



(11) **EP 1 469 435 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
20.10.2004 Bulletin 2004/43

(51) Int Cl.7: **G07F 17/32**

(21) Application number: **04252218.5**

(22) Date of filing: **15.04.2004**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL HR LT LV MK

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(30) Priority: **16.04.2003 JP 2003111111**

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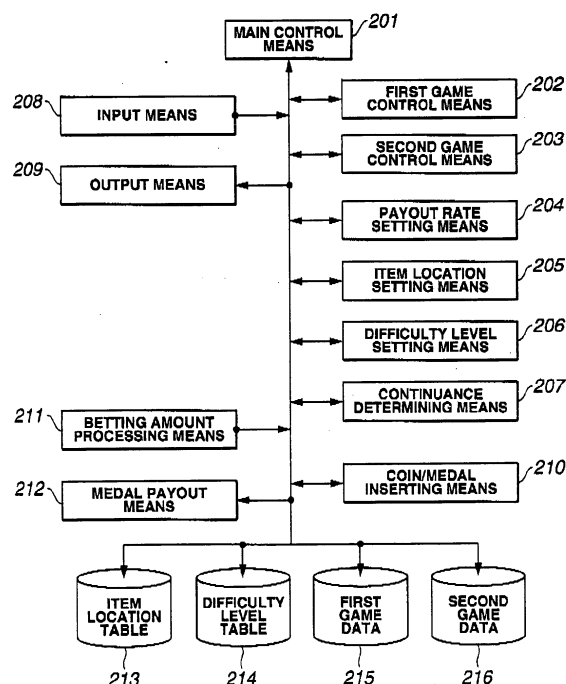
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(54) **Electronic game apparatus**

(57) - It is an object of the present invention to provide an electronic game apparatus that can lure a player by enabling changes in the process of a player raising his/her bets.

This invention comprises: an inserting means for inserting money or game medals; a betting amount processing means for converting the inserted money or game medals to an initial number of medals; a first information processing means which is caused by the insertion of money or game medals to execute a first electronic game program, and which determines the number of medals earned by a player based on the results of a first electronic game; a second information processing means for executing a second electronic game program after the termination of the first electronic game, and then for determining whether or not the number of earned game medals should be paid out, based on the results of a second electronic game; and a retrying means for setting necessary betting amount for playing the second electronic game if the number of earned game medals is not paid and if it is determined to execute again the second electronic game program.

FIG.2



Description

SUMMARY

BACKGROUND

[0001] The present invention relates to an electronic game apparatus. More particularly, this invention relates to a game apparatus from which game medals are paid out according to a player's operation.

[0002] Among commercial coin-operated electronic game apparatuses which are called "arcade game machines," there is a known type of arcade game machines, which starts a game when a player inserts a coin or a game medal, and which delivers game medals or free prizes according to results of the game based on the player's operation.

[0003] Among this type of arcade game machine, some arcade game machines have a plurality of unit betting amounts that are set for one game so that a player can decide a desired unit betting amount (that is, the total value of coins or the number of game medals), and some arcade game machines determine a dividend rate of the game medals according to the unit betting amount selected by the player. A medal game apparatus described in Japanese Patent Laid-Open (Kokai) Publication No. HEI 6-71010 relates to a slot machine which sets the number of bonus medals to two or three times as many as the number of medals inserted by a player, where the winning factor (two or three times) is decided according to the number of the inserted medals (see Patent Document 1: Japanese Patent Laid-Open (Kokai) Publication No. HEI 6-71010). Such a medal game apparatus belongs to the field of "gambling" and the major focus of the game is how much a player can multiply his/her winnings.

[0004] Concerning such a game which belongs to the field of gambling, the process of a player increasing his/her winnings, that is, the progress or process of the game itself, is a dominant factor in enticing the player to make a bet. This is because the act of "making a bet" requires the player's capabilities of selection, reasoning, and skills. Many players find pleasure in making the bet itself because they can win the bet by fully utilizing their capabilities of selection, reasoning, and skills. When they win the bet, they feel a sense of accomplishment and superiority.

[0005] However, with conventional arcade game machines, the process of a player's increasing the stake, that is, the progress or process of the game itself, is uninteresting. Accordingly, conventional arcade game machines have a problem in that a player has little opportunity to fully utilize their capabilities of selection or skills, and even if the player wins the bet, they cannot completely relish the joy of success.

[0006] Therefore, it is an object of the present invention to provide an electronic game apparatus that can lure a player by enabling changes in the process of the player raising his/her bets.

[0007] In order to achieve the above-described object, an electronic game apparatus of this invention comprises: an inserting means for inserting money or game medals (tokens); a betting amount processing means for converting the inserted money or game medals into an initial number of medals as a betting amount necessary for playing a first electronic game; a first information processing means which is caused by the insertion of money or game medals for executing a first electronic game program, and which determines the number of medals earned by a player based on the results of the first electronic game; a second information processing means for executing a second electronic game program after the termination of the first electronic game, and then for determining whether or not the number of earned game medals determined by the first information processing means should be paid out, based on the results of the second electronic game; and a retrying means for setting a betting amount necessary for playing the second electronic game if the second information processing means determines not to pay out the number of earned game medals, and if it is determined to execute the second electronic game program again.

[0008] A combination of one or more of the following structures can be added to the above-described structure of this invention. The electronic game apparatus further comprises a storage means for storing the initial number of medals converted by the betting amount processing means, wherein the retrying means sets the betting amount necessary for playing the second electronic game to a betting amount equal to the initial number of medals stored in the storage means.

[0009] The betting amount processing means accepts the betting amount necessary for playing the first electronic game in the format that enables the player to select the betting amount.

[0010] The electronic game apparatus further comprises an earnable medal number setting means for deciding, according to the results of the player's selecting operation, a parameter that indicates the number of medals that can be earned by the player in the first electronic game, wherein the first information processing means executes the first electronic game program by referring to the parameter that indicates the number of medals which can be earned.

[0011] The electronic game apparatus further comprises: a display means for displaying items that are target objects for earning medals in the first electronic game; and an item setting means for deciding, according to the results of the player's selecting operation, a parameter that indicates the number of items; wherein the first information processing means displays the items on the display means according to the parameter that indicates the number of items, and converts the displayed items into the number of medals earned by the player according to the player's manipulation in relation

to the displayed items

[0012] The earnable medal number setting means sets the above-mentioned parameter so that the player can acquire more medals when the inserting means accepts the insertion of a coin than when it accepts the insertion of a medal.

[0013] The item setting means sets the above-mentioned parameter so that the player can acquire more items when the inserting means accepts the insertion of a coin than when it accepts the insertion of a medal.

[0014] The electronic game apparatus further comprises of a difficulty level setting means for setting, based on the number of earned medals, a parameter that indicates a difficulty level for the second electronic game.

[0015] When the second information processing means decides not to pay out the number of earned game medals and if the initial number of medals stored in the storage means is greater than the number of earned medals, the retrying means controls the second information processing means not to execute the second electronic game program.

[0016] When the second information processing means decides not to pay out the number of earned game medals, the retrying means makes the following setting: if the initial number of medals is less than the number of earned medals, the retrying means sets a betting amount necessary for playing the second electronic game to a value higher than a betting amount equal to the initial number of medals; and if the initial number of medals is greater than the number of earned medals, the retrying means sets the betting amount necessary for playing the second electronic game to a value lower than the betting amount equal to the initial number of medals.

[0017] The difficulty level setting means sets the above-mentioned parameter based on a ratio of the number of earned medals to the initial number of medals.

[0018] Moreover, an electronic game apparatus of this invention comprises: a control means for controlling the progress of a game that consists of a first game, which determines the earned amount from a bet, and a second game which determines the payout of money for the earned amount; a first storage means for storing the bets given by the player; a rate setting means for setting the rate of the earned amount to the number of bets according to the results of the player's selecting operation before the start of the first game, a setting condition determining means for determining the setting conditions for the first game according to this rate; a calculation means for calculating the amount earned by the player in the first game according to the setting conditions; a second storage means for storing the calculated earned amount; a difficulty level determining means for determining a difficulty level in the second game based on the calculated earned amount; and a determination means for determining whether or not the earned

amount should be paid out in money in the second game according to the determined difficulty level; wherein when the determination means determines not to pay out the earned amount in the second game, the control means displays the bets stored in the first storage means as bets for the second game and restarts the second game by accepting money equal to the displayed bets for the second game; and when the determination means determines to pay out the earned amount In the restarted second game, the control means pays out money for the earned amount stored in the second storage means.

[0019] Furthermore, a combination of one or more of the following structures can be added to the structure of the present invention. The setting condition determining means determines the earned amount according to the rate as a possible amount to be earned by the player, and the calculation means calculates the earned amount payable to the player out of the determined possible amount to be earned, according to the results of the player's selecting operation.

[0020] When the number of the bets stored in the first storage means is greater than the earned amount stored in the second storage means, the control means does not execute the retry processing for the second game.

[0021] Regarding this specification, a product invention can be interpreted as a process invention, and the process invention can be interpreted as the product invention. Moreover, the above-described invention can be a recording medium with a program stored thereon for realizing specified functions to be executed by a computer, or can be the program itself. In other words, the electronic game apparatus of this invention can be interpreted as a method for controlling an electronic game on an electronic game apparatus and as a method for controlling an electronic game apparatus. Examples of the recording medium include hard disks (HD), DVD-RAMs, flexible disks (FD), CD-ROMs, and memories such as RAMs and ROMs. Examples of the computer include so-called "microcomputers" for performing specified processing by causing so-called "central processors" such as CPUs or MPUs to interpret the computer programs.

[0022] The term "means" used in this specification does not simply mean physical means, but it includes a case in which any function of the means is realized by software or by hardware circuitry. Functions of one means may be realized by two or more physical means, while functions of two or more means may be realized by one physical means.

[0023] The means in this specification can be realized by hardware, software, or a combination of hardware and software. The execution by a combination of hardware and software is, for example, the execution of a computer system having a certain program. Functions of one means may be realized by two or more pieces of hardware, software, or combinations of hardware and software, while functions of two or more means may be

realized by one piece of hardware, software, or a combination of hardware and software.

DESCRIPTION OF DRAWINGS

[0024]

Fig. 1 is a schematic diagram (or perspective view) of the medal game apparatus.

Fig. 2 is a functional block diagram of the medal game apparatus.

Fig. 3 is a diagram that illustrates a hardware structure of the electronic game apparatus.

Fig. 4 shows an example screen structure displayed in a first game.

Fig. 5 shows an example screen structure displayed in a second game.

Fig. 6 is a flowchart that shows the entire logic flow of a game.

Fig. 7 shows an example data structure of an item location table

Fig. 8 shows an example data structure of a difficulty level table.

Fig. 9 is a flowchart that shows a logic flow of processing by an item location setting means.

Fig. 10 is a flowchart that shows a logic flow of processing by a first game control means 202.

Fig. 11 is a flowchart that shows a logic flow of processing by a difficulty level setting means.

Fig. 12 is a flowchart that shows a logic flow of processing by a second game control means 203.

Fig. 13 is a flowchart that shows a logic flow of processing by a continuance determining means 207.

Fig. 14 is a flowchart that shows the logic flow of processing by the continuance determining means 207 according to Embodiment 2.

Fig. 15 is a flowchart that shows the logic flow of processing by the continuance determining means 207 according to Embodiment 3.

DETAILED DESCRIPTION

[0025] Embodiments of the present invention are de-

scribed below with reference to the attached drawings.

[Embodiment 1]

5 [0026] Regarding an electronic game apparatus of Embodiment 1, the content of a game is composed of: a first game in which a player acquires medals (that is, the number of medals payable to the player is determined); and a second game which determines whether or not the medals earned by the player in the first game should be paid out. If the player loses the second game, the electronic game apparatus has the function to enable the player to retry (or continue) the second game based on the number of medals earned in the first game. 10 It also has the function to set a betting amount necessary to continue the second game to a value equal to the betting amount inserted by the player at the start of the first game. Concepts of the payment of medals include both actual pay out of medals from a payout tray for medals and virtual payment by means of adding to a credited amount.

[0027] Accordingly, the player can enjoy the process of increasing his/her bets in two stages. Also, even if the player loses a game, he/she can restart it from its midpoint and, therefore, he/she can continue to enjoy the game more than in the case where the player has to restart the game from the very beginning.

[0028] Moreover, since the value equal to the betting amount inserted at the start of the first game is required as the betting amount for continuing the game, the player can play the second game on conditions similar to those of the first game and, therefore, it is possible to satisfy the player's desire to "retry" the game without disturbing the balance between the two games.

[Schematic Diagram of the Medal Game Apparatus]

[0029] Embodiment 1 of this invention is described below with reference to the relevant drawings. Fig. 1 is a schematic diagram (or perspective view) of the medal game apparatus. This medal game apparatus executes a car driving electronic game. This medal game apparatus comprises: an operational means including a seat for the player to sit on, a steering wheel, an accelerator pedal, and a brake pedal; and an output means, including a display monitor and a speaker, that outputs the results of the game according to image and sound processing by programs that execute the electronic game. This game apparatus also has a slot for coins or game medals and a payout tray for game medals.

[0030] Coins, medals, or both can be inserted into the game apparatus as a unit betting amount to play the game. The amount (betting amount) of coins or medals necessary for one game is decided, and the player can start the game by inserting coins or medals equivalent to such betting amount. Concerning Embodiment 1, a plurality of betting amounts (which may also be referred to as "bets" or "a number of bets") are set for one game,

and the player can insert an arbitrary amount of coins. The coins inserted by the player are converted into medals according to specified standards (for example, ¥100 is converted to 10 medals and ¥200 to 20 medals). In other words, the coins, medals, or both inserted by the player can be uniformly represented by the number of medals after conversion. The number of medals after conversion is hereinafter referred to as the "inserted number of bets and the inserted number of bets that is inserted to start a first game is hereinafter referred to as the "initial number of bets."

[Functional Block Diagram of the Medal Game Apparatus]

[0031] Fig. 2 is a functional block diagram of the medal game apparatus of Embodiment 1. As shown in Fig. 1, this medal game apparatus comprises: a main control means 201 for controlling the operations of the entire apparatus and the operations of each function-realizing means; a first game control means 202 for controlling the progress of a first game by executing a game program for the first game that is stored in a specified storage means, and a second game control means 203 for controlling the progress of a second game by executing a game program for the second game that is stored in a specified storage means.

[0032] The medal game apparatus also comprises: a payout rate setting means 205 for setting a payout rate that indicates a ratio of the total number of medals to be paid out to the total number of Inserted bets; an item location setting means 205 for setting the locations of items in the first game; a difficulty level setting means 206 for setting the difficulty level for the second game; and a continuance determining means (or retrying means) 207 for performing the processing to determine whether or not to continue playing the second game and the processing to determine the inserted number of bets for continuing the game.

[0033] Moreover, this medal game apparatus includes: an input means 208 for the player to input, for example, operational information or instructions to start the game; and an output means 209 as a display to show, for example, a game screen. The medal game apparatus also includes: a coin/medal inserting means 210 for receiving coins or medals inserted by the player; a betting amount processing means 211 for performing the processing to detect the authenticity and denomination or type of the coins or medals accepted by the coin/medal inserting means 210 and whether or not the detected coins or medals are sufficient for the betting amount to play one game, and the control processing to pay out medals according to information about the earned medals from the second game control means 203; and a medal payout means 212 for paying out medals.

[0034] Furthermore, the medal game apparatus includes: an item location table 213 which specifies the

number and locations of items under certain conditions, and which is referred to by the item location setting means 205; a difficulty level table 214 which specifies a difficulty level of the second game under certain conditions, and which is referred to by the difficulty level setting means 206; a first game data 215 which relates to the first game, and which is referred to by the first game control means 202; and a second game data 216 which relates to the second game, and which is referred to by the second game control means 203.

[Hardware Block Diagram of the Medal Game Apparatus]

[0035] Fig. 3 shows the hardware structure of the electronic game apparatus that realizes the functional means of Fig. 2. This hardware structure is not limited to the structure indicated in Fig. 3, but publicly known hardware structures may equally apply to this invention.

[0036] The electronic game apparatus comprises: a TV monitor 13 as the aforementioned output means 209 and a speaker 14, The TV monitor 13 displays images of the game in progress, and a projector may also be used instead of the TV monitor 13.

[0037] An information processing block 10 includes a CPU (central processor) 101 as well as the following elements necessary for executing a game program: ROM 102, RAM 103, a sound device 104, an I/O interface 106, a scroll data arithmetic unit 107, a coprocessor (auxiliary processor) 108, a landform data ROM 109, a geometrizer 110, a shape data ROM 111, a drawing device 112, a texture data ROM 113, a texture map RAM 114, a frame buffer 115, an image synthesizer 116, and a D/A converter 117.

[0038] The ROM 102 as one form of storage media in this invention may include other storage means, such as a hard disk, a cartridge-type ROM, a CD-ROM, and other various kinds of publicly known media, and may also include communication media (the Internet and various kinds of personal computer communication networks). This ROM stores a program for realizing the functional means described in the claims The ROM 102 also stores a conversion table for converting the inserted coins into medals, the item location table 213, the difficulty level table 214, the first game data 215, and the second game data 216.

[0039] The CPU 101 is connected through bus lines to the ROM 102 with specified programs and the like stored therein, the RAM 103 for storing data, the sound device 104, the I/O interface 106, the scroll data arithmetic unit 107, the coprocessor 108, and the geometrizer 110.

[0040] The RAM 103 functions as a buffer, so that various commands (including a command to display objects) to the geometrizer 110 are written thereon and a matrix at the time of transformation matrix operation is written thereon. The sound device 104 is connected through a power amplifier 105 to the speaker 14. Audio

signals generated by the sound device 104 undergo power amplification and are then sent to the speaker 14.

[0041] According to this embodiment, the CPU 101 reads, based on the program installed in the ROM 102, the progress of a game story, landform data from the ROM 109, or shape data (three-dimensional data including "car objects" and "game background such as roads, landscape, buildings, indoor scenes, and underpasses") from the shape data ROM 111, and then executes, for example, situation settings in three-dimensional virtual space as well as driving game processing with regard to trigger signals from the input means 20A. According to the program installed in the ROM 102, the CPU 101 realizes the functions of the main control means 201, the first game control means 202, the second game control means 203, the payout rate setting means 204, the item location setting means 205, the difficulty level means 206, and the continuance determining means 207 as shown in Fig. 2.

[0042] Concerning various types of objects in the virtual game space created by the first game control means 202 and the second game control means 203, after coordinate values in the three-dimensional space are determined, a transformation matrix for transforming the coordinate values into a visual field coordinate system and the shape data (of buildings, landform, indoor scenes, laboratories, furniture and the like) are designated in the geometrizer 110. The landform data ROM 109 is connected to the coprocessor 108. Therefore, the landform data such as a predetermined camera movement course is sent to the coprocessor 108 (and the CPU 101). The coprocessor 108 is designed, for example, to assess the number of hits after shooting and performs control operations regarding a deviation from objects in the line of sight of the camera or the movement of the sight line. The coprocessor 108 mainly assumes the operation of floating point calculations during this assessment and computation. As a result, the coprocessor 108 assesses the number of hits after shooting the objects and the arithmetic operation of the sight line moving position in relation to the location of the relevant objects, and the results thereof are sent to the CPU 101.

[0043] The geometrizer 110 is connected to the shape data ROM 111 and the drawing device 112. The shape data ROM 111 has previously stored therein the polygon shape data which consists of objects such as background and cars, and this shape data is sent to the geometrizer 110. The geometrizer 110 performs perspective transformation of the shape data designated by the transformation matrix sent from the CPU 101 and obtains the data transformed from the coordinate system in the three-dimensional virtual space into the visual field coordinate system.

[0044] The drawing device 112 pastes textures onto the transformed shape data of the visual field coordinate system, and outputs such data to the frame buffer 115. In order to paste the textures, the drawing device 112 is connected to the texture data ROM 113 and the texture

map RAM 114, and also to the frame buffer 115. Polygon data means a group of data of relative or absolute coordinates of respective vertices of polygons (polygons: mainly triangles or quadrangles) which are made of an aggregate of a plurality of vertices. The landform data ROM 109 stores polygon data which are set comparatively rough to satisfy the movement of the camera in the virtual space along with a game story. However, the shape data ROM 111 stores polygon data which are set in more detail with regard to the shapes composing pictures of competitors, background and the like.

[0045] The scroll data arithmetic unit 107 performs operations of scroll picture data such as letters. This arithmetic means 107 and the above-mentioned frame buffer 115 are connected to the image synthesizer 116 and the D/A converter 117 and then to the TV monitor 13. This allows the polygon picture (simulation results), including the objects (rides) and landscape (background), which is temporarily stored in the frame buffer 115, and the scroll picture with other letter information (such as time count on the player's side), to be synthesized according to a designated priority, thereby generating final frame picture data. This picture data is converted by the D/A converter 117 into analog signals, which are sent to the TV monitor 13. The pictures of the game are then displayed in real time.

[0046] Referring to Fig. 3, the input means 20A includes the coin/medal inserting means 210 and an operational system necessary for simulating driving a car, such as a steering wheel, a brake pedal, and a gear shifter. The output means 22A includes the medal payout means 212 as well as lamps and a steering wheel kickback mechanism used for driving simulation.

[Game Structure]

[0047] The structure of a game provided by the electronic game apparatus of this invention is described below. The game provided by the electronic game apparatus of this invention is started when the player inserts a specified betting amount (that is, makes a bet). The game consists of: a first game in which the player manipulates the operational means to acquire medals (the number of medals payable to the player is decided); and a second game which starts after the termination of the first game, and which determines whether or not the medals earned in the first game should be paid out to the player. If the second game ends because the player loses (without the payout of medals), it is possible for the player to restart the second game while maintaining the winnings (number of medals) earned in the first game by inserting a specified betting amount. In this specification, the expression "to insert the betting amount" is used interchangeably with the expression "to make a bet." The following description is about a case in which the first game and the second game are applied to a racing game according to this embodiment. However, this invention is not limited to the racing game, but

can also apply to a shooting game. If the above-described requirements are met, the structure of the first game and the second game can be changed as appropriate according to game specifications.

[0048] Fig. 4 shows an example screen structure displayed in the first game. As shown in Fig. 4, the screen displays: a car to be operated by the player; a course on which the car runs items to be acquired by the player; and the number of medals according to the acquired items. The course is selected by the player. The items are located according to the item location table determined under certain conditions. The player's car runs the race while acquiring the items scattered throughout the course by fully utilizing the steering wheel, the brake pedal, and the accelerator pedal and thereby skillfully driving the car. When the car operated by the player contacts an item, this means that the player has acquired the item, and this item is then converted into medals. In this way, the number of medals acquired by the player is calculated in the first game.

[0049] On the other hand, Fig. 5 shows an example screen structure displayed in the second game. The second game is played to determine whether or not the number of medals earned by the player in the first game should be paid out. The screen displays: a car to be operated by the player; a course on which the car runs; a braking point that indicates a position where the player should apply the brakes; and the wind conditions that affect the braking point. The difficulty level of the second game is determined according to this braking point and a tolerance range for the braking point. If the player applies the brakes when the player's car is located on the braking point (or within the tolerance range), the car stops directly on the stop line. However, if the player applies the brakes when the car is not located on the braking point (or within the tolerance range), the car stops at a position outside the stop line. When the car stops directly on the stop line, medals are paid out to the player.

[0050] The first game according to this embodiment adopts the so-called "multi-bet format (various bets format)" in which the unit betting amount for the game is not fixed. The player can arbitrarily choose, under certain limitations, any unit betting amount (the total value of coins or the number of medals to be inserted at the start of a game) for the game. Moreover, it is possible to arbitrarily choose the medium for payment of the betting amount. For example, it is possible to start one game with just a "100 yen" coin, or to start one game with "30 medals" that consist of a coin (a 100 yen coin = 10 medals) plus medals (20 medals).

[Logic Flow of the Entire Game]

[0051] The logic flow of the entire game is described below with reference to Fig. 6. The processing of Fig. 6 is controlled by the main control means 201 and is broadly divided into a first game mode, a second game

mode, and a continuance determination mode,

[0052] Once the power of the electronic game apparatus is turned on, the main control means 201 executes various kinds of initial settings. For example, the main control means 201 sets a fixed payout rate based on a value input by an administrator of the electronic game apparatus (STEP 601). After the initial settings are input, the display shows an initial screen which prompts the start of the game. Subsequently, as the player inputs the betting amount necessary for one game by using coins or medals, the coin/medal inserting means 210 detects the insertion of the coins or medals, and the betting amount processing means 211 accepts the insertion (STEP 602). Since this embodiment adopts the multi-bet format, the player can insert any desired amount of coins or medals. The betting amount processing means 211 converts the inserted amount into the initial number of bets according to the conversion table. For example, a 100 yen coin is converted into 10 medals and, therefore, the initial number of bets is 10.

[0053] When the player inputs the instructions to start the game (STEP 603), the main control means 201 causes the item location setting means 205 to execute the item location processing and then causes the first game control means 202 to start the first game, and then proceeds to the first game mode. The processing for the first game mode will be described later. When the car operated by the player completes running the course under specified conditions (for example, within the time limit), the first game control means 202 executes the processing to calculate the number of medals earned by the player through the run and displays the results on the screen. The first game mode is thereby terminated.

[0054] When the player instructs the game apparatus to start the second game (STEP 605), the main control means 201 causes the difficulty level setting means 206 to execute the difficulty level setting processing and then causes the second game control means 203 to start the second game, and then proceeds to the second game mode (STEP 606). The processing for the second game mode will be described later. When the second game control means 203 determines that the player has won the second game, it notifies the betting amount processing means 211 of a command to pay out the medals earned in the first game. Accordingly, the number of earned medals is paid out to the player. However, if the player has lost the game, the command for this payout order will not be sent.

[0055] When the second game is over, the main control means 201 causes the continuance determining means 207 to execute the continuance processing (STEP 607). The details of the continuance determination processing will be described later. The main control means 201 determines whether or not to continue the game according to the determination results of the continuance determining means 207. If the player pays the betting amount for continuing the game that is decided

by the continuance determining means 207, the main control means 201 determines that the game should be continued (STEP 608) and then restarts the second game. If the second game control means 203 determines that the player has won the second game, it notifies the betting amount processing means 211 of the command to pay out the medals earned in the first game.

[Data Structure of Each Table]

[0056] The data structure of each table is described below with reference to Figs. 7 and 8. Fig. 7 shows an example data structure of the item location selection table. Fig. 8 shows an example data structure of the difficulty level table.

[0057] As shown in Fig. 7, the item location selection table 213 is used to select one item location table among a group of item location tables, and stores the race course, the type of the inserted medium, and the item location tables, all of which are correlated to each other. The race course is the type of course selected by the player, and the difficulty level varies from one course to another. For example, the difficulty level increases alphabetically, that is, the difficulty level for course B is higher than that for course A, and the difficulty level for course C is higher than that for course B. The type of the inserted medium is the type(s) of a medium or a combination of media (medals, coins, or a combination of medals and coins) inserted by the player as the betting amount for one game. The item location tables not shown in Fig. 7 are used to specify the number and locations of the items to be located. The quantity of items to be located increases in the different item location tables by two times, three times, four times, and so on, as many as a base quantity of the items in a first item location table. The item location table is specified by a combination of the race course and the type of the inserted medium. Since the quantity of items to be located is determined by a multiple factor in the relevant item location table, the item location table is a condition table for setting the number of medals that can be earned by the player in the first game. The processing to select the item location table is executed so that the table with more items will be selected depending on the difficulty level of the course, or that the table with more items will be selected when coins are inserted rather than medals.

[0058] Concerning Embodiment 1, the above-described tables are used to decide the locations of items. However, the item location setting is not limited to the above-described setting. For example, any standard other than the race course may be adopted. It is also possible to make the number of items proportional to the number of inserted bets.

[0059] The difficulty level table to be used in the second game is now described. As shown in Fig. 8, the difficulty level table 214 consists of a plurality of tables. Specifically, the difficulty level table 214 consists of a

difference table, a winning factors table, a braking tolerance range table, and a wind speed table.

[0060] The difference table of Fig. 8(A) is used to decide a desired winning factor table name according to a difference in data between the fixed payout rate and the current payout rate, and this difference table stores the difference data and the winning factor tables, which are correlated to each other.

[0061] The winning factor tables of Fig. 8(B) are used to decide a desired braking tolerance range table name in accordance with the ratio of the player's earned medal quantity to the initial number of bets (the winning factor = the number of earned medals + the initial number of bets). Each winning factor table stores winning factor data about the ratio of the player's number of earned medals to the initial number of bets, as well as the braking tolerance range table names, and the winning factor and the braking tolerance range tables are correlated to each other. Different winning factor tables are prepared for different values of the difference between the fixed payout rate and the current payout rate.

[0062] The braking tolerance range tables of Fig. 8(C) are used to decide the level of a braking tolerance according to the payout rate difference. Each braking tolerance range table stores data about the payout rate difference and the probability of the level selection, which are correlated to each other. The braking tolerance level is set from level 0 to level 9. As the level is raised from 0 to 9, the brake tolerance range is set to expand (so that the difficulty level will become lower). For example, the tolerance range at level 0 is 10 seconds, while the tolerance range at level 9 is 80 seconds. The probability is set such that a lower payout rate difference data will result in the selection of a lower difficulty level, while a greater payout rate difference data will result in the selection of a higher difficulty level.

[0063] The wind speed table of Fig. 8(D) is used to decide a wind speed level based on the winning factor data, and stores the winning factor data and the level selection probability, which are correlated to each other. The wind speed level determines the braking point position. The higher the wind level is, the more frequently the wind speed is changed and, therefore, the braking point position is often changed. The wind speed level is set from level 0 to level 4. As the level is raised from 0 to 4, the wind speed is set to become faster (so that the difficulty level will become higher). The probability is set such that a lower winning factor data will result in the selection of a lower difficulty level, while a higher winning factor data will result in the selection of a higher difficulty level.

[Item Location Setting Processing]

[0064] The logic flow of the payout rate setting processing is described with reference to Fig. 9. Fig. 9 is a flowchart that shows the logic flow of processing by the item location setting means. The processing to lo-

cate items is, in other words, the processing to set the number of medals that can be earned (the earnable number of medals) with regard to the amount of the bet. It is also possible to say that the processing sets a medal payout rate with regard to the number of bets. Concerning this embodiment, the number of medals which can be earned corresponds to the number of items to be located, but the number of medals which can be earned may be also set by other methods.

[0065] The item location setting means 205 starts to operate when the instructions to start the first game is input. The item location setting means 205 first obtains the type of the course selected by the player from a course storage region of the RAM 103 (STEP 901). It also obtains the type of the inserted medium from a medium storage region of the RAM 103 (STEP 902). It then obtains, from the item location selection table 213 of Fig. 7, the item location table name that corresponds to the obtained course type and the obtained medium type (STEP 903). The item location setting means 205 stores the obtained item location table name in a payout rate storage region of the RAM 103,

[0066] The following explanation is given, assuming that the player selects course C and the inserted medium is coins. Referring to Fig. 7, the multiple factor of the number of items that is specified by the item location table is 9, in this case. The initial number of bets is 10.

[Logic Flow of the First Game]

[0067] The logic flow of the first game is described below with reference to Fig. 10. Fig. 10 is a flowchart that shows the logic flow of processing by the first game control means 202.

[0068] When the item location setting processing terminates, which is the processing to set the earnable number of medals with respect to the number of bets, the first game control means 202 starts to operate. The first game control means 202 first sets the content of the first game according to the item location table (STEP 1001). Specifically, it calculates the quantity of items to be located by multiplying the winning factor specified in the item location table by the initial number of bets. It is also possible to consider other parameters as necessary. Regarding the aforementioned example, the initial number of bets is 10 and the winning factor is 9. Therefore, the number of medals which can be earned is 90.

[0069] Subsequently, the first game control means 202 sets the number of items to be displayed according to the number of medals which can be earned. For example, the setting is made to establish the following relationship: 1 item = 0.01 medal. Since the number of medals which can be earned is 90, the number of items is set to 9000.

[0070] The first game control means 202 then reads the first game data 215 and displays a game screen (including the car, course, items, and background) on the display based on the first game data 215 (STEP 1003).

As the player manipulates the steering wheel or other operational means, the operational information is input (STEP 1004). The first game control means 202 conducts the specified arithmetic processing to determine whether or not an item has been earned on the basis of the input operational information (STEP 1005).

[0071] If the first game control means 202 determines that the player has acquired an item ("Yes" in STEP 1005), it calculates the player's earned medal quantity (STEP 1006). In other words, the first game control means 202 converts the item into the medal quantity and adds it to the already earned medal quantity. For example, one item is converted to 0.001 medal. The first game control means 202 displays the calculated value (number of medals) on the screen and stores it as the number of earned medals in an number of earned medals region of the RAM (STEP 1007).

[0072] When the player's car completes the run of the course or when the time limit is over, the first game control means 202 determines whether or not the first game is over (STEP 1008). If the first game is over, the first game control means 202 displays the total number of medals earned by the player on the screen (STEP 1009). For example, assuming that the player has acquired 5000 items out of 9000 items located throughout the course, the number of earned medals is set to 50 as a result.

[Logic Flow of the Difficulty Level Setting Processing]

[0073] The level of the difficulty level setting processing is described below with reference to Fig. 11. Fig. 11 is a flowchart that describes the logic flow of processing by the difficulty level setting means.

[0074] When the player inputs the instructions to carry out the second game, the difficulty level setting means 206 starts to operate. The difficulty level setting means 206 first calculates a difference between the fixed payout rate stored in a fixed payout rate region of the RAM and the current payout rate (STEP 1101). The current payout rate is calculated at that time by dividing the total inserted number of bets by the total number of payout medals. Subsequently, the difficulty level setting means 206 selects, from the payout table, the winning factor table name corresponding to the calculated difference (STEP 1102). For example, assuming that the fixed payout rate is 90% and the current payout rate is calculated as 95%, a difference between these rates is -5% and, therefore, the scale factor table "C" is selected by referring to the difference table of Fig 8(A).

[0075] The difficulty level setting means 206 then calculates a ratio (winning factor) for the number of earned medals stored in the earned medal storage of the RAM to the initial number of bets (STEP 1103). Subsequently, the difficulty level setting means 206 selects, from the selected winning factor table of Fig. 8(B), the braking tolerance table name corresponding to the calculated winning factor (STEP 1104). Regarding the aforemen-

tioned example, the initial number of bets is 10 and the number of earned medals is 50. Accordingly, the ratio of the number of earned medals to the initial number of bets is 5. Therefore, the braking tolerance table "d" is selected.

[0076] The difficulty level setting means 206 extracts the braking tolerance table "d" from among a group of braking tolerance tables of Fig. 8(C) and selects the braking level corresponding to the payout rate difference according to the probability specified by the selected braking tolerance table (STEP 1105). Moreover, the difficulty level setting means 206 selects, from the wind speed table of Fig. 8(D), the wind speed level corresponding to the winning factor according to the probability specified by the wind speed table (STEP 1106).

[0077] The difficulty level setting means 206 stores the selected braking level in a braking level region of the RAM, and the selected wind speed level in a wind speed region of the RAM (STEP 1107).

[Logic Flow of Second Game]

[0078] The logic flow of the second game is described below with reference to Fig. 12. Fig. 12 is a flowchart that describes the logic flow of processing by the second game control means 203.

[0079] When the difficulty level setting means 206 terminates the difficulty level setting processing, the second game control means 203 starts to operate. The second game control means 203 first sets a tolerance range with regard to a successful braking position based on the braking level (STEP 1201). It also sets the successful braking position based on the wind speed level (STEP 1202). The successful braking position is set as time information on a time axis to display specified frames on the screen. One frame is displayed, for example, every 1/60th of a second (1 INT) and, therefore, it is possible to set the successful braking position as specified INT information. The tolerance range with respect to the successful braking position specifies a time lag regarding the successful braking position and is thereby specified as time information as shown in Fig. 8(c).

[0080] Subsequently, the second game control means 203 reads data for the second game and displays game screens (including the car, course, braking point, and wind speed) on the display based on the received data (STEP 1203). As the player applies the brakes, the braking information is input (STEP 1204). Based on this input braking information, the second game control means 203 determines whether or not the player has applied the brakes at the set successful braking position (STEP 1205). The second game control means 203 determines that the player has applied the brakes at the set successful braking position in either of the following cases: (a) where the INT information when accepting the interrupt by the player's brake input corresponds with the INT information at the successful

braking position; or (b) where the INT information when accepting the interrupt by the player's brake input does not correspond with the INT information at the successful braking position, but is included in the INT information within the tolerance range time for the successful braking position. When the second game control means 203 determines that the player has applied the brakes at the set successful braking position, it sends a medal payout command to the betting amount processing means 211 according to the data stored in the earned medal region of the RAM (STEP 1206). Consequently, the game is over (STEP 1207). However, when the second game control means 203 determines that the player has not applied the brakes at the set successful braking position, the operation proceeds to the continuance determination processing (STEP 1208)

[Continuance Determination Mode]

[0081] The logic flow of processing in the continuance determination mode is described below with reference to Fig. 13. Fig. 13 is a flowchart that explains the processing by the continuance determining means 207.

[0082] The continuance determining means 207 starts to operate when the second game control means 203 determines that the player has not applied the brakes at the set successful braking position. The continuance determining means 207 first determines whether or not the initial number of bets stored in the RAM is less than the number of earned medals quantity (STEP 1301). If the initial number of bets is less than the number of earned medals ("Yes" in STEP 1301), the number of bets for continuing the game is set to a value equal to the initial number bets (STEP 1303). The continuance determining means 207 then displays the number of bets for continuing the game on the display (STEP 1304). Regarding the aforementioned example, the initial number of bets is 10 and, therefore, the number of bets for continuing the game is also set to 10. Concerning Embodiment 1, the number of bets for continuing the game is set to equal to the initial number of bets because of the following reason: since the difficulty level of the second game is decided according to the ratio of the number of earned medals to the initial number of bets (or the number of bets required for continuing the second game), there is a high possibility that any change in the inserted number of bets may also result in a change in the difficulty level of the second game (see the winning factor tables of Fig. 8(B), the braking tolerance range tables of Fig. 8(C), and the wind speed table of Fig. 8(D)). For example, the difficulty level for the lost second game is decided based on the ratio (5. five times) of the number of earned medals (50) to the initial number of bets (10). If the player has inserted only 5 bets to continue the game, the ratio of the number of earned medals (50) to the inserted number of bets (5) is 10 and therefore, there is a possibility that the difficulty level may increase. Moreover, if the player has inserted

20 bets to continue the game, the ratio of the number of earned medals (50) to the inserted number of bets (20) is 2.5 and, therefore, there is a high possibility that the difficulty level may decrease. However, in order to maintain a balance between the two games, it is desirable that the difficulty level of the lost game be equal to the difficulty level of the game to be retried. Accordingly, the number of bets for continuing the game is not decided at the player's discretion. Instead, the same number of bets as the initial number of bets is required in order to continue the game.

[0083] When the continuance determining means 207 detects via the betting amount processing means 211 that the medium in the displayed quantity has been inserted ("Yes" in STEP 1305), it sets a continuance flag "ON" (STEP 1306). The continuance flag indicates whether or not the continuance processing can be executed. If the continuance processing is to be executed, the continuance flag is set "ON." However, if the continuance processing is not to be executed, the continuance flag is set "OFF."

[0084] If the initial number of bets is equal to or greater than the number of earned medals, the continuance determining means 207 determines not to continue the game and sets the continuance flag "OFF" (STEP 1307). The above-described control step is conducted not to continue the game when the initial number of bets is equal to or greater than the number of earned medals, because of the following reason: since the number of bets for continuing the game is set to a value equal to the initial number of bets, if the game were continued under this condition and even if the player were to win the game, the player would only be able to acquire medals in a smaller quantity than the number of bets for continuing the game. In other words, the player would suffer a loss as a result. For example, if the game were continued under the condition when the initial number of bets is 10 and the number of earned medals is 5, the number of bets for continuing the game is 10 and, therefore, the player will acquire only 5 medals even if he/she wins the game. However, it is easy to predict that the player who has lost the second game would not recognize the above-described possible loss, but would be driven by an impulse to retry the game. It is also possible that a player might retry the game by an erroneous operation. Accordingly, in a situation disadvantageous to the player, the game apparatus is set to terminate the game before the player makes any choice.

[0085] According to Embodiment 1 as described above, the number of bets for continuing the game is set to a value equal to the initial number of bets, so that the player can play the retried second game under conditions similar to those of the lost second game. Therefore, it is possible to give the player an opportunity to retry the second game without disturbing the balance between the two games.

[0086] Moreover, according to Embodiment 1, the game is not continued when the initial number of bets is

equal to or greater than the number of earned medals. Therefore, it is possible to protect the player from suffering a loss accidentally or by misoperation.

5 [Embodiment 2]

[0087] Embodiment 2 is characterized in that the number of bets for continuing the game is set according to the number of earned medals in the first game. It is possible to adopt various standards, as necessary, for calculating the number of bets for continuing the game according to the number of earned medals in the first game. However, the following description is given about a case in which a calculation table for calculating the number of bets for continuing a game is used, and a case in which a certain factors is used. The structure of Embodiment 2 can be combined with that of Embodiment 1 as appropriate.

[0088] The logic flow of processing in the continuance determination mode according to Embodiment 2 is described below with reference to Fig. 14. Fig. 14 is a flow-chart that explains the processing by the continuance determining means 207 according to Embodiment 2.

[0089] The continuance determining means 207 selects calculation standards under specified conditions (STEP 1401). The specified conditions include the following: either of the standards may be selected with a fixed probability; or the standard may be selected randomly. When standard A is selected, the continuance determining means 207 obtains, from the calculation table, the number of bets for continuing the game that corresponds to the number of earned medals (STEP 1402). This calculation table stores the number of earned medals and the number of bets for continuing the game, which are correlated to each other. The correlation between the number of earned medals and the number of bets for continuing the game is established such that a larger number of earned medals will result in a larger number of bets for continuing the game, while a smaller number of earned medals will result in a smaller number of bets for continuing the game.

[0090] However, when standard B is selected, the number of bets for continuing the game is calculated by multiplying the number of earned medals by a specified value, for example, 50%. (STEP 140) If the specified value is fixed, a larger number of earned medals will result in a larger number of bets for continuing the game, and a smaller number of earned medals will result in a smaller number of bets for continuing the game. For example, if the initial number of bets is 10 and the number of earned medals is 100, the number of bets for continuing the game is 50 ($100 \times 0.5 = 50$), which is greater than the initial number of bets. However, if the initial number of bets is 20 and the number of earned medals is 10, the number of bets for continuing the game is 5 ($10 \times 0.5 = 5$), which is less than the initial number of bets.

[0091] The continuance determining means 207 sets the number of bets for continuing the game to the cal-

culated value. (STEP 1404)

[0092] Subsequently, the continuance determining means 207 selects whether or not the difficulty level of the second game should be maintained to retry the game, that is, whether or not the difficulty level should be changed according to the number of bets for continuing the game (STEP 1405) When it is selected to maintain the difficulty level, the continuance determining means 207 sets a difficulty level maintenance flag "ON". The difficulty level maintenance flag indicates whether or not it is possible to execute the difficulty level setting processing. When the difficulty level setting processing should not be executed, the difficulty level maintenance flag is set "ON". (STEP 1406) When the difficulty level setting processing should be executed, the difficulty level maintenance flag is set "OFF" (STEP 1407). The selection of whether or not the difficulty level should be maintained is conducted under specified conditions. As the specified conditions, the selection may be made according to a fixed probability, or the selection may be made randomly.

[0093] As described above, when the number of earned medals is high, the number of bets for continuing the game becomes greater than the initial number of bets. However, when the number of earned medals is low, the number of bets for continuing the game becomes less than the initial number of bets. In the former case, it is possible to further increase the player's excitement at the time of retrying the game by causing the player to bear the risk according to the number of earned medals in the first game. In the latter case, since the player can retry the game with a smaller number of bets, it is possible to grant a bonus to the player.

[0094] When it is decided to maintain the difficulty level of the lost second game, that is, to set the same difficulty level for the retried second game as that of the lost second game, it is possible to maintain the balance between the two games. However, when it is decided not to maintain the difficulty level of the lost second game, the difficulty level is set according to the number of bets for continuing the game. There is a high possibility that: if the number of bets for continuing the game increases, the difficulty level may also become higher; and if the number of bets for continuing the game decreases, the difficulty level may also become lower. Accordingly, when retrying the game, the player can select, at his/her discretion, whether the same difficulty level as that of the lost second game should be applied or the difficulty level should be changed.

[Embodiment 3]

[0095] Embodiment 3 is characterized in that the multi-bet format is also adopted for the number of bets for continuing a game, so that the player can select his/her desired number of bets for continuing the game. The structure of Embodiment 3 can be combined with that of Embodiments 1 and 2 as appropriate.

[0096] The logic flow of processing in the continuance determination mode according to Embodiment 3 is described below with reference to Fig. 15. Fig. 15 is a flow-chart that explains the processing by the continuance determining means 207 according to Embodiment 3.

[0097] The continuance determining means 207 determines whether or not the initial number of bets is less than the number of earned medals (STEP 1501). If the continuance determining means 207 determines that the initial number of bets is less than the number of earned medals, it sets the first number of bets for continuing the game to a value higher than the initial number of bets (STEP 1502). However, if the continuance determining means 207 determines that the initial number of bets is equal to or larger than the number of earned medals, it sets the first number of bets for continuing the game at a value less than the initial number of bets (STEP 1503). Then, the continuance determining means 207 sets a second number of bets for continuing the game at a value equal to the initial number of bets (STEP 1504).

[0098] Subsequently, the continuance determining means 207 displays the first number of bets for continuing the game and the second number of bets for continuing the game, respectively (STEP 1505). If the player selects either of the number of bets, the number of bets information selected by the player is then input (STEP 1506). The continuance determining means 207 sets the number of bets for continuing the game to the input number of bets (STEP 1507).

[0099] According to Embodiment 3 described above, the player can select, at his/her own discretion, the number of bets for continuing the game and, therefore, the player can have a wider range of options when retrying the game. The first number of bets for continuing the game is greater or less than the initial number of bets. If the difficulty level is changed accordingly, the player has to select either the "high-risk/high-return" option or the "low-risk/low-return" option. Therefore, it is possible to make the game process more entertaining.

[Other Embodiments]

[0100]

(1) The above-described embodiments employ the structure in which the number of icons (medals) is decided according to the payout rate. However, if the structure in which the number of earned medals of the first game is decided depending on the result of the game (that is, whether the player has won or lost the game) is used, it is possible to calculate the number of earned medals by multiplying the initial number of bets by the payout rate. Concerning the second game, the above description is given about the case in which the number of earned medals earned in the first game is paid out. However, if the player has won the second game, it is possible to

pay out the number of medals calculated by multiplying the number of earned medals in the first game by a certain winning factor. Therefore, it is possible to further entice the player's eagerness to play the second game.

(2) Concerning the above-described embodiments, the first game and the second game have been described. However, the game structure is not limited to the structure that consists of a first and a second game. The game structure can be divided into any number of stages; for example, a second game followed by a third game, until n^{th} game. It is possible to adopt the following setting: if the player has lost the X^{th} game, he/she may retry (or continue) the X^{th} game by inserting a specified amount at that moment. Accordingly, it is possible to provide the game process that can appeal the player more.

(3) Although the number of times of continuing the game is limited to once in the above-described embodiments, the limited number of times of continuing the game may be changed according to the circumstances. Accordingly, it is possible to avoid any inconvenience that may arise by setting an unlimited number of times for continuing the game, and to grant a bonus to the player.

(4) Concerning the above-described embodiments, the number of medals earned by the player is paid out in game medals. However, if the player inserts coins and receives coins for the payout, it is possible to replace the expression "the number of earned medals" in the above descriptions with the expression "the earned amount (of money/coins)."

[0101] According to this invention, it is possible to bring about changes in the process of the player increasing his/her bets, thereby making it possible to provide an electronic game apparatus that appeals to players.

Claims

1. An electronic game apparatus comprising of:

an inserting means for inserting money or game medals;

a betting amount processing means for converting the inserted money or game medals into an initial number of medals as a betting amount necessary for playing the first electronic game; a first information processing means which is caused by the insertion of the money or game medals to execute a first electronic game program, and which determines the number of medals earned by a player based on the results

of a first electronic game;

a second information processing means for executing a second electronic game program after the termination of the first electronic game, and then for determining whether or not the game medals in the number of earned medals determined by the first information processing means should be paid out, based on the results of a second electronic game; and

a retrying means for setting a betting amount necessary for playing the second electronic game if the second information processing means determines not to pay out the number of earned game medals and if it is determined to execute the second electronic game program again.

2. The electronic game apparatus according to claim 1, further comprising a storage means for storing the initial number of medals converted by the betting amount processing means,

wherein the retrying means sets the betting amount necessary for playing the second electronic game to a betting amount equal to the initial number of medals stored in the storage means.

3. The electronic game apparatus according to claim 1 or 2, wherein the betting amount processing means accepts the betting amount necessary for playing the first electronic game in the format that enables the player to select the betting amount.

4. The electronic game apparatus according to any of claims 1 to 3, further comprising an earnable medal number setting means for deciding, according to the results of the player's selecting operation, a parameter that indicates the number of medals that can be earned by the player in the first electronic game, wherein the first information processing means executes the first electronic game program by referring to the parameter that indicates the number of medals which can be earned.

5. The electronic game apparatus according to any of claims 1 to 3, further comprising:

a display means for displaying display objects that are target objects for earning medals in the first electronic game; and

a display object setting means for deciding, according to the results of the player's selecting operation, a parameter that indicates the number of display objects;

wherein the first information processing means displays the display objects on the display means according to the parameter that indicates the number of the display objects, and converts the

displayed display objects into the number of medals earned by the player according to the player's manipulation in relation to the displayed objects.

6. The electronic game apparatus according to claim 5, wherein the earnable medal number setting means sets the parameter so that the player can acquire more medals when the inserting means accepts the insertion of a coin than when it accepts the insertion of a medal. 5
7. The electronic game apparatus according to claim 5, wherein the display object setting means sets the parameter so that the player can acquire more display objects when the inserting means accepts the insertion of a coin than when it accepts the insertion of a medal. 10
8. The electronic game apparatus according to any of claims 1 to 5, further comprising a difficulty level setting means for setting, based on the number of earned medals, a parameter that indicates a difficulty level for the second electronic game. 15
9. The electronic game apparatus according to any of claims 1 to 8, wherein when the second information processing means decides not to pay out the number of earned game medals and if the initial number of medals stored in the storage means is greater than the number of earned medals, the re-trying means controls the second information processing means not to execute the second electronic game program. 20
10. The electronic game apparatus according to any of claims 1 to 8, wherein when the second information processing means decides not to pay out the number of earned game medals, the retrying means makes the following setting: 25

if the initial number of medals is less than the number of earned medals, the retrying means sets a betting amount necessary for playing the second electronic game higher than a betting amount equal to the initial number of medals; 30

and

if the initial number of medals is greater than the number of earned medals, the retrying means sets the betting amount necessary for playing the second electronic game lower than the betting amount equal to the initial number of medals. 35
11. An electronic game apparatus comprising: 40

a control means for controlling the progress of a game that consists of a first game, which determines an earned amount from a bet, and a

second game which determines the payment of money for the earned amount;
 a first storage means for storing the bets given by the player;
 a rate setting means for setting a rate of the earned amount to the bets according to the results of the player's selecting operation before the start of the first game;
 a setting condition determining means for determining setting conditions for the first game according to the rate;
 a calculation means for calculating the amount earned by the player in the first game according to the setting conditions;
 a second storage means for storing the calculated earned amount,
 a difficulty level determining means for determining a difficulty level in the second game based on the calculated earned amount; and
 a determination means for determining whether or not the earned amount should be paid in money in the second game according to the determined difficulty level;

wherein when the determination means determines not to pay the earned amount in the second game, the control means displays the bets stored in the first storage means as bets for the second game and restarts the second game by accepting money equivalent to the displayed bets for the second game; and when the determination means determines to pay out the earned amount in the restarted second game, the control means pays out money for the earned amount stored in the second storage means.

12. The electronic game apparatus according to claim 11, wherein the setting condition determining means determines the earned amount according to the rate as a possible amount to be earned by the player, and
 the calculation means calculates the earned amount payable to the player out of the determined possible amount to be earned, according to the results of the player's selecting operation. 45
13. The electronic game apparatus according to claim 11, wherein when the number of bets stored in the first storage means is greater than the earned amount stored in the second storage means, the control means does not perform the retrying processing for the second game. 50

FIG.1

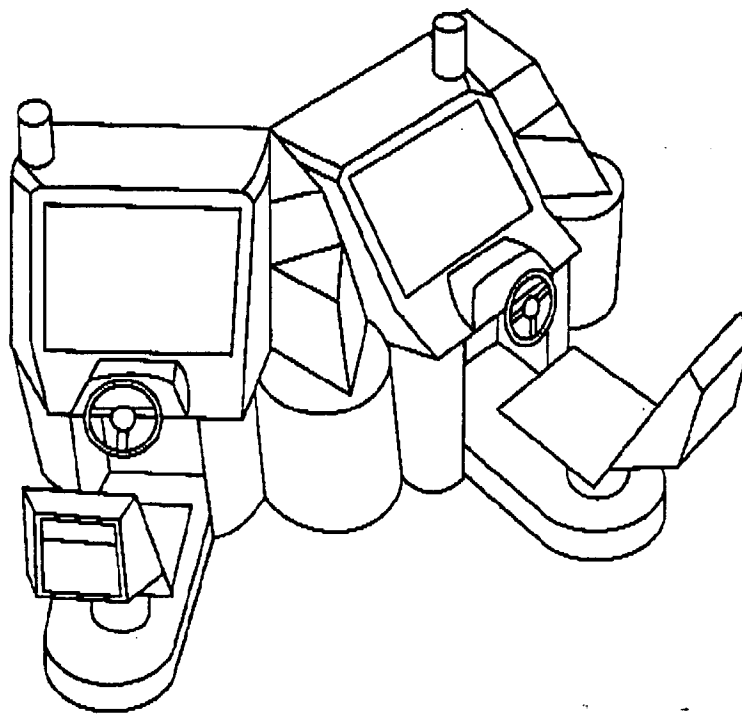


FIG.2

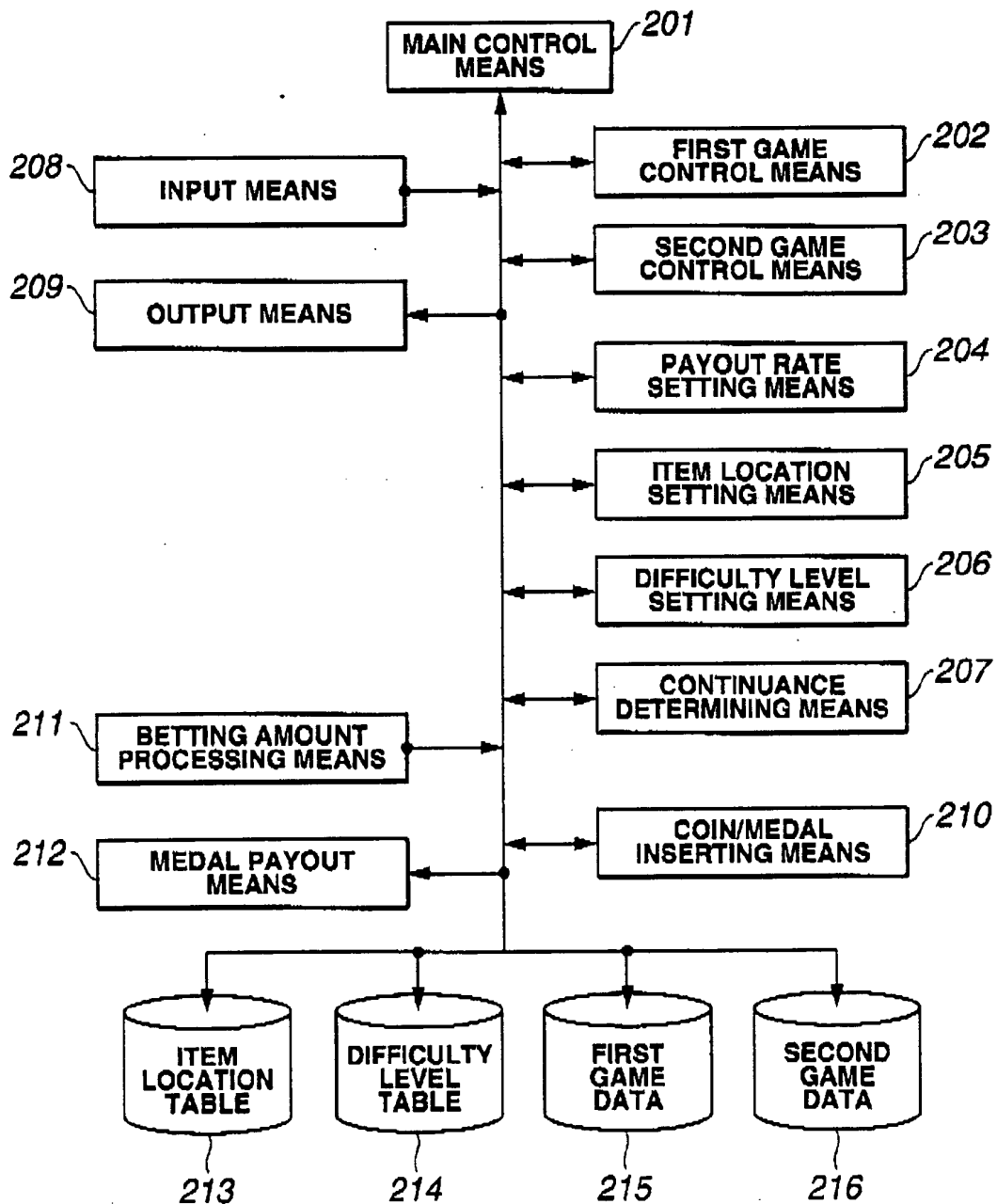


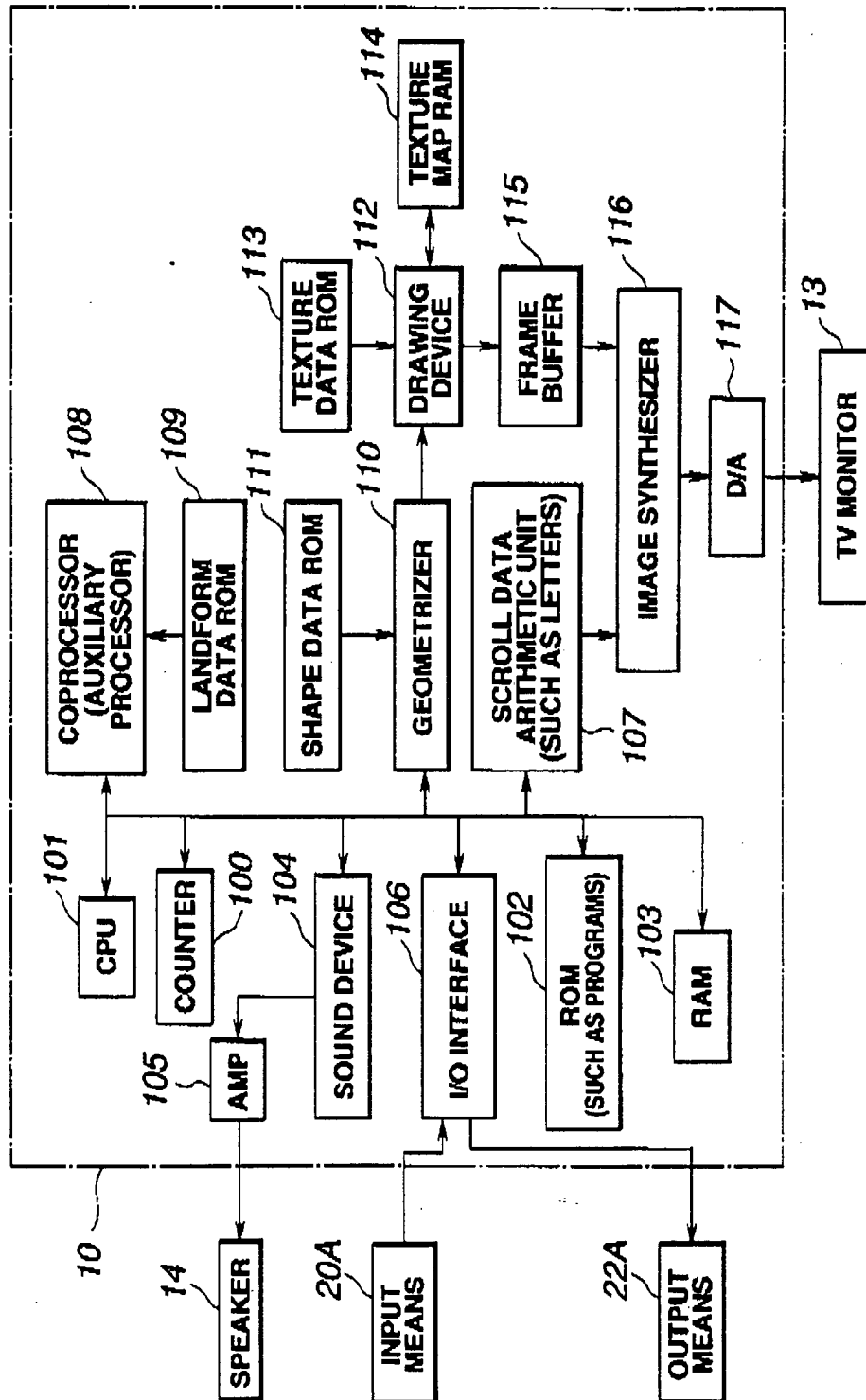
FIG.3

FIG.4

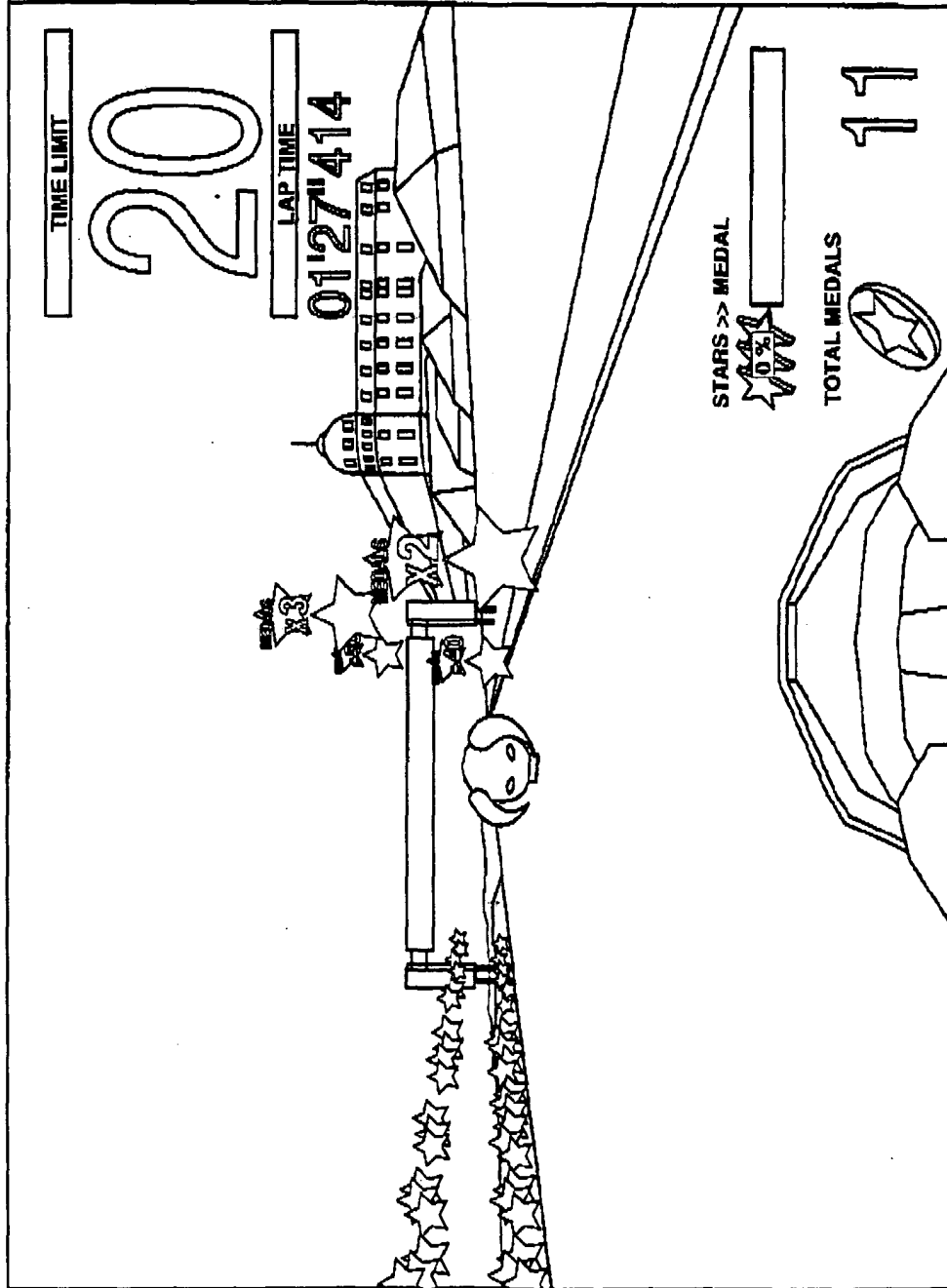


FIG.5

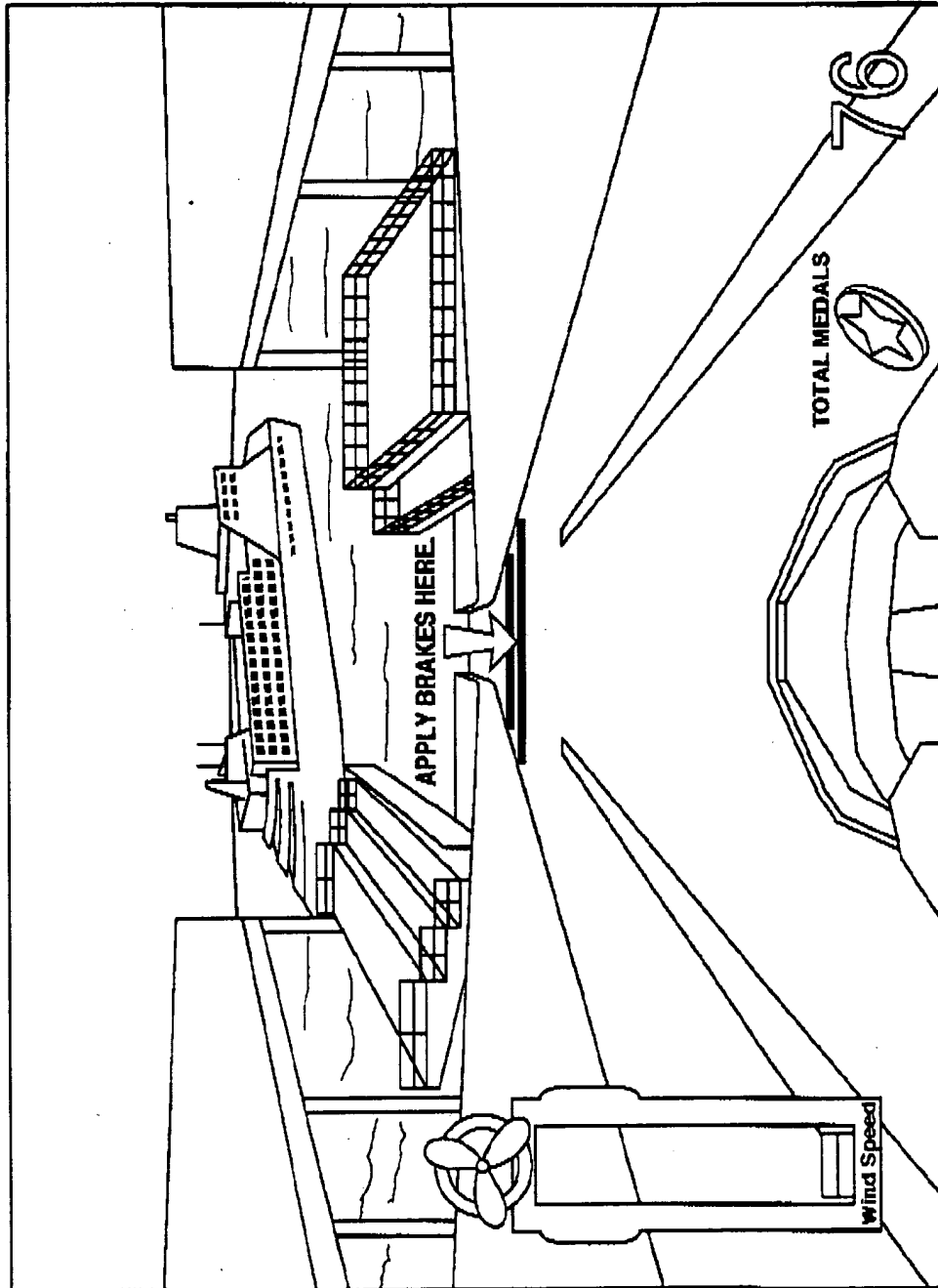


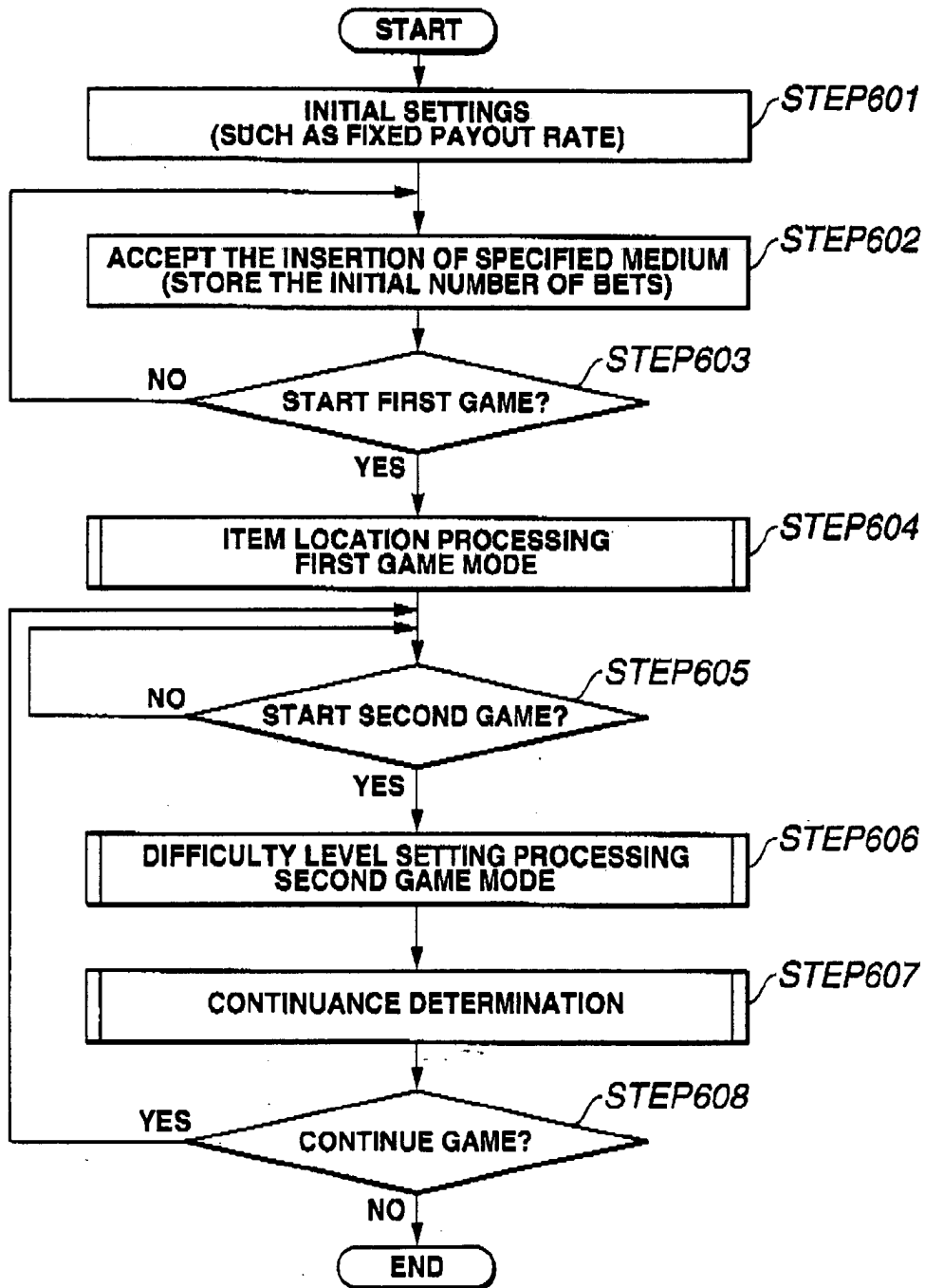
FIG.6

FIG.7**<ITEM LOCATION SELECTION TABLE>**

COURSE	TYPE OF INSERTED MEDIUM	LOCATION TABLE
A	MEDALS	LOCATION TABLE (WINNING FACTOR=1)
	MEDALS AND COINS	LOCATION TABLE (WINNING FACTOR=2)
	COINS	LOCATION TABLE (WINNING FACTOR=3)
B	MEDALS	LOCATION TABLE (WINNING FACTOR=4)
	MEDALS AND COINS	LOCATION TABLE (WINNING FACTOR=5)
	COINS	LOCATION TABLE (WINNING FACTOR=6)
C	MEDALS	LOCATION TABLE (WINNING FACTOR=7)
	MEDALS AND COINS	LOCATION TABLE (WINNING FACTOR=8)
	COINS	LOCATION TABLE (WINNING FACTOR=9)
⋮	⋮	⋮

FIG.8A

<PAYOUT DIFFERENCE TABLE>

DIFFERENCE	WINNING FACTOR TABLE
5~0	A
0~5	B
-5~-0	C
-10~-5	D
⋮	⋮

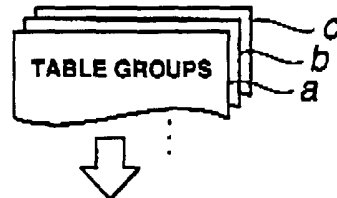
FIG.8B

<WINNING FACTORS TABLE>

WINNING FACTOR	TOLERANCE TABLE
1~2	a
2~3	b
3~4	c
4~5	d
5~6	e
6~7	f
7~8	g
8~9	h
9~10	i

A
B
C**FIG.8C**

<BRAKING TOLERANCE RANGE TABLE>



		BRAKING TOLERANCE								
		10.0	20.0	30.0	40.0					
		SECONDS	SECONDS	SECONDS	SECONDS	60.0	70.0	80.0		
PAYOUT RATE DIFFERENCE	+5.0% OR MORE	70.0%	5.0%	0.0%	5.0%	5.0%	0.0%	5.0%		
	+4.0% OR MORE	60.0%	0.0%	5.0%	0.0%	5.0%	10.0%	5.0%		
	+3.0% OR MORE									
	+1.0% OR MORE									
	0.0% OR MORE									
	-1.0% OR MORE									
	-2.0% OR MORE									
	-3.0% OR MORE									
	-4.0% OR MORE									
	-5.0% OR MORE	25.0%	0.0%	10.0%	0.0%	10.0%	25.0%	10.0%		
	-5.01% OR LESS	10.0%	2.0%	0.0%	10.0%	10.0%	0.0%	30.0%		

FIG.8D

<WIND SPEED TABLE>

		EASY ← → DIFFICULT				
		WIND STRENGTH				
		LEVEL 0	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
WINNING FACTOR	20 OR MORE	10.0%	10.0%	20.0%	35.0%	35.0%
	10 OR MORE					
	5 OR MORE					
	1 OR MORE					
	LESS THAN 1	35.0%	35.0%	20.0%	10.0%	10.0%

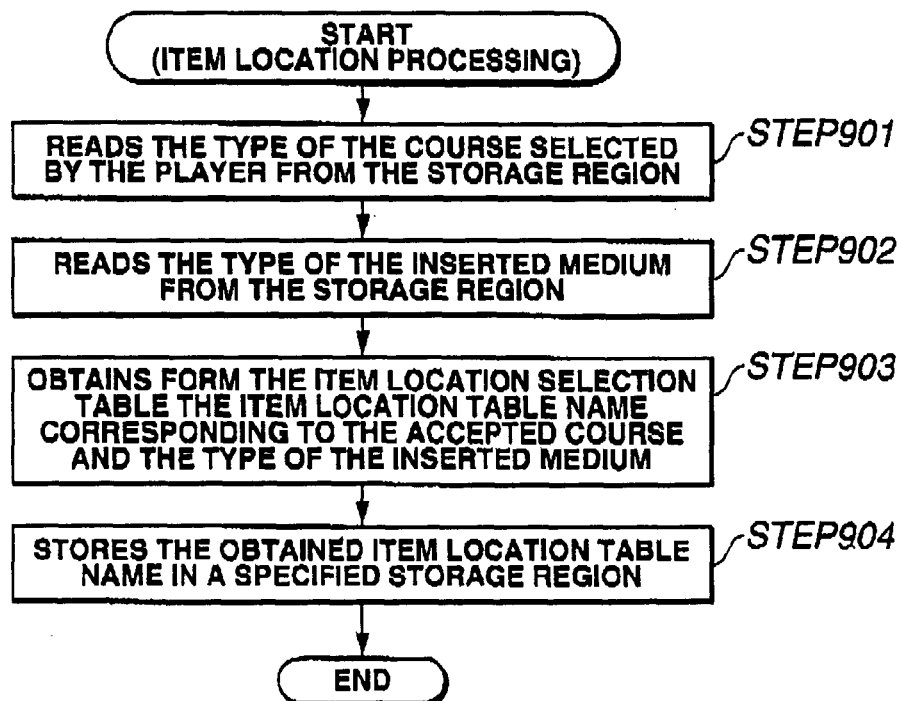
FIG.9

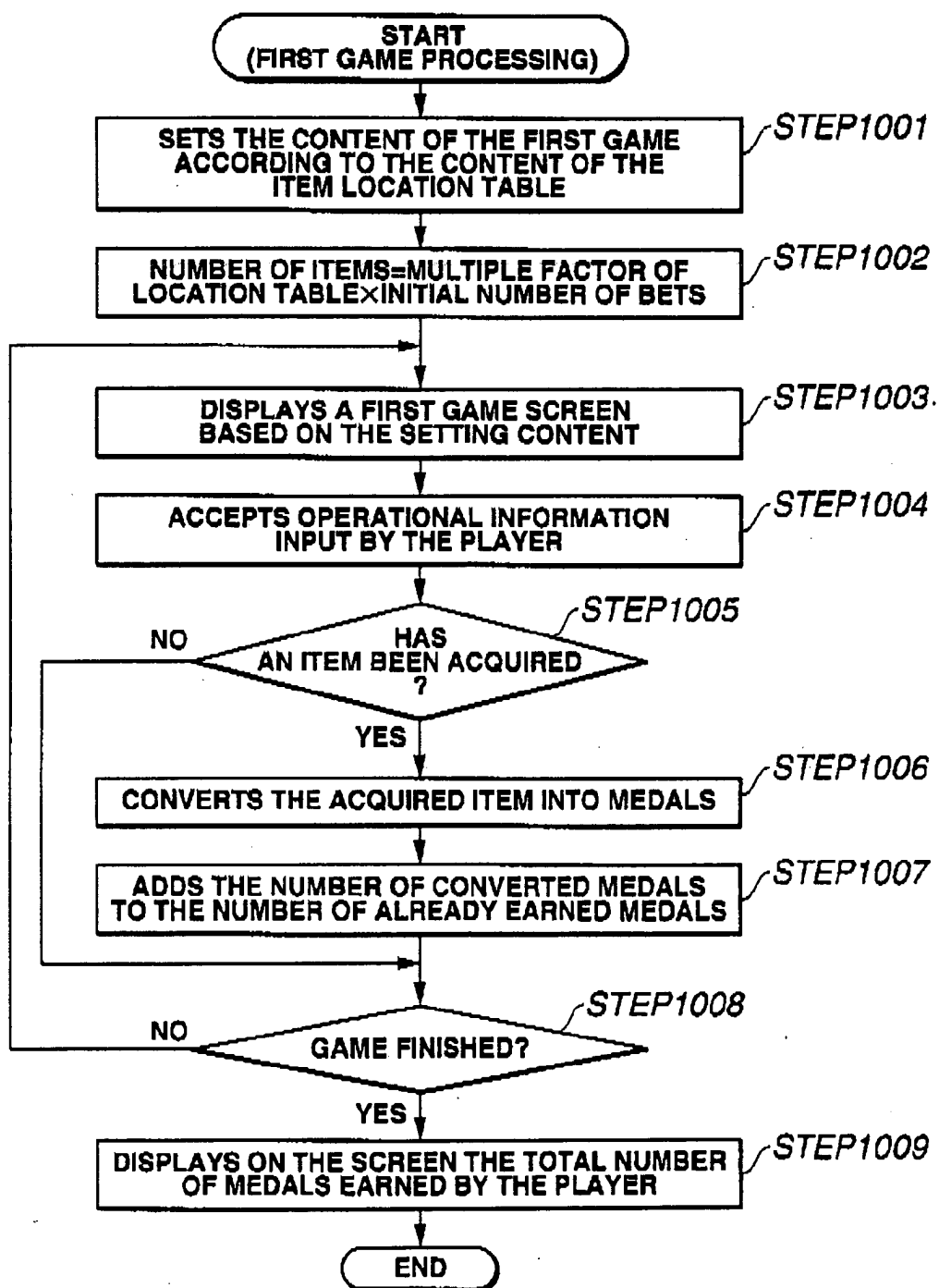
FIG.10

FIG.11

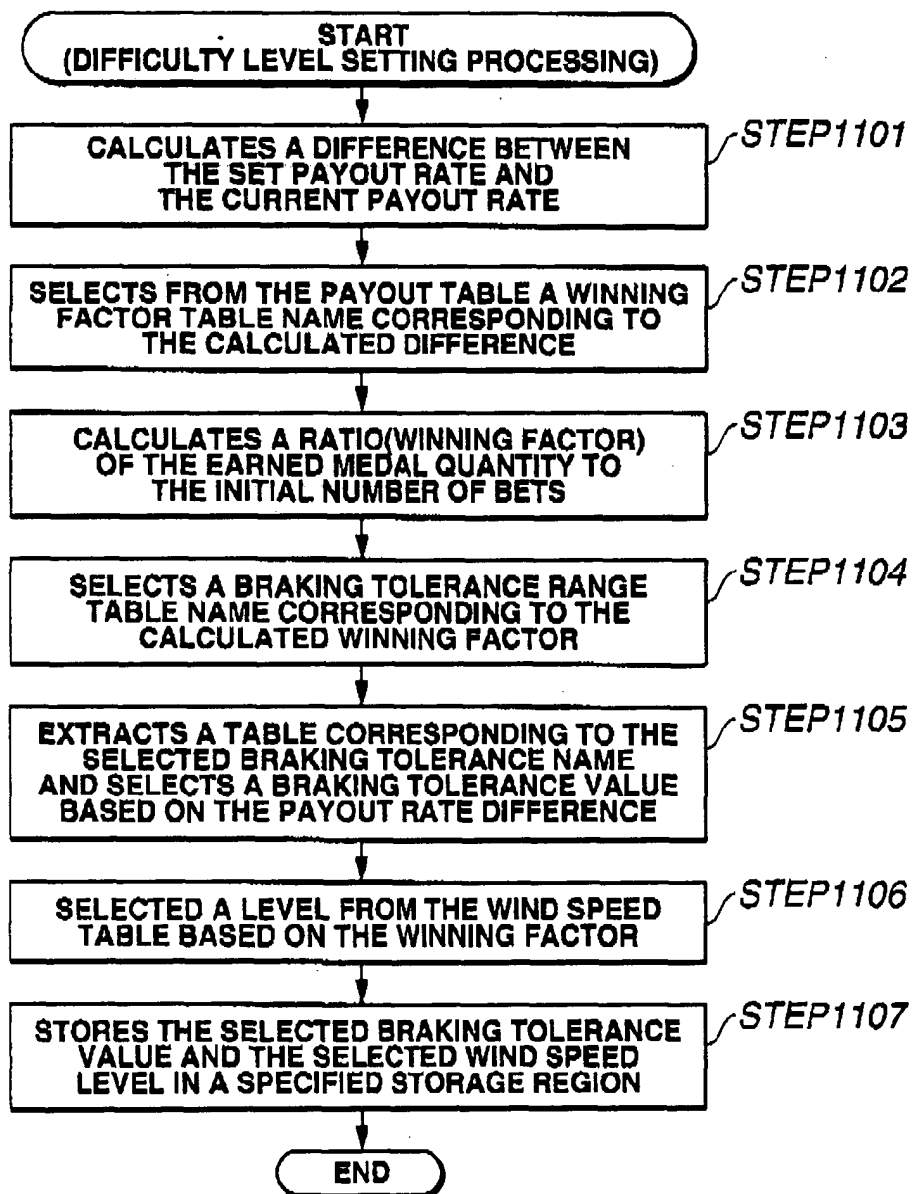


FIG.12

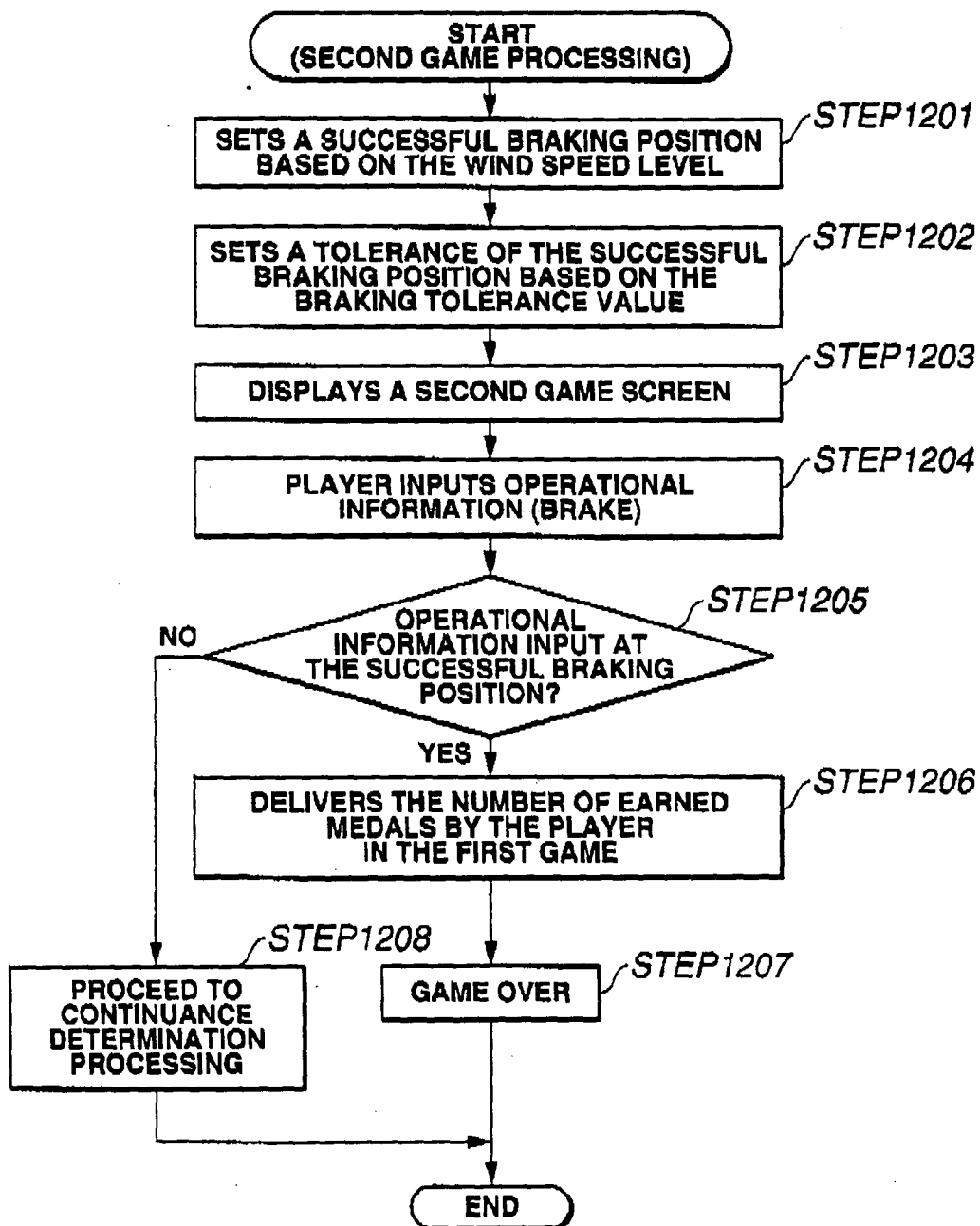


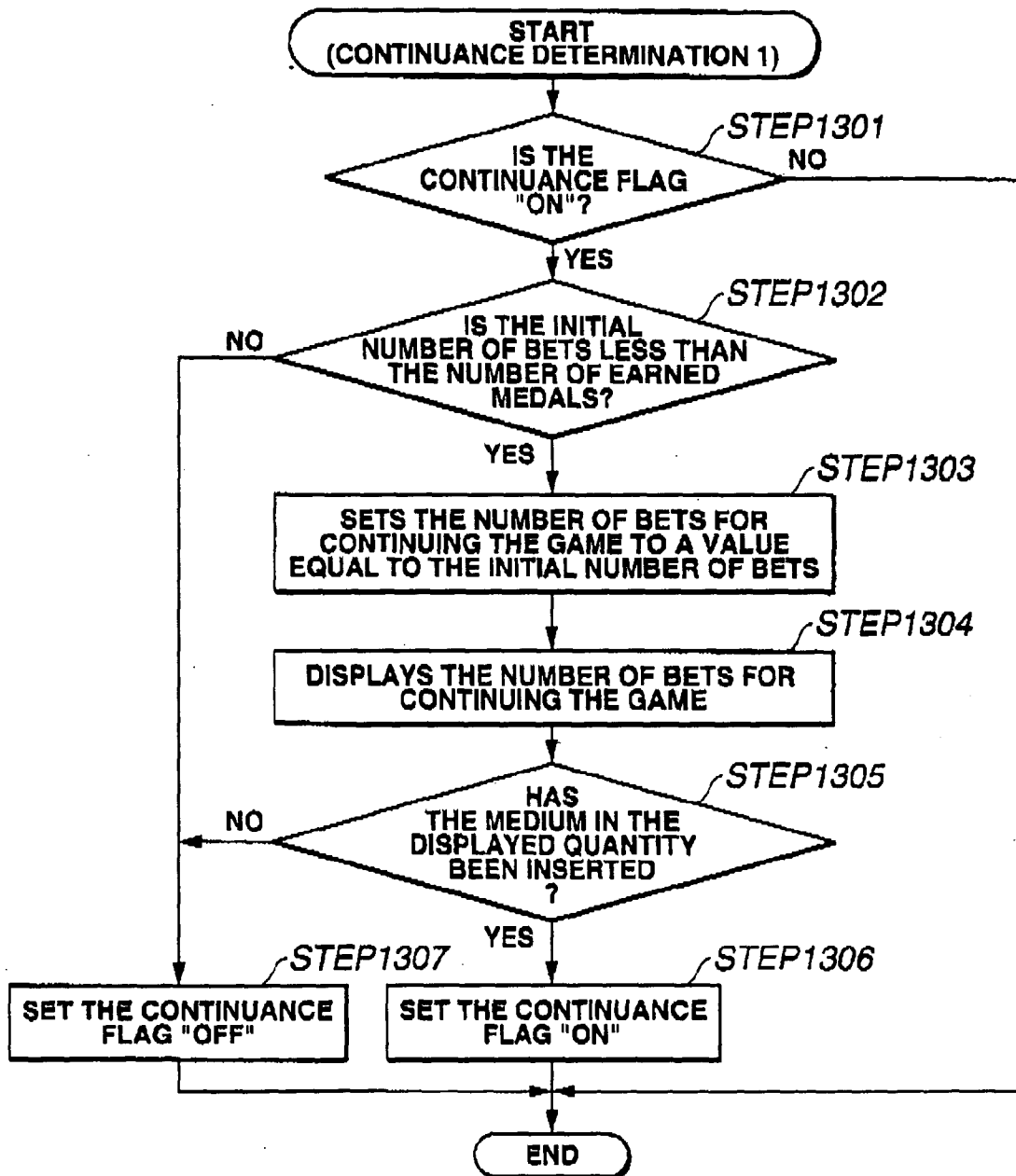
FIG.13

FIG.14

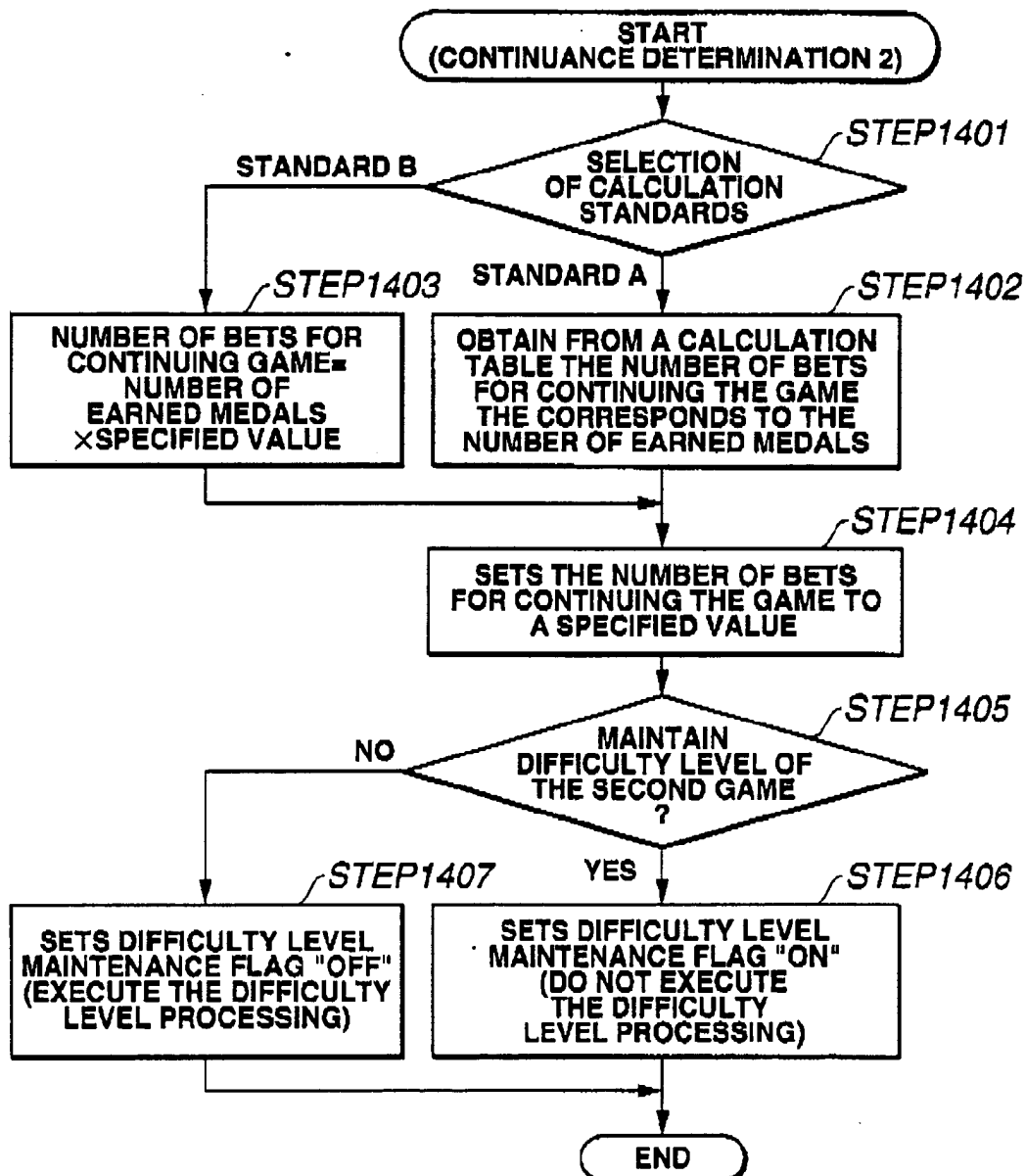


FIG.15

