plate 94 prevents inadvertent removal of shaft 38. Plate 94 is supported on a pair of oppositely disposed, downwardly extending feet 96 which project downwardly into grooves 98 formed in support 30. Grooves 98 extend for a substantial distance adjacent the inner margin of rim 32, and the lower portions 100 of feet 96 are disposed in pressure engagement with the lower portion of rim 32. Grooves 98 are sufficiently longer than the circumferential extent of feet 96, so that dial plate 94 may be turned to a limited extent in support 30.

While not necessary, it is contemplated that the device will be made of one of the well-known types of plastic so as to be somewhat flexible and resilient, and the parts may be assembled for forcing feet 96 down into grooves 98.

An index or pointer 108 is provided on dial plate 94 and is adapted to register with one or another of legends 110 on rim 32, which in the present instance stand for "Hard," "Medium" and "Easy," respectively, and indicate the degree of difficulty to be expected in catching a ring with dial plate 94 in these positions.

Any suitable type of chance device may be utilized to dictate the number of tries a player may make with carrier 62 during the course of each turn, but in the present instance a rotary device is incorporated in base 26. Base 26 may be supported on a plurality of feet 111 and includes a web portion 112 forming a floor for supporting

a pivot pin 114 having a rounded top or point on which is supported a knob or grip portion 118 of a dial 120. Pin 114 has an enlarged shoulder portion 122 which fits freely within a bore 124 in the knob and guides it for free rotation about the pin. Dial 120 is circumferentially divided and marked with legends, as best seen in FIGURE 6, and a plurality of upstanding pins 126 are fixed about the periphery of dial 120 in position to be engaged by a light leaf spring 128 fixed to a bracket 130 projecting upwardly from base 26. The mass of dial 120 and the flexibility of spring 128 are so proportioned that the dial, given a twirl by means of knob 118 will spin for a short time, and spring 128 will be brushed by pins 126 and insure that the dial will substantially always stop with the spring indicating one of the legends 132 so that there will be no question as to how many tries a player is to have to catch a ring by controlling carrier 62.

In summary, it is to be noted that column 14 is loaded with rings 74, interspersing a few of the type of 90 if desired, whereupon the first player gives knob 118 a twirl and notes how many turns of the carrier 62 he is entitled to take. He then selects the position of arm 76 which he desires by swinging the arm and thereby turning dial plate 94 to one or another of legends 110. If he selects the E or easy position the carrier will be approximately over the socket 54 when wand 20 encounters the ring in chuck 78, and the former will be quite sure to enter and impale the ring, although there may be difficulty in that carrier 62 is not moving fast enough to exert sufficient force to dislodge the same. If track frame 12 is tilted too much in the attempt to overcome this deficiency in speed, it will be easy to acquire too much speed and throw the carrier off the track, to the detriment of the player's score. If the player places the dial plate 94 in the M position, it can count more toward his score than it would with place 94 in the E, or easy position, and a greater score is obtained by placing the plate 94 in the H position.

Although the invention has been described in connection with a specific device, further modifications are likely to occur to those familiar with this class of apparatus, and which modifications could be made without departing from the principles involved. It should be understood that the manner of playing the game with the illustrated apparatus is simply by way of example, and that other forms of play might be devised.

What is claimed is:

1. Game apparatus comprising a supporting base frame structure, a platform supported on said base in elevated relation thereto, a swingable frame pivotally mounted on said platform in depending relation thereto and adapted to be tilted with respect to a normally horizontal position, means defining a loop fixed on said swingable frame and providing a substantially continuous track normally disposed below the pivot axis of said swinging frame, a carrier adapted to be supported on said track and comprising a wheel formed at its periphery to be supported on said loop, a weighted portion on said carrier below said wheel, and an elongated element on said carrier projecting above said wheel, a housing positioned on said platform in vertically extending relation thereto and including a portion at its lower end which terminates in means defining an opening disposed in overlying relation to the track defined by said loop, said housing being constructed to provide support for a supply of playing pieces adapted to be sequentially dispensed through said opening by engagement thereof by said elongated element on said carrier.

2. Game apparatus as set forth in claim 1, wherein said loop comprises a pair of generally semi-circular wire portions mounted on said frame in facing relation to each other, and said housing is adjustably secured to said platform so as to vary the position of said opening with respect to the path of said wire loop.

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