

United States Patent

[11] 3,563,552

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[21] Appl. No. 779,130

[22] Filed Nov. 26, 1968

[45] Patented Feb. 16, 1971

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[54] LOGIC GAME
5 Claims, 7 Drawing Figs.

[52] U.S. Cl..... 273/135,
273/134

[51] Int. Cl. 273/134
A63f 9/00

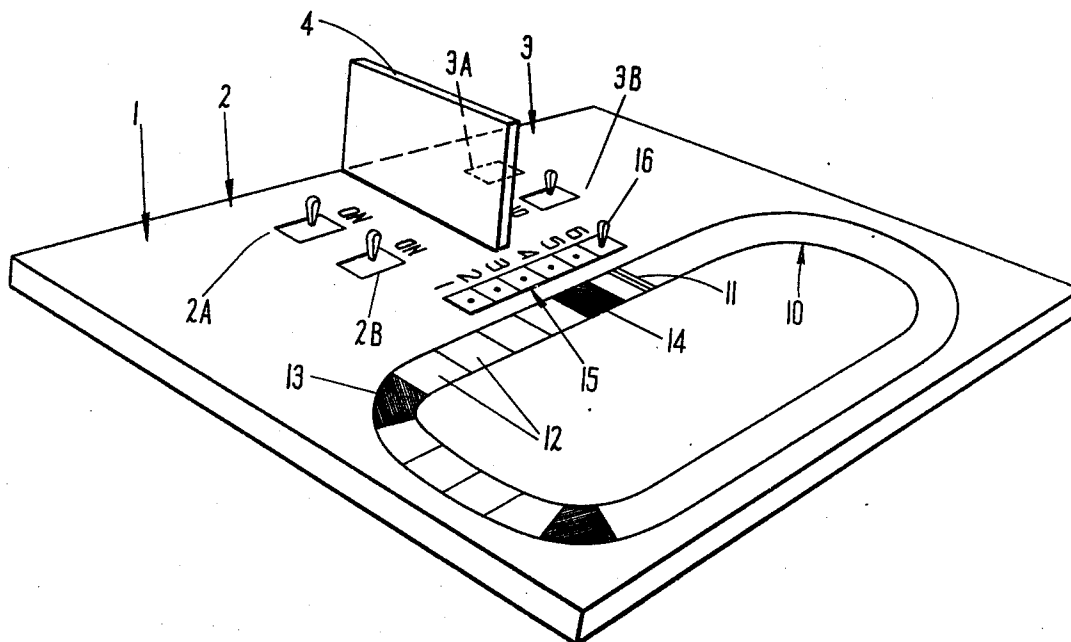
[50] **Field of Search**..... 273/1 (E),
130 (AB), 131 (A), 134 (A), 135 (A), 136 (A);
273/130 (A), 88 (Inquired); 273/1, 130, 131, 134,
135

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ABSTRACT: A computerlike game which applies counting, memory and decision-making functions to privileged input signals independently and sequentially received from contesting players in emitting or not emitting an output signal. In its simplest form two pairs of "on-off" electrical switches are provided, with each pair secretly controlled by a contestant to generate "on" or "off" input signals. Circuit means count the total "on" signals received and store them in a memory means. A decision-making means generates an output signal when two "on" signals are received in the memory means. The output signal is used to indicate a winner of game or particular round.



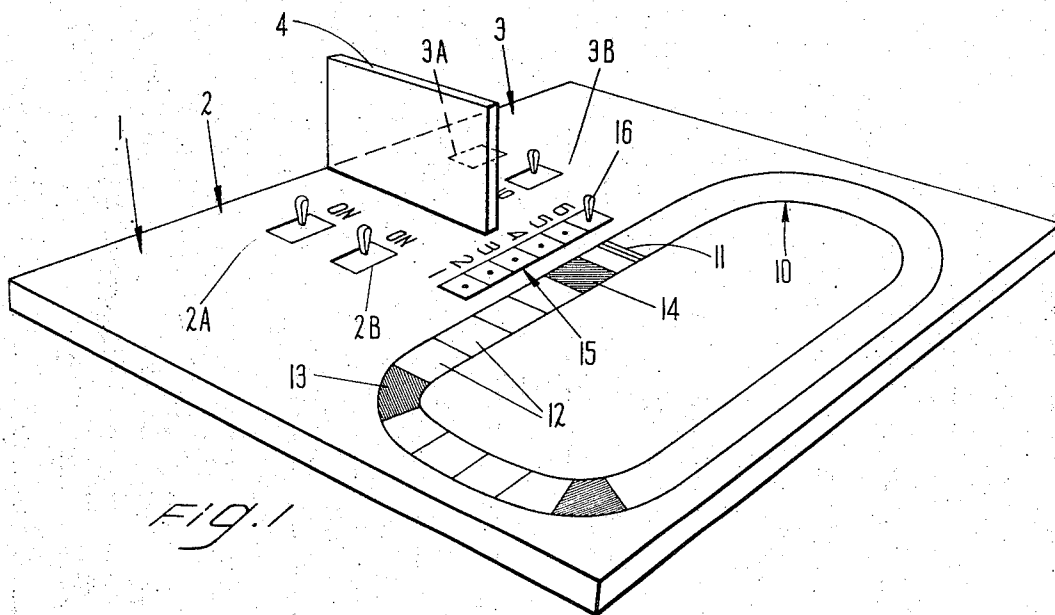


FIG. 1

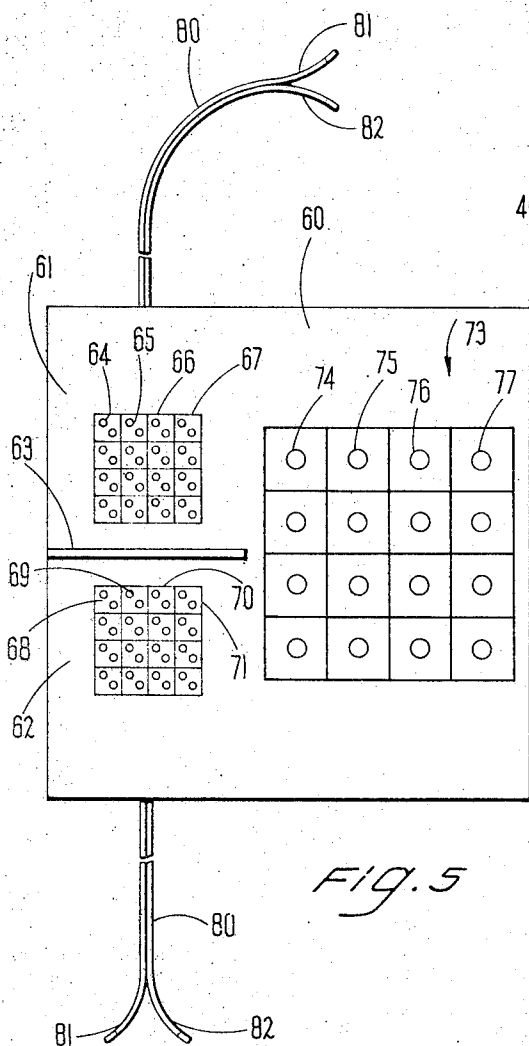


FIG. 5

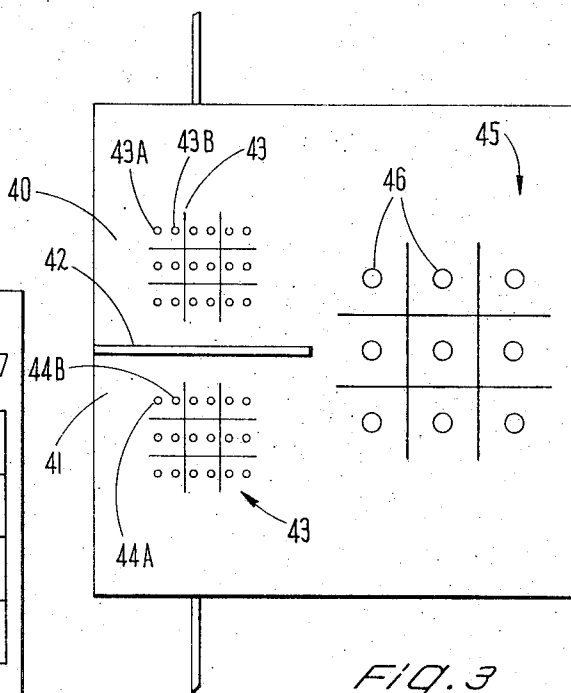


FIG. 3

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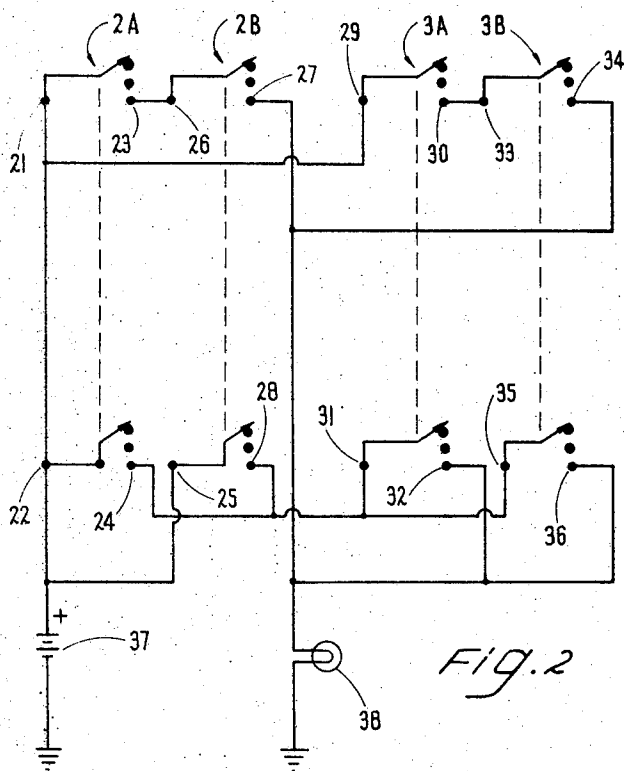


FIG. 2

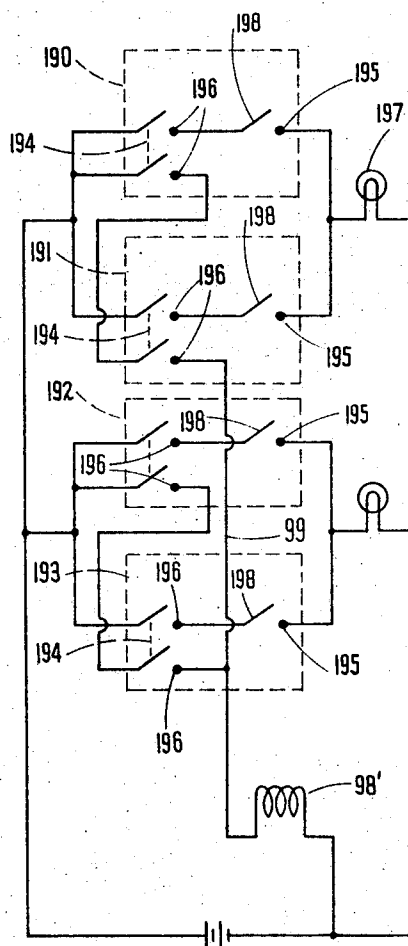
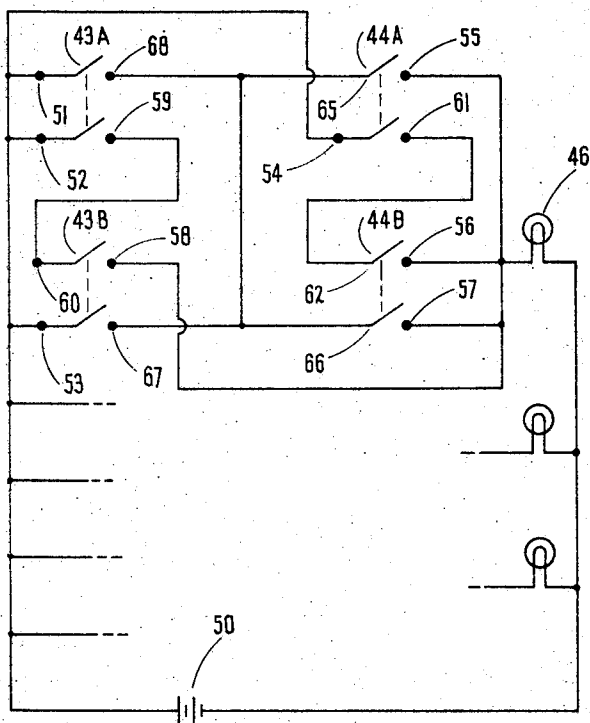


FIG. 7

FIG. 4

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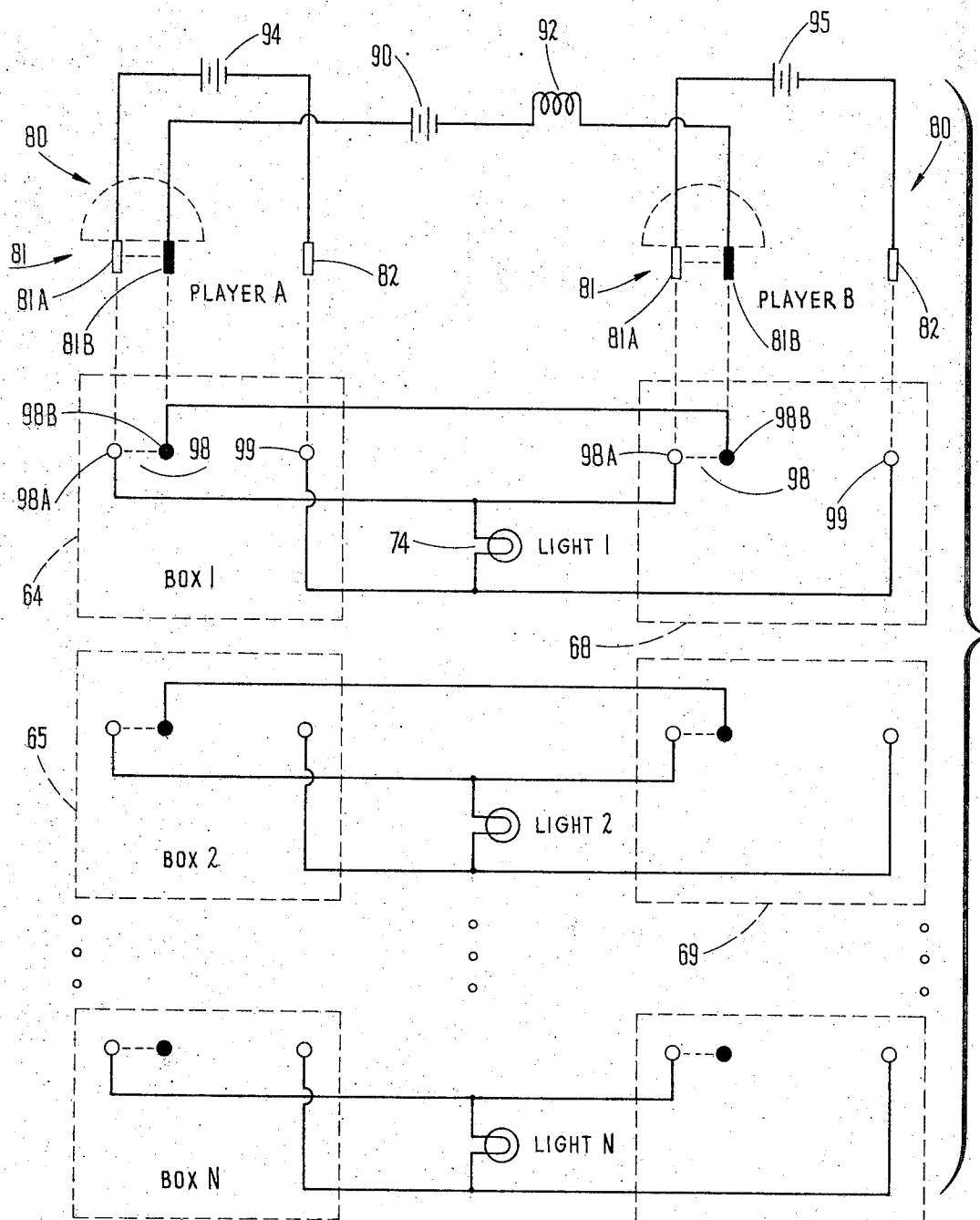


FIG. 6

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LOGIC GAME

SUBJECT MATTER OF THE INVENTION

The present invention provides an improved game which combines computerlike applications of logic and chance.

BACKGROUND OF THE INVENTION

Heretofore there have been many attempts to design games which combine skill and chance. For the most part these games simply match the skill or chance of one player against the other. In some, the competing players communicate their input signals to a central device at the outset of a game rather than during the game. One game, exemplified by U.S. Pat. No. 3,367,653, entitled "Game" and issued Feb. 6, 1968 to M.E. Brown, provides means for continual communication of moves to a central device. In one known game the function of the central device is merely to measure the coincidence of landing in the same box. The game therein described provides substantially no logical interplay, has no memory means for recalling past moves, and no arithmetical function such as counting.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide an improved game which combines both logical and chance function capable of being embodied in a wide variety of specific embodiments of games.

A further object of the invention is to provide a game which combines a variety of computerlike functions in a central device to which competing players feed input signal of a nature unknown to each other. These functions may include a combination of counting, arithmetic, memory and decision-making, and influence an output signal which may be used as a game or round winner indicator.

A further object of the present invention is to provide a game involving logic and chance which may be embodied in electrical, mechanical, hydraulic or other forms of power actuated games.

A further object of the present invention is to provide a chase game that may be played by two or more players in which the moves of the players around a board toward a winning position may be determined at least partially by applications of logic.

A further object of this invention is to provide a game utilizing logic in which advancement towards a game winning condition is determined by winning a series of individual rounds in which each round consists essentially of an individual contest involving both chance and logic. A further object of the present invention is to provide a game that comprises capturing or winning a series of locations in a predetermined order with the winning of each location being determined in part by chance and by logic.

In the present invention there is provided a logic game adapted for use by a plurality of players which consists of at least two independently controlled consoles having controlling devices. Means isolate one console from another whereby one console may be operated without being visually displayed to an operator of the other console. Means are provided in one embodiment for counting selected actuations of the control devices of the consoles. Memory means for recording the condition of actuations made of the selected nature are provided together with means for effecting a signal when a preselected combination of actuations have been recorded by the memory means.

BRIEF DESCRIPTION OF DRAWINGS

The foregoing objects and advantages together with others will be more clearly understood when considered in conjunction with the accompanying drawings in which:

FIG. 1 is a perspective view of an embodiment of the present invention in a simplified form;

FIG. 2 is a schematic diagram of a circuit used in the embodiment of FIG. 1;

FIG. 3 is a plan view of a game embodying a modification of the present invention;

FIG. 4 is a schematic circuit diagram of the embodiment of FIG. 3;

FIG. 5 is a plan view of a still further embodiment of the present invention;

FIG. 6 is a circuit schematic of the embodiment illustrated in FIG. 5, and

FIG. 7 is a modification of the circuit used in connection with the embodiment of FIG. 5.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring first to FIG. 1 there is illustrated a perspective view of the embodiment of the invention designed primarily for playing by two players. In this arrangement there is generally provided a board 1 having a pair of consoles 2 and 3. These consoles are visually separated one from the other by a physical barrier 4 that isolates play or operation of each console from the view of the operator of the other console, so that the consoles may be independently actuated in secret by the players. The barrier 4 may consist of a rectangular block as illustrated or other suitable physical barrier. Concealment may alternately be obtained by mounting consoles on opposite sides of a box. The consoles in the specific and simple embodiment illustrated may consist of a pair of switches 2A, 2B in one console and a pair of switches 3A, 3B in the other console. These switches may, for example, constitute simple off-off-on toggle switches as illustrated. Other suitable switching means, such as push buttons together with suitable additional circuitry, may also be used. In the specific embodiment illustrated there is also provided on the surface of the board a track or raceway 10 which consists of a series of successive blocks 12 that are arranged from a starting point, as for example 11, about an endless circuit. The squares 12 may be arranged with certain squares distinguished by contrasting color or otherwise as illustrated at 13 and 14 for reasons hereafter set forth. Any suitable token may be moved over the raceway or track from square to square to indicate the position of each of the two players as the game progresses. In addition there may be a "move" counter 15 which may assume a variety of different forms. In the particular counter illustrated there is simply a series of numbered holes 1 to 6 with a peg 16 adapted to mark the particular hole being designated. The counter may alternatively be mechanical or electric or electronic with indicator lights.

In FIG. 2 there is illustrated the circuit utilized in conjunction with the embodiment of FIG. 1. In this embodiment the consoles are each comprised of a pair of double pole double throw 3 position off-off-on toggle switches with switches 2A and 2B in one console and 3A and 3B in the other console. In the drawings the contact arms or leaves are all shown in one of their two off or open positions. As previously indicated the consoles are visually isolated one from the other. The switches 2A, 2B, 3A and 3B are arranged circuitwise to close a circuit from a power source 37 to a signalling device 38 when any two of the four switches are simultaneously in an on position. The power source 37 may comprise a conventional DC battery and the signal device 38 may comprise a buzzer, or, as illustrated, a lamp bulb. In the specific arrangement illustrated the power source 37 is connected to terminals 21 and 22 of switch 2A, terminal 25 of switch 2B and terminal 29 of switch 3A. The signal device 38 is connected in parallel to terminals 27 of switch 2B, terminal 32 of switch 3A and terminals 34 and 36 of switch 3B. Terminal 23 of switch 2A is connected in series to terminal 26 of switch 2B. Terminal 30 of switch 3A is connected in series with terminal 33 of switch 3B. Terminals 24 of switch 2A, 28 of switch 2B, 31 of switch 3A and 35 of switch 3B are all connected in parallel to a common lead.

In the operation of this embodiment two players independently control respectively switches 2A and 2B of one console and 3A and 3B of the other console. These players take turns in throwing either switch each controls to an off or on position.

Specific games played on the embodiment of FIG. 1 may be varied but in a typical game the basic object is to make the second "yes" or on move. The signal device will only be actuated when a second on move has been made without disclosing to both parties that the first on move has been made. In the preferred form the switches may provide a click sound whether the switch is moved to an on or alternately to an off position. However, if a simple off-on switch is used it may be preferable to use a silent switch so that a player may allow a switch to remain in a position without letting his opponent know that he did not throw a switch during his turn.

In operation of this device in a typical game, player 1 may control switches 2A and 2B and player 2 may control switches 3A and 3B. Player 1, for example, throws switch 2A from one of the off positions illustrated to an on position in which the contact leaf closes to terminals 23 and 24. Under these conditions the on connection in the circuit effectively functions as a memory device recording a yes or on count of 1. The signal device, however, is not energized because the circuit to it still remains open. Player 2 then has the opportunity of opening or closing either switch. If he decides to keep his switches in an off position he can move either switch 3A or 3B from the off position shown to a second off position which of course is also open and therefore the circuit schematically remains the same. If, on the other hand, player 2 closes switch 3A to an on position a circuit is complete through terminals 22, 24 of switch 2A and the series arrangement of terminals 31, 32 of switch 3A. The series arrangement of these on switches functions as a counting means which upon the occasion of reaching a preselected number generates a signal to the signal device which upon receiving a signal of selected level functions as a decision making means and emits a signal. Specifically this is attained when the power source 37 is connected across the signal device 38 at which point player 2 is indicated the winner of that round by illumination of the light, or sound of buzzer. All switches are then returned to their original positions. The winning of this round may be noted by advancing the player 2 token two spaces which correspond with the two moves it has taken to effect closing of the circuit through the signaling device. The counter 15 may be used to keep track of the number of moves of switches during each round. The colored blocks 13 and 14 in the track 10 may be given special meaning. Thus, for example, block 14 may mean a player landing on it is to advance an additional three while block 13 may mean the player landing on it is to go back a selected number of spaces. Thus there is introduced an element of strategy in which both players may or may not want to cause the signal device to go on in a selected number of moves.

The game is obviously susceptible to substantial modification. For example, the circuit arrangement may provide an arrangement of three switches to a player, two of which are on-off and a third a dummy off-off switch in place of the off-off-on toggle switches of the type described above. The game may also be played as a partnership game with two on each side each controlling one off-off-on toggle switch. The partners may, moreover, be visually isolated each from the other. Further more than two on or "yes" decisions may be required to signal a winner. In such an arrangement it would be preferable to provide three switches per player so that no player may postpone a game decision indefinitely. Three players may play using three sets of switches and preferably a triangular console. Active circuit elements may also be incorporated including, for example, flip-flops and gates which would permit pushbutton signaling devices rather than toggle switches. The overall fundamental concept also contemplates the use of nonelectrical means including, for example, a chemical process which could conceivably operate with water activated pills in which two pills are required to change a glass of water from colorless to a color. The dummy moves could be effected by using inactive pills having a similar appearance to those that are active.

Referring to FIG. 3 there is illustrated a modification of the present invention in which each player has a console having a ticktack-toe configuration. These consoles 40 and 41 are

separated from each other by a barrier 42 that extends vertically a distance sufficient to visually obstruct a view of one console by a player controlling the other console. Each console 40 and 41 consists of a ticktack-toe configuration 43 in which each square of the ticktack-toe configuration has two switches. These switches may, as illustrated, comprise off-on double pole, double throw toggle switches. Illustrative of these nine pairs of switches in each console are switches 43A and 43B in console 40 and 44A and 44B in a corresponding square of console 41. In addition to the consoles 40 and 41 there is a master ticktack-toe display 45 having nine squares corresponding respectively to the squares in the ticktack-toes of consoles 40 and 41. The master ticktack-toe display 45 is visible to both players at all times and is suitably provided with a lamp bulb 46 for each square of the ticktack-toe display 45. The bulbs 46 are electrically connected to the consoles in a manner illustrated in FIG. 4. In this arrangement each lamp 46 is electrically connected to the pair of switches in corresponding square of each console as, for example, switches 43A, 43B, 44A and 44B. FIG. 4 illustrates the wiring diagram for switches 43A, 43B, 44A and 44B and one bulb 46 only. However, all other switches are connected to bulbs in a corresponding fashion. As illustrated, the wiring arrangement is quite similar to that illustrated in FIG. 2. In this arrangement two corresponding terminals 51, 52 of switch 43A, terminal 54 of switch 44A, and terminal 53 of switch 43B are connected to the power source 50. Terminals 55 of switch 44A, 56 and 57 of switch 44B and 58 of switch 43B are connected parallel to bulb 46. Terminals 59 of switch 43A and 60 of switch 43B are connected in series as are terminals 61 and 62 respectively of switches 44A and 44B. Terminals 65 of switch 44A, 66 of switch 44B, 67 of switch 43B and 68 of switch 43A are connected in parallel to a common lead.

In the operation of this modification each player moves in turn. The circuit arrangement is such that the closing of two switches of any four in corresponding squares of the two consoles is required to turn on a light in a corresponding square in the master ticktack-toe board 45. Thus the player who turns the second switch in a corresponding square to an on position will cause the corresponding light 46 to be illuminated. A player who lights a square receives credit for that square which may, for example, be indicated by placing a marker or token of that player over the light. These markers or tokens may consist of zeros for one player and Xs for the other. The game continues until one player succeeds in making a row of his tokens.

Referring now to FIG. 5 there is illustrated a still further modification of the present invention in which the game is basically a "chase" game. In the embodiment illustrated the moving player's last position is shown on a display panel when he moves to a new position. Since the players can move in any direction one square at a time an opponent may be able to deduce the new position by knowing the old one. If he successfully reaches this new position the master display will automatically indicate this fact and the winner of the chase accordingly be determined.

In this arrangement there is provided a board 60 having two consoles 61 and 62 with the operation of each concealed from the player controlling the other by a vertically extending barrier 63. The consoles 61 and 62 are similar to each other and in the specific embodiment illustrated consist of a rectangular arrangement of squares in rows and columns. Within each square there are specially designed pairs of electrical terminals hereafter more fully described. The squares with their pairs of terminals of one console correspond with those of another console in physical arrangement. Thus, for example, four squares 64, 65, 66 and 67 are provided in the top row of console 61 and four corresponding squares 68, 69, 70 and 71 in the top row of the other console. A master display 73 is provided with an array of rows and columns of lamp bulbs 74, 75, 76, 77, etc., that correspond with the squares in the individual consoles 62. Thus lamp 74 corresponds with squares 64 and 68 and lamp 75 corresponds with squares 65 and 69 respec-

tively of the consoles 61 and 62. Each square on consoles 61 and 62 has a pair of female receptacles 98 and 99, that are adapted to receive respectively male plug 82 and coaxial male plug 81. The receptacles are preferably different in shape or size so that the plugs 81 and 82 will always be inserted in the proper receptacle. An electrical lead 80 is provided for each console with the independently moveable plugs 81, 82, at its end. These plugs 81, 82, are adapted to be independently inserted respectively in receptacles 98, 99 in the same or in vertically or horizontally adjacent squares of the console. Thus plugs 81, 82 may be inserted respectively and simultaneously in receptacles 98, 99 of squares 64 and 65 while the plugs 81, 82 of the other lead 80 may be inserted simultaneously in receptacles 98, 99 of squares 68 and 69. The plugs 81 and 82 differ from one another as described hereafter.

The circuit arrangement of the game illustrated in FIG. 5 is such that when one player inserts both prongs of his plugs entirely within one square the lamp on the master panel corresponding to that square will flash. When both players have inserted plug 81 of their leads in corresponding squares of the different consoles a buzzer will sound.

Referring to FIG. 6 there is shown a schematic illustration of the plugs and receptacle arrangement with a limited number of interrelated squares and connected lights illustrated. Plugs 81 and 82 are each cylindrical in shape but are of nonuniform dimensions. Plug 82 is a conventional single conductor plug. However, plugs 81 each have an inner coaxial conductor 81B and outer conductor 81A insulated from conductor 81B. A power source 90 which may, for example, comprise an electric DC battery is connected in series to a buzzer 92 with this power source and buzzer connected in series to a conductor 81B of each of the coaxial plugs 81. The other and outer conductors 81A of the coaxial plugs 81 are connected in series with power sources 94 and 95 respectively as are the plugs 82.

As illustrated each of the squares contains two receptacles adapted to receive both plugs 81 and 82. Moreover, the receptacles are so spaced schematically as to permit insertion of the prongs of one plug in adjacent receptacles of adjacent squares. The receptacle 98 has an inner diameter sized and shaped to receive only plug 81 and receptacle 99 will receive only plug 82. As illustrated, receptacles 99 are connected in parallel with one terminal of the light bulb 74 and conductors 98A of coaxial receptacles 98 are connected in parallel with the other terminal of the same light bulb 74. Conductors 98B of coaxial receptacles 98 of the two consoles are connected in series. The connections between the receptacles of the other squares 65 and 69, etc., are similarly arranged as illustrated. The receptacles 98 and 99 within each square are positioned adjacent edges of the box in rows and columns at a distance so as to permit a player to insert one plug in a receptacle in one square and the other plug in the proper receptacle of the same or an adjacent square in either a row or a column.

In playing this game a player may illuminate light 74 by plugging both plugs 81, 82 into the receptacles of a single square. A player may also be able to insert the plug 81 in one square and the plug 82 in an adjacent square. Under these conditions the light and buzzer will not sound unless the opposing player plugs his coaxial plug 81 into a corresponding receptacle. Under these conditions the buzzer will sound. In playing the game one player identifies the square from which he is moving by putting both his plugs 81, 82 in the ap-

propriate receptacles of the same square. This causes the corresponding light in the display to illuminate. He then moves plug 81 to another square. The other player must then guess the square to which his opponent has moved. If he guesses correctly and inserts his plug 81 into that corresponding receptacle the buzzer will sound and he will have won the chase.

Referring to FIG. 7 there is illustrated a modification of the invention as illustrated in FIG. 5. Each square in both consoles has two receptacles. Thus 190 and 192 represent squares of player A's console and 191 and 193 represent squares of player B's console. Within each square there are two receptacles, one for a double pole shorting connector and the other for a single pole shorting connector. The double pole receptacles are 196, and the single pole receptacles are 195. Any suitable shorting means may be used for closing the circuit. In the illustration the double pole receptacles may be closed by double pole shorting connectors 194 and the single pole receptacles may be closed by single pole shorting connectors 198. These connectors may take the form of toggle switches if desired.

In the operation of this circuit the shorting of both receptacles within any one square will cause the signal lamp 197 for that square in the master display to illuminate. The buzzer 98' however, will sound only when double receptacles in corresponding squares of two consoles (as for example squares 190 and 191) are closed.

I claim:

1. A logic game for a plurality of players comprising at least two independently controlled consoles,
 - means usually isolating one console from another whereby said one console may be operated without being visually displayed to an operator of the other console,
 - each said console including at least first and second switching means,
 - each said switching means including at least one on-off control element,
 - an energy source,
 - means for conducting energy from said energy source to each on-off control element,
 - a signal device responsively coupled to said first and second switching means and operable by energy from said energy source, and
 - means for actuating said signal device.
2. A logic game as defined in claim 1 wherein each said control element includes a double pole/double throw switch.
3. A logic game as defined in claim 1 wherein said first and second switching means comprise a switching means pair and each said console includes a plurality of said switching means pairs, and further comprising a plurality of signal devices each coupled to one of said pairs and a display means for displaying a plurality of signals generated sequentially from said signal devices whereby a game winner may be determined by a preselected display of said signals.
4. A logic game as defined in claim 3 wherein said display means comprises an array of rows and columns of signalling devices.
5. A logic game as defined in claim 1 having a display means including an array of rows and columns of signalling devices and wherein each said console has its switching means similarly arranged in rows and columns, said signalling devices being capable of actuation by signals from either console and from both consoles.