United States Patent

Peterson

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[54] SPINNING TOP AND TARGET GAME

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[52] **U.S. Cl.** **273/110,** 273/108, 46/70

[51] **Int. Cl.**.....**A63f 9/16**

[58] **Field of Search**.....273/108–115, 123, 273/124, 4, 118, 129; 46/64

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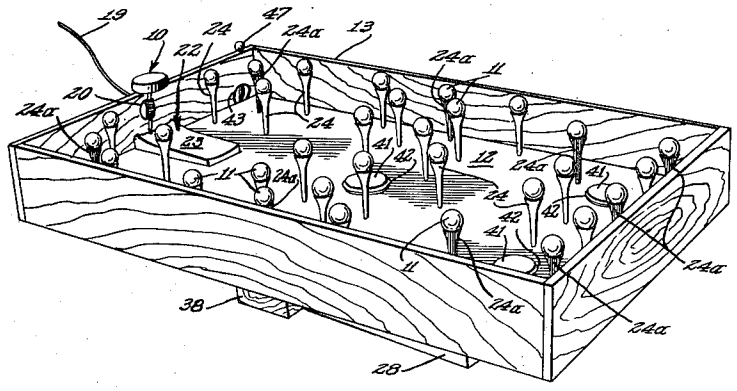
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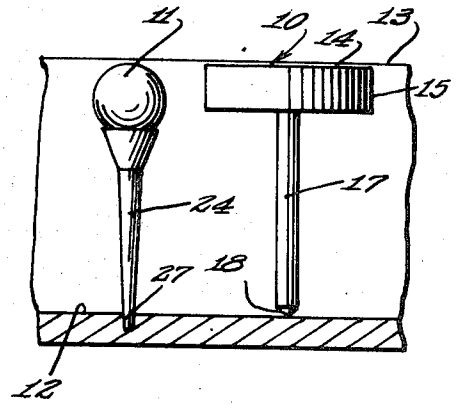
Primary Examiner—Richard C. Pinkham
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[57] **ABSTRACT**

A game in which a spinning top may contact targets supported at top head height such as on pedestals. Movements of the spinning top may be controlled relative to the targets by various means including a runway from a spinning station, obstacles in the playing field, and maneuvering the top over the playing field as by having the playing field tiltably movable.

4 Claims, 6 Drawing Figures





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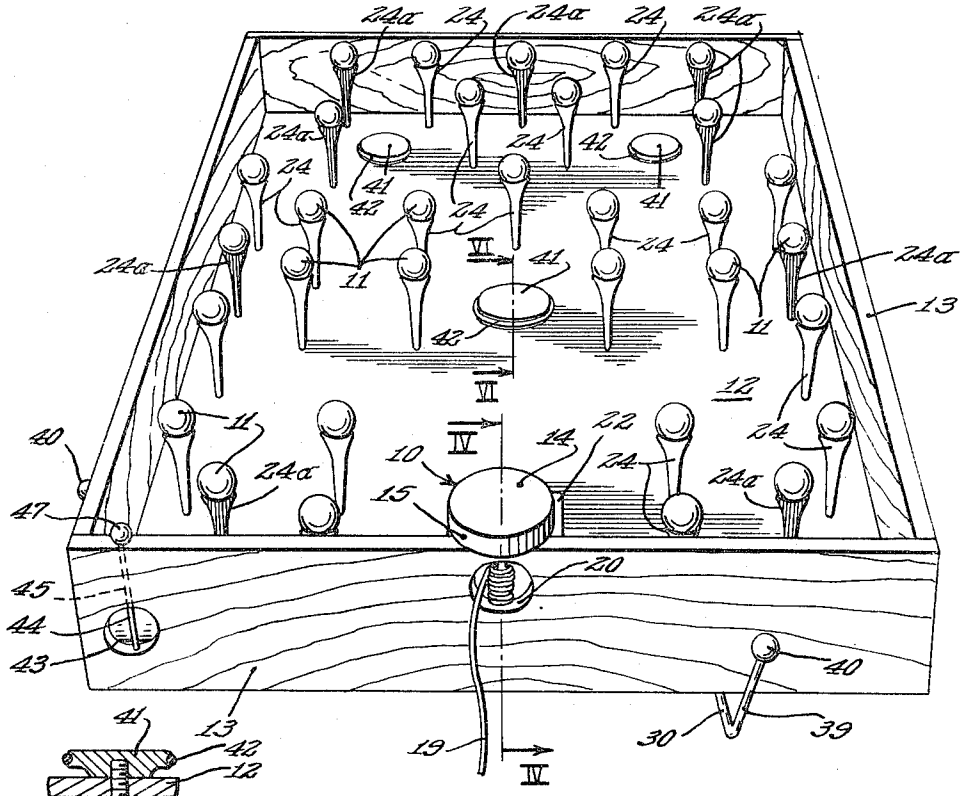


Fig. 1

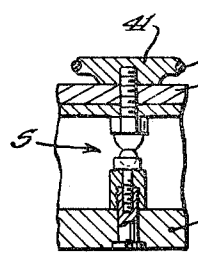


Fig. 6

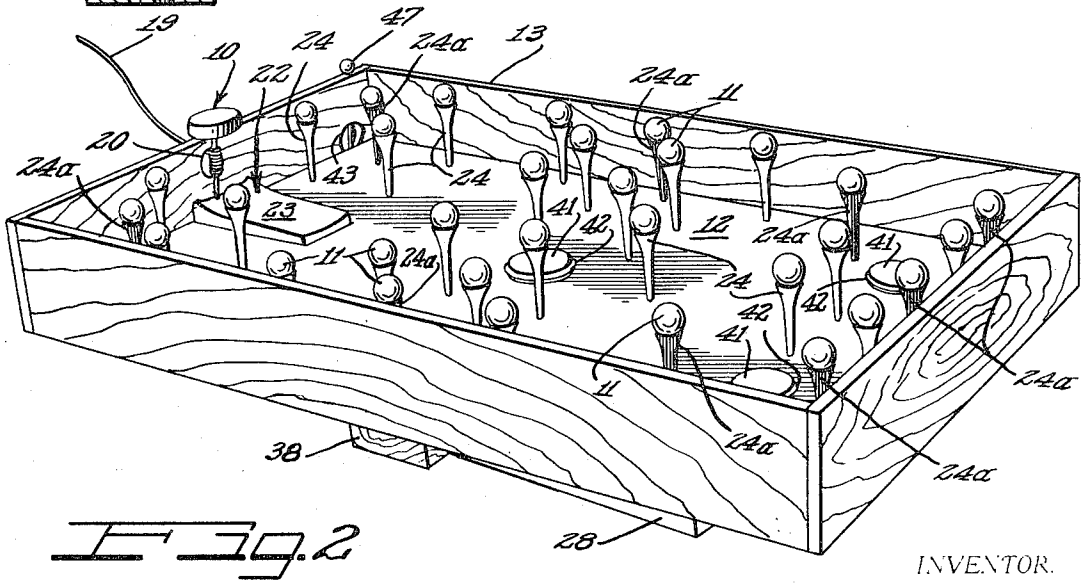


Fig. 2

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Fig. 3

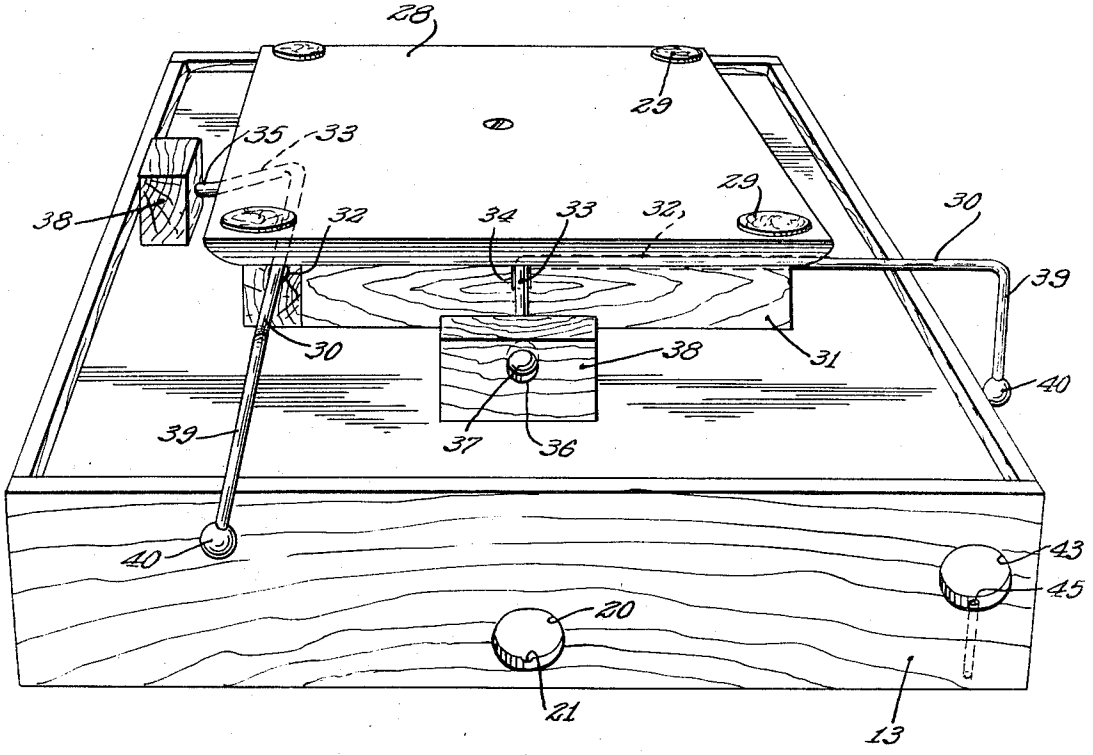


Fig. 4

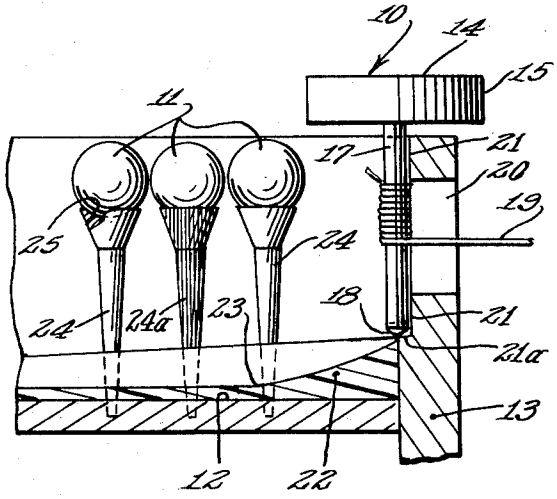
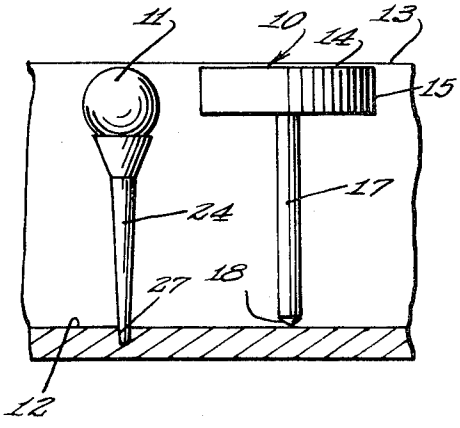


Fig. 5



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SPINNING TOP AND TARGET GAME

This invention relates to game devices and is more particularly concerned with a new and improved spinning top and target game.

Game devices are known in which a spinning top is permitted to knock down target members in a generally haphazard manner on an as nearly as possible perfectly horizontal playing board field to increase the element of chance contact of the spinning top with the targets distributed according to a predetermined pattern on the playing field. In such games the target pieces have been constructed to be easily upset by relatively light contact of the spinning top thereagainst. Therefore in playing the game considerable care must be taken not to jostle the playing field or board lest the relatively delicately balanced playing pieces be prematurely upset.

Marble games are known in which one or more marbles must be maneuvered by tilting of the board or playing field to attain counting or goal results by movement of the respective marbles into pockets, holes, and the like. In such marble games, however, only the marbles are employed as the movable playing pieces.

An important object of the present invention is to provide a new and improved spinning top and target game in which target pieces are supported in a fairly stable playing orientation but susceptible to easy displacement by spinning top contact therewith.

Another object of the invention is to provide a new and improved spinning top and target game in which the targets are supported to be contacted only by one part of the top.

Still another object of the invention is to provide a spinning top and target game having means for controlling movements of the top relative to the targets.

Yet another object of the invention is to provide a new and improved spinning top and target game having novel means for controlling initial movement of the top from the spinning station.

A further object of the invention is to provide a new and improved spinning top and target game having novel obstacle control means for the top.

A still further object of the invention is to provide a new and improved spinning top and target game in which the top is maneuverable over the playing field relative to the targets.

A yet further object of the invention is to provide a novel combination spinning top and marble game.

Other objects, features and advantages of the invention will be readily apparent from the following description of a preferred embodiment thereof, taken in conjunction with the accompanying drawings, although variations and modifications may be effected without departing from the spirit and scope of the novel concepts of the disclosure, and in which:

FIG. 1 is a front perspective view of game apparatus embodying features of the invention;

FIG. 2 is a side perspective view of the apparatus;

FIG. 3 is a bottom perspective view of the apparatus;

FIG. 4 is an enlarged fragmentary vertical sectional elevational view taken substantially along the line IV—IV of FIG. 1;

FIG. 5 is a fragmentary vertical sectional detail view showing the top on the playing field surface in relation to one of the targets; and

FIG. 6 is an enlarged fragmentary sectional view taken substantially on the line VI—VI of FIG. 1.

Principal components of game apparatus embodying features of the present invention comprise a spinning top **10**, targets **11** and a playing field **12** desirably in the form of a flat board over which the top is adapted to be spinningly motivated to contact the targets. To confine the top to the playing field, an encompassing upright wall **13** is provided. In the illustrated example the playing field **12** is of rectangular outline and the wall **13** is of corresponding outline, but any preferred geometric shape may be provided.

In one desirable form, the top **10** has a disk-like head **14** of substantial diameter provided with a circular perimeter **15** and carried on an elongated, vertical, depending, rigidly integral, concentric stem or spindle **17** which is of substantially smaller diameter. On its lower end, the spindle **17** has a running terminal tip **18** which is constructed to limit contact with the playing surface to a point so as to minimize friction. For this purpose a perfect pinpoint would be ideal but within the practical limitations of suitable materials the tip is preferably generally semi-spherical in the form. Since as nearly as possible prefect concentricity in the tip **18** is desirable, it is formed at the apex of a simple frusto-conical shape. This affords excellent results on a playing field surface of wood or composition board, especially where the spindle **17** is metal, and permits smooth travel of the spinning top in any attitude of the playing field surface.

Means are provided for starting the top by spinning it at a launching station at a selected place along the wall **13**. Although such means may be in the form of a mechanically or electrically operated spin-launching device, a simple and efficient means comprises a cord **19** which is wound onto an intermediate portion of the spindle **17**. To facilitate cord spinning of the top, the wall **13** is provided at the launching station with a cord clearance opening **20** through which the pulling end portion of the cord is adapted to extend while the stem **17** bears against the inside of the wall which serves as a backstop therefor in solid areas of the wall above and below the opening. For maintaining the spindle **17** vertical while applying propelling power through the cord **19**, the inside of the wall in alignment with the opening **20** is desirably provided with a vertical bearing groove **21** which intersects and has respective portions above and below the opening with the upper portion running out at the upper end of the wall **13**, and in which groove the perimeter of the spindle **17** is engaged (FIG. **4**). The cord **19** is desirably wound only on the intermediate area of the spindle leaving the upper and lower portions thereof free to engage in the bearing groove **21**.

During the propelling action on the top **10** by means of the cord **19**, the head **14** must be above and clear from interference with the upper edge of the wall **13**. In order to provide for this and yet have the top head located below the top of the wall during play, means are provided adjacent the lower end of the groove **21** to support the spindle tip **18** with the top in proper position for spinning motivation by placing the spindle **17** in the groove **21** and holding the top in place by putting the finger of one hand on the crown of the head **14** to prevent the top from falling inwardly until pulling, spinning pressure is exerted through the wound cord **19**

by means of the other hand. Such supporting means are desirably in the form of a shoulder **21***a* at the lower end of the vertical groove **21** which is of a depth about half the diameter of the spindle **17** so that the shoulder will support about half the area of the tip end of the spindle so as to hold the bottom surface of the top head **14** above the edge of the wall **13** during the top propelling action.

During the top propelling action the player may in part grasp and either thereby or by pushing down on the top of the head **14** cause the tray-like platform, which is tiltably mounted as will be more particularly described hereinafter, to tilt downwardly at the front. Therefore, ramp means are provided to lead the spinning top away from the wall **13** even though the platform is tilted downwardly and forwardly. For this purpose, a starting or launching ramp **22** (FIGS. **2** and **4**) is provided in line with the shoulder **21***a* and comprises a ramp surface which is in the form of a generally concave groove in transverse section and extends from the shoulder **21***a* on a slope which is preferably at least slightly concavely curved and steep enough to slope rearwardly away from the wall **13** even when the platform is tilted to the maximum permissible extent downwardly and forwardly. Thereby the spindle will run away from and clear the wall **13**. Then, to maintain control of the top, the launching ramp surface extends for a substantial distance beyond the initial sloping portion thereof in a longitudinal bottom plane which is preferably parallel with the playing surface **12**. Thereby, the parallel portion of the ramp surface **23** will, when the playing surface is tilted downwardly forwardly extend in an upward and rearward direction whereby the top is held against running off the inner or rearward end of the ramp until the platform is tilted up to enable such running off. After the spinning top **10** reaches the playing surface **12**, it is adapted to contact the targets **11** for scoring purposes.

According to certain specific features of the invention, the targets **11** are desirably arranged to be located at predetermined places with respect to the playing field surface **12**, to be contacted by the head periphery **15** of the top, and in such a manner as to be free from contact by the spindle **17**, to the end that only while the top **10** is spinning in an upright position will such contact with the targets be possible and when the top loses momentum and falls over or for any reason trips and falls over neither the spindle **17** nor the head **14** will, unless moving exceptionally erratically, make contact with the targets. To this end, the targets **11** are supported on respective posts or pedestals **24** at an elevation in line with the top head **14** when the latter is in upright spinning position. In one desirable form, the targets **11** are respective balls or marbles, and each of the pedestals **24** has a crown cavity **25** providing a shallow cradle in which the respective target marble is received and held gravitationally against being displaced by ordinary jarring or even substantial tilting of the playing surface **12** from which the pedestals rise in fixed locations relative to one another. The pedestals **24** may be of any of numerous and varied forms and preferably are of smaller diameter throughout their lengths than diameter of the ball targets. In one desirable form, as illustrated, the pedestals are of generally golf tee shape pegs having lower end portions mounted fixedly or removably in respective sockets **27** (FIG. **5**) in the board which provides the playing surface **12**. On their crowns, the pedestals are desirably of smaller diameter than the diameter of the target balls or marbles **11**, and the height of the pedestal crowns in slightly lower than the lower surface of the top head **14** when it is spinning in upright position. Thereby anyone of the target marbles **11** is adapted to be displaced to drop off of its pedestal when nudged with moderate force just enough to roll the marble off of its seat **25**. When spinning at high velocity, the top perimeter **15** tends to effect counterspinning of any contacted target marble **11** to accelerate displacement of the target.

In order to heighten game interest, different scoring values may be assigned to different ones of the target members **11** which may be identifiable in various ways such as by color differentiation or suitable indicia. For example, certain of the targets **11** may be designated and identified as counters or affirmative scoring targets, while others may be in the relationship of negative or score-reducing targets. In one arrangement, as shown, certain of the pedestals **24***a* may be differentiated to present scoring targets, being indicated as of red coloration, while the remaining pedestals **24** may be of a different color or white to represent negative or score-reducing target locations. Further, the arrangement may be such that the scoring targets are guarded by score-reducing targets.

While the arrangement lends itself to haphazard scoring by the running top, game interest is substantially heightened by introducing an element of skillful control of the top into the game. While various and sundry means for controlling movements of the top will readily suggest themselves, the launch-controlling ramp surface **23** is one such means since it causes the top, in the arrangement shown, to initially run past two groups of the targets **11** at each side thereof, so that the top must run back at either side of the ramp in order to contact those targets.

Another and major means for controlling movements of the spinning top relative to the targets comprises mounting the playing surface **12** for controlled gravitational bias guiding or running of the upright spinning top **10** relative to any selected target or group of targets. In the specific arrangement shown, the player will endeavor to control running of the top in such a way as to avoid displacing any of the score-reducing or guarding targets while effecting displacements selectively of the scoring targets. For this purpose, the board which provides the playing surface **12** is in the form of a platform supported universally tiltably. While the arrangement may be such that the game board platform may be tiltably mounted within and relative to the encompassing vertical wall **13**, a preferred arrangement comprises having the playing board field platform integral as a tray bottom with the wall **13** and tiltably connected with a stable base **28** (FIGS. **2** and **3**). Where, as in the illustrated example, the game board tray is rectangular, the base **28** may be of complementary, but desirably smaller rectangular form in underlying relation to the playing surface board. On its bottom, the base **28** may be provided with supporting foot pads **29**. In a simple highly maneuverable mechanism, the playing board is centrally mounted in spaced relation over the base **28** on a ball swivel support or suspension device S for

universal tilting movement. Tilting is controlled by a pair of control rods **30** which have straight bodies mounted rotatably on the base **28** in normal angular relation to one another so that by ambidextrously manually rotating the rods bi-axial movements of the playing field board can be effected relative to the base **28**. For this purpose, the base **28** comprises a panel having a marginal quadrangular bar frame **31** on its upper face, and which frame provides a respective bearing slot or groove **32** in its face confronting the base panel for each of the rods **30**. One of such bearing grooves **32** extends from the front edge of the frame **31** adjacent to one corner and parallel with the side which joins the front edge at that corner. The other bearing groove **32** extends inwardly from the opposite side edge of the frame adjacent to the opposite front corner and parallel with and in the front bar of the frame. Midway along the frame bar with which each of the respective rods **30** is associated, a connecting arm **33** extends at right angles therefrom outwardly through a vertically elongated clearance slot **34** in the frame bar in alignment with a vertical plane along a respective horizontal axis of the base **28**, while the corresponding arm **33** of the other of the rods extends outwardly from the frame on another vertical plane along a horizontal axis of the base **28** which is normal to the first-mentioned horizontal axis. Each of the arms **33** has an outer terminal portion **35** which is desirably at a slight angle to the major extent of the arm **33** but lying in the associated vertical axis plane. Each of the terminal portions has a preferably ball joint type journal head **36** engaged for slidable longitudinal movement within a bearing bore **37** of a bearing block **38** fixed to the bottom of the playing field board. Through this arrangement the playing field board is supported in spaced relation to the base frame **31** and is tiltable relative to the base frame bi-axially by relative rotary manipulations of the rods **30**. To facilitate such rotation, each of the rods **30** has operating handle means thereon comprising an outer end angular upwardly projecting arm extension **39** desirably having a terminal handle knob **40** and operationally located in clearance relation at the outer side of the adjacent portion of the wall **13**. By operating the rods ambidextrously inclination of the playing surface **12** can thus be controlled to control running of the top **10** toward, past, around, between and into contact with selected of the targets **11** in the course of play, depending upon the skill of the player in operating the tilting mechanism. Maximum tilting in any direction is limited by the space between the bottom of the playing field board and the top of the frame **31** serving as a limit stop.

In order to further increase game interest, additional means for controlling movements of the spinning top **10** relative to the targets may comprise obstacles which the spindle **17** must circumvent as it moves over the playing surface **12** relative to the targets **11**. To this end, at strategically located positions, respective obstacle devices herein comprising low disks **41** may be located each having a bumper rim **42** desirably of friction material such as may be afforded by a rubber O-ring. Should the high velocity spinning spindle **17** contact the friction rim **42** it will generally react rather violently to scoot off in a relatively uncontrolled manner virtually certain to cause the top to displace one or more of the count-reducing or penalty targets **11**. By way of example, one of the fixed obstacles **41** may be located centrally of the playing surface **12** and aligned with the ramp **22** whereby to provide a first movement-controlling hazard in the path of the top as it runs in the limited space between the end of the ramp and the obstacle. Furthermore, this first obstacle **41** may be within a group or cluster of the targets **11** having negative or score-reducing value past which the top **10** must be guided in a careful, generally sinuous path to avoid upsetting one of these negative targets. Additional of the obstacles **41** may be located in other areas of the playing field, such, for example, as hazards in approach of the running top toward respective pairs of scoring targets on their pedestals **24***a* near the rear corners of the playing field. In a desirable arrangement, the center obstacle disk **41** may serve as a nut for attaching a screw stem of the swivel device S to the playing board (FIG. **6**).

To facilitate recovery of the marble targets **11** that have been displaced onto the playing field surface, the wall **13** is provided adjacent to one corner thereof with a discharge opening **43** (FIGS. **1** and **3**) and with the lower edge portion of the opening aligned with and preferably slightly stepped down from the adjacent edge of the surface **12**. Normally the discharge opening **43** is blocked by removable gate means herein comprising a pin **44** which extends downwardly through a bore **45** from the upper edge of the wall **13** to the upper edge of the opening **43** and with the lower end of the gate pin preferably resting on the lower edge defining the opening. When it is desired to retrieve target marbles through the opening **43**, the gate pin is drawn upwardly to clear the opening, and for this purpose may be provided with a head end digitally manipulatable knob **47**. By tilting the playing surface **12** slightly toward the opening **43** displaced target marbles can be caused to roll out of the discharge or target retrieving opening **43**.

From the foregoing it will be apparent that the present invention provides a novel spinning top and target game having a number of unique features, including targets on posts or pedestals in a manner to be engaged by only one part of the top. Playing skill is challenged in several ways as by controlling movements of the spinning top relative to the targets during launching of the top onto the playing field, by guiding the top in running on the playing field as by tiltably maneuvering the playing field, and by placing one or more obstacles as hazards that must be circumvented on the playing field. In a more specific sense the invention provides a novel spinning top and marble game. Construction of the game device involves relatively simple and inexpensive parts, and considerable flexability is afforded for various degrees of sophistication both in the apparatus and in the mode of playing the game. While simple and readily available materials such as hard pressed board, wooden pieces, plastic parts and simple metal parts, rubber O-rings, cord, and the like, may be utilized in constructing the device and its appurtenances, greater sophistication may be incorporated in the structure if desired. For example, instead of having the target members displaceable, they may be permanent and in the form of electrical contacts which will record on a score board or other scoring device when contacted by the head of the top serving as a contact to complete an

electrical circuit through the playing field surface which may be connected to one side of an electrical circuit while the targets are connected to the other side of the circuit.

It will be understood that variations and modifications may be effected without departing from the spirit and scope of the novel concepts of this invention.

I claim as my invention:

1. In combination in a spinning top and marble game:

a board with side walls, said board providing a playing surface,

a spinning top having a disc shaped head of substantial diameter and a depending supporting spindle of substantially smaller diameter having a running tip on its lower end engagable with said board for spinning movement over the top of the board on the playing surface,

a plurality of pedestals having marble seats at their upper ends and supported at spaced locations on said surface with the seats at a slightly lower elevation than the underside of said top head while said top is running in upright position so that the spinning top may move with its head over the top of said pedestals to engage the pedestals with said spindle,

target marbles to be carried on said seats and adapted to be nudged by said spinning top head to drop from seats onto said surface,

a plurality of disc shaped flat obstacle members positioned on said surface in fixed locations and being of a height less than the height of said top head so that the spindle of the top must move around said discs for the top to reach the pedestals,

top launching means adjacent one of said walls with an opening through said one wall through which a propelling cord to be wound on said spindle is adapted to be pulled for spinning the top,

an inclined ramp having one end adjacent said one wall and extending into the playing surface to a launching end with its highest portion at said one end and being of a width narrower than the playing surface with pedestals located laterally beside the ramp closer to said one wall than said launching end so that the top may move either beyond the ramp or laterally at either side of the ramp,

said ramp having a concave groove so that the top will move centrally down the ramp off said launching end,

gate means through one of said walls for removal of the marbles from the board, and

means for tilting the board and side walls to tilt the playing surface.

2. In combination in a spinning top and marble game constructed in accordance with claim 1 wherein said disc shaped obstacle members have friction material around the edge to cause the top to scoot off when it engages a member.

3. In combination in a spinning top and marble game constructed in accordance with claim 1 wherein said gate means has a vertical pin wherein movement of the marbles may be blocked when in a closed position and the marbles are permitted to pass through when in an open position.

4. In combination in a spinning top and marble game constructed in accordance with claim 1 wherein said tilting means includes a lateral ridge secured to the lower surface of said board supporting the board at the side walls so that the unit may be rocked back and forth for tilting.

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