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Grasham

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[54] **SOLITAIRE TIC-TAC-TOE GAME**

[76] Inventor: **James A. Grasham,** P.O. Box 207, Eugene, Oreg. 97401

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[51] **Int. Cl.** **A63f 3/00**

[58] **Field of Search**..... 273/153 R, 160, 130, 131, 273/134, 132, 136 R, 136 E, 136 F, 136 R, 136 H, 136 G, 136 GB, 136 Z, 137 R, 137 C, 137 D, 137 B, 109, 110, 113, 115, 156, 157 R, 160

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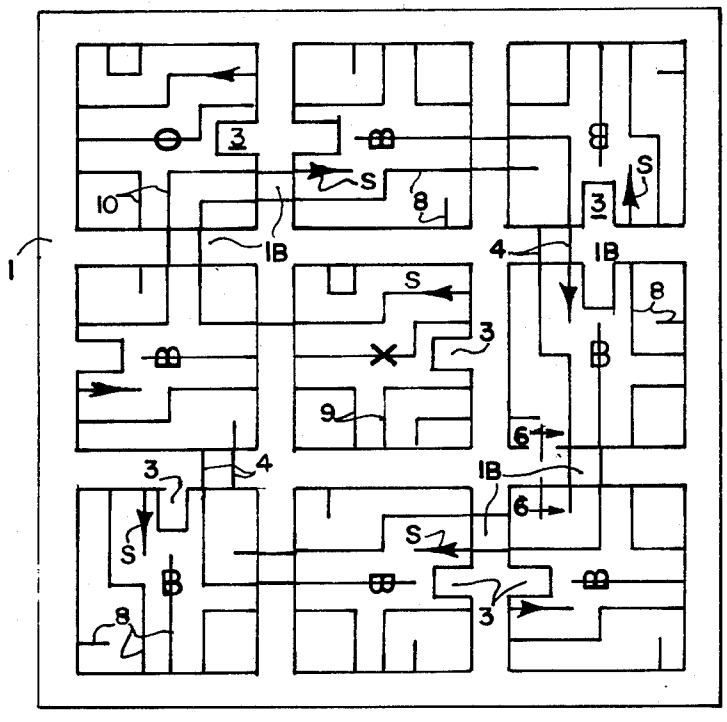
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Primary Examiner—Richard C. Pinkham
Assistant Examiner—Harry G. Strappello

[57] **ABSTRACT**

A TIC-TAC-TOE type game where moves for one of the players can be computed. In the game there are counters for each player to mark his position on a playing board. In addition, there is a series of counters used to mark positions on the board not occupied by the players. All counters have grooves on them and there is a stylus for travel over the grooves. A player's moves are computed by moving the stylus over the grooves until it stops on one of the counters that belongs to none of the players.

20 Claims, 10 Drawing Figures



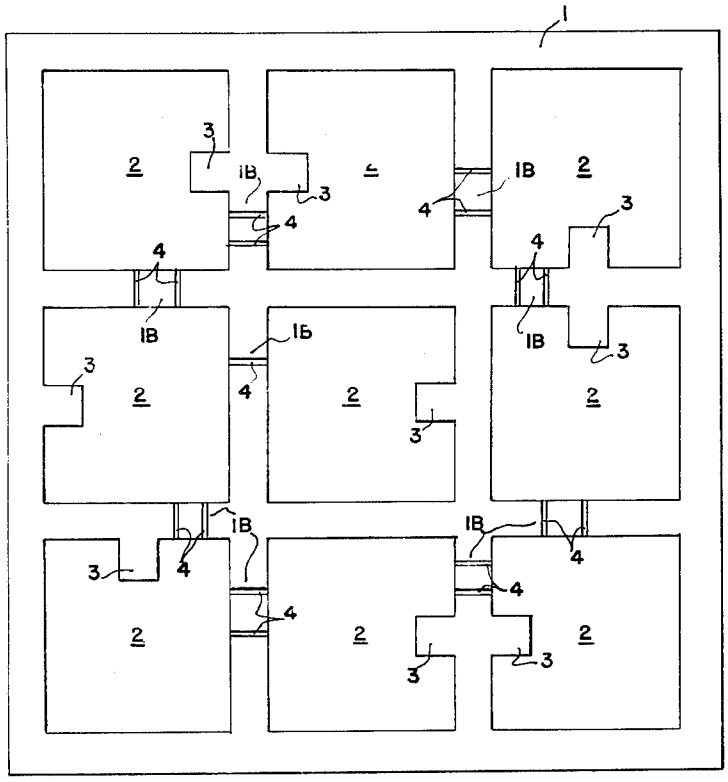


FIG. 1

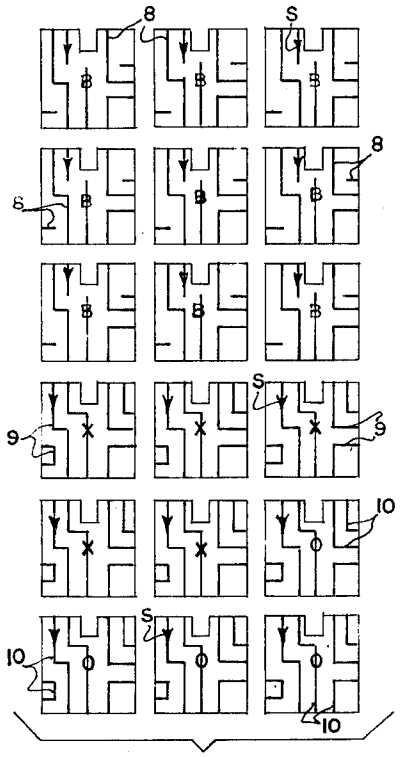


FIG. 2

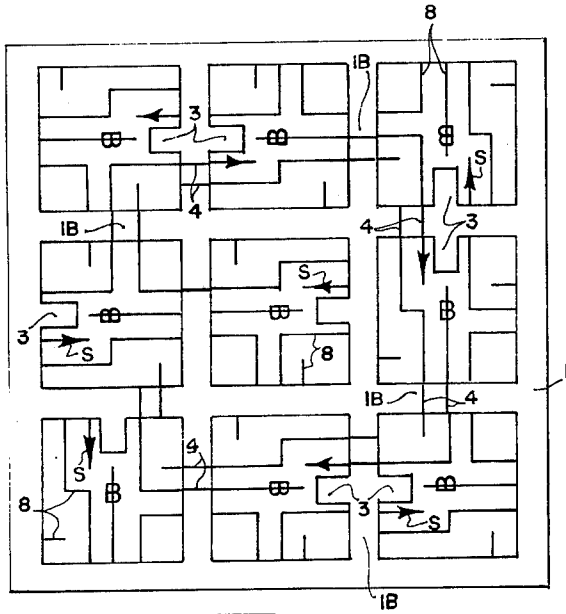


FIG. 4

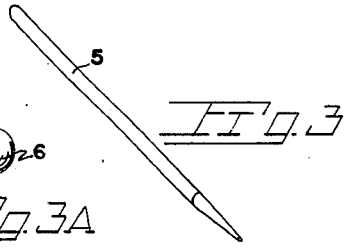


FIG. 3



FIG. 3A

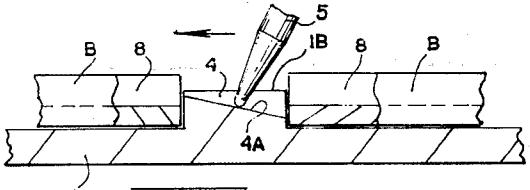


FIG. 6

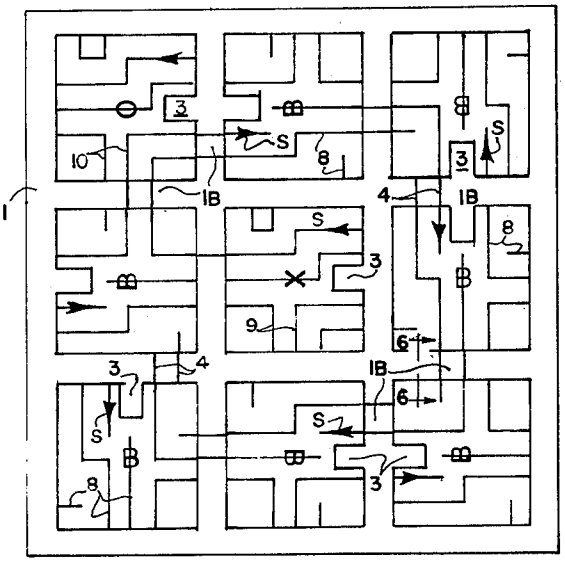


FIG. 5

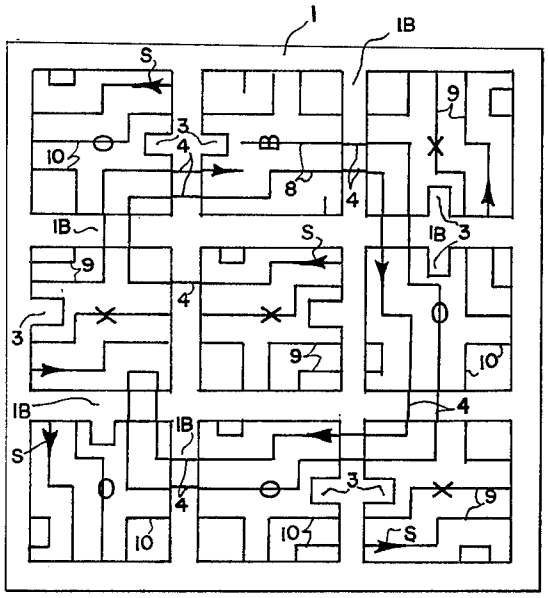


Fig. 7

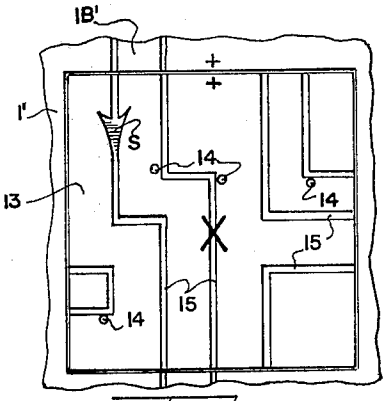


Fig. 8

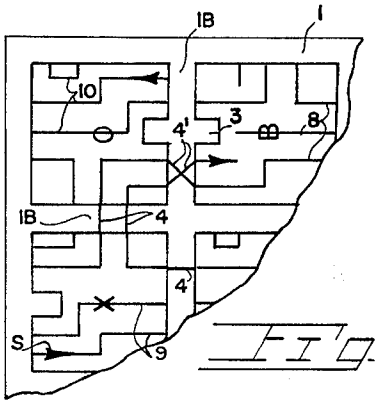


Fig. 7A

SOLITAIRE TIC-TAC-TOE GAME

BACKGROUND OF THE INVENTION

The present invention relates generally to a game device capable of solving a series of problems, as for example a sequence of problems encountered in the playing of a game to permit a game such as Tic-Tac-Toe to be played in a solitaire manner.

While previous efforts toward solitaire devices have included problem solving devices, these efforts have been very complex for the most part utilizing involved mechanical or electrical devices. Examples of such efforts are found in the following U.S. Pat. Nos. 2,811,359 to R. C. Haufe; 2,877,019 to Keister; and 3,145,993 to Archer.

Devices of the above type are of a complex nature and as such have limited appeal to the public by reason of the high original cost and maintenance effort required. Further, their complex nature renders them unsuitable for use by all age groups.

SUMMARY OF THE PRESENT INVENTION

The present invention is embodied within a device wherein a first set of counters, in three-by-three disposition, is replaced one by one by alternating operator and "opponent" moves. "Opponent" moves are determined by the relationship of a stylus and solution means on one of the counters in the stylus path. More particularly, one form of the invention concerns a Tic-Tac-Toe game of the solitaire type wherein the plays of the "opponent" are determined by the particular arrangement of counters in place on a playing surface and the resulting path of a stylus thereover. The stylus path above referred to will be varied by the alternate counter substitutions of the operator and "opponent."

Common to the basic form of the invention are a plurality of counters with the operator and his "opponent" having individual counters which are played during alternate moves by substituting same for counters initially in place. The playing surface may vary from simply a suitable supporting surface of a size enabling a three-by-three counter arrangement at the game start with other variations including a recessed matrix or board to receive the counters.

An object for guided travel from one counter to the next is utilized, one such object being a hand-held stylus while such an object may take the form of a rolling object. Solution means are provided on each of the initially placed counters which cooperate with the moving stylus, or other moving object, to indicate where the "opponent's" next move will be. The interaction between stylus and solution means, indicating the "opponent" moves, will be later described in detail.

The counters, and playing board if used, include locator means on the counters insuring proper counter orientation of operator and "opponent" counters to one another. For example, the counters may be provided with recessed areas engageable with occupying projections of the board or, as an alternative, the counters may be provided with indices to insure proper orientation.

The device may be constructed so as to provide differing degrees of challenge, i.e., embodiments wherein the operator will most often win ranging to those wherein the "opponent" chances of winning are increased. A modified form of the device will permit a further variable in that the stylus guiding means may include a provision for the operator to exercise a choice in the course of the stylus to vary the outcome of the game.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings:

FIG. **1** is a plan view of a matrix or game board of one form of the invention,

FIG. **2** is a composite plan view of a typical set of counters,

FIG. **3** is a stylus,

FIG. **3A** is a ball member which may be used in place of the stylus,

FIG. **4** is a plan view of the matrix supporting nine B counters initially in place at the start of a problem solving sequence,

FIG. **5** is a plan view of a partially completed sequence,

FIG. **6** is a sectional view taken along line **6—6** of the FIG. **5**, showing transfer groove formation,

FIG. **7** is a plan view of an almost completed problem solving sequence,

FIG. **7A** is a fragmentary plan view of a matrix with a modified form of transfer grooves thereon, and

FIG. **8** is a view of a modified form of counter wherein a solution indicator is provided thereon with each counter being coded for proper orientation.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

With continuing reference to the drawings wherein applied reference numerals indicate components similarly identified in the following specification, the reference numeral **1** indicates a matrix in the nature of a counter holder of a thickness permitting the formation of counter receiving recessed areas **2**.

In the first described form of the invention, each area **2** has counter positioning means in the form of a projection **3** for engagement with a corresponding recessed area in each counter as later described. An alternative manner of properly orientating the counters is indicated in FIG. **8** wherein a plus (+) symbol on a counter is matched with a second (+) symbol.

Provided for placement into each of the recessed areas are a quantity of counters, each desirably of a thickness so as to define stylus guiding grooves constituting guide means and also to project somewhat above the surrounding matrix surface (FIG. **6**) to facilitate finger-tip removal from said areas. The counters, in one form of the invention, are in three groups: starting counters indicated by the letter B thereon, "opponent" counters indicated by the letter X thereon, and operator counters indicated by the letter O thereon all as viewed in FIG. **2**. The counters B, X and O are provided respectively with grooves **8, 9** and **10** shown as lines in FIGS. **2, 4, 5, 7** and **7A** for guidance of the stylus or other moving object. With reference to FIG. **2**, nine B counters are shown which are initially set in place in the nine recessed areas **2** at the start of a sequence. Also shown are five X counters and four O counters such constituting a minimum number of counters for the playing of one game. Each counter bears a starting point indices S in the form of an arrowhead marking both a groove and direction of stylus travel.

The matrix **1** includes what may be termed transfer areas at **1B**, which are areas intermediate adjacent re-

cessed areas **2**. Each transfer area defines stylus guiding transfer grooves at **4** with the exception innermost transfer area **1B** which has but a single groove. Accordingly, guide means are provided on the matrix **1** for directing a moving object, such as a stylus, from a specific groove **8, 9,** or **10** on one counter across a transfer area **1B** to a specific groove on a second counter. In a modified form of the device wherein matrix **1** is disposed with such transfer such transfer occurs directly from counter to counter. Further the transfer grooves **4** may be located other than as shown, for example they may extend along the margin of the matrix **1.**

In FIG. **3** a stylus is indicated at **5** for use by the operator in the following of the counter defined grooves. Another form of movable object accomplishing the same function may be a ball member **6** as in FIG. **3A** which is propelled along the grooved courses by tilting of the hand held matrix **1.**

With attention to FIG. **6,** the grooves **4** defined by the transfer areas **1B** of matrix **1** are desirably inclined along their bottom walls to insure obstruction free stylus travel. The bottom wall at **4A** of each transfer groove **4** is inclined to permit free stylus travel in one direction, such direction being from the centrally located counter outwardly and thence initially in a clockwise direction about the remaining counters. In traversing a transfer groove **4** a stylus tip will initially drop into the groove **4** with said tip traveling along bottom wall **4A** and departing the same at a point above the next counter defined groove. In the later stages of a problem solving sequence, a reversal in the direction of the stylus travel may occur whereby the travel will be in a counter clockwise direction with the groove wall being oppositely inclined from the groove wall **4A.**

With attention again being directed to the B counters and more particularly to the grooves **8** therein, some of said grooves are open ended permitting the stylus tip to travel across the counter and into the communicating transfer groove **4** while other of the counter's grooves terminate on the counter, such grooves hereinafter referred to as close-ended grooves and constitute one embodiment of solution means. Solution means may be defined as means indicating to the operator which of the initially in place B counters is to be replaced with an "opponent" X counter. Accordingly stoppage of the stylus, or other moving object, by the close-ended groove of a B counter indicates to the device operator the next move or placement of an X counter. In a modified form of counter at **13** in FIG. **8,** instead of using close-ended grooves as the solution means I provide an indicator mark or indices **14.** All of the grooves indicated at **15** on counter **13** are of the open-ended type. With this type of solution means it is permissable to form all of the counters with the same groove pattern with the only difference therebetween being the B, X, or O indices thereon and the location of the stylus starting point mark S.

At all times the operator will initiate stylus travel during the "opponent" turn, within a groove of the center counter. The specific groove and direction of stylus travel is indicated by the arrowhead S on all counters since either an X, O or modified counter **13** could, during a game, be the centrally located counter. Similarly all B counters are provided with an arrowhead S.

The nine B counters indicated in place in the nine recessed areas **2** of the matrix are shown in FIG. **4** with the projections **3** insuring proper counter orientation.

To determine the first counter substitution in the playing of a game a stylus or other moving object is placed into the arrowhead indicated groove of the centrally located B counter with subsequent stylus movement being terminated by the closed end thereon. Accordingly the device operator would substitute an X counter for the center B counter. In the present description the "opponent" will go first and will be represented by the X counters.

In a typical game the first move of the operator may, for example, be the substitution of the operator's O counter for a corner located B counter, however, any of the eight remaining B counters may be removed and an O counter substituted therefor. With attention to FIGS. **4** and **5,** the former shows matrix **1** occupied entirely by B counters at the start of a game while FIG. **5** discloses a partially completed sequence wherein an "opponent" X counter and an operator's O counter have each been substituted or played for B counters.

The next placement of an "opponent" X counter on the matrix as shown in FIG. **5** will be determined as follows: The stylus tip is placed on the arrowhead of the centrally located X counter with subsequent travel of the stylus tip being initially in a left-hand direction onto a B counter, thence upwardly onto the O counter, thence in a right-hand direction with the stylus guiding grooves terminating on the B counter located at the upper right-hand corner of the matrix **1.**

The operator for his turn, upon noting that two X counters are in diagonal alignment would place an O counter at the lower left-hand corner of the matrix. The operator of the present device will depart from using the stylus in determining X counter placement when, prior to the "opponent" turn, one of the eight possible rows of counters contains two X counters and a B counter, such automatically requiring the placement of an X counter resulting in a win for the "opponent." Similarly, if there are two O counters and a B counter in a row the stylus is not used but rather the "opponent" turn consists of an X counter being exchanged for the single B counter in said row. The foregoing as well as all moves are with the operator taking alternate turns substituting X and O counters for the initially placed B counters.

With attention again being directed toward the playing of a typical game as started in FIG. **5** and substantially completed in FIG. **7,** the operator next takes the lower left-hand corner. As there are now two O counters and a B counter in the vertical left-hand row the "opponent" turn consists of placement of an X counter intermediate the O counters in said row. The operator now plays by placing his O counter immediately to the right of the center counter. For the "opponent" turn the stylus is again started at **5** on the center counter with travel subsequently being stopped at the lower right-hand corner for placement thereat of an X counter. The operator, for his turn, places an O counter immediately below the center counter. The matrix is now as viewed in FIG. **7** with the last move being an "opponent" move with the stylus traveling about the counters counterclockwise, reversing its direction on the X counter immediately left of the center counter and thence being stopped on the remaining B counter immediately above the center counter.

The foregoing described device in instances where the "opponent" turn is first will never lose (ties being possible) while in the event the operator goes first the

device may lose. In the latter case the operator to win must for his first move place his O counter in other than the center location.

With attention to FIG. 7A, modified transfer grooves of the intersecting type are indicated at 4' to enable the operator to exercise a degree of choice in the path of the stylus during the "opponent" turn.

The foregoing description relates to a game device arranged in typical Tic-Tac-Toe fashion but is not intended to obviate the arrangement of counters in other than a three-by-three format. For example the counters may be arranged in a single row with the recesses being coded to represent corresponding squares on a typical Tic-Tac-Toe game board. In such instance the placement of counters in consecutive rows is not required to win.

While I have shown but a few embodiments of the present invention the scope of the present coverage is not accordingly limited but rather is to be defined under the appended claim coverage.

What I claim is:

1. A game device comprising:
a plurality of counters;
a game board having discrete areas thereon, said board areas for receiving said counters;
said counters and said game board having thereon means for uniquely orienting said counters in said board areas;
said counters having first markings thereon, said first markings being in the form of a plurality of different indicia, each counter having only one of said indicia thereon;
said counters having second markings thereon, said second markings being in the form of pathways, the counters located in said board areas having certain pathways on different counters in communication.

2. The device as claimed in claim **1** further comprising:
an object for travel over said pathways, certain of said pathways having a starting point indicator for initiating travel of said object;
means for ending pathway travel of said object.

3. The device as claimed in claim **2** wherein said unique orienting means are defined by the respective shapes of said counters and said board areas.

4. The device as claimed in claim **2** wherein said unique orienting means are defined by indicia on said counters and said board.

5. A game device comprising:
a plurality of counters;
a game board having discrete areas thereon, said board areas for receiving said counters;
means for uniquely orienting said counters in said board areas;
said counters having first markings thereon, said first markings being in the form of first, second, and third indicia, each counter having only one of said indicia thereon;
said counters having second markings thereon, said second markings being in the form of pathways, the counters located in said board areas having certain pathways on different counters in communication.

6. The device as claimed in claim **5** further comprising:
an object for travel over said pathways, certain of said pathways having a starting point indicator for initiating travel of said object;
means for ending pathway travel of said object.

7. The device as claimed in claim **6** wherein certain of said counters have said starting point indicator thereon.

8. The device as claimed in claim **7** wherein said ending means are located on certain of said counters.

9. The device as claimed in claim **8** wherein said object is in the form of a stylus.

10. The device as claimed in claim **5** further comprising:
an object for travel over said pathways, certain of said pathways having a starting point indicator for initiating travel of said object, and certain of said counters having a pathway which ends part of the way across the counter.

11. The device as claimed in claim **10** wherein said object is in the form of a stylus.

12. A game device comprising:
a plurality of counters;
a game board, said board having discrete areas thereon, said areas for receiving said counters;
means for uniquely orienting said counters in said board areas;
said counters having first markings thereon, said first markings being in the form of first, second, and third indicia, each counter having only one of said indicia thereon;
said counters having second markings thereon, said second markings being in the form of pathways, the counters located in said board areas having certain pathways on different counters in communication;
an object for travel over said pathways;
starting point indicators located on certain of said counters, said starting point indicators for initiating pathway travel of said object;
means for ending pathway travel of said object, said ending means being in the form of pathways which end part of the way across a counter.

13. The device as claimed in claim **12** wherein said object is in the form of a stylus.

14. A game device comprising:
a plurality of counters;
a game board, said board having discrete areas thereon, said areas for receiving said counters;
means for uniquely orienting counters in said board areas;
said counters having first markings thereon, said first markings being in the form of first, second, and third indicia, each counter having only one of said indicia thereon;
said counters having second markings thereon, said second markings being in the form of pathways, the counters located in said board areas having certain pathways on different counters in communication;
an object for travel over said pathways;
certain of said pathways having a starting point indicator for initiating travel of said object;
certain of said counters having a direction indicator thereon, said direction indicator for indicating desired direction of pathway travel for said object; and
means for ending pathway travel of said object.

15. The device as claimed in claim **14** wherein certain of said counters have said starting point indicator thereon.

16. A game device comprising:
a plurality of counters;

said counters having first markings thereon, said first markings being in the form of pathways;

an object for travel over said pathways;

a game board having first and second areas thereon, said first areas for the reception of said counters, said second areas interposed between said first areas and having pathways thereon, said second area pathways for transferring said object during its travels from a pathway on one counter to a pathway on another counter, said second area pathways being in the form of grooves, said grooves and object having dimensions appropriate for allowing, during groove travel of said object, contact of said object with the bottom wall of said grooves, and said grooves having the bottom wall inclined for unhindered unidirectional travel of said object.

17. The device as claimed in claim **16** further comprising:

means for ending pathway travel of said object;

certain of said pathways having a starting point indicator, said starting point indicator for initiating travel of said object.

18. The device as claimed in claim **17** further comprising:

means for uniquely orienting said counters in said first board areas.

19. The device as claimed in claim **18** further comprising:

second markings located on said counters, said second markings being in the form of first, second, and third indicia, each counter having only one of said indicia thereon.

20. The device as claimed in claim **16** further comprising:

means for uniquely orienting said counters in said first board areas.

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