

[54] MAZE GAME

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[51] Int. Cl. A63F 9/14

[58] Field of Search .273/1 M, 153 R, 153 S; 272/19; 46/240

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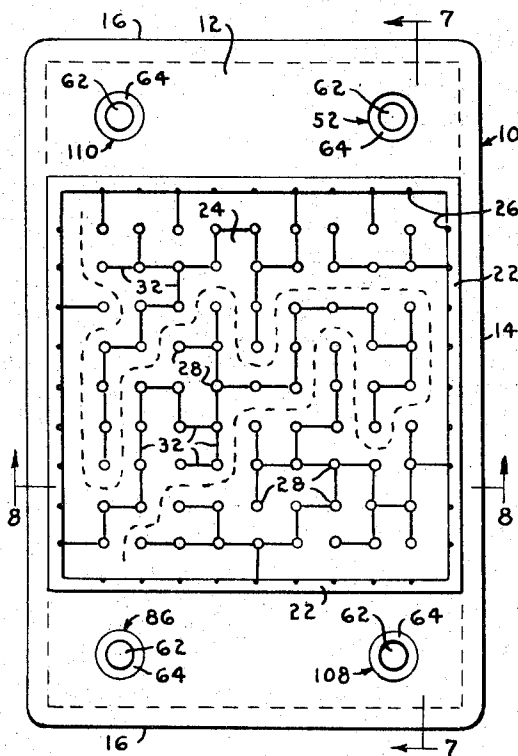
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 Assistant Examiner—Paul E. Shapiro
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[57] ABSTRACT

A maze game apparatus in plurality a apparatus comprises of players may participate in playing the game. The game apparatus comprises movable components to change the pattern of the maze on the game board. A pulley system beneath the game board for moving a magnet in either direction of the x coordinate, in either direction of the y coordinate and any resultant direction therebetween. The movement of the magnet beneath the game board attracts a freely movable metallic ball on the game board to follow through the maze. A plurality of knobs are provided on the game board, each of which controls the movement of the magnet in an x coordinate direction and a y coordinate direction so that a plurality of players may participate by controlling the movement of the magnet in a coordinate direction with the result that all players must cooperate to lead the ball through the maze.

6 Claims, 12 Drawing Figures



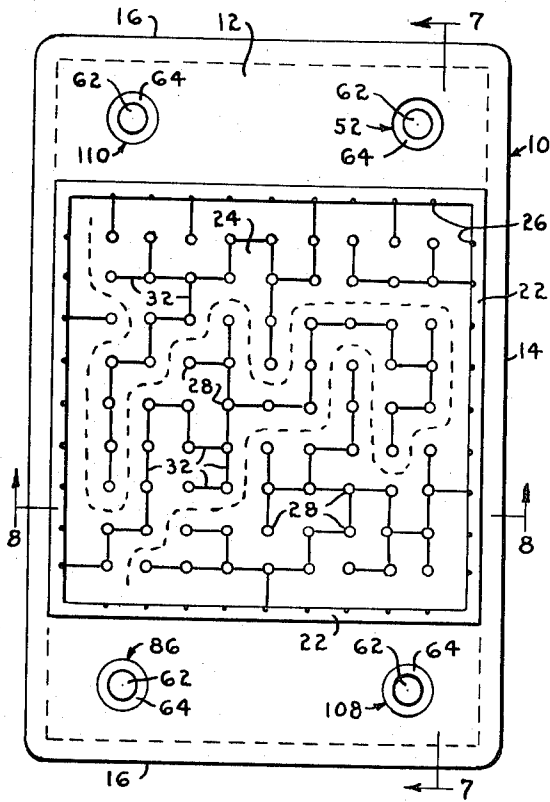


Fig-1

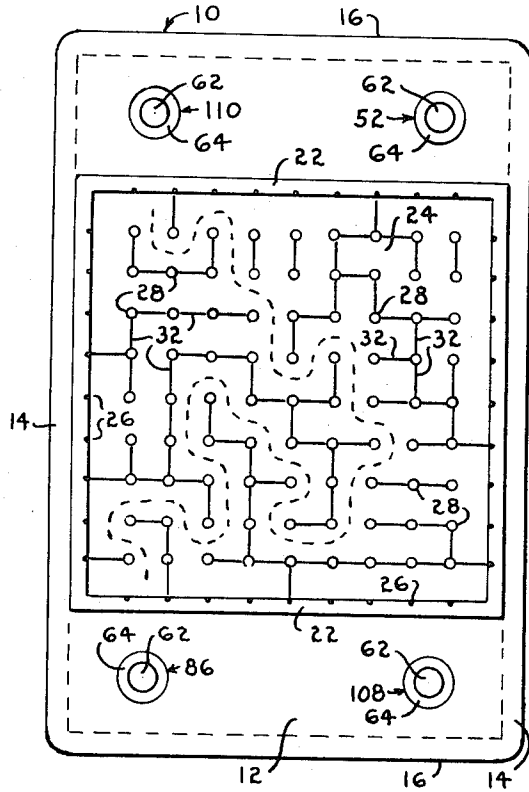


Fig-2

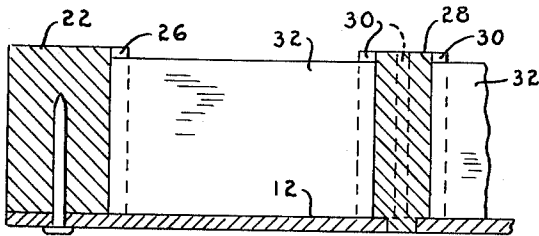


Fig-3

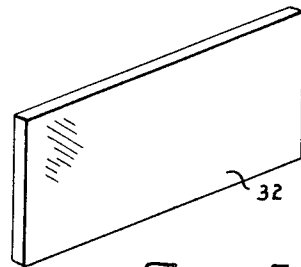


Fig-5

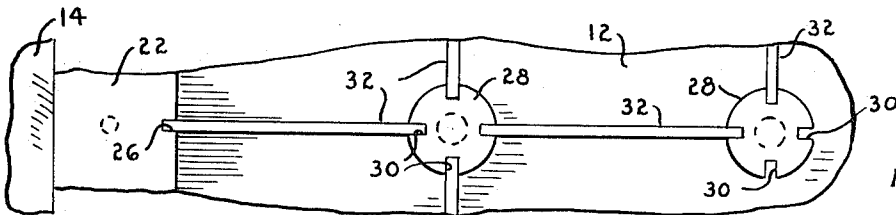


Fig-4

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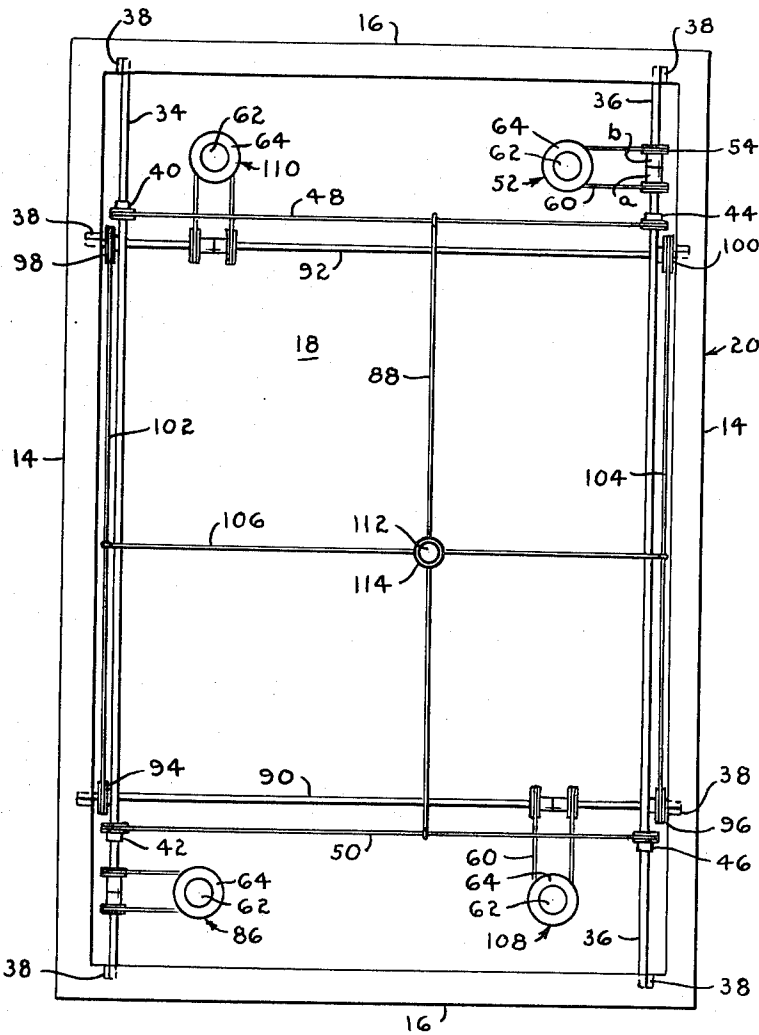


Fig.-6

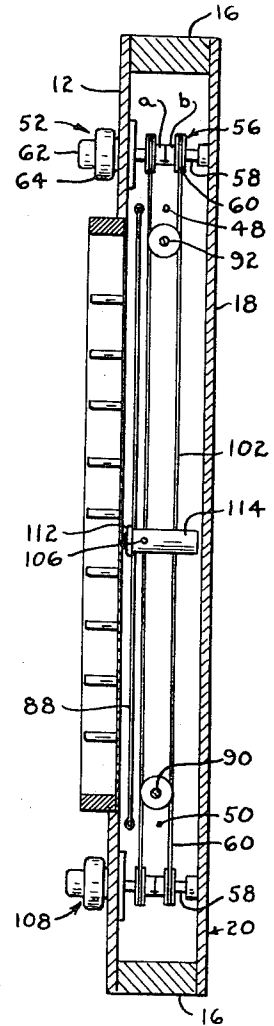


Fig.-7

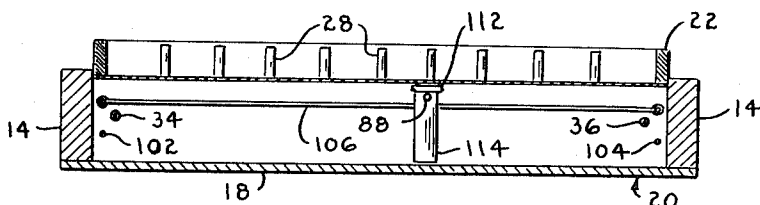


Fig.-8

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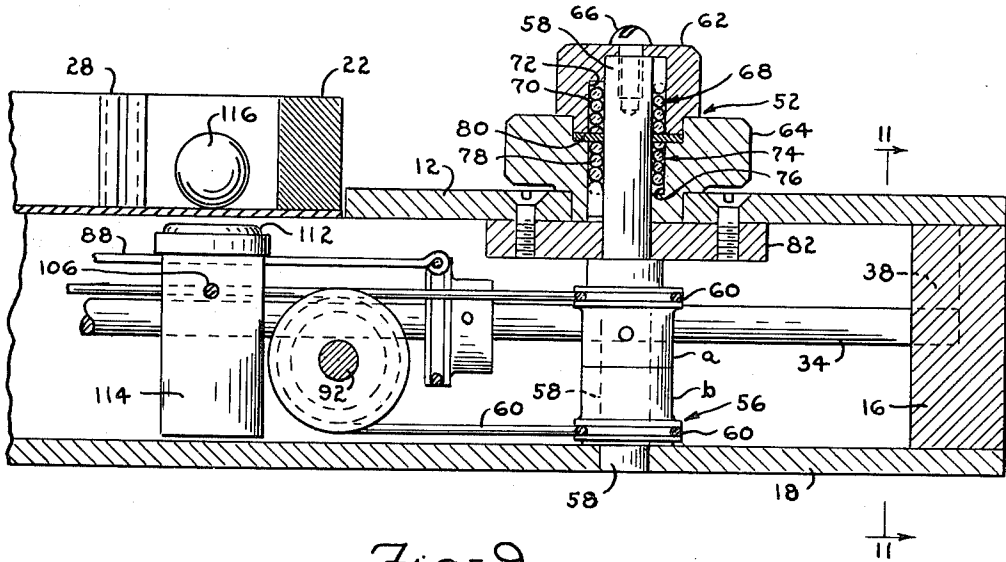


Fig. 9

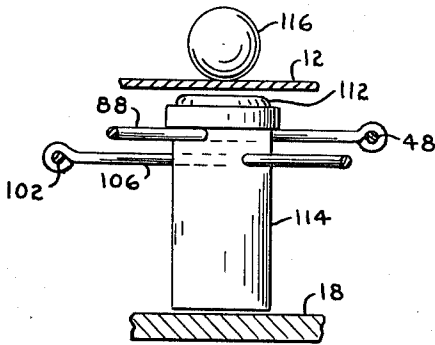


Fig. 10

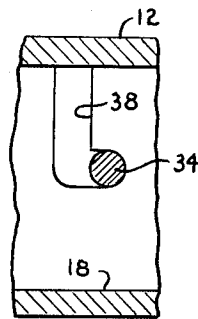


Fig. 11

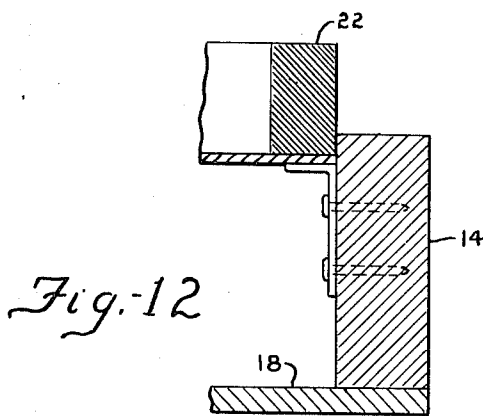


Fig. 12

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MAZE GAME

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a game and more particularly to a maze game in which a plurality of players may participate in playing the game.

2. Description of the Prior Art

Maze games of the prior art, that I am aware of, conventionally provide a fixed maze pattern and a single player has control of the object which is moved through the passageway of the maze. Such a game may hold the interest of the player while the outcome of the labyrinth or maze is unknown. As soon as the open path to the goal is found, and becomes known through repetition, the goal is easily achieved and interest in the game is lost. Even if the maze pattern is changeable, a single player by acute observation may see the open path through the maze and directing the movable object through the maze is very easily accomplished thereby diminishing the suspense and excitement of discovering the open path through the maze by trial and error, with the consequent loss of interest in the game.

SUMMARY OF THE INVENTION

Accordingly, I have invented a new and novel labyrinth or maze game having movable components to change the pattern of the maze. I also provide a plurality of controls to be manipulated by a plurality of players so that each player exercises some control over the movement of the object made to traverse the maze. One of the unpredictable features of my game is that each player's solution to the maze must be the same to make the combination of successful movements necessary to propel the movable object through the maze. Since a multiplicity of participants will tend to inhibit the rapid finding of the solution to the maze, the suspense will be heightened and the interest in the game will be kept at a high level indefinitely.

Even though one player may memorize an unobstructed path through the maze from start to finish, or readily observe such a path by acute observance or by studying the maze, the odds are very great against all the players, for example, four, observing the same unobstructed path through the maze. Since each player is responsible for at least one directional movement of the object, such as a ball, through the maze, movement by one player away from a path intended by another player will be more readily the case, thereby prolonging the game, increasing the suspense and therefore the interest in the game of my invention. Also, by providing more than one unobstructed path through the maze from start to finish, the options presented to more than one player increase because each participant will, more likely, observe a different unobstructed path through the maze if available, and, therefore, each will attempt to guide the ball through the path that each individual observes as unobstructed. Since there can be more than one unobstructed path through the maze, the different players will attempt to guide the ball from an unobstructed path contemplated by one through the unobstructed path contemplated by another at intersections of two unobstructed paths, thereby heightening suspension and unpredictability of the ultimate success of guiding the ball through the maze.

I accomplish the objectives of my invention by providing a board with a maze area within the borders of which are provided upright pegs regularly spaced therein, each of the pegs are quadrilaterally slotted so that the aligned slots of adjacent pegs may receive a rectangular member which serves as a partition blocking the space between the pegs. These partitions are easily inserted in and withdrawn from the pegs and by arranging the partition in the slots of adjacent pegs, a maze pattern may be constructed to provide one or more unobstructed paths through the maze from one end to the other end. The maze may be changed at will by rearranging a few or more of such partition members. A metallic ball is provided to traverse the maze. Concisely stated, the game of my invention is a top playing board having depending sides and ends and a bottom to form a boxed cavity under the board. The opposite sides and ends support a pair of parallel shafts. Each pair of parallel shafts are at right angles to each other and are made to rotate by endless belts connecting opposite ends of each pair of parallel shafts. A magnet is carried by perpendicularly disposed guide bars, the ends of which are connected to each pair of endless belts connecting each pair of shafts. The magnet may be moved in either direction of the x coordinate by one of the guide bars while sliding on the other guide bar, and in either direction of the y coordinate by the other of the guide bars while sliding on the one guide bar and, of course, any resultant direction therebetween. Movement of the guide bars is caused by rotation of the shafts. Knob means are provided on the board by which means rotation of the shafts is caused. Pulley belt means connect the knob means in the boxed cavity to the shafts. One knob by means of a pulley device rotates the shaft to which it is connected in one direction. The other knob operates the parallel shaft also by means of a pulley device but in the opposite direction. Two similar knobs operate oppositely rotating pulley devices for the other pair of parallel shafts to accomplish the movement of the magnet in either direction of the $x - y$ coordinates or any resultant thereof. Consequently, a player may participate by controlling one of these knobs, and thereby control the movement of the ball by means of the magnet under the top board only in one direction. Accordingly, to cause the ball to progress through the maze, each of the other players controlling the other knobs must cooperate to successfully guide the ball through the unobstructed path in the maze. This unobstructed path not being determined with certainty because of the difference in solution or lack thereof, in solving the maze by the different players, renders the game of my invention new and novel.

Other objects and advantages of my invention will become more apparent after a more careful study of the following detailed description taken together with the accompanying drawings wherein is illustrated a preferred embodiment of my invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan elevation of the top board of my invention showing the maze;

FIG. 2 is another plan elevation of my invention showing a different maze brought about by changing component parts of the maze;

FIG. 3 is an enlarged side view of a broken section of the maze;

FIG. 4 is a top elevation of the maze board in fragment;

FIG. 5 is a perspective view of a partition member of the maze;

FIG. 6 is a plan elevation of the pulley system contained in the box portion beneath the top board;

FIG. 7 is a sectional side view of this invention, the section being taken along lines 7—7 of FIG. 1;

FIG. 8 is a sectional end view of this invention, the section being taken along lines 8—8 of FIG. 1;

FIG. 9 is a side elevation of a movement control knob and a portion of the pulley system controlled by the control knob, the game apparatus is shown in fragment and longitudinally sectioned;

FIG. 10 is a fragmentary detail of the magnet pedestal member and guide bars which connect to the pulley chords, the magnet is shown in operative relation with a metal or steel ball on the maze surface;

FIG. 11 is a detail of construction showing the slip-in slot for supporting the ends of the pulley shaft, this section is taken along lines 11—11 of FIG. 9; and

FIG. 12 is another detail of construction of the game apparatus of my invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings wherein is illustrated a preferred embodiment of my invention, reference numeral 10 designates my invention generally. It comprises a game board 12 which is generally rectangular in plan. Sides 14 and ends 16 are connected to depend from game board 12 and to which is connected a base 18 to form a shallow box 20. As more clearly shown in FIGS. 1 and 2, game board 12 is provided with an upstanding border 22, rectangularly circumscribing a maze or labyrinth area 24. On the infacing side of upstanding border 22, are formed vertical notches 26 regularly spaced therearound. Provided within the area 24, circumscribed by upstanding border 22, are a plurality of regularly spaced upstanding pegs 28. Each of said upstanding pegs 28 are formed with quadrantly spaced slots 30 as more clearly shown in FIGS. 3 and 4. Upstanding pegs 28 are fixed to game board 12 by any convenient means. Each peg 28 is circumferentially positioned so that the quadrant slots 30 of adjacent pegs 28 are aligned to receive the ends of partition members 32. A sufficient number of spaces between pegs 28 are blocked by partition members 32, the selection is more or less haphazard, to allow at least one tortuous path from one end of the bordered maze area to the other end. Such tortuous path should be arranged so that it will not be easily discernible as a through passage. Slots 30 of pegs 28 adjacent border 22 are aligned with regularly spaced notches 26 in border 22 to receive partition members 32 therebetween. Partition members 32 fit in slots 30 of adjacent pegs 28 and notches 26 of border 22 for easy removal so that the maze pattern may be easily changed.

With reference now to FIGS. 6-11, it will be noted that I provide a shaft and pulley system in the box portion 20 of the game board. The shaft and pulley system of my invention comprises in general two spaced, parallel longitudinal shafts 34 and 36, the ends of which are

seated in the rounded, offset end of slots 38 provided in sides 14 and ends 16 of box 20. Provided near both ends of each longitudinal shafts 34 and 36 are pulleys 40, 42 and 44, 46 respectively. Pulleys 40 and 42 of shaft 34 are laterally aligned with pulleys 44 and 46 of shaft 36 and are rotationally coupled by means of endless belts or chords 48 and 50 respectively, so that when either of shafts 34 or 36 is rotated, the other is made to follow. It is to be noted that the location of pulleys 40 and 42 on shaft 34, and pulleys 44 and 46 on shaft 36 are longitudinally spaced so that transverse belt members 48 and 50 lie outside end border 22 of maze area 24 of game board 12. At one end of longitudinal shaft 36 between pulley 44 and the journaled end of shaft 36, (FIG. 6) a pulley device 52 is provided which comprises a split collar pulley 54, one part thereof designated by the letter *a* being keyed to shaft 36, and the other part thereof designated *b* freely rotates on shaft 36. A similar split collar pulley 56 (FIG. 7) is provided on stem 58, which is positioned upright between base 18 and game board 12 and is rotationally movable. Part *a* of pulley 56 is keyed to stem 58 and part *b* thereof rotates freely on stem 58. An endless belt or chord 60 connects part *a* of pulley 56 and both parts of split collar pulley 54, doubling back to part *b* of pulley 56. The top end of stem 58 extends above game board 12 and is provided with knob members 62 and 64. As more clearly shown in FIG. 9, knob member 62 is axially connected to stem 58 by means of screw 66 and rotationally connected thereto by means of stepless ratchet device 68 which is in the form of a closely wound coil spring 70 around stem 58 within a clearance space 72 provided by enlarging a portion of the center hole of knob member 62. One end of coil spring 70 is anchored to knob 62 and the other end thereof is free to allow knob member 62 to rotationally slip on stem 58 in one direction (counterclockwise in viewing FIG. 9 from the top) but frictionally bind on stem when knob 62 is rotated in the opposite direction (clockwise) causing stem 58 to rotate with knob 62. Also mounted on stem 58 for rotational movement relative thereto is knob member 64. Knob member 64 is rotationally connected to stem 58 by means of stepless ratchet device 74 positioned on stem 58 with a clearance space 76 provided in knob member 64. Coil spring 78 which forms the stepless ratchet 74 has its anchored end embedded in knob member 64. Slip washer 80 is provided between knob 62 and knob 64. Stepless ratchet 74 is positioned on stem 58 axially reversed from stepless ratchet 68 of knob 62 so that knob member 64 may be freely rotated on stem 58 in a clockwise direction and frictionally bind on stem 58 when knob 64 is rotated in a counterclockwise direction. This construction allows the rotation of stem 58 in one direction when knob 62 is rotated and allows rotation of stem 58 in the opposite direction by rotation of knob 64. Retainer plate 82 is connected to the under side of game board 12 by means of screws to axially space the pulley and knob members.

I provide a similar pulley device 86 for driving longitudinal shaft 34. I prefer to provide such pulley device 86 at the end of longitudinal shaft 34 opposite that of shaft 36, between pulley 42 and the end thereof seated in the offset of slot 38 in end 16 of the game apparatus of my invention. Each part of pulley device 86

is identical in structure and operation with the pulley device 52 described for shaft 36.

Connected to the top strand of endless belts or chords 48 and 50 is guide bar 88. A second pair of parallel, spaced shafts 90 and 92 are rotatably seated in the offset of slotted recesses 38 provided in depending sides 14 in the manner similar to shafts 34 and 36. Pulleys 94, 96 and pulleys 98, 100 are fixed to the ends of shafts 90 and 92 respectively. Pulleys 94, 98 and pulleys 96, 100 of shafts 90 and 92 respectively, are laterally aligned and are rotationally coupled by means of endless belts 102 and 104 to rotate the second pair of shafts in unison. Here again, pulley belts 102 and 104 lie beyond the confines of border 22 of the maze area 24 of game board 12. Guide bar 106 is positioned normal to pulley belts 102 and 104 and the ends thereof are connected to the top strand of these pulley belts, and moves laterally therewith. Shafts 90 and 92 are rotated by means of pulley devices 108 and 110 which are identical in structure and operation with pulley device 52 heretofore described. The top control knob 62 and bottom control knob 64 of pulley devices 108 and 110 operate to rotate shafts 90 and 92 in a direction which are opposite to each other.

Magnet 112, as best shown in FIGS. 9 and 10, is mounted on block 114 and is located contiguous to the bottom surface of game board 12. It is further to be noted, with reference to FIGS. 9 and 11, that slotted recesses 38 in sides 14 and ends 16 of game board 12 are formed so that the ends of shafts 34, 36, and shafts 90, 92 may be slipped down therein where it is seated in the offset portion for rotation. This preferred construction is not necessary, but it obviously provides ease in assembly, effective in retention and economical to manufacture. It will be further noted from FIG. 12 that the game board of my invention is constructed in the simplest fashion. Block 114 is formed with a diametral hole through which guide bar 88 passes and on which block 114 slides when moved parallel therewith. A second diametral hole is provided in block 114 for receiving therethrough second guide bar 106. This second diametral hole is located vertically spaced slightly from the first diametral hole and positioned perpendicular thereto.

Now with reference to FIGS. 1 and 6 it will be noted that control knob 62 of pulley device 52 controls the rotation of shaft 36 in one direction to move magnet 112 to the right, for example, by moving guide bar 88 to the right and sliding longitudinally on guide bar 106. Rotation of control knob 62 of pulley device 86 causes the same action. Rotation of control knob 64 of pulley devices 52 and 86 results in moving magnet 112 to the left. Control knobs 62 of pulley devices 108 and 110 rotate shafts 90 and 92 in one direction, say for example, toward the top of the drawing (FIG. 6) by moving guide bar 106, the ends of which are connected to endless belts 102 and 104; and magnet 112 toward the top of the drawing, sliding on guide bar 88. Control knobs 64 of pulley devices 108 and 110 rotate shafts 90 and 92 in the opposite direction so that guide bar 106 and magnet 112 move in the opposite direction, that is toward the bottom of the drawing, sliding on guide bar 88. Therefore, with the pulley system so constructed and arranged, one control knob, for example, knob 62 of pulley devices 108 and 110 controls the magnet 112

for movement in one vertical direction as viewed in FIG. 6, knob 64 of pulley devices 108 and 110 controls the magnet 112 for movement in the other vertical direction. The movement of more than one control knob 62 and 64 at the same time will cause magnet 112 to move in a resultant direction.

With reference to FIGS. 1 through 5, my invention is operated by inserting a plurality of partition members 32 in aligned slots 30 of adjacent pegs 28 to provide a maze so that one or more labyrinth paths extend from one end of the maze area to the other end thereof. A steel ball 116 or other rolling object which is magnetically attractable is used to seek out the unobstructed passage through the maze. One player may play the game of my invention by being stationed at either end of the game board and by controlling knobs 62 and 64 of pulley device 52 for example, with one hand, he may control the movement of magnet 112 and ball 116 in a left-right direction. By controlling knob 64 of pulley device 110 with the other hand, magnet 112 may be moved in the up or down direction as viewed in FIG. 6, or any resultant direction by combining the two movements. This same result may be obtained by operating the knob members at the other end of the game board at pulley devices 86 and 108. Two players may participate in the game of my invention if one player at one end of the game board will control only one set of knobs, that is knobs 62 for example, of pulley devices 52 and 110, and the player at the other end of the game board will control only knobs 64 of pulley devices 86 and 108. It further follows that four players may participate either individually or as teams whereby one team controls knob 62 and knob 64 at one end of the game board and other team controls knob 62 and 64 at the other end of the game board. The excitement of the game and the unpredictable nature thereof arises from the fact that to get ball 116 through the unobstructed path through the maze, all participants must successfully cooperate, not only in determining the unobstructed passage through the maze but also control his directional movement to combine with the directional movement of another participant to guide ball 116 through the maze. To avoid a maze pattern which may be learned by one of the participating players, partition members 32 may be removed from slots 30 of pegs 28 and rearranged to form a different maze as shown in FIG. 2. The game of my invention not only provides a structure whereby the maze pattern may be changed at will, but also provides a structure and arrangement of parts which are not only simple and economical to manufacture, but provides means and method for entertaining a group of players by requiring a complicated and unpredictable combination of coordinated movement by each player to guide ball 116 through the maze. The coordinating skill required of each player is such that the game of my invention maybe adapted for testing purposes to determine coordination, rapid thinking, frustration, ability to predict and react and many other applicable psychological or neurological data.

I claim:

1. A game apparatus comprising:
 - a board surface member;
 - depending side members and end members on said board member;
 - peg members upstanding on said board surface member regularly spaced thereon;

each of said plurality of pegs having slots circumferentially spaced around said pegs;
 each of said slots in said plurality of pegs being aligned with a slot of an adjacent peg;
 a plurality of partition members removably fitted in some of said aligned slots of adjacent pegs to provide at least one labyrinth path on said board surface;
 a pair of knobs on said board surface member, and a second pair of knobs on said board surface member;
 a pair of shafts rotatably supported at their ends by said depending end members;
 a second pair of shafts supported at their ends by said depending side members;
 pulley belt means around said pair of shafts adjacent their ends to rotatably couple said shafts;
 a second pulley belt means around said second pair of shafts adjacent their ends to rotatably couple said second shafts;
 bar members connected to said pulley belt means and said second pulley belt means to laterally move therewith;
 a pedestal member slidably movable on each of said bar members;
 a magnet on said pedestal member carried thereby contiguously adjacent beneath said board member;
 said pair of knobs being rotationally coupled to said pair of shafts;
 one of said pair of knobs being rotationally coupled to one of said pair of shafts to rotate said shaft in one direction, and
 the other of said pair of knobs being rotationally coupled to said one of said pair of shafts to rotate said shaft in the other direction; and
 said second pair of knobs being rotationally coupled to said second pair of shafts;
 one of said second pair of knobs being rotationally coupled to one of said second pair of shafts to rotate said shaft in one direction, and
 the other of said second pair of knobs being rotationally coupled to said one of said second pair of shafts to rotate said shaft in the other direction; and
 a rolling element on said board surface attractable to said magnet beneath said board surface member.

2. The game apparatus of claim 1 wherein the board surface member is further characterized as having an upstanding border circumscribing an enclosed area between the ends of said board member, said upstanding border having slots spaced therearound.

3. The game apparatus of claim 2 wherein said pegs are further characterized as having slots quadrantly spaced around said pegs and each of said slots in said border being aligned with a slot in an adjacent peg.

4. The game apparatus of claim 1 wherein said pair of knobs is further characterized as being in pairs on

said board surface member at one end thereof; and said second pair of knobs is also characterized as being in pairs on said board surface member at the other end thereof.

5. The game apparatus of claim 1 wherein said pair of shafts are at right angles to said second pair of shafts; and said bar members are at right angle to each other

6. A game apparatus comprising:
 a board surface member below said board surface member;
 side members and end members;
 peg members upstanding on said board surface member regularly spaced thereon;
 each of said plurality of pegs having slots circumferentially spaced around said pegs;
 a plurality of partition members removably fitted in some of said slots of adjacent pegs to provide at least one labyrinth path on said board surface;
 a plurality of knob means on said board surface member;
 a pair of shafts rotatably supported at their ends by said end members;
 a second pair of shafts supported at their ends by said side members;
 pulley belt means around said pair of shafts adjacent their ends to rotatably couple said shafts;
 a second pulley belt means around said second pair of shafts adjacent their ends to rotatably couple said second shafts;
 bar members connected to said pulley belt means and said second pulley belt means to laterally move therewith;
 a pedestal member slidably movable on each of said bar members;
 a magnet on said pedestal member carried thereby contiguously adjacent beneath said board member;
 a pair of said plurality of knob means being rotationally coupled to a pair of shafts;
 one of said pair of knob means being rotationally coupled to one of said pair of shafts to rotate said shaft in one direction, and
 the other of said pair of knob means being rotationally coupled to said one of said pair of shafts to rotate said shaft in the other direction; and
 a second pair of said plurality knob means being rotationally coupled to said second pair of shafts;
 one of said second pair of knob means being rotationally coupled to one of said second pair of shafts to rotate said shaft in one direction, and
 the other of said second pair of knob means being rotationally coupled to said one of said second pair of shafts to rotate said shaft in the other direction; and
 a freely movable element on said board surface attractable to said magnet beneath said board surface member.

* * * * *