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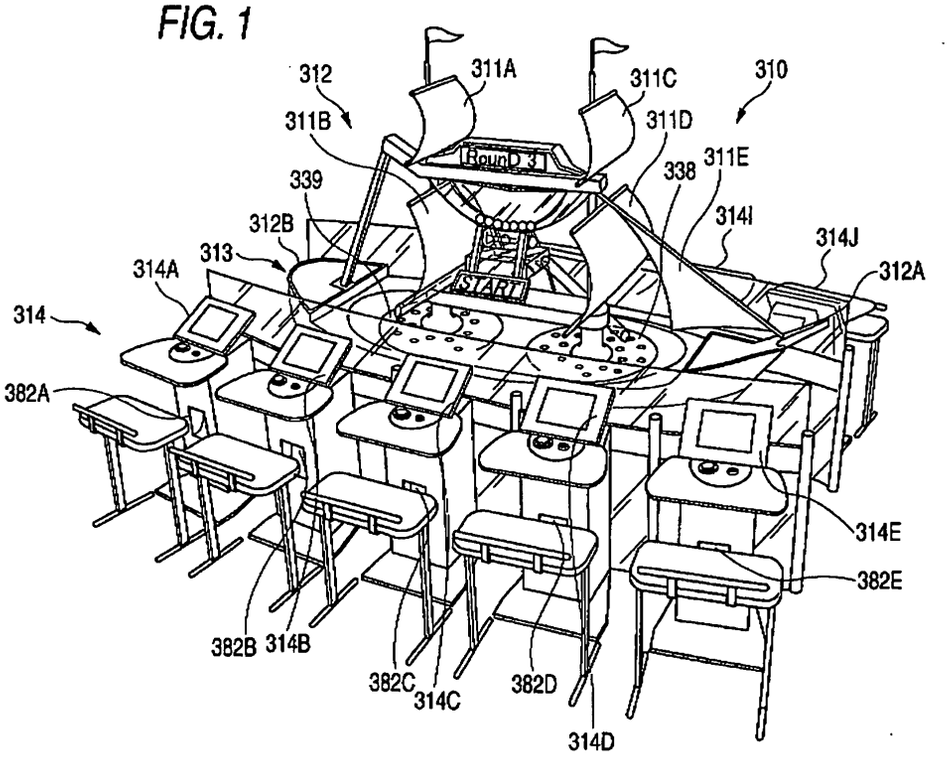
(54) Gaming machine and gaming system

(57) A gaming machine 310 includes a plurality of gaming terminal devices having control panels operated by a player, wherein the player plays a game upon payment of a game value. Furthermore, the gaming machine 310 includes: cumulative storage means that stores a plurality of kinds of cumulative values on a per unit game basis at a predetermined rate in response to medals; event value achievement determination means that determines whether or not any of the plurality of kinds of cumulative values stored by the cumulative storage means has achieved an event value pre-set for each of the plurality of kinds of cumulative values; and event activation means that activates an event corresponding to the event value achieved, when the event value achievement determination means determines that the event value pre-set is achieved.

FIG. 1



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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a gaming machine that a plurality of players can participate in playing, wherein player interest is enhanced.

Description of the Related Art

[0002] A bingo game machine is generally known as a gaming machine placed in a game arcade. In the bingo game machine of this type, a bingo card having each cell of a matrix assigned with any pieceof identification information is displayed on a display of each player. And, a piece of identification information is selected at random from among a plurality of pieces of identification information. Thus, the game proceeds as a cell corresponding to the selected identification information is activated. On the condition that an assemblage of the activated cells forms a predetermined display mode after such a step is repeated a predetermined number of times, e.g., all the cells arranged linearly in any one of vertical, horizontal and diagonal directions become active, i.e., that bingo is won, a game value such as a medal is awarded as a payout to the winning player.

[0003] Such a bingo game machine, whose rule is easy to understand for a beginner, can allow the beginner to easily approach the game. On the contrary, the predetermined display mode is so simple that the payout to be awarded to the player cannot be made high. Besides, since all the aforesaid predetermined modes have substantially the same pattern, it is difficult to provide a difference in payout. According to the aforesaid, in such a bingo game, it is difficult to provide a payout equivalent enough to award a large amount of game value. Accordingly, there is the risk of reducing the interest of players dedicating efforts to increasing a game value.

[0004] As a method of solving such a problem, there are known the method of activating events serving as the chance of increasing the game value in high amounts, e.g., jackpots during a game, and like method (e.g., see JP-A-2002-78862). As a specific bingo game machine, there is a bingo game machine configured such that the information of jackpots is disclosed to the players and a jackpot is activated when the numerical value of a certain item (e.g., an inputted or inserted game value) reaches a fixed value or more.

[0005] However, in the aforesaid gaming machine, the players often stop playing the game after the jackpot is activated. The reason is that the players know by experience that it is highly possible that another jackpot does not activate immediately after a jackpot is activated. Particularly, when the information of jackpots is always disclosed, such a tendency becomes remarkably high.

SUMMARY OF THE INVENTION

[0006] The invention has been made in view of such problems as aforesaid, and an object thereof is to provide a gaming machine in which a plurality of kinds of events serving as the chance of increasing a game value activate independently one of another.

[0007] To achieve such an object as above, the gaming machine of the invention provides such configurations as follows.

[0008] According to a first aspect of the invention, there is provided a gaming machine that includes a plurality of gaming terminal devices having control panels operated by a player and on which the player plays a game upon payment of a game value, the gaming machine including: a cumulative storage unit that stores a plurality of kinds of cumulative values on a per unit game basis at a predetermined rate in response to the game value; an event value achievement determination unit that determines whether or not any of the plurality of kinds of cumulative values stored by the cumulative storage unit has achieved an event value pre-set for each of the plurality of kinds of cumulative values; and an event activation unit that activates an event corresponding to the event value achieved, when the event value achievement determination unit determines that the event value pre-set is achieved.

[0009] According to the first aspect of the invention, a plurality of events serving as the chance of increasing the game value activate independently one of another. Accordingly, even when an event activates, there is the possibility that the next event activates immediately. Therefore, the expectation of the player for the events is maintained, thus making it possible to avoid the emergence of a player who stops the game after an event activation.

[0010] According to a second aspect of the invention, there is provided a gaming system that includes control panels operated by players and that includes a plurality of gaming terminal devices on which the players play a game upon payment of a game value and a game server for transmitting/receiving the data of the game from the plurality of gaming terminal devices, wherein the gaming terminal devices each includes a game value data transmission unit that transmits to the game server the data of the game value paid by the players, and the game server includes: a game value data receive unit that receives the data of the game value transmitted by the game value transmission unit; a cumulative storage unit that stores a plurality of cumulative values on a per game basis at a predetermined rate in response to the game value received by the game value data receive unit; an event value achievement determination unit that determines whether or not any of the plurality of kinds of cumulative values stored by the cumulative storage unit has achieved an event value pre-set for each of the plurality of kinds of cumulative values; and an event activation unit that activates an event corresponding to the

event value achieved, when the event value achievement determination unit determines that the event value pre-set is achieved.

[0011] According to a third aspect of the invention, there is provided a gaming system that includes control panels operated by players and that includes a plurality of gaming terminal devices on which the players play a game upon payment of a game value and a game server for transmitting/receiving the data of the game from the plurality of gaming terminal devices, wherein the gaming terminal devices each includes: a cumulative storage unit that stores a plurality of cumulative values on a per game basis at a predetermined rate in response to the game value; and a cumulative value data transmission unit that transmits to the game server the data of the plurality of kinds of cumulative values stored by the cumulative storage unit, and the game server includes: a cumulative value data receive unit that receives the data of the plurality of kinds of cumulative values transmitted by the cumulative value data transmission unit; an event value achievement determination unit that determines whether or not any of the plurality of kinds of cumulative values received by the cumulative value data receive unit has achieved an event value pre-set for each of the plurality of kinds of cumulative values; and an event activation unit that activates an event corresponding to the event value achieved, when the event value achievement determination unit determines that the event value pre-set is achieved.

[0012] According to the second and the third aspect of the invention, a plurality of events serving as the chance of increasing the game value activate independently one of another. Accordingly, even when an event activates, there is the possibility that the next event activates immediately. Therefore, the expectation of the players for the events is maintained, thus making it possible to avoid the emergence of a player who stops the game after an event activation.

[0013] According to the invention, a plurality of events serving as the chance of increasing the game value activate independently one of another. Accordingly, even when an event activates, there is the possibility that the next event activates immediately. Therefore, the expectation of the players for the events is maintained, thus making it possible to avoid the emergence of a player who stops the game after an event activation.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] These and other objects and advantages of the present invention will be more fully apparent from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a perspective view showing a general outline of a gaming machine of an embodiment of the invention;
Fig. 2 is a longitudinal sectional view showing a general outline of a lottery machine of the embodiment of the invention;
Fig. 3 is a top view of a lottery ball receiving portion of the embodiment of the invention;
Fig. 4 is atop view of the lottery machine of the embodiment of the invention;
Fig. 5 is a perspective view of lottery wheels of the embodiment of the invention;
Fig. 6 is a top view of the lottery wheels of the embodiment of the invention;
Figs. 7A to 7G are longitudinal sectional views showing a general outline of a second collection path in the gaming machine of the embodiment of the invention;
Fig. 8 is a perspective view of a gaming terminal of the embodiment of the invention;
Fig. 9 is a block diagram showing a system configuration configured in the gaming machine of the embodiment of the invention;
Fig. 10 is a block diagram showing a control circuit configured in the lottery machine of the embodiment of the invention;
Fig. 11 is a block diagram showing a control circuit configured in the gaming terminal of the embodiment of the invention;
Fig. 12 is an example of a standby screen of the gaming terminal, displayed on a display screen of the gaming terminal of the embodiment of the invention;
Fig. 13 is an example of a jackpot displayed on the display screen of the gaming terminal of the embodiment of the invention;
Fig. 14 is an example of a jackpot displayed on the display screen of the gaming terminal of the embodiment of the invention;
Fig. 15 is an example of a first jackpot activation time determination table of the embodiment of the invention;
Fig. 16 is an example of a second jackpot activation time determination table of the embodiment of the invention;
Fig. 17 is an example of a first jackpot notification execution time determination table of the embodiment of the invention;
Fig. 18 is an example of a second jackpot notification execution time determination table of the embodiment of the invention;
Fig. 19 is a main flowchart of processes of the lottery machine and gaming terminal of the embodiment of the invention;
Fig. 20 is a flowchart following Fig. 19;
Fig. 21 is a flowchart following Fig. 20;
Fig. 22 is a flowchart of a first jackpot process;
Fig. 23 is a flowchart of a second jackpot process; and
Fig. 24 is a schematic view showing a gaming system of the embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0015] An example of a preferred embodiment of the invention will hereinafter be described with reference to the drawings.

[0016] As an equivalent of the game value of the invention, in addition to a coin, a medal, a game ball or a token, there is a game medium such as a card storing the information of a game value awarded or to be awarded to players. In this embodiment, however, the description will be given using the medal.

Configuration of Gaming Machine

[0017] First, the general outline of a gaming machine will be described using Fig. 1. Fig. 1 is a perspective view showing a general outline of the gaming machine of this embodiment.

[0018] As shown in Fig. 1, a gaming machine 310 includes a lottery machine 312 and a plurality of gaming terminals 314. This gaming machine 310 can provide a game simultaneously to a plurality of players through the plurality of gaming terminals 314A to 314J. Additionally, the gaming terminal 314 of this embodiment corresponds to an example of the gaming terminal device of the invention.

[0019] The lottery machine 312 mainly includes a housing 313 imitating a ship and is disposed in the center of the gaming machine 310. Besides, two lottery wheels 338 and 339 are disposed in the center of the lottery machine 312. These two lottery wheels 338 and 339 are formed with a total of 52 lottery holes 340, 341 (see Fig. 4). The identification information that is the combination of a first symbol including spade, club, heart and diamond and a second symbol including numbers 2 to 10 and letters A, J, Q and K is made to correspond to these plural lottery holes 340, 341. A lottery is held in response to any of the plurality of lottery holes 340, 341 that lottery balls have entered, thus determining the result of the game. A rocking device 346 (see Fig. 2) is disposed in the lottery machine 312, and the housing 313 is rockable so that a stem 312A and a stern 312B are displaced in an up and down direction.

[0020] The plurality of gamingterminals 314A to 314J are disposed on either broadside of the lottery machine 312. Besides, in this embodiment, as shown in Fig. 1, there are provided ten gaming terminals 314A to 314J. Besides, the plurality of gaming terminals 314A to 314J are formed with medal payout ports 382A to 382J, respectively. Additionally, Fig. 1 does not illustrate the gaming terminals 314F to 314H and medal payout ports 382F to 382J that are blocked from view by the lottery machine 312.

[0021] Additionally, this embodiment is configured to provide the ten gaming terminals 314A to 314J as the plurality of gaming terminals. However, the invention is not limited thereto but may have another mode. For example, it may be configured that there are provided a plurality other than ten of gaming terminals or that there is provided one gaming terminal.

Configuration of Lottery Machine

[0022] The general outline of the lottery machine 312 of the gaming machine 310 will be described using Fig. 2. Fig. 2 is a longitudinal sectional view showing a general outline of the lottery machine 312 of this embodiment.

[0023] As shown in Fig. 2, a screw conveyor 320 is disposed at the stern 312B of the lottery machine 312. This screw conveyor 320 is a device for upwardly conveying the lottery balls used in the lottery via the inside of the lottery machine 312.

[0024] This screw conveyor 320 includes a spiral body 320A extending upwardly at a predetermined angle, a support plate 320B extending along the spiral body 320A, and a lottery ball lifting motor 320C for rotating the spiral body 320A. A groove having a larger curvature radius than the radius of the lottery ball is spirally formed in the spiral body 320A. The lottery ball lifting motor 320A is driven, thereby rotating the spiral body 320A, so that the lottery balls are conveyed upward while being held between the groove spirally formed in the spiral body 320A and the support plate 320B. That is, the screw conveyor 320 is disposed outside the housing 313 and visibly conveys lottery balls 302 being conveyed.

[0025] Besides, a lottery ball holding portion 332 is disposed above the lottery machine 312. This lottery ball holding portion 332, to be visible from the players, etc., is formed from a resin having permeability. Consequently, the remaining number of lottery balls can be clearly showed to the players. This lottery ball holding portion 332 has an upwardly opening shape and holds the lottery balls guided from a lottery ball guide portion 324. Besides, an opening (not shown) for passing one lottery ball therethrough is formed in the bottom face of the lottery ball holding portion 332.

[0026] A cylindrical rotating body 328 is disposed below the lottery ball holding portion 332. This rotating body 328 has the function of closing the opening formed in the bottom face of the lottery ball holding portion 332. Thereby, the lottery balls held by the lottery ball holding portion 332 are maintained held.

[0027] Besides, the rotating body 328 is formed with a holding hole (not shown) for holding one lottery ball. A drive portion (not shown) including a rotary motor 326 (see Fig. 10), etc. is disposed at the edge end of the rotating body 328. The drive portion is driven to thereby rotate the rotating body 328. The rotating body 328 is rotated to thereby make the holding hole open upwardly, thus dropping one lottery ball held by the lottery ball holding portion 332 into the holding hole via the opening. Furthermore, the rotating body 328 is rotated to thereby close the opening formed in the lottery ball holding por-

tion 332 and also make one lottery ball held in the holding hole. Furthermore, the rotating body 328 is rotated to thereby close the opening formed in the lottery ball holding portion 332 and also make the holding hole open downwardly, thus downwardly dropping one lottery ball held in the holding hole. Thus, one lottery ball held by the lottery ball holding portion 332 is selected and then dropped. Besides, this rotating body 328 is formed from a resin having permeability, so that the lottery ball held in the holding holes becomes visible to the players. Consequently, the progress of the game can be clearly shown to the players.

[0028] A lottery ball receiving portion 334 having permeability is disposed below the rotating body 328. This lottery ball receiving portion 334 is for receiving the lottery balls dropped through the holding hole of the rotating body disposed thereabove. Consequently, the lottery balls dropped from the holding hole of the rotating body 328 are held by the lottery ball receiving portion 334 so as to be visible to the players. The lottery ball receiving portion 334 is formed with notches 334C and 334D (see Fig. 3) for inputting the received lottery balls therethrough onto any one of the lottery wheels 338 and 339. Since the lottery machine 312 has the rocking function, the lottery balls held by the lottery ball receiving portion 334 are guided to any one of the two lottery wheels 338 and 339 in response to the inclined angle of the lottery machine 312.

[0029] Slopes 336A and 336B formed with input paths through which the lottery balls can pass are connected to the notches 334C and 334D (see Fig. 3) of the lottery ball receiving portion 334. These slopes 336A and 336B are for inputting the lottery balls held by the lottery ball receiving portion 334 onto any one of face portions 338A and 339A. The slopes 336A and 336B are formed from a resin having permeability. Consequently, the lottery balls passing through the slopes 336A and 336B are made visible to the players.

[0030] The two lottery wheels 338 and 339 are disposed at the lower ends of the slopes 336A and 336B, respectively. These lottery wheels 338 and 339 are formed with the face portions 338A and 339A having the faces on which the lottery balls can roll and that are horizontal to the housing 313.

[0031] A plurality of the lottery holes 340, 341 for holding one lottery ball are formed on the upper faces of these face portions 338A and 339A. A shutter 347 is disposed on the bottom face of the plurality of lottery holes 340, 341. During the game, this shutter 347 is controlled to be closed, thus holding the lottery balls that have entered the plurality of lottery holes 340, 341. Besides, after the game ends, the shutter 347 is controlled into the open state, thereby discharging the lottery balls that have entered the plurality of lottery balls 340, 341 into the inside of the lottery machine 312. Besides, the plurality of lottery holes 340, 341 are each disposed with an input ball detection sensor 349. The input ball detection sensor 349 detects that the lottery ball has entered any of the plurality of lottery holes.

[0032] A collection portion 345 formed with a first collection path 344 and a second collection path 350 is provided below the two lottery wheels 338 and 339 of such a lottery machine 312. The shutter 347 is controlled into the open state, whereby this collection portion 345 allows the first collection path 344 receive the lottery balls that have entered the plurality of lottery holes 340, 341. Besides, this collection portion 345 is formed with inclined portions 353A and 353B for downwardly dropping the lottery balls received by the first collection path 344. Furthermore, the horizontally extending second collection path 350 is formed below the inclined portions 353A and 353B. Thereby, the lottery balls that have entered the plurality of lottery holes 340, 341 are guided by the second collection path 350 via the first collection path 344 and then held.

[0033] An open/close gate 352 is disposed in the second collection path 350. This open/close gate 352 is openably/closeably controlled. Consequently, when placed in the open state, the open/close gate 352 comes into the state where the lottery balls can pass between the second collection path 350 and the lower end of the spiral body 320A. On the contrary, when placed in the closed state, the open/close gate 352 comes into the state where the lottery balls cannot pass between the second collection path 350 and the lower end of the spiral body 320A. Thus, the lottery machine 312 is rocked so that the stern 312B side becomes lower than the stem 312A side, and the open/close gate 352 is controlled into the open state. Thereby, the lottery balls held in the second collection path 350 are led out to the lower end of the spiral body 320A. Besides, the open/close gate 352 is controlled into the closed state, thereby preventing the lottery balls led out to the lower end of the spiral body 320A from returning to the second collection path 350, and furthermore preventing the lottery balls held in the second collection path 350 from being led out to the lower end of the spiral body 320A.

[0034] A lottery ball passing detection sensor 351 is disposed between the open/close gate 352 and the lower end of the spiral body 320A. This lottery ball passing detection sensor 351 is for detecting the number of lottery balls led out to the lower end of the spiral body 320A from the second collection path 350 via the open/close gate. Accordingly, the lottery machine 312 is inclined so that the stern 312B side becomes lower than the stem 312A side, and the open/close gate 352 is controlled into the open state. Thereby, when the number of lottery balls that have passed through the open/close gate 352 reaches a predetermined number, the open/close gate 352 is controlled into the closed state, so that the predetermined number of lottery balls are led out to the lower end of the spiral body 320A. Besides, after the predetermined number of lottery balls are led out to the lower end of the spiral body 320A, these lottery balls do not return to the second collection path 350.

[0035] Besides, the lottery machine 312, provided

with the rocking device 346, is rockable and inclinable about a rocking shaft 348.

[0036] A dot LED display 327 including a plurality of LED's, etc. is disposed below the lottery ball holding portion 332. A game round number is displayed on this dot LED display 327. Besides, a START lamp 329 is disposed in the center of the lottery machine 312. In this START lamp 329, when the lottery balls drop through the holding hole of the rotating body 328 onto the lottery ball receiving portion 334, a built-in lamp is turned on and a letter START is displayed so as to be visible to the players. Besides, the configuration may be such that the gaming machine 310 is provided with a plurality of lighting devices (not shown), thereby enabling the sailing ship-shaped lottery machine 312 to be lighted up with various colors, thus enabling various representations together with the rocking operation. As a target that can be lighted up, there are sails 311A to 311E.

[0037] The aforesaid lottery ball receiving portion 334 and slopes 336A and 336B will be described using Fig. 3. Fig. 3 is a top view showing the lottery ball receiving portion 334 and the slopes 336A and 336B.

[0038] As shown in Fig. 3, the aforesaid lottery ball receiving portion 334 is formed with a recessed portion 334A. This recessed portion 334A receives the lottery balls that drop through the holding hole of the aforesaid rotating body 328. Besides, two notches 334C and 334D are formed in a side face 334B of the lottery ball receiving portion 334. Consequently, as the lottery machine 312 is rocked, the lottery balls received by the recessed portion 334A roll outside the recessed portion 334A through any one of the two notches 334C and 334D.

[0039] The upper ends of the slopes 336A and 336B are connected to these notches 334C and 334D. Besides, as aforesaid, the upper ends of the slopes 336A and 336B are disposed above the lottery wheels 338 and 339, respectively. Consequently, these slopes 336A and 336B receive the lottery balls rolled outside the lottery ball receiving portion 334 through the aforesaid notches 334C and 334D of the lottery ball receiving portion 334, thus guiding the rolled-out lottery balls to any one of the lottery wheels 338 and 339. Besides, these slopes 336A and 336B are each disposed so that the lottery balls are inputted toward the same direction as the rotational direction of the lottery wheels 338 and 339. Additionally, in this embodiment, the slopes 336A and 336B are formed to be linear but may not be formed linear. For example, the slopes 336A and 336B may be formed to have a curve.

Description of Lottery wheel, etc.

[0040] The aforesaid lottery machine 312 and lottery wheels 338 and 339 will be described using Figs. 4 to 6. Fig. 4 is a top view showing the lottery machine 312. Fig. 5 is a perspective view showing the lottery wheel 338. Fig. 6 is a top view showing the lottery wheel 338. Additionally, in Figs. 5 and 6, since the lottery wheel 339 has the same configuration as the lottery wheel 338, the description thereof will be omitted.

[0041] As shown in Fig. 4, as aforesaid, the two lottery wheels 338 and 339 are disposed in the lottery machine 312. The two lottery wheels 338 and 339 can be provided with the plurality of lottery holes 340, 341. Therefore, for example, as compared with when one lottery wheel is used, an installation space in a game arcade can be effectively utilized without taking up an unnecessary space as many lottery holes are provided. Thereby, many lottery holes can be provided, thus enabling an increase in interest such for example as allowing much latitude in payouts. Additionally, these lottery holes 340, 341 are used not only in a bingo game but also in a symbol guessing game at a second jackpot to be described later. Additionally, the first and second jackpots of this embodiment each correspond to an example of the event of the invention.

[0042] These lottery wheels 338 and 339 are circular as seen from above. These lottery wheels 338 and 339 are rotatably disposed on the deck of the housing 313. The lottery wheels 338 and 339 are formed with the face portions 338A and 339A that make the lottery balls rellable. Besides, these lottery wheels 338 and 339 rotate in substantially the same direction (see arrows B1 and B2) as the direction (see arrows A1 and A2) in which the lottery balls are inputted from the slopes 336A and 336B. Specifically, the lottery wheel 338 rotates clockwise and, as shown in Fig. 5, the slope 336A is inputted clockwise. Consequently, when the lottery balls are rolled onto the lottery wheels 338 and 339, the speed of the lottery balls does not significantly slow down. Accordingly, there is a low possibility that the lottery balls enter any of the plurality of lottery holes 340, 341 in a very short time.

[0043] Besides, a connection table 390 is provided between the lottery wheels 338 and 339. This connection table 390 has the face flush with the face portions 338A and 339A of the lottery wheels 338 and 339. Consequently, the lottery balls roll between the lottery wheels 338 and 339. Besides, the rolling speed of the lottery balls does not significantly slow down.

[0044] Guide portions 392 and 394 are provided between the lottery wheels 338 and 339. These guide portions 392and394 are provided in such a position as to sandwich the connection table 390 along the outer peripheries of the lottery wheels 338 and 339. These guide portions 392 and 394 have a more convex shape than the face portions 338A and 339A of the lottery wheels 338 and 339. Consequently, the lottery balls hit against the guide portions 392 and 394, thereby guiding the rolling movement of the lottery balls.

[0045] Besides, bank portions 396 and 398 are provided outside the lottery wheels 338 and 339. These bank portions 396 and 398 are provided along the outer peripheries of the lottery wheels 338 and 339. These bank portions 396 and 398 have a more convex shape than the face portions 338A and 339A of the lottery

wheels 338 and 339. Consequently, the lottery balls inputted onto the lottery wheels 338 and 339 from the slopes 336A and 336B, even when rolling outside the lottery wheels 338 and 339, ride on the bank portions 396 and 398 and are rolled again onto the lottery wheels 338 and 339. Besides, when the lottery balls riding on the bank portions 396 and 398 are rolled onto the lottery wheels 338 and 339, the speed of the lottery balls does not significantly slow down. Accordingly, there is a low possibility that the lottery balls enter the plurality of lottery holes 340, 341 in a very short time. Thus, the lottery balls enter any of the plurality of lottery holes in about 10 to 30 seconds.

[0046] Besides, the lottery wheels 338 and 339 rotate in opposite directions as indicated by the arrows B1 and B2. Consequently, the lottery balls inputted onto the lottery wheel 338 sometimes roll onto the lottery wheel 339 from the lottery wheel 338 via the connection table 390. Conversely, the lottery balls inputted onto the lottery wheel 339 sometimes roll onto the lottery wheel 338 from the lottery wheel 339 via the connection table 390. Accordingly, the lottery balls roll between these lottery wheels 338 and 339. Besides, since the rocking device 346 is disposed in the lottery machine 312, the housing 323 of the lottery machine 312 is rocked. Thereby, for example, the lottery balls can be rolled on the lottery wheels 338 and 339 so as to roll in an 8-shaped fashion between the lottery wheels 338 and 339. At the same time, a difficult-to-predict novel game can be provided to the players, thus enabling an enhancement in the interest in the game. Additionally, these lottery wheels 338 and 339, connection table 390, guide portions 392 and 394, and bank portions 396 and 398 are surrounded with a fence formed from a resin having permeability. Thus, there is no risk that the lottery balls roll out of the fence.

[0047] These lottery wheels 338 and 339 are each provided with 26 lottery holes 340, 341. As shown in Fig. 5, the identification information including space and heart as the first symbol is assigned to the plurality of lottery holes 340 provided in the lottery wheel 338. Specifically, A, 2 to 10, J, Q and K of spade and A, 2 to 10, J, Q and K of heart are assigned to the plurality of lottery holes 340 provided in the lottery wheel 338. On the other hand, the identification information including club and diamond as the first symbol is assigned to the plurality of lottery holes 341 provided in the lottery wheel 339. Specifically, A, 2 to 10, J, Q and K of club and A, 2 to 10, J, Q and K of diamond are assigned to the plurality of lottery holes 341 provided in the lottery wheel 339. That is, any of the plurality of symbols is set to be of a kind, which therefore allows the players to easily identify the desired identification information by observing the place in which the lottery balls roll. This makes it possible to let the players still further have impatience and expectation, thus enabling an enhancement in the interest in the game. For example, when the lottery balls roll on the lottery wheel 338, it can be easily identified that the first symbol is of spade and heart, and when the lottery balls roll on the lottery wheel 339, it can be easily identified that the first symbol is of club and diamond. That is, in the two lottery wheels 338 and 339, the identification information having any of the first symbols set to be of a kind is assigned to the plurality of lottery holes 340, 341 of the two lottery wheels 338 and 339. Thereby, for example, the players are allowed to easily identify the desired identification information by observing the lottery wheels 338 and 339 on which the lottery balls roll. This makes it possible to let the players still further have impatience and expectation, thus enabling an enhancement in the interest in the game.

[0048] Besides, as shown in Fig. 6, the lottery wheel 338 is provided with the plurality of lottery holes 340 along circumferences C1 and C2 centered about a center point C0 of rotation. This circumference C2 is positioned inwardly from the circumference C1. Besides, 16 lottery holes are provided along the circumference C1, while 10 lottery holes are provided along the circumference C2. Besides, as aforesaid, A, 2 to 10, J, Q and K of spade and A, 2 to 10, J, Q and K of heart are assigned to these 26 lottery holes 340. And, specifically, A and 2 to 8 of spade and A and 2 to 8 of heart are assigned to the 16 lottery holes provided along the circumference C1, while 9, 10, J, Q and K of spade and 9, 10, J, Q and K of heart are assigned to the 10 lottery holes provided along the circumference C2.

[0049] Besides, as shown in Fig. 5, the lottery wheel 338 is provided with a plurality of convex portions 342 having a more convex shape than the face portions 338A of the lottery wheel 338. Besides, as shown in Fig. 6, the plurality of convex portions 342 are provided along a circumference C3 centered about the center point C0 of rotation. Besides, this circumference C3 is positioned inwardly from the most inward circumference C2 of the circumferences C1 and C2 provided with the plurality of lottery holes. That is, the plurality of convex portions 342 are provided along the circumference C3 positioned inwardly from the most inward circumference C2 of the plurality of kinds of circumferences C1 and C2, so as to be adjacent to the plurality of lottery holes formed on the most inward circumference C2. Thereby, for example, the lottery balls hit against the convex portions, which weakens the rolling movement of the lottery balls, thus making it possible to change the rolling direction of the lottery balls. Then, out of the plurality of kinds of circumferences C1 and C2, the lottery balls evenly enter the lottery holes formed along the inner circumference C2 and the lottery holes formed along the outer circumference C1. Therefore, it is possible to hold a lottery in which the lottery balls evenly enter many lottery holes.

[0050] Besides, as shown in Fig. 6, the configuration is preferably such that a convex portion 342A having a convex shape is provided in the region surrounded by: tangent lines D1 and D2 tangent to two lottery holes 340A and 340B adjacent to each other along the inner circumference C2; and the circumference C3. For example, the lottery balls that have passed between the

lottery holes 340A and 340B hit against the convex portion 342A, which weakens the rolling movement of the lottery balls, thus making it possible to change the rolling direction of the lottery balls, thereby raising the possibility of entering the lottery holes 340A and 340B. Thus, out of the plurality of kinds of circumferences C1 and C2, the lottery balls evenly enter the lottery holes formed along the inner circumference C2 and the lottery holes formed along the outer circumference C1. Therefore, it is possible to hold a lottery in which the lottery balls evenly enter many lottery holes.

Description of Collection Portion

[0051] The aforesaid collection portion 345 of the lottery machine 312 will be described using Figs. 7A to 7G. Figs. 7A to 7G are longitudinal sectional views showing the second collection path 350.

[0052] When the game ends, as aforesaid, the shutter 347 is placed in the open state, and the lottery balls drop through the plurality of lottery holes 340, 341. And, after the elapse of a predetermined time, as shown in Fig. 7A, these lottery balls are held in the second collection path 350 via the first collection path 344. As shown in Fig. 7A, with the lottery balls 302 held in the second collection path 350 of the aforesaid collection portion 345, the housing 313 is inclined by the rocking device 346. In this case, as shown in Fig. 7B, since the open/close gate 352 provided in the second collection path 350 is in the closed state, the lottery balls 302 are held in the second collection path 350 so as to be positioned on the open/close gate 352 side. And, as shown in Fig. 7C, the open/close gate 352 is controlled into the open state, whereby the lottery balls 302 positioned in the second collection path 350 roll toward a lower portion of the spiral body 320A. That is, the housing 313 is inclined, and the lottery balls 302 positioned in the second collection path 350 are led out to the screw conveyor 320. When the lottery balls 302 thus roll toward the lower portion of the spiral body 320A, the lottery ball 302 passing detection sensor 351 detects the number of lottery balls 302 rolled toward the lower portion of the spiral body 320A. That is, the lottery ball 302 passing detection sensor 351 detects the number of lottery balls 302 led out to the screw conveyor 320 from the second collection path 350. In other words, the lottery ball 302 passing detection sensor 351 detects the number of lottery balls 302 passing through the open/close gate 352. When the number of lottery balls 302 detected by the lottery ball 302 passing detection sensor 351 reaches a predetermined number, as shown in Fig. 7D, the open/close gate 352 is controlled into the closed state. Thereby, as shown in Fig. 7E, the predetermined number of lottery balls 302 roll toward the lower portion of the spiral body 320A and conveyed upwardly by the screw conveyor 320. That is, the lottery balls are made ready to be inputted. Besides, in this state, as shown in Fig. 7F, the inclination of the housing 313 is returned to a horizontal position, i.e., control for restraint is performed. That is, the rocking device 346 has the function of restraining the inclination of the housing 313. Besides, as shown in Fig. 7F, the lottery balls 302 that have rolled toward the lower portion of the spiral body 320A do not return. Of course, as shown in Fig. 7G, even when the housing 313 is inclined in the reverse direction, similarly, the lottery balls 302 that have rolled toward the lower portion of the spiral body 320A do not return.

[0053] Thereby, the housing 313 (see Fig. 1) is inclined, and the lottery balls positioned in the second collection path 350 are led out to the lower portion of the spiral body 320A. Therefore, the lotteryballs can be collected by merely inclining the housing 313, thus enabling the gaming machine to be manufactured in a simple manner and at low cost. Particularly, as much space as possible need be saved in a large-size gaming machine such as a bingo game machine, and still more space can be saved according to the invention. Besides, there is no need to provide each of the plurality of lottery holes with a lottery ball discharge unit, thus enabling the gaming machine to be manufacture in a simpler manner and at lower cost.

Description of Gaming Terminal

[0054] The gaming terminal 314A of the gaming machine 310 will be described using Fig. 8. Fig. 8 is a perspective view of the gaming terminal 314A. Additionally, since the gaming terminals 314B to 314J have the same configuration as the gaming terminal 314A, the description thereof will be omitted.

[0055] The gaming terminal 314A mainly includes a display 370A, a touch sensor 372A (see Fig. 11), an inner dial 376A and an outer dial 377A, a medal input port 378A and a main control circuit 500A (see Fig. 11).

[0056] The display 370A is provided in an upper portion of the gaming terminal 314A. A bingo game matrix card image allotted to the players and other pieces of information, or an optional game image, etc. are displayed on the display 370A. With such a configuration, the game can proceed with various pieces of information displayed on a display screen of the display 370A being visible to the players.

[0057] Furthermore, the configuration may be as follows. That is, the lottery machine 312 is provided with a camera (not shown) that takes the overall picture of the lottery wheels 338 and 339, and the image taken is displayed on the display 370A. Thereby, even when any one of the lottery wheels 338 and 339 is difficult to watch, the lottery wheels 338 and 339 can be made visible to the players.

[0058] Besides, the display 370A is provided with a touch panel mainly including the touch sensor 372A. Thereby, the players can be provided with a gaming environment in which the input of various data and the issue of instructions are made possible by touching the display 370A.

[0059] Additionally, in this embodiment, the touch

sensor 372A enables various input operations. However, other operating modes can be used. For example, the configuration may be such that there are provided a plurality of operation buttons with which various input operations can be performed.

[0060] A seat portion 374A is provided on the player side of the display 370A. The inner dial 376A and the outer dial 377A positioned in vertical tiers are provided on the upper face of this seat portion 374A. By using the inner dial 376A and the outer dial 377A, the players can be provided with a gaming environment in which a difficult operation can be performed by merely depressing the normal operation buttons and touching the touch panel. For example, in a first jackpot game to be described later, the inner dial 376A or the outer dial 377A is moved right and left, whereby a mock telescope 397 (see Fig. 13) displayed on the display 370A can be moved right and left, or the focal distance of the mock telescope 397 can be adjusted.

[0061] For example, in this embodiment, in the bingo game matrix image displayed on the display 370A, the identification information, assigned to bingo cells, in the outer periphery of the matrix image can be moved between adjacent bingo cells along the aforesaid outer periphery. Thereby, when the movement of the second identification information is intended to be continuously performed, the operation must be repeated over and over again by only depressing the normal operation buttons and touching the touch panel, which is a lot of trouble. Therefore, when an input device such as the inner dial 376A and the outer dial 377A is used, the continuous operation becomes possible with one motion, so that a game of high operability can be provided to the players. Besides, a very simple operation can be performed even for an analog motion in performing scrolling on the screen, in moving a pointer, or in like case, so that a game of high operability can be provided to the players.

[0062] Besides, the medal input port 378A for inputting medals therethrough is provided on the right side of the inner dial 376A and the outer dial 377A. Besides, a medal sensor 380A (see Fig. 11) is disposed inside the medal input port 378A. This medal sensor 378A detects that medals have been inputted into the medal input port 378A. Thus, when the players input medals into the medal input port 378A, the medal sensor 380A detects that the medals have been inputted.

[0063] Besides, the main control circuit 500A (see Fig. 11) is disposed inside the seat portion 374A and controls the aforesaid various devices.

Configuration of Gaming Machine

[0064] The system configuration of the gaming machine 310 will be described using Fig. 9.

[0065] As shown in Fig. 9, the gaming machine 310 mainly includes: a lottery machine controller 360 for performing the control of the lottery machine 312; and the gaming terminals 314A to 314J.

[0066] The lottery machine controller 360 is communicably connected to ten gaming terminals 314A to 314J. Besides, this lottery machine controller 360 can control the gaming terminals 314A to 314J by transmitting/receiving various data and signals from the ten gaming terminals 314A to 314J.

Electrical Configuration of Lottery Machine

[0067] The electrical configuration of the lottery machine 312 of the gaming machine 310 will be described using Fig 10.

[0068] Fig. 10 shows a circuit configuration including a main control circuit 400 that controls the game processing operation of the lottery machine 312 of the gaming machine 310, and a peripheral device (actuator) that is electrically connected to the main control circuit 400.

[0069] The main control circuit 400 includes a CPU 406 that performs a control operation in accordance with a pre-set program, and an ROM 408 and an RAM 410 that are the storage unit.

[0070] As shown in Fig. 10, the input ball detection sensor 349 is connected to an interface circuit group 4 02 of the main control circuit 400. when the lottery balls enter any of the plurality of lottery holes 340, 341, the input ball detection sensor 349 supplies a predetermined signal to an input/output bus 404 via the interface circuit group 402. The input/output bus 404 inputs/outputs a data signal or an address signal from the control processing unit (hereinafter called the CPU) 406.

[0071] Besides, the lottery ball passing detection sensor 351 is also connected to the interface circuit group 402 of the main control circuit 400. When the lottery balls pass through the open/close gate 352, the lottery ball passing detection sensor 351 supplies a predetermined signal to the input/output bus 404 via the interface circuit group 402.

[0072] Furthermore, communication control circuits 414A to 414J are connected to the interface circuit group 402. These communication control circuits 414A to 414J are for providing a communicable connection between the lottery machine controller 360 and the gaming terminals 314A to 314J. Particularly, data signals of the number of bets per game to be described later are transmitted from the gaming terminals 314A to 314J via the communication control circuits 414A to 414J. Thereby, a jackpot pool value to be described later can be calculated. Additionally, the pool value of this embodiment corresponds to the cumulative value of the invention.

[0073] The ROM (Read Only Memory) 408 and the RAM (Random Access Memory) 410 are also connected to the aforesaid input/output bus 404. The ROM 408 records a control program for controlling the process of the game in the lottery machine controller 360. Furthermore, the ROM 408 stores initial data, various programs, etc. for executing the control program. Besides,

the RAM 410 stores a flag and the value of a variable that are used in the aforesaid program.

[0074] Furthermore, an interface circuit group 412 is connected to the input/output bus 404. The lottery ball lifting motor 320C, the rotary motor 326, lottery wheel rotating motors 335 and 337, the shutter 347, the rocking device 346, and the open/close gate 352 are connected to the interface circuit group 412. Thereby, the CPU 406 controls various devices, thus enabling driving of the aforesaid lottery machine 312.

[0075] A clock pulse generator 415 and a frequency divider 416 that generate a reference clock pulse, and a random number generator 417 and a random number sampling circuit 418 that generate a random number to be sampled are connected to the CPU 406. Additionally, means for random sampling may be configured to execute random sampling on an operation program of the CPU 406. In that case, the random number generator 417 and random number sampling circuit 418 can be omitted or can also be left intact for use as backup for a random number sampling operation.

[0076] A control program for controlling the process of the game in the lottery machine controller 360 is stored in the ROM 408. Furthermore, initial data, various programs, etc. for executing the control program are stored in the ROM 408. In addition, each event value and an upper limit value of a first jackpot to be described later are stored in the ROM 408.

[0077] Besides, a first jackpot activation time determination table and a second jackpot activation time determination table (see Figs. 15 and 16), which will be described later, are stored in the ROM 408. As will be described later, each jackpot activation time determination table is for determining in which round of game a jackpot is activated after the game that meets the condition of activation, when each jackpot meets the condition of activation, i.e., when each pool value exceeds the intrinsic event value of the jackpot.

[0078] Furthermore, a first jackpot notification execution time determination table and a second jackpot notification execution time determination table (see Figs. 17 and 18), which will be described later, are stored in the ROM 408. Each jackpot notification execution time determination table is for determining in which round of game a jackpot notification is executed before a game in which the jackpot is activated.

[0079] Besides, the RAM 410 stores therein a flag and the value of a variable that are used in the aforesaid program. Furthermore, as will be described later, based on the total number of medals bet, a jackpot pool value is stored in the RAM 410, wherein the pool value is updated on a per game basis.

Electrical Configuration of Gaming Terminal

[0080] The electrical configuration of the gaming terminal 314A of the gaming machine 310 will be described using Fig. 11. Additionally, since the gaming terminals 314B to 314J have the same configuration as the gaming terminal 314A, the description thereof will be omitted

[0081] As shown in Fig. 11, the medal sensor 380A is an interface circuit group 502A of themain control circuit 500A. When medals are inputted through the medal input port 378A, the medal sensor 380A supplies a predetermined signal to an input/output bus 504A via the interface circuit group 502A. The input/output bust 504A inputs/outputs a data signal or an address signal from a central processing unit (hereinafter called a CPU) 506A. Additionally, when medals are inputted, the number of bets is also detected by the medal sensor 380A. The medal sensor 380A transmits a data signal of the number of bets to the CPU 506A. This data signal is transmitted via a to-be-described communication control circuit 514A, as a data signal, to the CPU 406 (see Fig. 10) of the main control circuit 400 (see Fig. 10) of the lottery machine 312. This data of the number of bets is further transmitted to the RAM 410.

[0082] Besides, the touch sensor 372A is also connected to the interface circuit group 502A of the main control circuit 500A. When detecting that the player has touched the display position of an instruction content displayed on the device 370A, the touch sensor 372A supplies the interface circuit group 502A with a signal corresponding to such an instruction content.

[0083] Besides, the inner dial 376A and the outer dial 377A are connected to the aforesaid interface circuit group 502A. When the players rotate the inner dial 376A and the outer dial 377A, a signal corresponding to the rotating angle of the inner dial 376A or the outer dial 377A is supplied to the interface circuit group 502A.

[0084] Furthermore, the communication control circuit 514A is connected to the interface circuit group 502A. This communication control circuit 514A is for providing a communicable connection between the lottery machine controller 360 and the gaming terminal 314A. Particularly, a signal for generating a jackpot and a signal for executing a jackpot notification are transmitted from the lottery machine 312 via the communication control circuit 514A.

[0085] An ROM (Read Only Memory) 508A and an RAM (Random Access Memory) 510A are connected to the aforesaid input/output bus 504A. The ROM 508A stores therein a control program for controlling the process of the game of the gaming terminal 314A. Furthermore, the ROM 508A stores therein an initial data for executing the control program, a program for controlling the display of the display 370A, etc. Besides, the RAM 510A stores therein a flag and the value of a variable that are used in the aforesaid program.

[0086] Furthermore, an interface circuit group 512A is connected to the input/output bus 504A. A speaker 586A and a hopper 588A are connected to the interface circuit group 512A. And, the interface circuit group 512A supplies a drive signal and drive power so as to control each of the aforesaid devices in response to the result of a calculation process in the CPU 506A.

[0087] Furthermore, a display controller 600A is connected to the interface circuit group 512A. The display controller 600A supplies the display 370A with an image signal for displaying an image, based on an image display command supplied from the main control circuit 500A.

[0088] A bingo game and a jackpot that are played using the gaming machine 310 will be described with reference to Figs. 12 to 14. In a bingo game machine such as the gaming machine 310, in addition to the normally performed bingo game, a game (event) called a jackpot is played. The jackpot is an event (game) that has a high possibility of awarding more medals to the players than in the bingo game.

Bingo Game

[0089] The conventional bingo game is such a game as follows. That is, 25 numbers serving as the identification information are described on a bingo card made of paper on which 5×5 bingo matrix cells are drawn. And, when a number selected by lottery is found on the bingo card, a bingo cell corresponding to the selected number is activated. When five activated bingo cells are arranged in vertical, horizontal or diagonal line on the bingo card, a bingo hand is achieved, thus awarding a prize such as commercial goods to the winner.

[0090] A bingo game played on the gaming machine 310 is played by the same rule as the aforesaid. However, in the bingo game played on the gaming machine 310, as shown in Fig. 12, in place of the bingo cells made of paper, bingo cells 375 are displayed on a display screen 371A of the display 370A of the gaming terminal 314A, thereby allowing the players to play the bingo game. Additionally, since the gaming terminals 314B to 314J have substantially the same configuration as the gaming terminal 314A, the description thereof will be omitted.

[0091] Besides, in the bingo game played on the gaming machine 310, as shown in Fig. 12, in place of the numbers serving as the identification information of the normal bingo game, playing-card designs are used as the identification information. Accordingly, even when a poker hand (e.g., one pair, two pair, three of a kind, straight, flush, full house, four of a kind, straight flush, royal flush, or five of a kind) is achieved in addition to the conventional bingo hand, medals are awarded to the winning players.

[0092] And, the bingo game is played by such a procedure as follows. First, the lottery balls are inputted onto lottery wheels 338 and 339, and the lottery balls roll on the lottery wheels 338 and 339. The lottery balls whose rolling movement grows weak enter either the lottery holes 340 or the lottery holes 341. If any bingo cells have the same designs as the playing-card designs of lottery holes that the lottery balls have entered, bingo cells 375 corresponding to the playing-card designs are activated. When the activated bingo cells form the aforesaid bingo hand or poker hand, medals equivalent to the hand are awarded to the winning players.

Jackpot

[0093] The jackpot of the gaming machine 310 of this embodiment will now be described with reference to Figs. 13 and 14.

[0094] The jackpot refers to an event (game) that has a high possibility of awarding more medals to the players participating in the game than in the bingo game. The players can obtain the chance of being able to win more medals than in the bingo game. Here, the "players participating in the game" refers to players who are actually involved in the bingo game with a medal bet upon activation of a jackpot. The jackpot has two kinds: a first jackpot and a second jackpot.

[0095] The first jackpot will be described with reference to Fig. 13. Fig. 13 shows an image displayed on the display 370A of the gaming terminal 314A at a Discover Treasure Island game held in the first jackpot.

[0096] Here, the fist jackpot refers to a less-awarded jackpot that is pre-set to have a possibility of activating frequently per day. The first jackpot is a less-awarded jackpot than the to-be-described second jackpot but is set to have a higher activation frequency than the second jackpot. When the first jackpot is activated, all the players participating in the game play the Discover Treasure Island game of searching for a treasure island. As shown in Fig. 13, the mock telescope 397 is displayed on the display screen 371A of the display 370A of the gaming terminal 314A. The players operate the inner dial 376A or the outer dial 377A (see Fig. 8) right and left, thereby moving the mock telescope 397 right and left or adjusting the focal distance of the mock telescope 397, thus searching for the treasure island 379. And, 60 medals are awarded to the player who is the first to discover the treasure island 379, 30 medals to the second, and 10 medals to the third.

[0097] The second jackpot will now be described with reference to Fig. 14. Fig. 14 shows an image displayed on the display 370A of the gaming terminal 314A at a symbol guessing game held in the second jackpot.

[0098] The second jackpot refers to a high-awarded jackpot that is pre-set to have a possibility of activating several times per day. When the jackpot is activated, the lottery balls are inputted onto the lottery wheels 338 and 339 (see Fig. 4). The lottery balls roll on the lottery wheels 338 and 339 and thereafter enter the lottery holes 340 and 341. The second jackpot is the game in which when three lottery balls enter the lottery holes 340 and 341, three playing-card symbols of the three lottery holes 340 and 341 are guessed. Similar to the first jackpot, in the second jackpot, the chance of challenging the game is given to all the players participating in the game. As shown in Fig. 14, the players operate the inner dial 376A or the outer dial 377A (see Fig. 8) right and left, thereby selecting three playing-card symbols 701, 702

and 703. When all the three symbols are guessed right, 1,000 medals are awarded to the winner. However, when there are a plurality of winners, the 1,000 medals are shared equally among the winners.

[0099] The conventional gaming machine is configured such that the jackpot is activated on a per gaming terminal basis. Therefore, a player cannot participate in a jackpot activating at the gaming terminal of another player. Accordingly, unfairness arises among the players participating in a bingo game of the same bingo game machine. Thus, there is the risk of reducing the interest of the players in the game.

[0100] In the gaming machine 310 of the invention, both the first and second jackpots are configured such that all the players participating in the game can be involved in the jackpot. Therefore, it is possible to provide the gaming machine that maintains the expectation of the players without reducing the interest of the players.

Condition of Jackpot Activation

[0101] On the other hand, in the gaming machine 310, a predetermined condition need be satisfied in order for a jackpot to activate. The condition of jackpot activation is that each pool value to be described below exceeds the intrinsic event value of each jackpot. Here, the pool value refers to a value obtained such that after the preceding jackpot activation, the total number of medals bet per game by all the players is multiplied by a rate preset for each jackpot (hereinafter called the predetermined rate) and, furthermore, this result is accumulated in all the game. That is, after the preceding first jackpot activation, the total number of medals bet per game by all the players is multiplied by the predetermined rate of the first jackpot, and the result is accumulated in all the game, thereby calculating the pool value of the first jackpot. Hereinafter, the pool value of the first jackpot will be called a first pool value, and the pool value of the second jackpot, a second pool value. Additionally, the accumulated value of the invention corresponds to the pool value.

[0102] Additionally, even when the pool value exceeds the event value, it only means that the condition of jackpot activation is satisfied. When a jackpot actually activates is determined with reference to the jackpot activation time determination table to be described later. Furthermore, as will be described later, even when the condition of activation of the first jackpot is fulfilled, if there are not a predetermined number of players participating in the game, the first jackpot is cancelled.

[0103] In the gaming machine 310 of this embodiment, the predetermined rate used for calculating the pool value is 5% at both the first and second jackpots, i.e., 0.05 of the total number of medals. Besides, as aforesaid, the event value of each jackpot varies from one jackpot to another. Thus, the event value of the first jackpot is 100 medals, while the event value of the second jackpot is 1,000 medals.

[0104] The condition of activation of the first jackpot will hereinafter be specifically described by taking the first jackpot as an example. For example, the pool value obtained after a bingo game in which the preceding first jackpot has activated is set to 60. And, suppose that 500 medals are bet in a bingo game (hereinafter called a first game) immediately after the aforesaid bingo game. In this case, since $500 \times 0.05 = 25$, the pool value obtained until the first game is 65 + 25 =90. Suppose that 600 medals are bet in a second game subsequent to the first game. Then, since the value obtained by multiplying the total number of medals by the predetermined rate is $600 \times 0.05 = 30$, the pool value of the second game is 90 + 0 = 120. Accordingly, this value exceeds 100 that is the event value of the first jackpot, thus satisfying the condition on which the first jackpot is activated in the second game.

[0105] Additionally, this embodiment limits the kinds of jackpots to two kinds. However, the invention is not limited thereto but may be provided with three or more kinds of jackpots. On this occasion, preferably, there are provided a plurality of jackpots between which the number of payout medals won varies.

[0106] Besides, in this embodiment, the event value of the first jackpot is set to 100 and that of the second jackpot is set to 1,000. However, the invention is not limited thereto, but the event value need only be a numerical value capable of maintaining the expectation of the players. Besides, the management of a game arcade or the maker of a gaming machine may make it ready to modify the event value as appropriate. Furthermore, there may be provided a plurality of jackpots different in event value from each other.

[0107] Furthermore, in this embodiment, the predetermined rate functioning as a coefficient for calculating the pool value is set to 5% (0.05) that is the same at both the first and second jackpots. However, the invention is not limited thereto, but the predetermined rate may vary between each jackpot and may be the same at the both jackpots. Besides, the predetermined rate may be either smaller or larger than 5%. Furthermore, the management of a game arcade or the maker of a gaming machine may make it ready to modify the event value as appropriate.

[0108] Thus, according to the invention, a plurality of jackpots serving as the chance of increasing medals are activated independently one of another. Accordingly, even when a jackpot is activated, there is the possibility that another jackpot may be activated immediately thereafter. Therefore, the expectation of the players for jackpots is maintained, which can avoid the emergence of a player who stops playing the game after a jackpot activation.

[0109] Besides, the conventional bingo game machine cannot provide a difference in the mode of forming a bingo, so that a payout to be awarded to the players cannot be provided with much latitude. Consequently, there has appeared a bingo game machine for solving

the aforesaid problem by providing an event such as a jackpot in which more medals are awarded than in the bingo game. However, even when one jackpot is activated, there is a limitation in providing the payout with variation. Thus, there is the risk of reducing the interest of the players.

[0110] However, according to the invention, a plurality of kinds of jackpots different in the number of payout medals are provided as in the second jackpot having a low activation frequency but a high payout and as in the first jackpot having a low payout but a high activation frequency. Therefore, the payout to be awarded to the players can be provided with much latitude. Besides, the activation frequency also varies, thus enabling thepayout award to have a wavy form. Accordingly, it is possible to maintain the interest of the players in the game.

Jackpot Activation Time Determination Table

[0111] The jackpot activation time determination table will now be described with reference to Figs. 15 and 16.

[0112] Figs. 15 and 16 shows the jackpot activation time determination tables. Fig. 15 shows the first jackpot activation time determination table, and Fig. 16 shows the second jackpot activation time determination table. The jackpot activation time determination table stored in the ROM 408 of the lottery machine 312 is such a table as follows. That is, when a jackpot satisfies the condition of activation, i.e., when each pool value exceeds the intrinsic event value of the jackpot, the table is referred to when it is determined in which round of game (that refers to the bingo game) a jackpot is activated after the bingo game that satisfies the condition of activation. The jackpot activation time determination table has an item called the number of activation standby games and an item of a random number range. The number of activation standby games refers to the number of bingo games played from the bingo game satisfying the condition of jackpot activation until a jackpot is activated.

[0113] A specific method of determining in which round of game the first jackpot is activated after the first jackpot satisfies the condition of activation will hereinafter be described using Fig. 15.

[0114] First, the CPU 406 of the lottery machine 312 selects a random number from a predetermined random number range (e.g., a range of "0" to "255"). Based on the random number value selected, referring to the first jackpot activation time determination table of Fig. 15, it is determined in which round of game (that refers to the bingo game) the first jackpot is activated after the bingo game satisfying the condition of activation. For example, when the random number selected falls in a range of "201" to "255", the first jackpot is activated at the twentieth bingo game from the bingo game satisfying the condition of activation.

[0115] Thus, even when the pool value becomes equal to or greater than the event value at which the jackpot is activated, there is the possibility that the jackpot may not be activated immediately. Therefore, it becomes difficult for the players to predict the subsequent event activation. Accordingly, the expectation of the players for events is maintained, thus enabling the interest of the players to be maintained.

[0116] Additionally, this embodiment is configured such that a jackpot is activated within at least 50 games (that refer to the bingo games) after the condition of activation of each jackpot is satisfied. However, the invention is not limited thereto, but the number of bingo games played after the condition of activation of each jackpot is satisfied until a jackpot is activated may be 50 games or more.

Jackpot Notification

[0117] The jackpot notification will now be described.

[0118] In the gaming machine 310 of this embodiment, when the condition of jackpot activation is satisfied and the time of jackpot activation is determined, the jackpot notification is performed with respect to the players before the jackpot is activated.

[0119] The jackpot notification is performed by lighting up sails 311A to 311E of the gaming machine 310 (see Fig. 1) with light (not shown). When to perform the jackpot notification is determined with reference to the jackpot notification execution time determination table to be described later.

[0120] Additionally, the jackpot notification may be performed by a method other than that of lighting up the sails 311A to 311E of the gaming machine 310 with light (not shown). For example, the jackpot notification may be executed on the display 370 of the gaming terminal 314.

Jackpot Notification Execution Time Determination Table

[0121] The jackpot notification execution time determination table will now be described with reference to Figs. 17 and 18.

[0122] Figs. 17 and 18 show jackpot notification execution time determination tables, respectively. Fig. 17 shows the first jackpot notification execution time determination table, and Fig. 18 shows the second jackpot notification executing time determination table. The jackpot notification execution time determination table stored in the ROM 408 of the lottery machine 312 is a table that determines in which round of game (that refers to the bingo game) the jackpot notification is performed before a bingo game in which a jackpot is activated. The jackpot notification execution time determination table includes an item called the number of notification execution games and an item called a random number range. The number of notification execution games refers to the number of bingo games obtained from a bingo game in which the jackpot notification is performed for

a bingo game in which a jackpot is to activate.

[0123] A specific method of determining in which round of game (that refers to the bingo game) a first jackpot notification is executed before a bingo game in which the first jackpot is activated will hereinafter be described using Fig. 17.

[0124] First, the CPU 406 of the lottery machine 312 selects a random number from a predetermined random range (e. g. , a range of "0" to "255"). Based on the random number value selected, referring to the first jackpot notification execution time determination table of Fig. 17, it is determined in which round of game (that refers to the bingo game) the first jackpot is activated after the bingo game satisfying the condition of activation. For example, when the random number falls in a range of "51" to "100", the first jackpot notification is executed in the bingo game that is two games before the bingo game satisfying the condition of activation of the first jackpot.

[0125] Thus, the jackpot notification is performed before the jackpot is activated. Therefore, this can prevent the interest of the players from being reduced due to a sudden jackpot activation. Besides, it can be expected to attract customers because of the notification of events, thus enabling an increase in the number of players participating in the game.

[0126] Besides, in this embodiment, the jackpot notification execution time determination table is divided into two: the first jackpot and the second jackpot. However, this embodiment is not limited thereto, but the first and second jackpot notification execution time determination tables may be integrated into the same one.

Cancellation of First Jackpot Activation and
Cancellation of First Jackpot Notification Execution

[0127] The Discover Treasure Island game of the first jackpot is a game in which medals are awarded to a predetermined number of players, e.g., only up to three winners. Accordingly, even in case where the predetermined number of players are not gathered, when the first jackpot is activated, the interest stimulated in competition with others is suppressed, so that there is the risk of reducing the interest in the game.

[0128] Consequently, in this embodiment, even when the condition of activation of the first jackpot is satisfied, the number of players participating in the game is equal to or smaller than the predetermined number, e.g., three player or less, the first jackpot is withheld from activating. In this case, until the number of players participating in the game exceeds the predetermined number, the first jackpot is not activated as a matter of course, and the jackpot notification is not executed, either.

[0129] Besides, when the first jackpot is cancelled, the time of generating the first jackpot is re-determined again. Similarly, when the first jackpot is cancelled, the time of executing the notification of the first jackpot is re-determined again.

[0130] Thus, according to the invention, when the predetermined number of players is not reached, the notification of the first jackpot is not executed, and the first jackpot is not activated, either. Accordingly, because the players want to enjoy the prizes of jackpots to the possible maximum, the players come to participate in the bingo game as often as possible. As a result, it is possible to increase the number of players participating in the game.

[0131] On the other hand, in the case of the second jackpot table, even when the number of players participating in the game is smaller than the predetermined number, either the execution of notification of the second jackpot or the activation of the second jackpot is not cancelled.

[0132] Thus, according to the invention, in case where the predetermined number of game participants is not reached, even when one jackpot is cancelled, the other jackpot is not cancelled. Accordingly, the situation in which no jackpot is activated at all can be avoided. As a result, it is possible to avoid such a situation as to reduce the interest of the players.

First Pool Value Transfer Process

[0133] As aforesaid, in the first jackpot, when the predetermined condition is not satisfied, the notification of the first jackpot is not executed, and the first jackpot is not activated, either. However, even though the first jackpot has a low payout, the jackpot pool value is obtained by multiplying the number of medals bet by the players by the predetermined rate. Therefore, when no jackpot is activated and no medal is restored to the players, a burden is imposed on the players. Thus, there is the risk of reducing the interest of the players in the game. The reason is that when the cancellation of the first jackpot continues in succession, the ratio of the number of medals inputted by the players to the number of medals paid out, i.e., a payout ratio (hereinafter called P/O ratio), is reduced by the amount of the predetermined rate.

[0134] Consequently, the gaming machine 310 is configured as follows. That is, when the activation of the first jackpot is cancelled and the first pool value that is the pool value of the first jackpot becomes equal to or greater than a predetermined numerical value called an upper limit value, a surplus pool value obtained by subtracting the upper limit value from the first pool value is transferred to the second pool value that is the pool value of the second jackpot. That is, the surplus pool value is added to the second pool value.

[0135] For example, when the second pool value is 509, the upper limit value 200, and the first pool value 230, the surplus pool value 30 obtained by subtracting the first pool value 200 from the first pool value 230 is added to the second pool value 509, thus obtaining 539 of the second pool value. Accordingly, the activation time of the second jackpot is put forward by the amount of the addition.

[0136] Thus, when the surplus pool value is transferred to the second pool value, the activation of the second jackpot is quickened by the amount of the transfer. Accordingly, this increases the chance of awarding a large number of medals to the players, thus enabling an enhancement in the expectation for the game. At the same time, the burden can be avoided from being imposed on the players, thus enabling the interest of the players to be prevented from being reduced.

Operation of Lottery Machine and Gaming Terminal

[0137] The process in the main control circuit 400 (see Fig. 10) of the lottery machine 400 and the process in the main control circuit 500A (see Fig. 11) of the gaming terminal 314A will be described with reference to Figs. 19 to 23.

Operation of Lottery Machine

[0138] The process in the main control circuit 400 of the lottery machine 312 will be described with reference to Fig. 19.

[0139] At a step S100, the CPU 406 performs a game preparation process. Specifically, the lottery balls held on the screw conveyor are moved to the lottery ball holding portion 332 in a predetermined number. Besides, in addition thereto, the CPU 406 performs various processes such as inclining the housing 313 at a predetermined angle. When this process ends, the process moves to a step S101.

[0140] At the step S101, the CPU 406 of the lottery machine 312 performs the determination of lottery start. The CPU 406 determines whether or not it is the time to start a lottery after the elapse of a predetermined waiting time. When this determination is YES, the process moves to a step S102, and when this determination is NO, the process moves to a step S103.

[0141] At the step S102, the CPU 406 of the lottery machine 312 performs the transmission of a lottery start signal. The CPU 406 transmits the lottery start signal via the communication control circuits 414A to 414J to the gaming terminals 314A to 314J, respectively. When this process ends, the process moves to a step S104. Additionally, the aforesaid lottery start signal is received by a to-be-described gaming terminal 314 at a step S204 that is the process of the main control circuit 500A of the gaming terminal 314.

[0142] On the other hand, at the step S103, the CPU 406 of the lottery machine 312 performs waiting time consumption. The CPU 406 measures the time taken until the predetermined waiting time has elapsed. When this process ends, the process returns to the step S101.

[0143] At the step S104, the CPU 406 performs bet operation reception time consumption. The CPU 406 measures the time taken until a predetermined bet operation reception time has elapsed. When this process ends, the process moves to a step S105.

[0144] As shown in Fig. 20, at the step S105, the CPU 406 receives the data of the number of bets. In this process, the CPU 406 receives the data of the number of bets transmitted at a step S214. When this process ends, the process moves to a step S107.

[0145] At a step S106, the CPU 406 calculates the pool value of each jackpot from the number of bets transmitted from each gaming terminal and stored the resultant pool value in the RAM 410. Specifically, the CPU 406 adds the number of bets per game transmitted from each gaming terminal and multiplies the result by the predetermined rate of each jackpot, thus calculating each pool value. And, the CPU 406 stores the calculation result in a predetermined region of the RAM 410. When this process ends, the process moves to a step S107.

[0146] At the step S107, the CPU 406 determines whether or not the first pool value is equal to or greater than the first event value. In this process, the CPU 406 determines whether or not the first pool value stored in the RAM 410 at the step S105 is equal to or greater than the first event value stored in the ROM 408. When this determination is YES, the process proceeds to a step S108, and when this determination is NO, the process moves to a step S111.

[0147] At the step S108, the CPU 406 performs a first jackpot process. The first jackpot process will be described later.

[0148] At a step S109, the CPU 406 receives the data of a game result of the first jackpot. In this process, the CPU 406 receives the data of the game result of the first jackpot transmitted through the process of a step S218. When this process ends, the process moves to a step S110.

[0149] At the step S110, the CPU 406 transmits payout data corresponding to the game result to each gaming terminal. In this process, the CPU 406 transmits the payout data to each gaming terminal based on the data of the game result received through the process at the step S109. When this process ends, the process moves to the step S111.

[0150] At the step S111, the CPU 406 determines whether or not the second pool value is equal to or greater than the second event value. In this process, the CPU 406 determines whether or not the second pool value stored in the RAM 410 at the step S105 is equal to or greater than the second event value stored in the ROM 408. When this determination is YES, the process proceeds to a step S112, and when this determination is NO, the process moves to a step S114.

[0151] At the step S112, the CPU 406 performs a second jackpot process. The second jackpot process will be described later.

[0152] At a step S113, the CPU 406 receives the data of a game result of the second jackpot. In this process, the CPU 406 receives the data of the game result of the second jackpot transmitted through the process of a step S224. When this process ends, the process moves

to the step S114.

[0153] At the step S114, the CPU 406 transmits a payout data corresponding to the game result to each gaming terminal. In this process the CPU 406 transmits the payout data to each gaming terminal based on the data of the game result received through the process of the step S113. When this process ends, the process moves to a step S115.

[0154] As shown in Fig. 21, at the step S115, the CPU 406 starts the rotation of the lottery wheel. By the control of the main control circuit 400 of the lottery machine 312, start lottery wheel rotating motors 335 and 337 are started to start the rotation of the face portions 338A and 339A. When this process ends, the process moves to a step S116.

[0155] At the step S116, the CPU 406 starts to rock the housing. By the control of the main control circuit 400 of the lottery machine 312, the rocking device 346 is started to start rocking the housing of the lottery machine 312. When this process ends, the process moves to a step S117.

[0156] At the step S117, the CPU 406 performs the process of dropping one lottery ball. By the control of the main control circuit 400 of the lottery machine 312, the rotating body 328 (see Fig. 1) is controlled and one lottery ball is dropped into the lottery ball receiving portion 334. When this process ends, the process moves to a step S118.

[0157] At the step S118, the CPU 406 performs the process of obtaining identification data. In this process, by the control of the main control circuit 400 of the lottery machine 312, one of the input ball detection sensors 349 disposed in the plurality of lottery holes 340 detects the input of one lottery ball, and the CPU 406 of the lottery machine 312 obtains an identification datum corresponding to the lottery hole 340. When this process ends, the process moves to a step S119.

[0158] At the step S119, the CPU 406 transmits the identification information obtained by the CPU 406 of the lottery machine 312 and the information of in which round of lottery is the current lottery. The CPU 406 transmits the identification information and the information of in which round of lottery is the current lottery, to the gaming terminals 314A to 314J via the communication control circuits 414A to 414J, respectively. When this process ends, the process moves to the step S110. Additionally, the aforesaid information of in which round of lottery is the current lottery is counted by the CPU 406 and stored in the RAM 410 (see Fig. 10). Furthermore, the aforesaid identification information and the information of in which round of lottery is the current lottery are received by the gaming terminal 314 at a step S214 that is the process of the main control circuit 500A of the gaming terminal 314 to be described later.

[0159] At a step S120, the CPU 406 determines whether the CPU 406 of the lottery machine 312 has finished predetermined rounds of lottery. Referring to the aforesaid information of in which round of lottery is the current lottery, which is stored in the RAM 410, the CPU 406 determines whether this covers the predetermined rounds or not. When this determination is YES, the process moves to a step S121, and when this determination is NO, the process returns to the step S117.

[0160] At the step S121, the CPU 406 finishes the rocking of the housing. By the control of the main control circuit 400 of the lottery machine 312, the rocking device 346 is stopped to finish the rocking of the housing of the lottery machine 312. When this process ends, the process moves to a step S122.

[0161] At the step S122, the CPU 406 finishes the rotation of the lottery wheels. By the control of the main control circuit 400 of the lottery machine 312, the lottery wheel rotating motors 335 and 337 are stopped to finish the rotation of the lottery wheels 338 and 339. When this process ends, the process moves to the step S100.

Operation of Gaming Terminal

[0162] A process of the main control circuit 500A (see Fig. 11) of the gaming terminal 314 will be described with reference to Figs. 19 to 21.

[0163] As shown in Fig. 19, at a step S201, the CPU 506A performs the initialization of the gaming terminal 314. The CPU 506A (see Fig. 11) of the gaming terminal 314 performs processes such as clearing of various variables arranged in the RAM 510A (see Fig. 11) and initialization of the display of the display 370A. When this process ends, the process moves to a step S202.

[0164] At the step S202, the CPU 506A performs of the display of a demonstration screen. When this process ends, the process moves to a step S203.

[0165] At the step S203, the CPU 506A performs the process of detecting a game entry operation. In this process, the players make a game entry. By the control of the main control circuit 500A of the gaming terminal 314, the touch sensor 372A (or the main control circuit 500A itself) detects that the player has touch-operated the display screen of the display 370A (or has operated the inner dial 376A or the outer dial 377A). When this process ends, the process moves to a step S204.

[0166] At the step S204, the CPU 506A performs the process of receiving the lottery start signal. The CPU 506A of the gaming terminal 314 causes the main control circuit 500A (see Fig. 11) of the gaming terminal 314 to receive, via the communication control circuit 514A, the lottery start signal transmitted by the lottery machine 312 through the process of the step S102. When this process ends, the process moves to a step S204.

[0167] At the step S209, the CPU 506A performs of creating and displaying a bingo card. The CPU 506A of the gaming terminal 314 selects a predetermined number of display data from display data (e.g. a card design) for displaying identification information that are stored in the ROM 508A, then arranges the predetermined number of display data in matrix form, and displays them on the display 370A. When this process

ends, the process moves to a step S211.

[0168] At the step S211, the CPU 506A performs bet operation reception. In this process, the CPU 506A of the gaming terminal 314 processes the information that is the information about a bet operation which the player has performed by touching the display screen of the display 370A and that the touch sensor 372A has detected by the control of the main control circuit 500A of the gaming terminal 314, and stores the bet information in the RAM 510A (see Fig. 11). When this process ends, the process moves to a step S212.

[0169] At the step S212, the CPU 506A determines the number of payouts in response to the number of bets. In this process, based on the bet information stored in the RAM 510A (see Fig. 11), the CPU 506A of the gaming terminal 314 determines the number of payouts in the game. The determination result is stored in the RAM 510A (see Fig. 11) and displayed on a predetermined display portion of the display 370A. When this process ends, the process moves to a step S213.

[0170] At the step S213, the CPU 506A performs the determination of whether the bet reception time ends or not. The CPU 506A of the gaming terminal 314 measures the time taken after the process of the step S209 is performed, and determines whether or not the measured time reaches a predetermined time. When this determination is YES, the process moves to a step S214 of Fig. 18, and when this determination is NO, the process returns to the step S211.

[0171] As shown in Fig. 20, at the step S214, the CPU 506A transmits the data of the number of bets. In this process, the CPU 506A transmits the data signal of the number of bets detected by a medal sensor 380A to the CPU 406 of the lottery machine 312. When this process ends, the process moves to a step S215.

[0172] At the step S215, the CPU 506A determines whether a first jackpot generating command is received or not. In this process, the CPU 506A determines whether the first jackpot activation command transmitted through the process of the step S108 is received or not. When this determination is YES, the process proceeds to a step S216, and when this determination is NO, the process moves to a step S219.

[0173] At the step S216, the CPU 506A performs a first jackpot activation process. Specifically, the CPU 506A causes the display 370A of the gaming terminal 314A to display an image on the display screen 371A thereof. And, the players operate the inner dial 376A or the outer dial 377A (see Fig. 8) to operate themock telescope 397, thereby searching for the treasure island 379, thus performing the Discover Treasure Island game. When this process ends, the process moves to a step S218.

[0174] At the step S218, the CPU 506A transmits the game result. In this process, the CPU 506A transmits the result of the Discover Treasure Island game to the CPU 406 of the main control circuit 400 of the lottery machine 312. when this process ends, the process moves to a step S220.

At the step S219, the CPU 506A determines whether the payout data is received or not. In this process, the CPU 506A determines whether the payout data transmitted through the process of the step S110 is received or not. When this determination is YES, the process proceeds to the step S220, and when this determination is NO, the process moves to a step S221.

[0175] At the step S220, the CPU 506A executes a dividend payout process. In this process, the CPU 506A transmits a drive signal to the hopper 588A and executes the dividend payout. When this process ends, the process moves to the step S221.

[0176] At the step S221, the CPU 506A determines whether a second jackpot activation command is received or not. In this process, the CPU 506A determines whether the second jackpot activation command transmitted through the process of the step S112 is received or not. When this determination is YES, the process proceeds to a step S222, and then this determination is NO, the process moves to a step S225.

[0177] At the step S222, the CPU 506A performs a second jackpot activation process. Specifically, the CPU 506A causes the lottery balls to be inputted onto the lottery wheels 338 and 339 (see Fig. 4). The lottery balls roll on the lottery wheels 338 and 339 and thereafter enter the lottery holes 340 and 341. And, when the playing-card symbols of the lottery holes 340 and 341 that the lottery balls have entered match the playing-card symbols 701, 702 and 703, a large number of medals are awarded to the winning player. When this process ends, the process moves to a step S224.

[0178] At the step S224, the CPUA transmits the game result. In this process, the CPU 506A transmits the result of the symbol guessing game performed at the step S216 to the CPU 406 of the main control circuit 400 of the lottery machine 312. When this process ends, the process moves to the step S220.

[0179] At the step S225, it is determined whether the payout data is received or not. In this process, the CPU 506A determines whether the payout data transmitted through the process of the step S114 is received or not. When this determination is YES, the process proceeds to a step S226, and when this determination is NO, the process moves to a step S227.

[0180] At the step S226, the CPU 506A performs dividend payout. In this process, the CPU 506A transmits the drive signal to the hopper 588A and performs the dividend payout. When this process ends, the process moves to the step S227.

[0181] As shown in Fig. 21, at the step S227, the CPU 506A receives the identification information that is transmitted through the process of the step S119 and is obtained by the CPU 406 of the lottery machine 312 at the step S118 (see Fig. 21) and the information of in which round of lottery is the current lottery. By the control of the main control circuit 500A (see Fig. 11) of the gaming terminal 314, the aforesaid information is received via

the communication control circuit 514a. The CPU 506A of the gaming terminal 314 stores the aforesaid identification information and the information of in which round of lottery is the current lottery into the RAM 510A (see Fig. 11). When this process ends, the process moves to the step S215.

[0182] At a step S228, the CPU 506A retrieves whether the identification information received at the step S227 exists on the bingo card and, if it exists, activates the corresponding bingo cell. In this process, it is retrieved whether or not the identification information received at the step 214 exists on the bingo card that is created at the step S209 and displayed on the display 370A. If any identical identification information exists, a activation flag, placed in the RAM 510A (see Fig. 11), of the bingo cell on which the identical identification information is placed, is turned on. Furthermore, the aforesaid bingo cell on the screen display of the display 370A is displayed so as to be differentiable from the other bingo cells in such a manner that it is relatively brightly displayed or displayed with a half-tone dot meshing display removed. When this process ends, the process moves to a step S229.

[0183] At the step S229, the CPU 506A performs the determination of whether a bingo hand is formed. In this process, the CPU 506A determines the combination of: the identification information, configuring the bingo card, which is stored in the RAM 510A (see Fig. 11) and displayed on the device 370A; the information about the position of the bingo cell on which the aforesaid identification information is placed; and a activation flag corresponding to the aforesaid identification information. Then, the CPU 506A determines whether or not a bingo hand is formed on a specific line of the bingo card. When this determination is YES, the process moves to a step S231, and when this determination is NO, the process moves to a step S230.

[0184] At the step S230, the CPU 506A performs the determination of whether identification information receive has reached a predetermined number of times. With reference to the information of in which round of lottery is the current lottery, which is stored in the RAM 510A (see Fig. 11), it is determined based on this information whether or not the identification information receive has reached the predetermined number of times. When this determination is YES, the process moves to the step S201, and when this determination is NO, the process moves to the step S227.

[0185] At the step S231, the CPU 506A executes a dividend payout process. In this process, the CPU 506A transmits a drive signal to the hopper 588A and executes the dividend payout. When this process ends, the process moves to the step S201.

First Jackpot Process

[0186] The first jackpot process to be executed at the step S108 will now be described with reference to Fig. 22.

[0187] First, in Fig. 22, the CPU 406 determines whether a first jackpot activation flag is on or not (a step S401). When this determination is YES, the process moves to a step S402, and when this determination is NO, the process moves to a step S406.

[0188] At the step S402, the CPU 406 determines how many games after the current game the first jackpot is activated. In this process, the CPU 406 issues a signal to the random number generator 417 to the effect that a random number is to be activated, and the random number sampling circuit 418 selects a random number. Based on the selected random number and the first jackpot activation time determination table, the CPU 406 determines how many games after the game being currently played the first jackpot is activated.

[0189] Specifically, the CPU 406 selects a random number from the predetermined random number range (e.g. a range of "0" to "255"). And, suppose that the selected random number falls in a range of "151" to "200". Then, since the number of activation standby games is 15 games (see Fig. 15), the first jackpot is activated in the fifteenth game from the game satisfying the condition of activation of the first jackpot. When this process ends, the process moves to a step S403.

[0190] At the step S403, the CPU 406 turns on the first jackpot activation flag and subsequently sets a first jackpot activation counter. In this process, the CPU 406 turns on the first jackpot activation flag stored in a predetermined region of the RAM 410. Besides, the CPU 406 sets the first jackpot activation counter stored in the predetermined region of the RAM 410, in response to the number of activation standby games determined at the step S402. When this process ends, the process moves to a step S404.

[0191] At the step S404, the CPU 406 determines how many games before the first jackpot activation game the first jackpot notification is executed. In this process, the CPU 406 selects a random number as at the step S402. Subsequently, based on the selected random number and the first jackpot notification execution time determination table, the CPU 406 determines how many games after the game being currently played the first jackpot notification is activated.

[0192] Specifically, the CPU 406 selects a random number from the predetermined random number range (e.g. a range of "0" to "255"). And, suppose that the selected random number falls in a range of "151" to "200". Then, since the number of notification execution games is 4, the first jackpot notification is performed four games before the game in which the first jackpot is to activate. when this process ends, the process moves to a step S405.

[0193] At the step S405, the CPU 406 turns on a first jackpot notification flag and subsequently sets a first jackpot notification counter. In this process, the CPU 406 turns on the first jackpot notification flag stored in a predetermined region of the RAM 410. Besides, the

CPU 406 sets the first jackpot notification counter stored in a predetermined region of the RAM 410, in response to the number of notification execution games determined at the step S404. when this process ends, the process moves to a step S406.

[0194] At the step S406, the CPU 406 determines whether or not the number of players participating in the game is the predetermined number, i.e., four or more. In this process, the CPU 406 determines whether or not the number of players who have come for the bet operation reception of the step S211 is four or more. When this determination is YES, the process proceeds to a step S407, and when this determination is NO, the process moves to a step S413.

[0195] At the step S407, the CPU 406 determines whether the first jackpot notification counter is 0 or not. When this determination is YES, the process proceeds to a step S409, and when this determination is NO, the process moves to a step S408.

[0196] At the step S408, the CPU 406 subtracts 1 from the first jackpot notification counter (step S408). In this process, the CPU 406 subtracts 1 from the first jackpot notification counter and thereafter stores the result into a predetermined region of the RAM 410. When this process ends, the process moves to a step S410.

[0197] At the step S409, the CPU 406 executes a first jackpot notification process and also turns off the first jackpot notification flag. In this process, the CPU 406 performs the notification of notifying the players that the first jackpot will be activated within a few games. Besides, the CPU 406 turns off the first jackpot activation flag stored in the predetermined region of the RAM 410. When this process ends, the process moves to the step S410.

[0198] At the step S410, the CPU 506A determines whether the first jackpot activation counter is 0 or not. When this determination is YES, the process proceeds to a step S412, and when this determination is NO, the process moves to a step S411.

[0199] At the step S411, the CPU 406 subtracts 1 from the first jackpot activation counter (step S411). In this process, the CPU 406 subtracts 1 from the first jackpot notification counter and thereafter stores the result into the predetermined region of the RAM 410.

[0200] At the step S412, when it is determined that the first jackpot counter is 0, a first jackpot activation command is transmitted and, at the same time, the first jackpot activation flag is turned off (step S412). In this process, the CPU 406 transmits the first jackpot activation transmission command to the CPU 506A of the main control circuit 500A of the gaming terminal 314A. Besides, the CPU 406 turns off the first jackpot activation flag stored in the predetermined region of the RAM 410. When this process ends, this sub-routine ends.

[0201] Besides, at the step S413, the CPU 406 executes a cancellation process. In this process, the CPU 406 turns off the first jackpot activation flag and the first jackpot notification flag. Besides, the first jackpot activation counter and the first jackpot notification counter are set to 0. when this process ends, the process moves to a step S414.

[0202] At the step S414, the CPU 406 determines whether or not the first pool value is equal to or greater than the first event value (step S414). In this process, the CPU 406 determines whether or not the first pool value stored in the RAM 410 through the process of the step S213 is equal to or greater than the first event value. When this determination is YES, the process proceeds to a step S415, and when this determination is NO, this sub-routine ends.

[0203] At the step S414, the CPU 406 performs a first pool value transfer process. In this process, the CPU 406 transfers a surplus pool value, obtained by subtracting the first event value from the first pool value stored in a predetermined region of the RAM 410, to the second pool value stored in a predetermined region of the RAM 410. That is, the surplus pool value is added to the second pool value, thus updating the second pool value.

[0204] Specifically, for example, when the second pool value is 409, the first event value is 200, and the first pool value is 230, then 30 of the surplus pool value obtained by subtracting 200 of the first event value from 230 of the first pool value is added to 409 of the second pool value. Thus, the second pool value obtained after the addition is updated as 439 in the RAM 410. When this process ends, this sub-routine ends.

Second Jackpot Process

[0205] The second jackpot process to be executed at the step S112 will be described with reference to Fig. 23.

[0206] First, in Fig. 23, the CPU 406 determines whether a second jackpot activation flag is on or not (a step S501). When this determination is YES, the process moves to a step S502, and when this determination is NO, the process moves to a step S506.

[0207] At the step S502, the CPU 406 determines how many games after the current game the second jackpot is activated. In this process, the CPU 406 issues a signal to the random number generator 417 to the effect that a random number is to be activated, and the random number sampling circuit 418 selects a random number. Based on the selected random number and the first jackpot activation time determination table, the CPU 406 determines how many games after the game being currently played the second jackpot is activated.

[0208] Specifically, the CPU 406 selects a random number from the predetermined random number range (e.g. a range of "0" to "255"). And, suppose that the selected random number falls inarangeof"151"to"200". Then, sincethenumberof activation standby games is 30 games (see Fig. 16), the second jackpot is activated in the thirtieth game from the game satisfying the condition of activation of the second jackpot. When this process ends, the process moves to a step S503.

[0209] At the step S503, the CPU 406 turns on the

second jackpot activation flag and subsequently sets a second jackpot activation counter. In this process, the CPU 406 turns on the second jackpot activation flag stored in a predetermined region of the RAM 410. Besides, the CPU 406 sets the second jackpot activation counter stored in a predetermined region of the RAM 410, in response to the activation standby number of games determined at the step S402. When this process ends, the process moves to a step S504.

[0210] At the step S504, the CPU 406 determines how many games before the second jackpot activation game the second jackpot notification is executed. In this process, the CPU 406 selects a random number as at the step S402. Subsequently, based on the selected random number and the second jackpot notification execution time determination table, the CPU 406 determines how many games after the game being currently played the second jackpot notification is activated.

[0211] Specifically, the CPU 406 selects a random number from the predetermined random number range (e.g. a range of "0" to "255"). And, suppose that the selected random number falls in a range of "151" to "200". Then, since the number of notification execution games is 4, the second jackpot notification is performed four games before the game in which the second jackpot is to activate. when this process ends, the process moves to a step S505.

[0212] At the step S505, the CPU 406 turns on a second jackpot notification flag and subsequently sets a second jackpot notification counter. In this process, the CPU 406 turns on the second jackpot notification flag stored in a predetermined region of the RAM 410. Besides, the CPU 406 sets the second jackpot notification counter stored in a predetermined region of the RAM 410, in response to the number of notification execution games determined at the step S504. When this process ends, the process moves to a step S506.

[0213] At the step S506, the CPU 406 determines whether the second jackpot notification counter is 0 or not. When this determination is YES, the process proceeds to a step S508, and when this determination is NO, the process moves to a step S507.

[0214] At the step S507, the CPU 406 subtracts 1 from the second jackpot notification counter. In this process, the CPU 406 subtracts 1 from the second jackpot notification counter and thereafter stores the result into a predetermined region of the RAM 410. When this process ends, the process moves to a step S509.

[0215] At the step S508, the CPU 406 executes a second jackpot notification process and also turns off the second jackpot notification flag. In this process, the CPU 406 performs the notification of notifying the players that the second jackpot will be activated within a few games. Besides, the CPU 406 turns off the second jackpot activation flag stored in the predetermined region of the RAM 410. When this process ends, the process moves to the step S509.

[0216] At the step S509, the CPU 406 determines whether the second jackpot activation counter is 0 or not. When this determination is YES, the process proceeds to a step S510, and when this determination is NO, the process moves to a step S511.

[0217] At the step S510, the CPU 406 subtracts 1 from the second jackpot activation counter. In this process, the CPU 406 subtracts 1 from the second jackpot notification counter and thereafter stores the result into the predetermined region of the RAM 410. When this process ends, this sub-routine ends.

[0218] At the step S511, the CPU 406 performs a second jackpot activation process. Besides, the CPU 406 a second jackpot activation command and also turns off the second jackpot activation flag. In this process, the CPU 406 performs the second jackpot activation process. Specifically, the CPU 406 lights up the sails 311A to 311E of the gaming machine 310 (see Fig. 1) with light (not shown). Besides, the CPU 406 transmits the second jackpot activation transmission command to the CPU 506A of the main control circuit 500A of the gaming terminal 314A. Besides, the CPU 406 turns off the second jackpot activation flag stored in the predetermined region of the RAM 410. When this process ends, this sub-routine ends.

[0219] Additionally, in this embodiment, the CPU 406, RAM 410, etc. that execute the step S106 of Fig. 20 each correspond to an example of the cumulative storage unit of the invention.

[0220] Additionally, in this embodiment, the CPU 406, ROM 408 and RAM 406 that execute the steps S107 and S111 of Fig. 20 each correspond to an example of the event value achievement determination unit of the invention.

[0221] Besides, in this embodiment, the CPU 506A, etc. that execute the steps S216 and S222 of Fig. 20, and the CPU 406, etc. that execute the step S412 of Fig. 22 or the step S511 of Fig. 23 each correspond to an example of the event activation unit of the invention.

[0222] Besides, in this embodiment, the CPU 406, random number generator 417, etc. that execute the step S402 of Fig. 22 and the step S502 of Fig. 23 each correspond to an example of the event activation time determination unit of the invention.

[0223] Besides, in this embodiment, the CPU 406, random number generator, etc. that execute the step S404 of Fig. 22 and the step S504 of Fig. 23 each correspond to an example of the event notification time determination unit of the invention.

[0224] Besides, in this embodiment, the CPU 406, etc. that execute the step S409 of Fig. 22 and the step S508 of Fig. 23 each correspond to an example of the event notification unit of the invention.

[0225] Besides, in this embodiment, the CPU 406, RAM 410, etc. that execute the step S406, etc. of Fig. 22 each correspond to an example of the number-of-players determination unit or determination unit of the invention.

[0226] Besides, in this embodiment, the CPU 406,

RAM 410, etc. that execute the step S415 of Fig. 23 each correspond to an example of the cumulative value transfer unit of the invention.

[0227] Besides, in this embodiment, the CPU 406, RAM 410, etc. that execute the step S415 of Fig. 23 each correspond to an example of the surplus cumulative value storage unit of the invention.

[0228] Besides, in this embodiment, the CPU 406, RAM 410, etc. that execute the step S415 of Fig. 23 each correspond to an example of the surplus cumulative value addition unit of the invention.

Modified Embodiments

[0229] In this embodiment, the gaming machine is configured as follows. That is, the lottery wheels 338 and 339 are disposed on a portion corresponding to a deck of the lottery machine 312 imitating a ship. The holes that the balls can enter are formed on the surfaces of the lottery wheels 338 and 339. The playing-card designs made to correspond to the holes that the balls have entered as the ship rocks are identified. Thus, when there exist any designs identical to the playing-card designs displayed on the bingo card, the corresponding bingo cells are activated. As a result, when the activated bingo cells form a normal bingo hand on a specific line of the bingo card, prizes are awarded to the winning players. In addition thereto, prizes are awarded to the winning players even by generating events, i.e., a plurality of jackpots. However, the invention is not limited thereto. For example, the invention is also applicable to a so-called keno game or the like that is played as follows. That is, after numbers are made to correspond to the holes, a lottery is performed by a similar method. Thus, the amount of payouts is determined according to how many numbers are drawn out of the numbers on a predetermined number of balls that a player has selected in advance. That is, the configuration of the gaming machine 312 (see Fig. 1) of this embodiment is also applicable to any lottery machine for any game that can generate a plurality of jackpots.

[0230] The embodiment of the invention has been described above, which merely illustrates a specific example and particularly does not limit the invention. That is, the invention is the gaming machine that includes a plurality of gaming terminal devices having control panels operated by players and on which the players play a game upon payment of a game value, the gaming machine including: the cumulative storage unit that stores a plurality of kinds of cumulative values on a per unit game basis at a predetermined rate in response to the game value; the event value achievement determination unit that determines whether or not any of the plurality of kinds of cumulative values stored by the cumulative storage unit has achieved an event value pre-set for each of the plurality of kinds of cumulative values; and the event activation unit that generates an event corresponding to the event value achieved, when the event value achievement determination unit determines that the event value pre-set is achieved. However, the specific configuration of each unit such as the cumulative storage unit, the event value achievement determination unit, and the event activation unit can be modified in design as appropriate.

[0231] Additionally, the advantages described in the embodiment of the invention are merely a listing of the most preferred advantages yielded from the invention. Thus, the advantages of the invention are not limited to the ones described in the embodiment of the invention.

[0232] According to this embodiment, even when the cumulative value or greater at which an event activates is achieved, there is the possibility that the event does not activate immediately, thus making it difficult to predict the next event activation. Accordingly, the expectation of the player for the events is maintained, thus making it possible to maintain the interest of the player.

[0233] According to this embodiment, the notification of an event is performed before the event activates, thus enabling the interest of the player to be prevented from being reduced due to a sudden event activation. Besides, it can be expected to attract customers because of the event notification, thus enabling an increase in the number of the player participating in the game.

[0234] In many cases, in a gaming machine of this type, a plurality of terminals serving as game input units are disposed in an outer peripheral region of such a gaming machine so that a plurality of players can simultaneously participate in the game. However, although the contrivance of using various electric spectaculars is always made to lure a large number of players to simultaneously participate in the game, in part because such a lure means is not beneficial to the players, there is the problem that such an effect as intended is not expected.

[0235] According to this embodiment, since the one cumulative value does not increase because of the transfer function of the cumulative value transfer unit, the event in which the cumulative value does not increase is practically prohibited from activating, thus limiting the kinds of events to be activated as a result. Therefore, it becomes possible to expect the human-induced lure function of attracting other players because the players participating in the game themselves generate a huge variety of events.

[0236] Moreover, even when the number of kinds of events to be activated is reduced, the amount that is subtracted at a predetermined rate from the game value paid by each of the players the number of whom does not reach the predetermined number is stored as the cumulative value that can be restored to the players participating in the game. Therefore, the fairness of the game can be maintained.

[0237] Additionally, in "transfers one of the plurality of kinds of cumulative values to another cumulative value for storage", needless to say, a partial transfer may be performed instead of transferring all the cumulative values.

[0238] According to this embodiment, when an event to be activated is the predetermined event and when only the predetermined number or less of players participate in the game, the predetermined event is not activated. Accordingly, this can motivate the players to participate in the game as much as possible. Besides, the predetermined event is held when there are a large number of players participating in the game, thus exerting a stage effect.

[0239] Besides, for example, when the predetermined event is a competition in speed and is the event of awarding prizes only to the predetermined number, there is the risk of reducing a play instinct by generating the event when only the predetermined number or less of players participate in the game. However, according to the invention, such a risk is avoided, thereby making it possible to maintain the play instinct.

[0240] According to this embodiment, when the activation of the predetermined event is stopped, the surplus cumulative value is added to a cumulative value other then the cumulative value serving as the chance of generating the predetermined event. Accordingly, even when the predetermined event does not activate, the activation of an event other than the predetermined event is facilitated. Therefore, it is possible to avoid the situation in which the interest of the players is reduced because the predetermined event does not activate.

Second Embodiment

[0241] A second embodiment will be described with reference to Fig. 24. Fig. 24 is configured such that a bingo game is executed with the process of the aforesaid gaming machine 310 assigned separately to each gaming terminal 700 and a game server 800.

[0242] As shown in Fig. 24, gaming terminals 700A, 700B, ... and the game server 800 that is another computer are connected to a network 550. That is, these gaming terminals 700A, 700B, ... are communicably connected to the game server 800. Besides, the game server 800 includes a control section (not shown) and a storage section (not shown) for storing a program. The control section executes various processes in accordance with the program stored in the storage section.

[0243] In this case, as will be described below, each gaming terminals 700A, 700B, ... and the game server 800 have separate units, thereby configuring one gaming system 900.

[0244] (A1) A cumulative storage unit that stores a plurality of kinds of cumulative values on a per unit game basis at a predetermined rate in response to a game value.

[0245] (A2) An event value achievement determination unit that determines whether or not any of the plurality of kinds of cumulative values stored by the cumulative storage unit has achieved an event value pre-set for each of the plurality of kinds of cumulative values.

[0246] (A3) An event activation unit that generates an event corresponding to the event value achieved, when the event value achievement determination unit determines that the pre-set event value is achieved.

[0247] (A4) An event activation time determination unit that determines the time at which the event activation unit generates the event corresponding to the event value, when the event value achievement determination unit determines that the event value pre-set is achieved.

[0248] (A5) An event notification time determination unit that determines the time of performing the notification of the event corresponding to the event value, when the event activation time determination unit determines the time of activation of the event corresponding to the event value.

[0249] (A6) An event notification unit that performs the notification of the event corresponding to the event value at the time determined by the event notif ication time determination means.

[0250] (A7) A number-of-players determination unit that determines whether or not the number of players participating in the game of the gaming machine is equal to or smaller than a predetermined number that is pre-set.

[0251] (A8) A cumulative value transfer unit that transfers one of the plurality of kinds of cumulative values to another cumulative value for storage, when the number-of-players determination unit determines that the number of players participating in the game is equal to or smaller than the predetermined number.

[0252] (A9) A number-of-players determination unit that determines whether or not the number of players participating in the game upon payment of the game value is equal to or smaller than the predetermined number, when the event activated by the event activation unit is a predetermined event.

[0253] (A10) An event stop unit that stops the activation of the predetermined event at the time determined by the event activation time determination unit, when the determination unit determines that the number of players participating in the game is equal to or smaller than the predetermined number.

[0254] (A11) A surplus cumulative value storage unit that stores, as a surplus cumulative value, the result obtained by subtracting a specific value from a cumulative value that the event value achievement determination unit determines has achieved the event value pre-set, when the event activation stop unit stops the activation of the predetermined event.

[0255] (A12) A surplus cumulative value addition unit that adds the surplus cumulative value stored by the cumulative value storage unit to any cumulative value other than the subtracted cumulative value out of the plurality of kinds of cumulative values.

[0256] (A13) came value data transmission unit that transmits to the game server the data of the game value paid by the players.

[0257] (A14) A game value data receive unit that receives the data of the game value transmitted by the

game value transmission unit.

[0258] (A15) A cumulative value data transmission unit that transmits to the game server the data of the plurality of kinds of cumulative values stored by the cumulative storage unit.

[0259] (A16) A cumulative value data receive unit that receives the data of the plurality of kinds of cumulative values transmitted by the cumulative value data transmission unit.

[0260] As an example of a game system imitating the gaming machine of this embodiment, the gaming terminal 700A, 700B, ... has the aforesaid units (A13) and (A16), and the game server 800 has the aforesaid units (A1) to (A12), (A14) and (A15), thereby enabling the formation of the one gaming system 900.

[0261] Additionally, in this embodiment, the gaming terminal 700A, 700B, ... has the aforesaid units (A13) and (A16), and the game server 800 has the aforesaid units (A1) to (A12), (A14) and (A15), thereby forming the one gaming system 900. However, according to the invention, one gaming system may be constructed such that the gaming terminal 700A, 700B, ... has any units other than the units (A14) and (A15), and the game server 800 has the remaining units.

[0262] According to this embodiment, even when the cumulative value or greater at which an event activates is achieved, there is the possibility that the event does not activate immediately, thus making it difficult to predict the next event activation. Accordingly, the expectation of the players for the events is maintained, thus making it possible to maintain the interest of the players.

[0263] According to this embodiment, the notification of an event is performed before the event activates, thus enabling the interest of the players from being reduced due to a sudden event activation. Besides, it can be expected to attract customers because of the event notification, thus enabling an increase in the number of players participating in the game.

[0264] In many cases, in a gaming machine of this type, for example, a plurality of terminals serving as game input units are disposed in an outer peripheral region of such a gaming machine so that a plurality of players can simultaneously participate in the game. However, although the contrivance of using various electric spectaculars is always made to lure a large number of players to simultaneously participate in the game, in part because such a lure means is not beneficial to the players, there is the problem that such an effect as intended is not expected.

[0265] According to this embodiment, since the one cumulative value does not increase because of the transfer function of the cumulative value transfer means, the event in which the cumulative value does not increase is practically prohibited from activating, thus limiting the kind of event to be activated as a result. Therefore, it becomes possible to expect the human lure function of attracting other players because the players participating in the game themselves generate a huge variety of events.

[0266] Moreover, even when the number of kinds of events to be activated is reduced, the amount that is subtracted at a predetermined rate from the game value paid by each of the players the number of whom does not reach the predetermined number is stored as the cumulative value that can be restored to the players participating in the game. Therefore, the fairness of the game can be maintained.

[0267] Additionally, in "transfers one of the plurality of kinds of cumulative values to another cumulative value for storage", needless to say, a partial transfer may be performed instead of transferring all the cumulative values.

[0268] According to this embodiment, when an event to be activated is the predetermined event and when only the predetermined number or less of players participate in the game, the predetermined event is not activated. Accordingly, this can motivate the players to participate in the game as much as possible. Besides, the predetermined event is held when there are a large number of players participating in the game, thus exerting a stage effect.

[0269] Besides, for example, when the predetermined event is a competition in speed and is the event of awarding prizes only to the predetermined number, there is the risk of reducing a play instinct by generating the event when only the predetermined number or less of players participate in the game. However, according to the invention, such a risk is avoided, thereby making it possible to maintain the play instinct.

[0270] According to this embodiment, when the activation of the predetermined event is stopped, the surplus cumulative value is added to a cumulative value other then the cumulative value serving as the chance of generating the predetermined event. Accordingly, even when the predetermined event does not activate, the activation of an event other than the predetermined event is facilitated. Therefore, it is possible to avoid the situation in which the interest of the players is reduced because the predetermined event does not activate.

[0271] Besides, the advantages described in this specification are merely a listing of the most preferred advantages yielded from the invention. Thus, the advantages of the invention are not limited to the ones described in this specification.

Claims

1. A gaming machine that includes a plurality of gaming terminal devices having control panels operated by a player and on which the player play a game upon payment of a game value, the gaming machine comprising:

   a cumulative storage unit that stores a plurality of cumulative values on a per game basis at a

predetermined rate in response to the game value;
an event value achievement determination unit that determines whether or not any of the plurality of kinds of cumulative values stored by the cumulative storage unit has achieved an event value pre-set for each of the plurality of kinds of cumulative values; and
an event activation unit that activates an event corresponding to the event value achieved, when the event value achievement determination unit determines that the event value pre-set is achieved.

2. The gaming machine according to claim 1, further comprising

an event activation time determination unit that determines a timing at which the event activation unit activates the event corresponding to the event value, when the event value achievement determination unit determines that the event value pre-set is achieved.

3. The gaming machine according to claim 2, further comprising:

an event notification time determination unit that determines the time of performing the notification of the event corresponding to the event value, when the event activation time determination unit determines a timing of activation of the event corresponding to the event value; and
an event notification unit that performs the notification of the event corresponding to the event value at the time determined by the event notification time determination unit.

4. The gaming machine according to claim 2 or 3, further comprising:

a number-of-players determination unit that determines whether or not the number of the prayer participating in the game of the gaming machine is equal to or smaller than a predetermined number; and
a cumulative value transfer unit that transfers one of the plurality of kinds of cumulative values to other cumulative value for storage, when the number-of-players determination unit determines that the number of the player participating in the game is equal to or smaller than the predetermined number.

5. The gaming machine according to claim 2 or 3, further comprising:

a number-of-players determination unit that determines whether or not the number of the player participating in the game upon payment of the game value is equal to or smaller than the predetermined number, when the event activated by the event activation unit is a predetermined event; and
an event stop unit that stops the activation of the predetermined event at the time determined by the event activation time determination unit, when the number-of-players determination unit determines that the number of the player participating in the game is equal to or smaller than the predetermined number.

6. The gaming machine according to claim 5, further comprising;

a surplus cumulative value storage unit that stores, as a surplus cumulative value, the result obtained by subtracting a specific value from a cumulative value that the event value achievement determination unit determine has achieved the event value, when the event activation stop unit stops the activation of the predetermined event; and
a surplus cumulative value addition unit that adds the surplus cumulative value stored by the cumulative value storage unit to any cumulative value other than the subtracted cumulative value out of the plurality of kinds of cumulative values.

7. A gaming system comprising:

a plurality of gaming terminal devices on which a player plays a game upon payment of a game value; and
a game server for transmitting/receiving the data of the game from the plurality of gaming terminal devices, wherein:

the gaming terminal devices each includes:

an control panel operated by each of the player; and
a game value data transmission unit that transmits to the game server the data of the game value paid by the player;

and
the game server includes:

a game value data receive unit that receives the data of the game value transmitted by the game value trans-

mission unit;
a cumulative storage unit that stores a plurality of cumulative values on a per game basis at a predetermined rate in response to the game value received by the game value data receive unit;
an event value achievement determination unit that determines whether or not any of the plurality of kinds of cumulative values stored by the cumulative storage unit has achieved an event value pre-set for each of the plurality of kinds of cumulative values; and
an event activation unit that activates an event corresponding to the event value achieved, when the event value achievement determination unit determines that the event value pre-set is achieved.

8. A gaming system comprising:

a plurality of gaming terminal devices on which a player plays a game upon payment of a game value; and
a game server for transmitting/receiving the data of the game from the plurality of gaming terminal devices, wherein:

the gaming terminal devices each includes:

an control panel operated by each of the player;
a cumulative storage unit that stores a plurality of cumulative values on a per game basis at a predetermined rate in response to the game value; and
a cumulative value data transmission unit that transmits to the game server the data of the plurality of kinds of cumulative values stored by the cumulative storage unit; and

the game server includes:

a cumulative value data receive unit that receives the data of the plurality of kinds of cumulative values transmitted by the cumulative value data transmission unit;
an event value achievement determination unit that determines whether or not any of the plurality of kinds of cumulative values received by the cumulative value data receive unit has achieved an event value pre-set for each of the plurality of kinds of cumulative values; and
an event activation unit that activates an event corresponding to the event value achieved, when the event value achievement determination unit determines that the event value pre-set is achieved.

9. The gaming system according to claim 7 or 8, wherein

the game server further includes an event activation time determination unit that determines the time at which the event activation unit activates the event corresponding to the event value, when the event value achievement determination unit determines that the event value pre-set is achieved.

10. The gaming system according to claim 9, wherein

the game server further includes:

an event notification time determination unit that determines the time of performing the notification of the event corresponding to the event value, when the event activation time determination unit determines the time of activation of the event corresponding to the event value; and
an event notification unit that performs the notification of the event corresponding to the event value at the time determined by the event notification time determination unit.

11. The gaming system according to claim 10, wherein

the game server further includes:

an event notification time determination unit that determines the time of performing the notification of the event corresponding to the event value, when the event activation time determination unit determines the time of activation of the event corresponding to the event value; and
an event notification unit that performs the notification of the event corresponding to the event value at the time determined by the event notification time determination unit.

12. The gaming system according to claim 10 or 11, wherein

the game server further includes:

a number-of-players determination unit that determines whether or not the number of the player participating in the game of the gaming machine is equal to or smaller than a predetermined number that is pre-set; and

a cumulative value transfer unit that transfers one of the plurality of kinds of cumulative values to another cumulative value for storage when the number-of-players determination unit determines that the number of the player participating in the game is equal to or smaller than the predetermined number.

13. The gaming system according to claim 10 or 11, wherein

the game server further includes:

a number-of-players determination unit that determines whether or not the number of the player participating in the game upon payment of the game value is equal to or smaller than the predetermined number, when the event activated by the event activation unit is a predetermined event; and an event stop unit that stops the activation of the predetermined event at the time determined by the event activation time determination unit, when the number-of-players determination unit determines that the number of the player participating in the game is equal to or smaller than the predetermined number.

14. The gaming system according to claim 13, wherein

the game server further includes;

a surplus cumulative value storage unit that stores, as a surplus cumulative value, the result obtained by subtracting a specific value from a cumulative value that the event value achievement determination unit determines has achieved the event value pre-set, when the event activation stop unit stops the activation of the predetermined event; and

a surplus cumulative value addition unit that adds the surplus cumulative value stored by the cumulative value storage unit to any cumulative value different from the subtracted cumulative value out of the plurality of kinds of cumulative values.

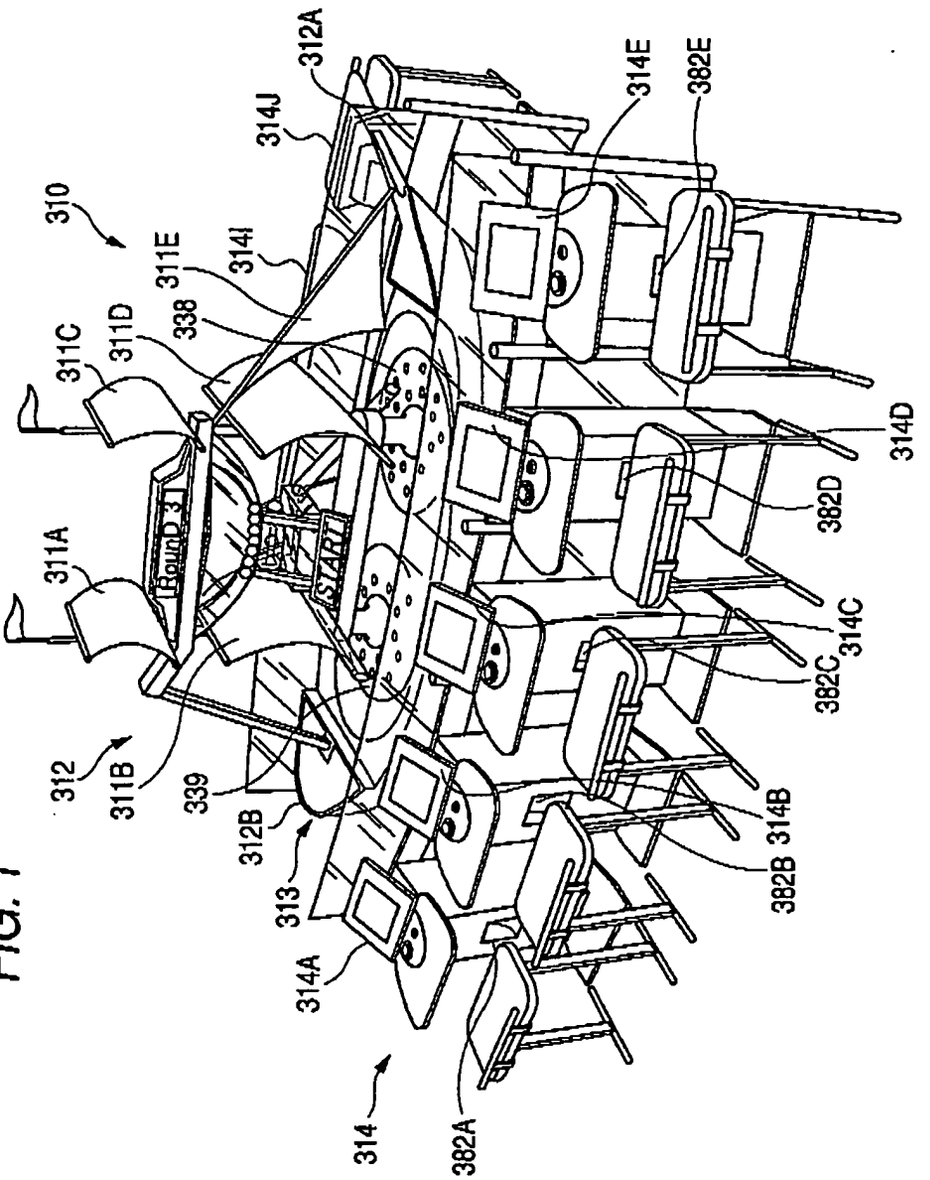
310
311A
311B
311C
311D
311E
312
312A
312B
313
314
314A
314B
314C
314D
314E
314I
314J
338
339
382A
382B
382C
382D
382E
Round 31
START

FIG. 1

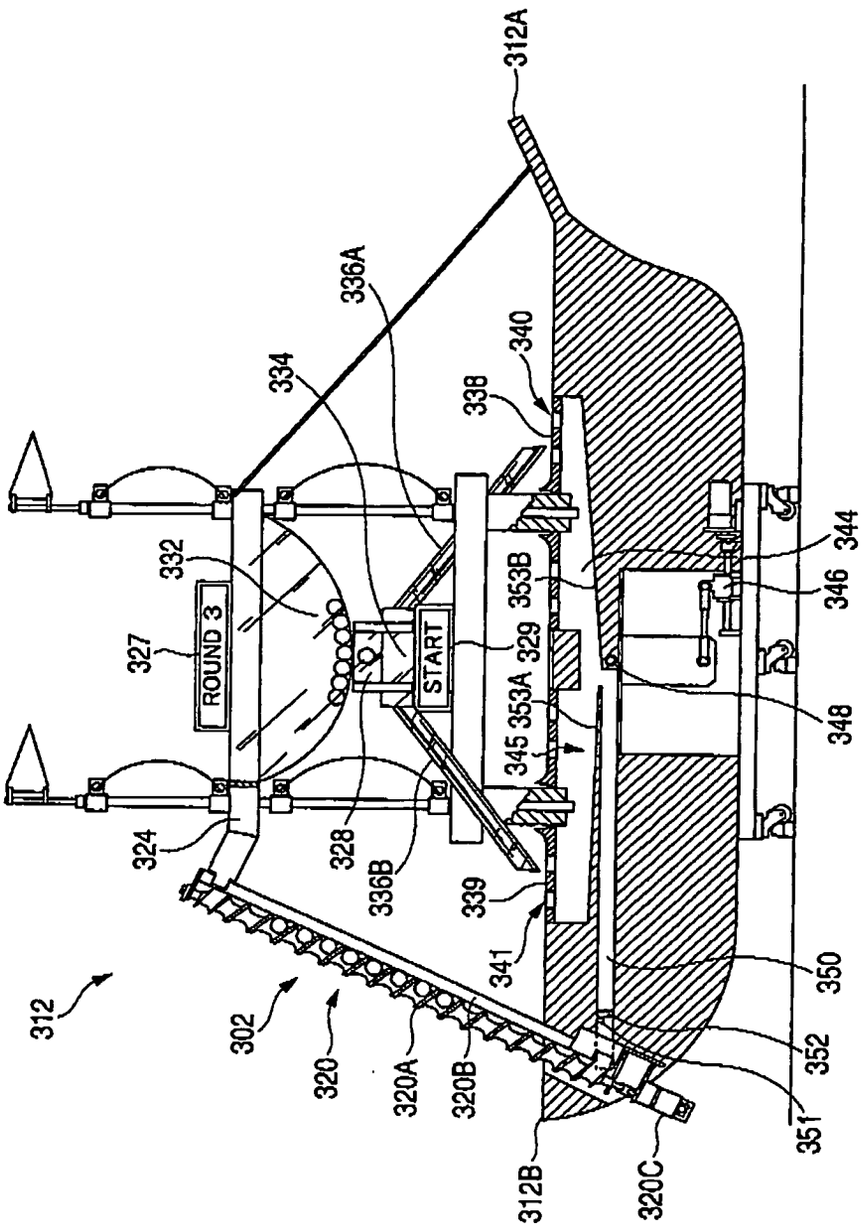
312A
336A
334
340
338
344
346
332
353B
ROUND 3
327
START
329
353A
348
345
324
328
336B
339
341
350
312
302
320
320A
320B
352
351
312B
320C

FIG. 2

FIG. 3

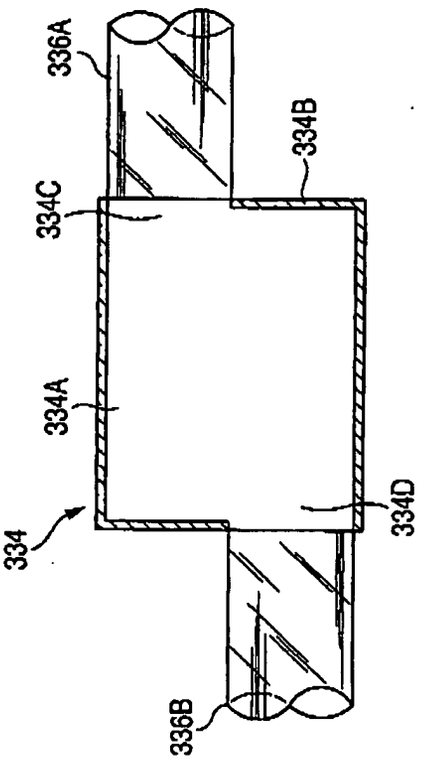

FIG. 4

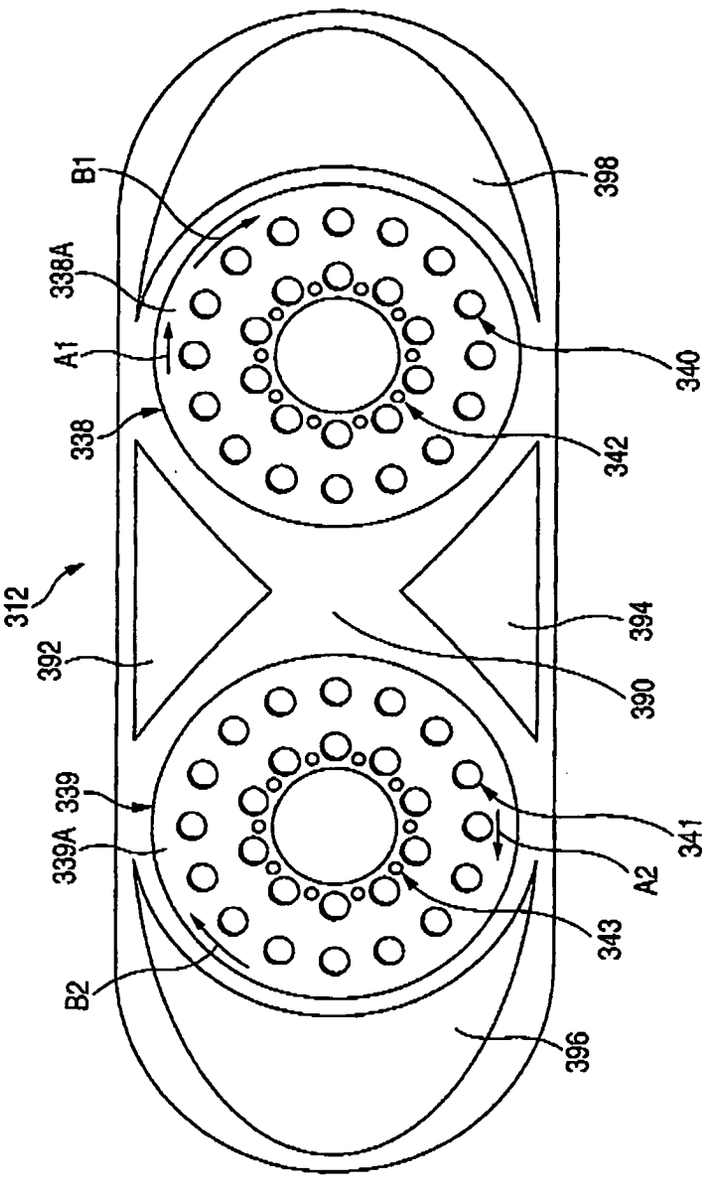
B1
338A
A1
338
312
392
339
339A
B2
398
340
342
394
390
341
A2
343
396

FIG. 5

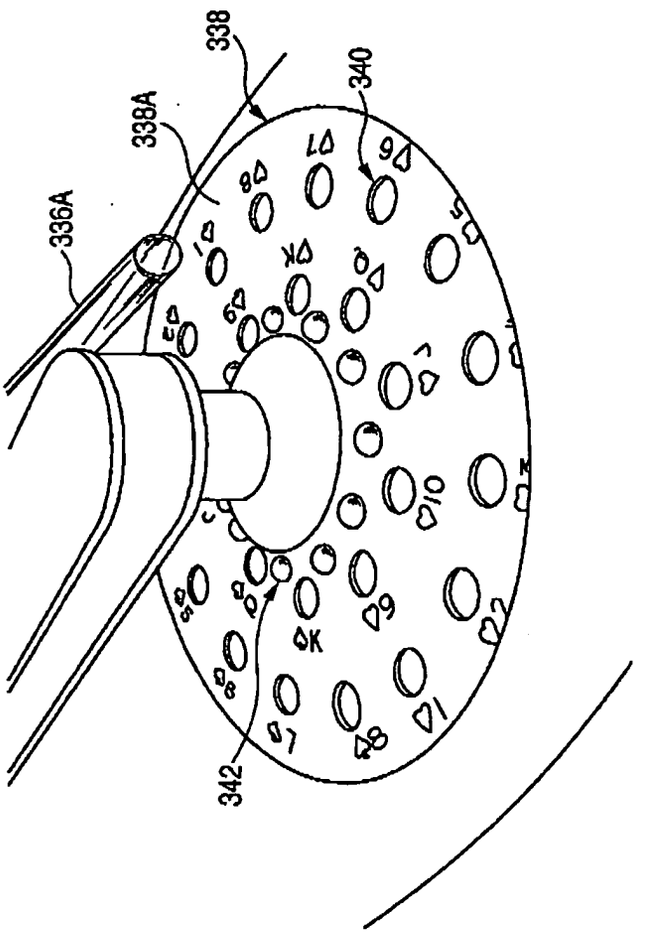

FIG. 6

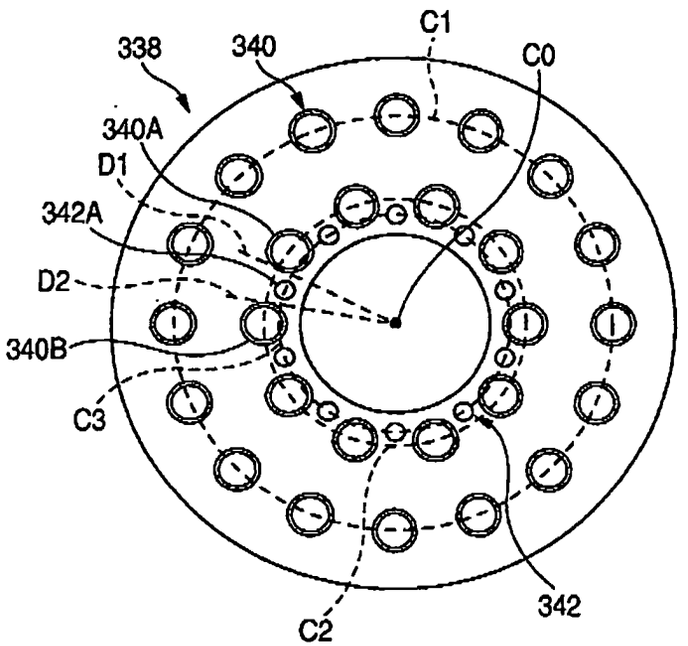

FIG. 7 (A)

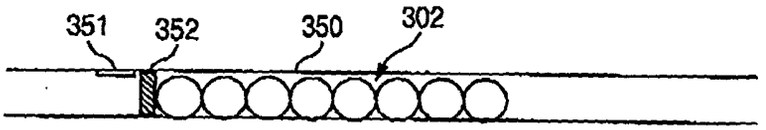

FIG. 7 (B)

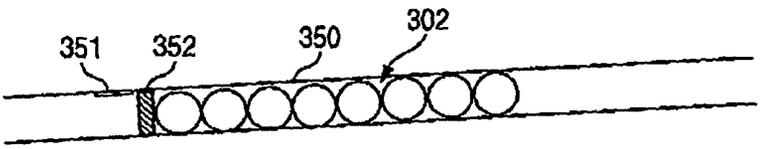

FIG. 7 (C)

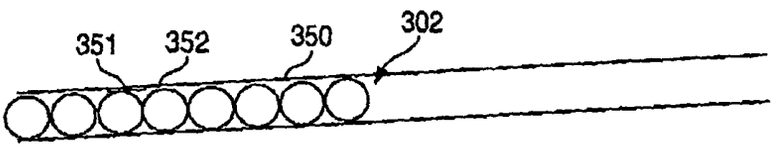

FIG. 7 (D)

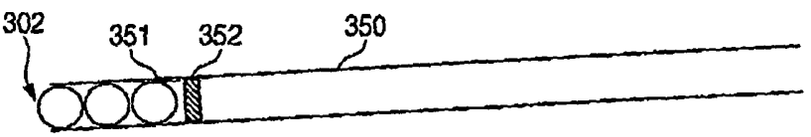

FIG. 7 (E)

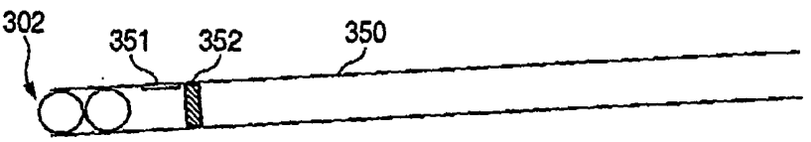

FIG. 7 (F)

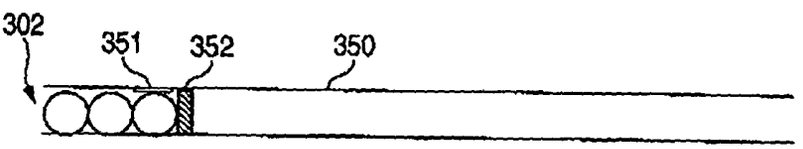

FIG. 7 (G)

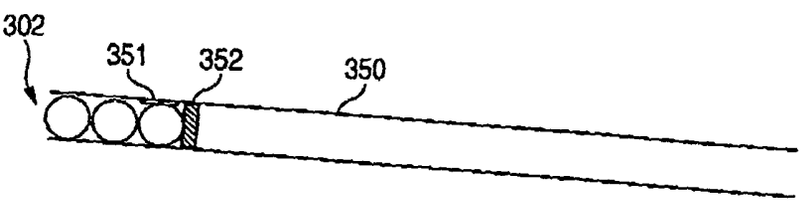

FIG. 8

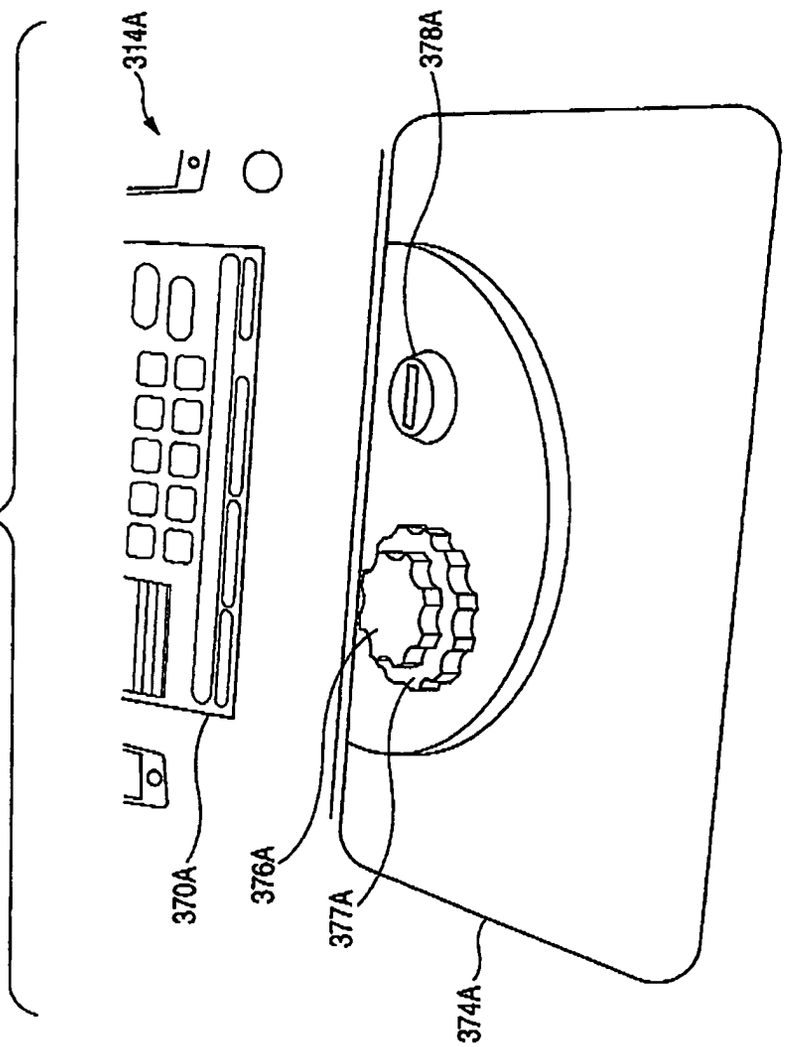

FIG. 9

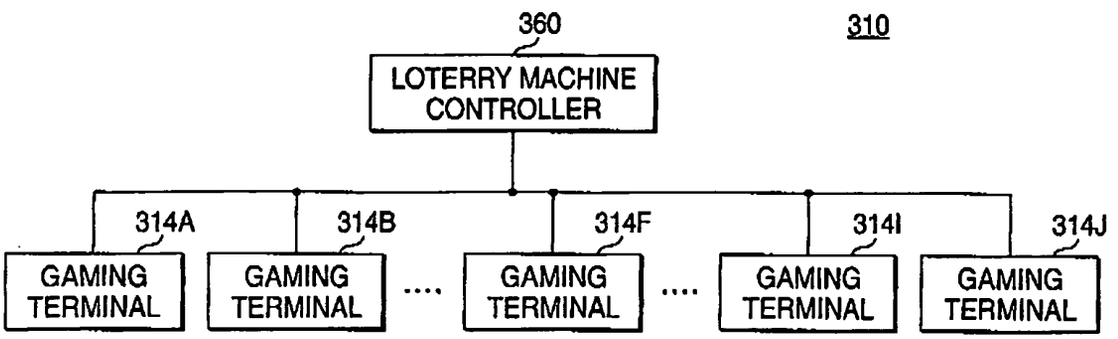
360
310
LOTERRY MACHINE CONTROLLER
314A
314B
314F
314I
314J
GAMING TERMINAL
GAMING TERMINAL
GAMING TERMINAL
GAMING TERMINAL
GAMING TERMINAL

FIG. 10

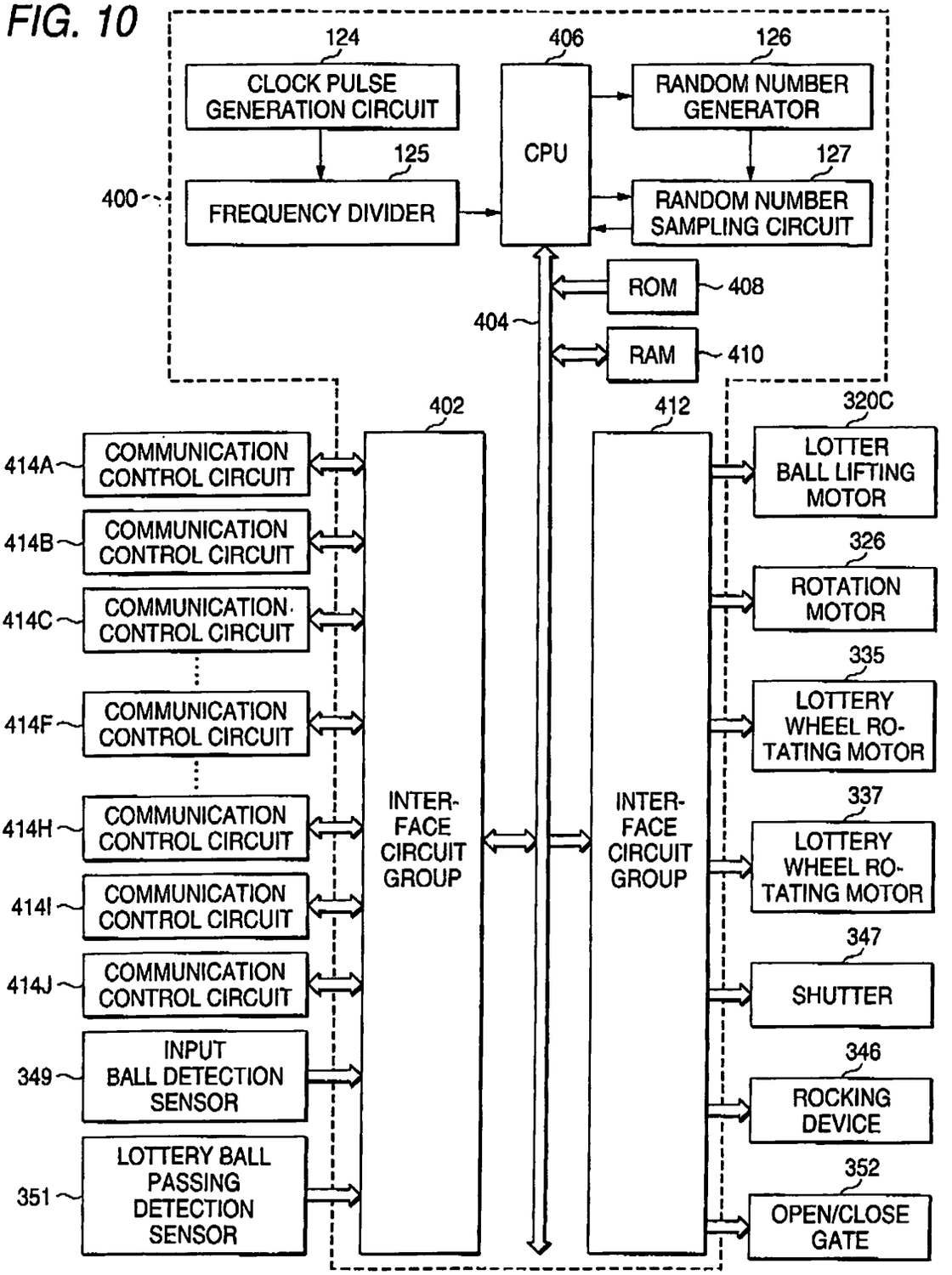
124
CLOCK PULSE GENERATION CIRCUIT
125
FREQUENCY DIVIDER
400
406
CPU
126
RANDOM NUMBER GENERATOR
127
RANDOM NUMBER SAMPLING CIRCUIT
ROM
408
404
RAM
410
402
412
320C
LOTTER BALL LIFTING MOTOR
326
ROTATION MOTOR
335
LOTTERY WHEEL ROTATING MOTOR
337
LOTTERY WHEEL ROTATING MOTOR
347
SHUTTER
346
ROCKING DEVICE
352
OPEN/CLOSE GATE
414A
COMMUNICATION CONTROL CIRCUIT
414B
COMMUNICATION CONTROL CIRCUIT
414C
COMMUNICATION CONTROL CIRCUIT
414F
COMMUNICATION CONTROL CIRCUIT
414H
COMMUNICATION CONTROL CIRCUIT
414I
COMMUNICATION CONTROL CIRCUIT
414J
COMMUNICATION CONTROL CIRCUIT
349
INPUT BALL DETECTION SENSOR
351
LOTTERY BALL PASSING DETECTION SENSOR
INTERFACE CIRCUIT GROUP
INTERFACE CIRCUIT GROUP

FIG. 11

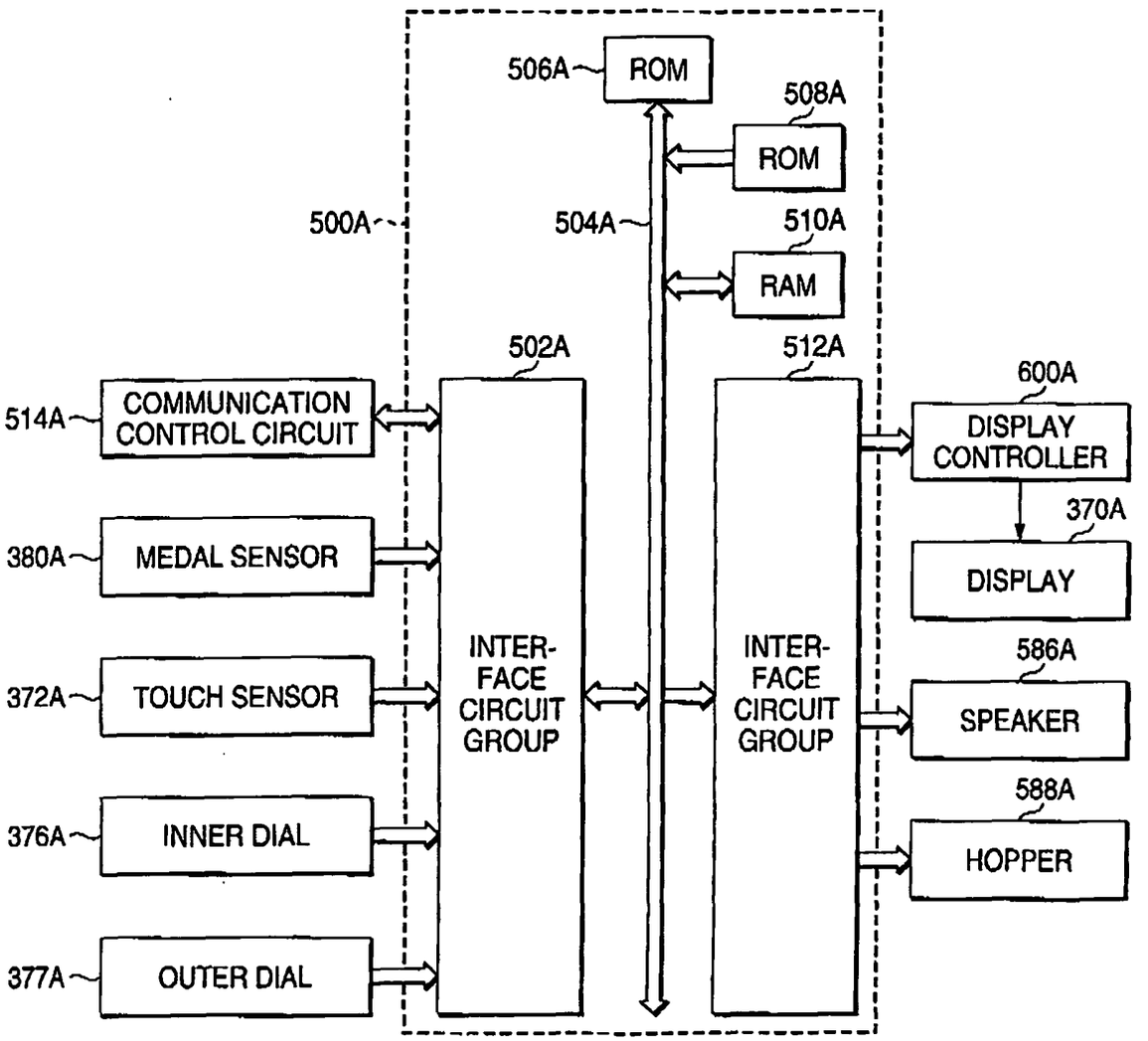
506A
ROM
508A
ROM
500A
504A
510A
RAM
502A
512A
600A
514A
COMMUNICATION CONTROL CIRCUIT
DISPLAY CONTROLLER
370A
380A
MEDAL SENSOR
DISPLAY
586A
372A
TOUCH SENSOR
INTER-FACE CIRCUIT GROUP
INTER-FACE CIRCUIT GROUP
SPEAKER
588A
376A
INNER DIAL
HOPPER
377A
OUTER DIAL

FIG. 12

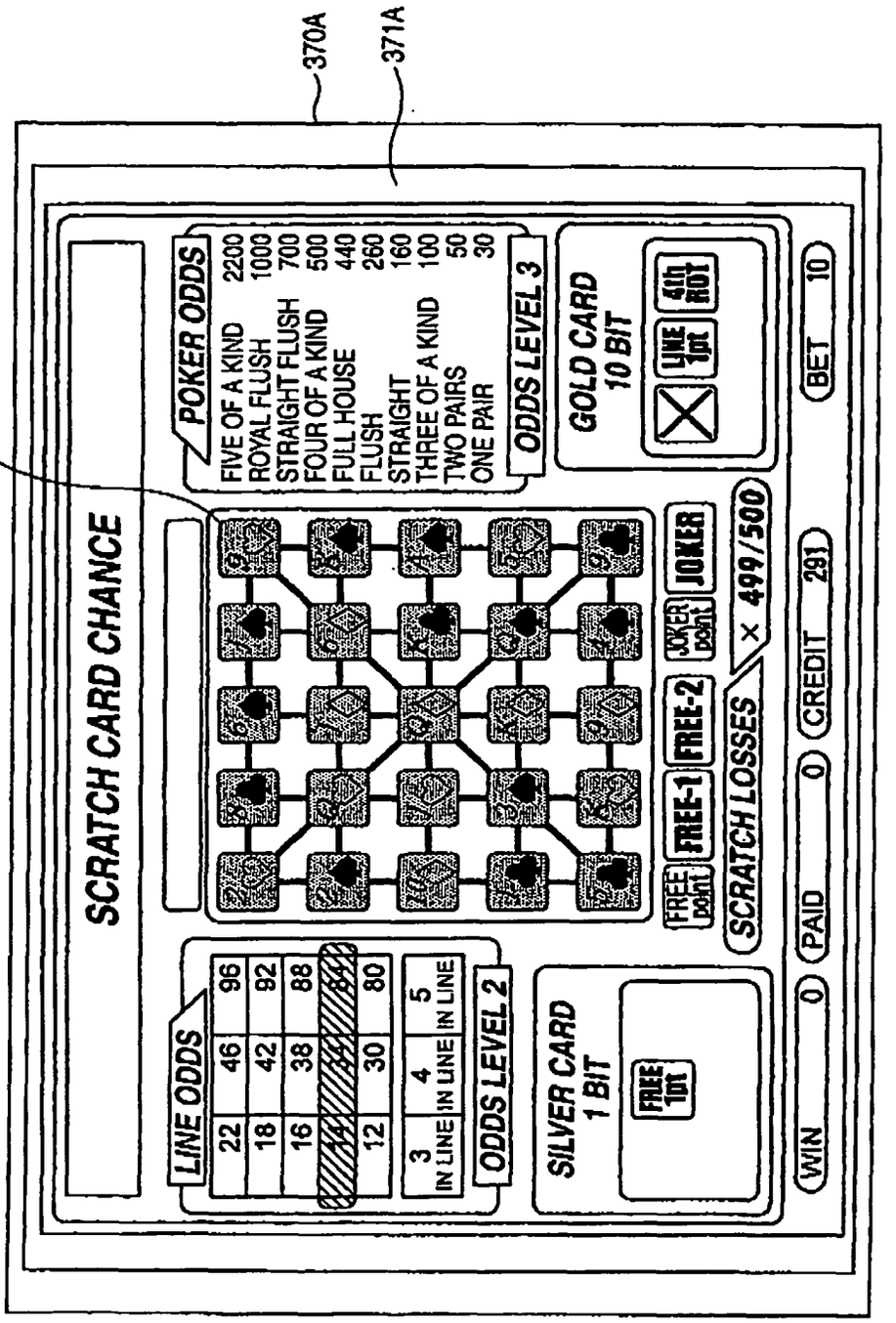
370A
371A
375A
SCRATCH CARD CHANCE
POKER ODDS
FIVE OF A KIND 2200
ROYAL FLUSH 1000
STRAIGHT FLUSH 700
FOUR OF A KIND 500
FULL HOUSE 440
FLUSH 260
STRAIGHT 160
THREE OF A KIND 100
TWO PAIRS 50
ONE PAIR 30
ODDS LEVEL 3
GOLD CARD 10 BIT
LINE 1pt
4th HOT
LINE ODDS
96
92
88
84
80
46
42
38
34
30
22
18
16
14
12
3 IN LINE
4 IN LINE
5 IN LINE
ODDS LEVEL 2
SILVER CARD 1 BIT
FREE 1pt
FREE point
FREE-1
FREE-2
JOKER point
JOKER
SCRATCH LOSSES
× 499/500
WIN 0
PAID 0
CREDIT 291
BET 10

FIG. 13

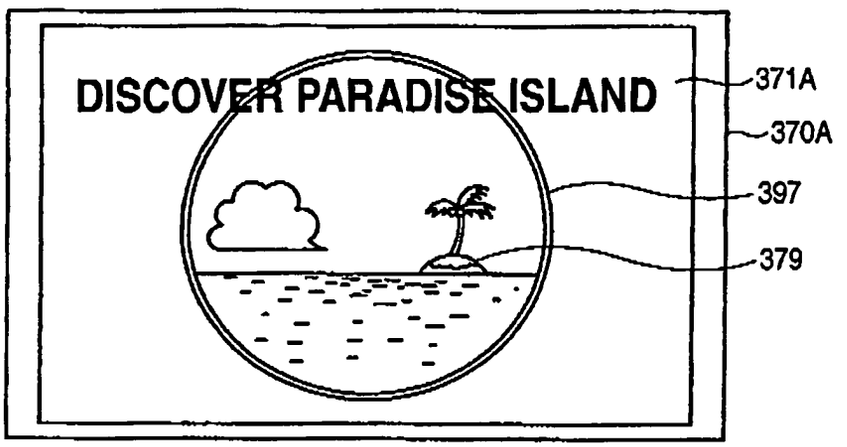
DISCOVER PARADISE ISLAND
371A
370A
397
379

FIG. 14

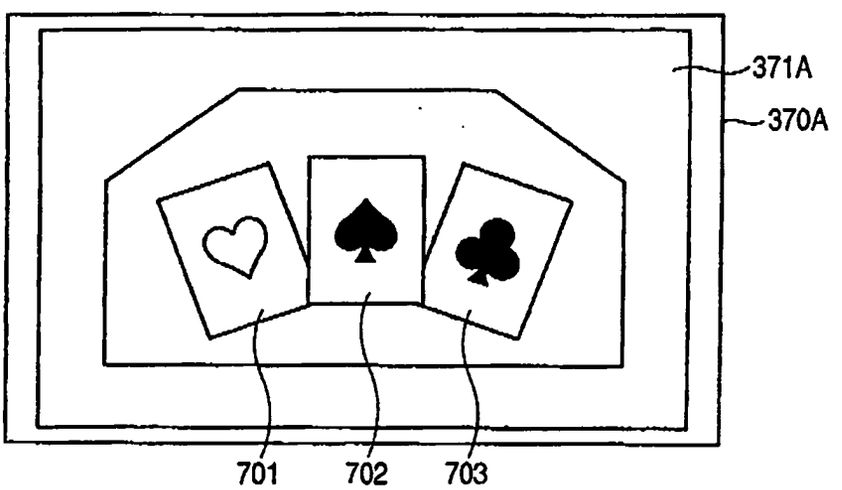
371A
370A
701
702
703

FIG. 15

FIRST JACKPOT ACTIVATION
TIME DETERMINATION TABLE
(RANDOM NUMBER RANGE: 256)

NUMBER OF ACTIVATION STANDBY GAMES	RANDOM NUMBER RANGE
2	0-50
5	51-100
10	101-150
15	151-200
20	201-255

FIG. 16

SECOND JACKPOT ACTIVATION
TIME DETERMINATION TABLE
(RANDOM NUMBER RANGE: 256)

NUMBER OF ACTIVATION STANDBY GAMES	RANDOM NUMBER RANGE
2	0-50
10	51-100
20	101-150
30	151-200
50	201-255

FIG. 17

FIRST JACKPOT NOTIFICATION
EXECUTION TIME DETERMINATION TABLE
(RANDOM NUMBER RANGE: 256)

NUMBER OF NOTIFICATION EXECUTION GAMES	RANDOM NUMBER RANGE
1	0-50
2	51-100
3	101-150
4	151-200
5	201-255

FIG. 18

SECOND JACKPOT NOTIFICATION
EXECUTION TIME DETERMINATION TABLE
(RANDOM NUMBER RANGE: 256)

NUMBER OF NOTIFICATION EXECUTION GAMES	RANDOM NUMBER RANGE
1	0-50
3	51-100
5	101-150
7	151-200
9	201-255

FIG. 19

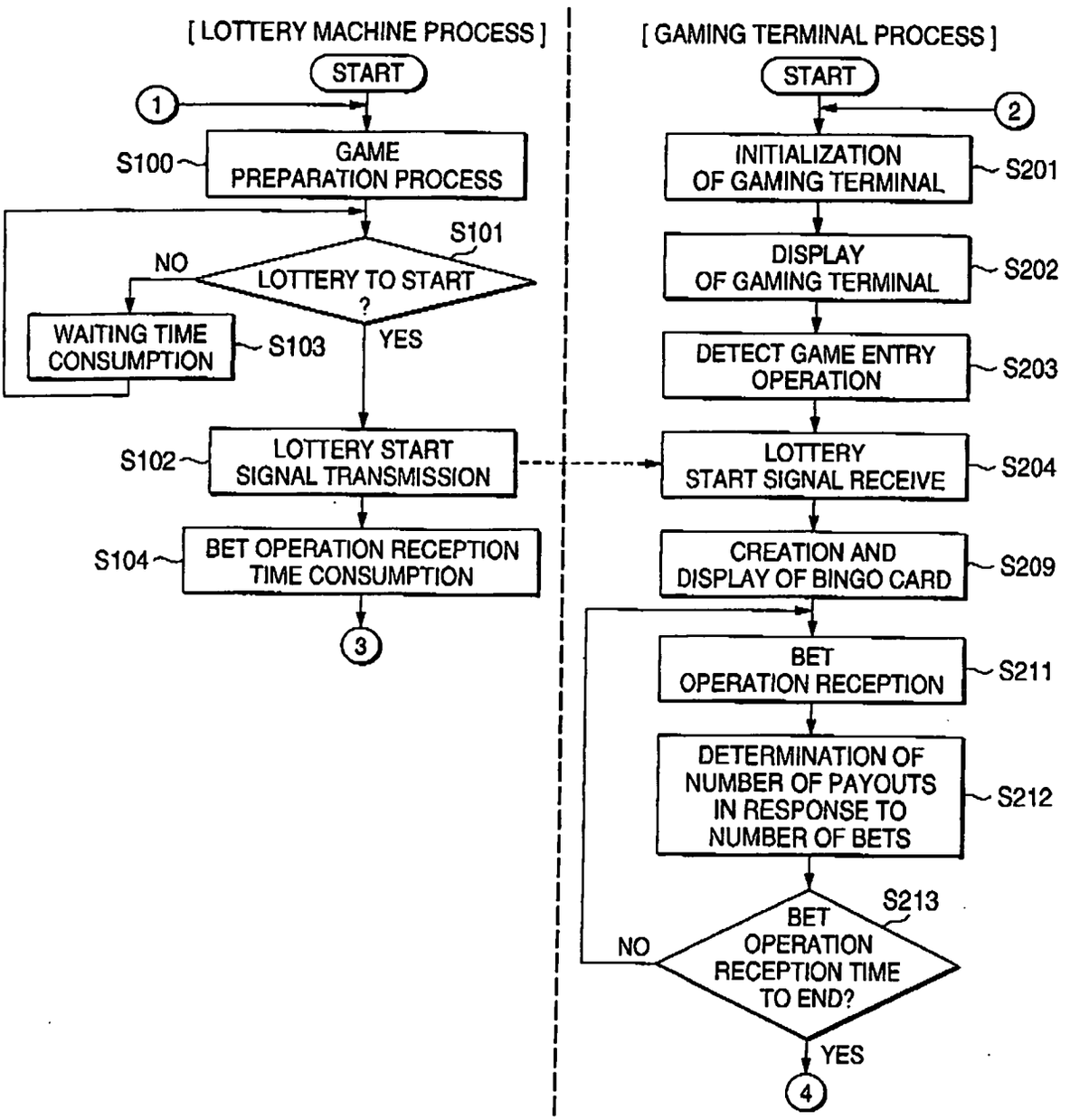
[LOTTERY MACHINE PROCESS]
START
1
S100
GAME PREPARATION PROCESS
S101
NO
LOTTERY TO START ?
YES
WAITING TIME CONSUMPTION
S103
S102
LOTTERY START SIGNAL TRANSMISSION
S104
BET OPERATION RECEPTION TIME CONSUMPTION
3
[GAMING TERMINAL PROCESS]
START
2
INITIALIZATION OF GAMING TERMINAL
S201
DISPLAY OF GAMING TERMINAL
S202
DETECT GAME ENTRY OPERATION
S203
LOTTERY START SIGNAL RECEIVE
S204
CREATION AND DISPLAY OF BINGO CARD
S209
BET OPERATION RECEPTION
S211
DETERMINATION OF NUMBER OF PAYOUTS IN RESPONSE TO NUMBER OF BETS
S212
S213
BET OPERATION RECEPTION TIME TO END?
NO
YES
4

FIG. 20

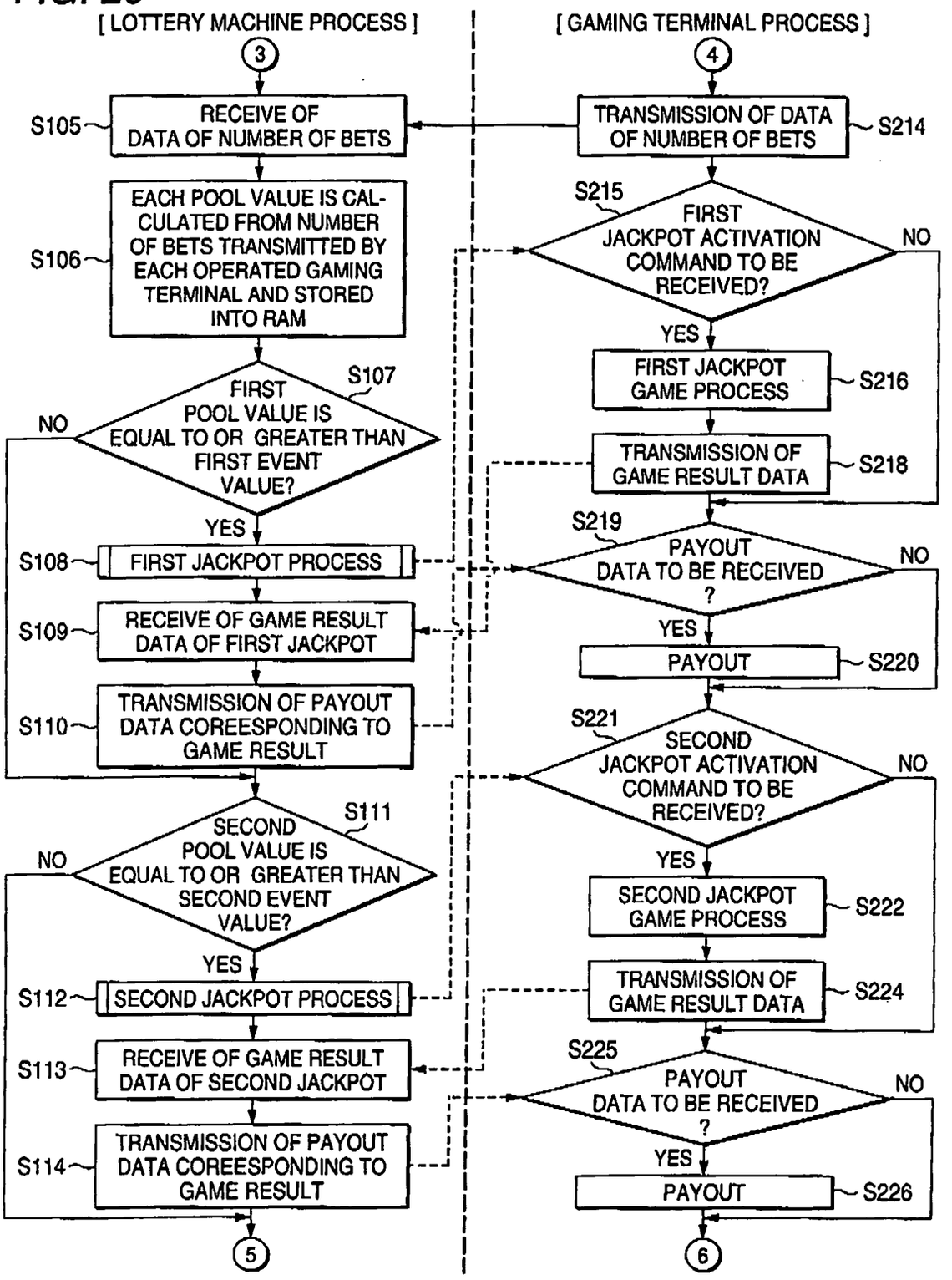
[LOTTERY MACHINE PROCESS]
[GAMING TERMINAL PROCESS]
3
4
S105
RECEIVE OF DATA OF NUMBER OF BETS
TRANSMISSION OF DATA OF NUMBER OF BETS
S214
S106
EACH POOL VALUE IS CALCULATED FROM NUMBER OF BETS TRANSMITTED BY EACH OPERATED GAMING TERMINAL AND STORED INTO RAM
S215
FIRST JACKPOT ACTIVATION COMMAND TO BE RECEIVED?
NO
YES
S107
FIRST POOL VALUE IS EQUAL TO OR GREATER THAN FIRST EVENT VALUE?
NO
YES
FIRST JACKPOT GAME PROCESS
S216
TRANSMISSION OF GAME RESULT DATA
S218
S108
FIRST JACKPOT PROCESS
S219
PAYOUT DATA TO BE RECEIVED ?
NO
YES
S109
RECEIVE OF GAME RESULT DATA OF FIRST JACKPOT
PAYOUT
S220
S110
TRANSMISSION OF PAYOUT DATA COREESPONDING TO GAME RESULT
S221
SECOND JACKPOT ACTIVATION COMMAND TO BE RECEIVED?
NO
YES
S111
SECOND POOL VALUE IS EQUAL TO OR GREATER THAN SECOND EVENT VALUE?
NO
YES
SECOND JACKPOT GAME PROCESS
S222
S112
SECOND JACKPOT PROCESS
TRANSMISSION OF GAME RESULT DATA
S224
S113
RECEIVE OF GAME RESULT DATA OF SECOND JACKPOT
S225
PAYOUT DATA TO BE RECEIVED ?
NO
YES
S114
TRANSMISSION OF PAYOUT DATA COREESPONDING TO GAME RESULT
PAYOUT
S226
5
6

FIG. 21

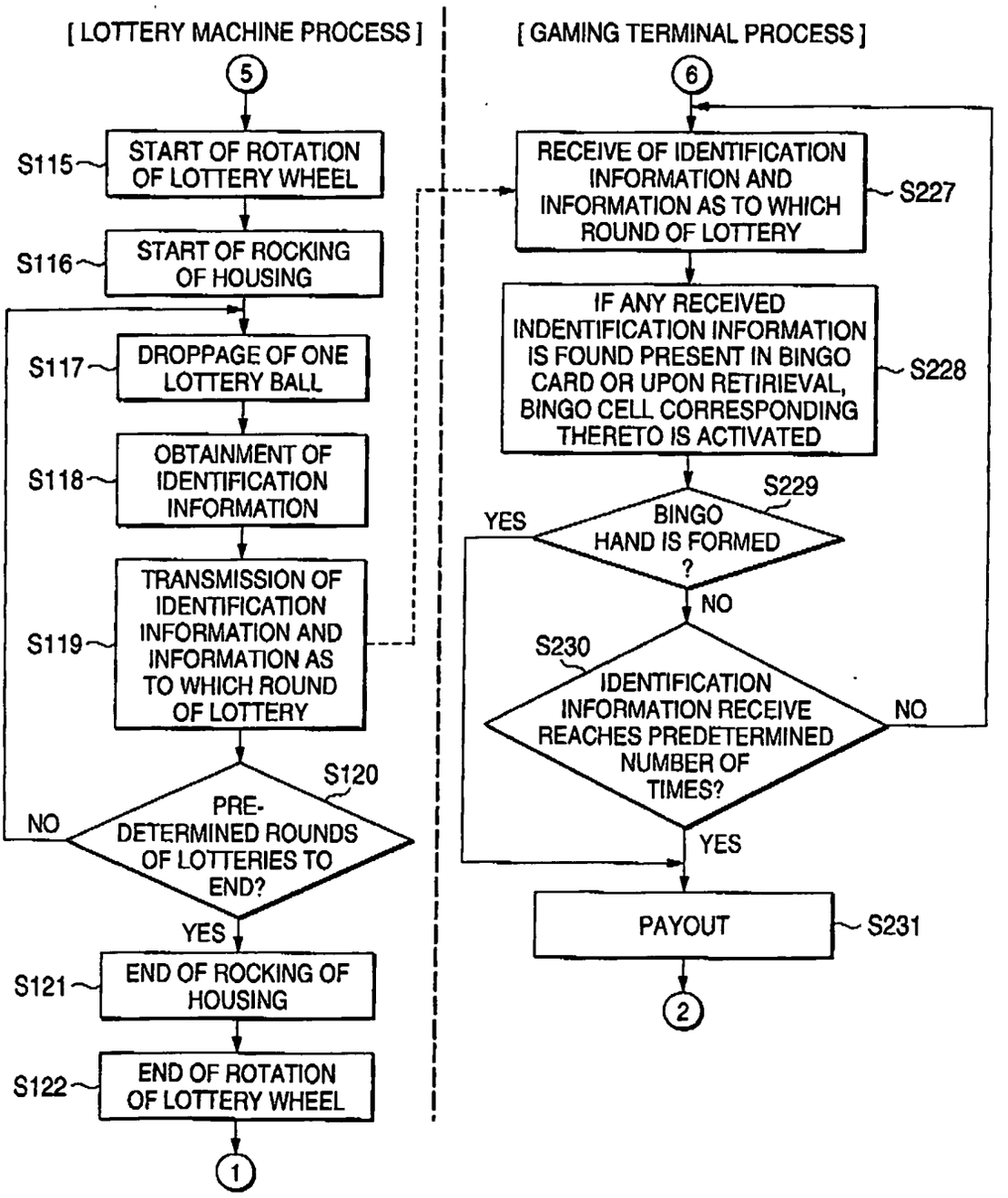
[LOTTERY MACHINE PROCESS]
[GAMING TERMINAL PROCESS]
5
6
S115
START OF ROTATION OF LOTTERY WHEEL
S116
START OF ROCKING OF HOUSING
S117
DROPPAGE OF ONE LOTTERY BALL
S118
OBTAINMENT OF IDENTIFICATION INFORMATION
S119
TRANSMISSION OF IDENTIFICATION INFORMATION AND INFORMATION AS TO WHICH ROUND OF LOTTERY
S120
PRE-DETERMINED ROUNDS OF LOTTERIES TO END?
NO
YES
S121
END OF ROCKING OF HOUSING
S122
END OF ROTATION OF LOTTERY WHEEL
1
RECEIVE OF IDENTIFICATION INFORMATION AND INFORMATION AS TO WHICH ROUND OF LOTTERY
S227
IF ANY RECEIVED INDENTIFICATION INFORMATION IS FOUND PRESENT IN BINGO CARD OR UPON RETIRIEVAL, BINGO CELL CORRESPONDING THERETO IS ACTIVATED
S228
S229
BINGO HAND IS FORMED ?
YES
NO
S230
IDENTIFICATION INFORMATION RECEIVE REACHES PREDETERMINED NUMBER OF TIMES?
NO
YES
PAYOUT
S231
2

FIG. 22

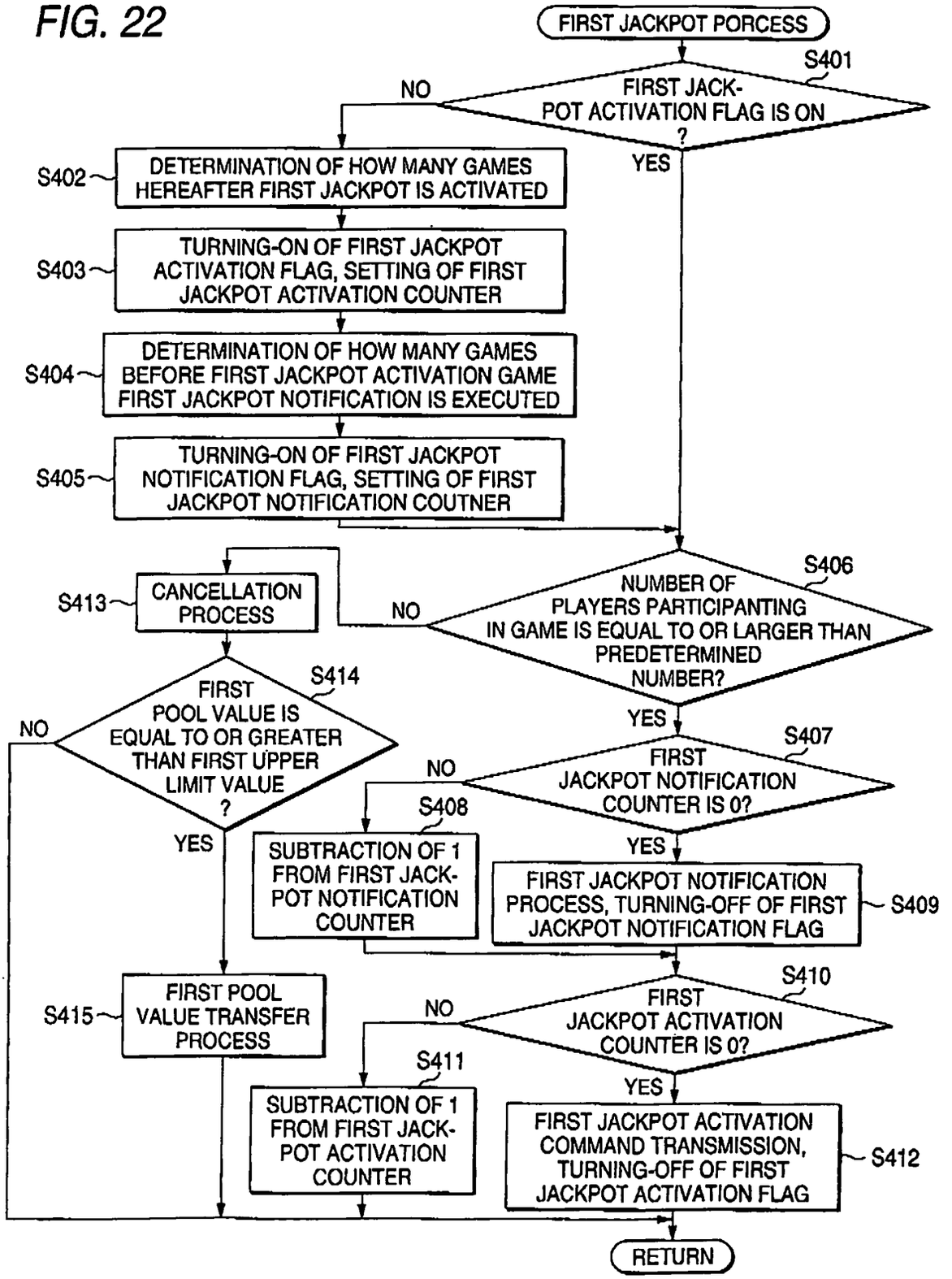
FIRST JACKPOT PORCESS
S401
FIRST JACK-POT ACTIVATION FLAG IS ON ?
NO
YES
S402
DETERMINATION OF HOW MANY GAMES HEREAFTER FIRST JACKPOT IS ACTIVATED
S403
TURNING-ON OF FIRST JACKPOT ACTIVATION FLAG, SETTING OF FIRST JACKPOT ACTIVATION COUNTER
S404
DETERMINATION OF HOW MANY GAMES BEFORE FIRST JACKPOT ACTIVATION GAME FIRST JACKPOT NOTIFICATION IS EXECUTED
S405
TURNING-ON OF FIRST JACKPOT NOTIFICATION FLAG, SETTING OF FIRST JACKPOT NOTIFICATION COUTNER
S406
NUMBER OF PLAYERS PARTICIPANTING IN GAME IS EQUAL TO OR LARGER THAN PREDETERMINED NUMBER?
NO
YES
S413
CANCELLATION PROCESS
S414
FIRST POOL VALUE IS EQUAL TO OR GREATER THAN FIRST UPPER LIMIT VALUE ?
NO
YES
S407
FIRST JACKPOT NOTIFICATION COUNTER IS 0?
NO
YES
S408
SUBTRACTION OF 1 FROM FIRST JACK-POT NOTIFICATION COUNTER
S409
FIRST JACKPOT NOTIFICATION PROCESS, TURNING-OFF OF FIRST JACKPOT NOTIFICATION FLAG
S410
FIRST JACKPOT ACTIVATION COUNTER IS 0?
NO
YES
S411
SUBTRACTION OF 1 FROM FIRST JACK-POT ACTIVATION COUNTER
S412
FIRST JACKPOT ACTIVATION COMMAND TRANSMISSION, TURNING-OFF OF FIRST JACKPOT ACTIVATION FLAG
S415
FIRST POOL VALUE TRANSFER PROCESS
RETURN

FIG. 23

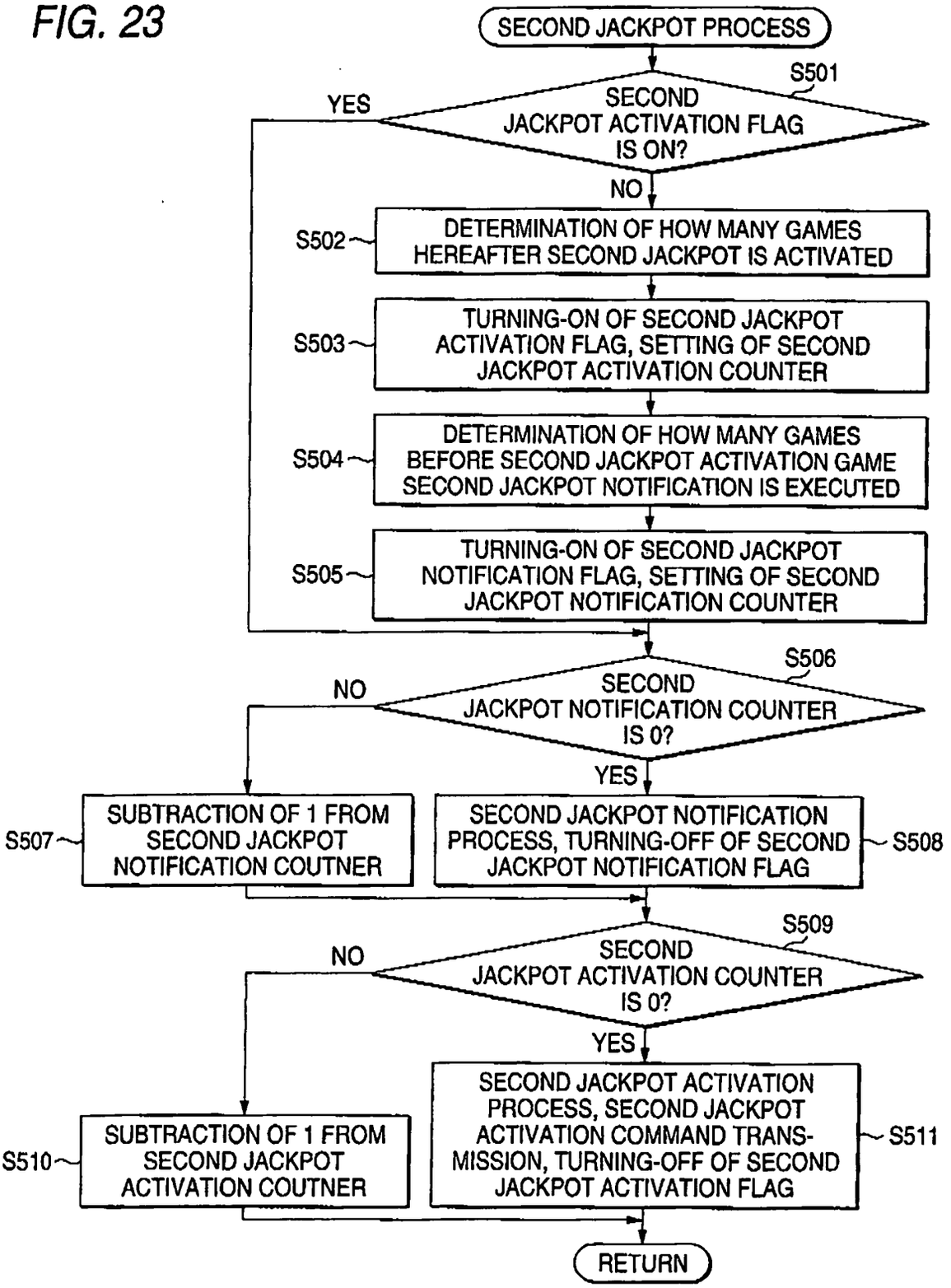
SECOND JACKPOT PROCESS
S501
SECOND JACKPOT ACTIVATION FLAG IS ON?
YES
NO
S502
DETERMINATION OF HOW MANY GAMES HEREAFTER SECOND JACKPOT IS ACTIVATED
S503
TURNING-ON OF SECOND JACKPOT ACTIVATION FLAG, SETTING OF SECOND JACKPOT ACTIVATION COUNTER
S504
DETERMINATION OF HOW MANY GAMES BEFORE SECOND JACKPOT ACTIVATION GAME SECOND JACKPOT NOTIFICATION IS EXECUTED
S505
TURNING-ON OF SECOND JACKPOT NOTIFICATION FLAG, SETTING OF SECOND JACKPOT NOTIFICATION COUNTER
S506
SECOND JACKPOT NOTIFICATION COUNTER IS 0?
NO
YES
S507
SUBTRACTION OF 1 FROM SECOND JACKPOT NOTIFICATION COUTNER
SECOND JACKPOT NOTIFICATION PROCESS, TURNING-OFF OF SECOND JACKPOT NOTIFICATION FLAG
S508
S509
SECOND JACKPOT ACTIVATION COUNTER IS 0?
NO
YES
S510
SUBTRACTION OF 1 FROM SECOND JACKPOT ACTIVATION COUTNER
SECOND JACKPOT ACTIVATION PROCESS, SECOND JACKPOT ACTIVATION COMMAND TRANS-MISSION, TURNING-OFF OF SECOND JACKPOT ACTIVATION FLAG
S511
RETURN

FIG. 24