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(54) **GAMING MACHINE**

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(30) **Foreign Application Priority Data**

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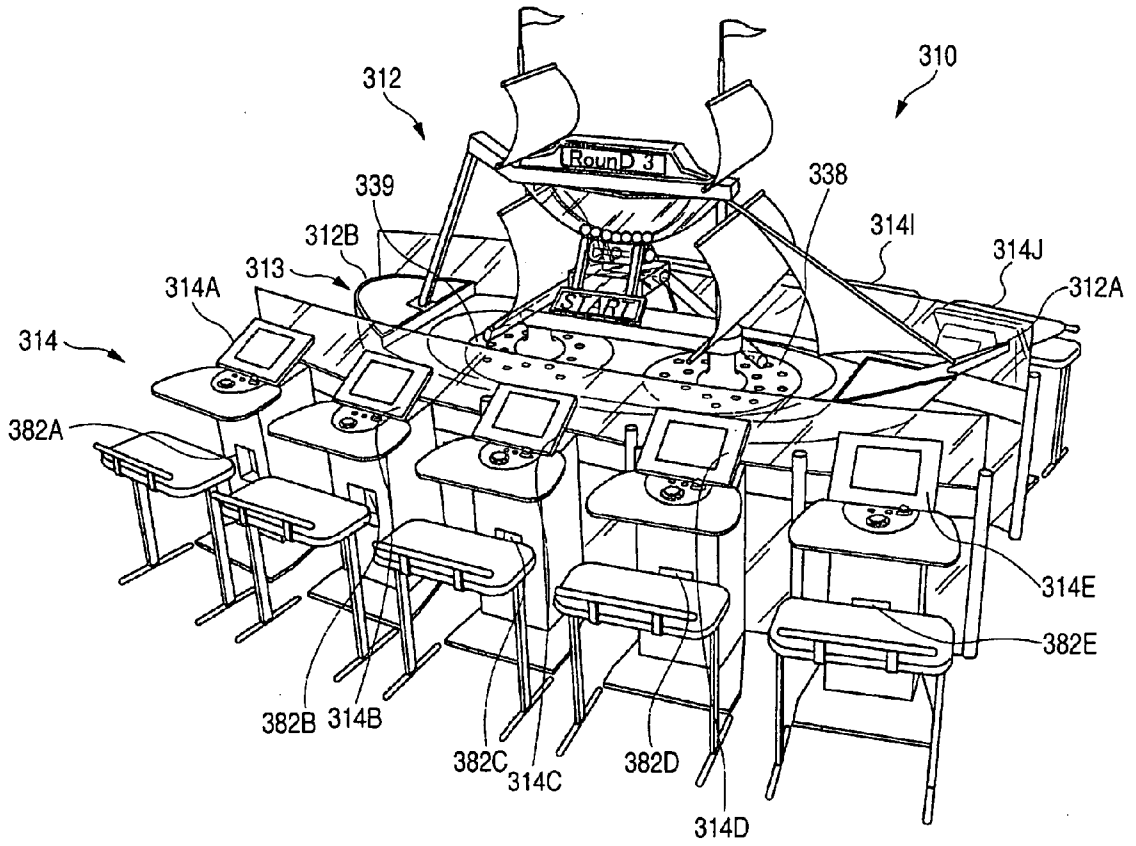
Publication Classification

(51) **Int. Cl.**[7] **A63F 9/24**

(52) **U.S. Cl.** **463/17**

(57) **ABSTRACT**

The gaming machine comprises: a lottery wheel having plural lottery holes that lottery balls can enter; a game content determination device that, as the lottery balls enter any of the plural lottery holes, determines a game result based on the any of the plural lottery holes that the lottery balls have entered; a discharge path that is provided below the lottery wheel and that discharges the lottery balls entering, one each, the plural lottery holes; a lifting device that conveys the lottery balls to a position higher than the lottery wheel; and a collection path that guides the lottery balls discharged from the discharge path to a conveyance start position of the lifting device, wherein the collection path includes a ball delivery device for delivering the lottery balls being collected, toward the conveyance start position of the lifting device.



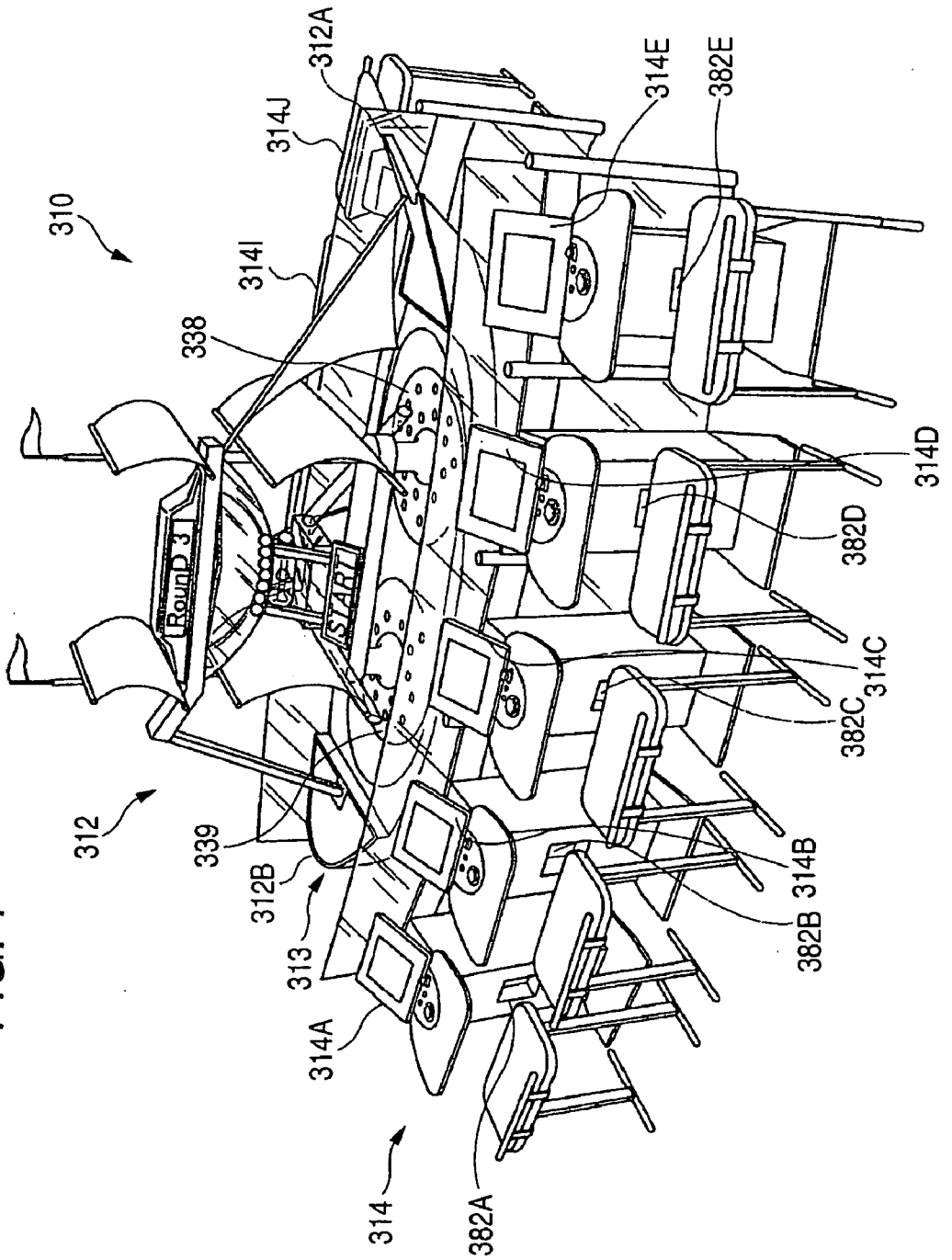

310
312A
314J
314I
338
314E
382E
314D
382D
314C
382C
314B
382B
312
339
312B
313
314A
314
382A
Round 3
START

FIG. 1

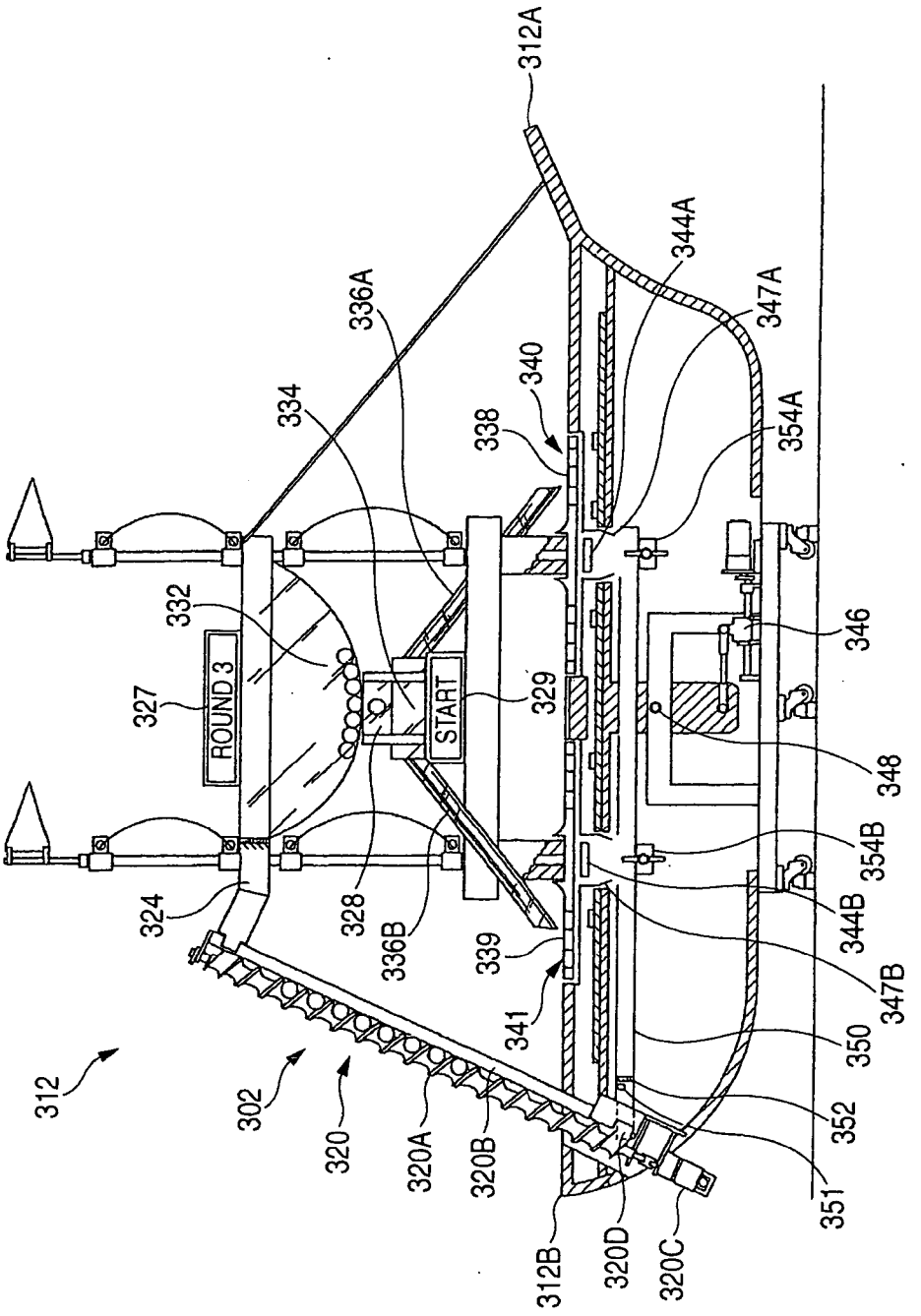

312A
344A
347A
336A
340
334
338
354A
332
346
327
ROUND 3
START
329
348
354B
324
328
336B
344B
339
347B
341
350
312
302
320
320A
320B
352
351
312B
320D
320C

FIG. 2

FIG. 3

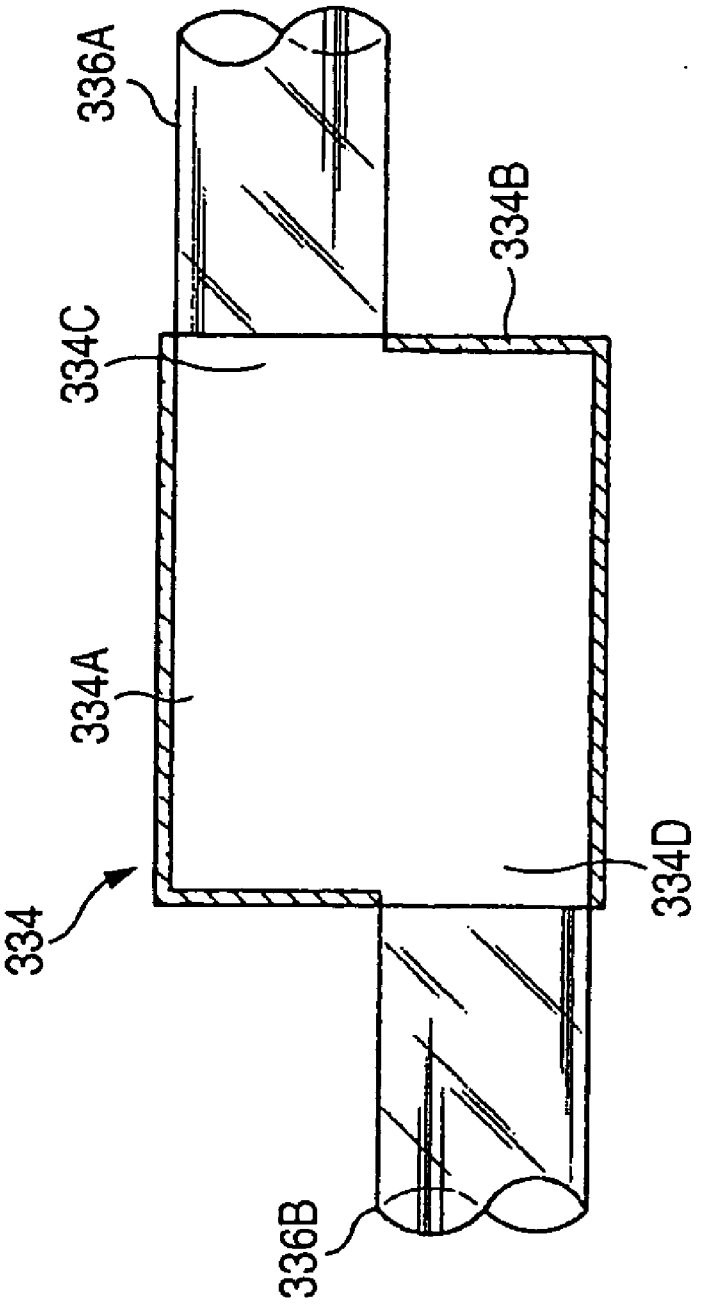


FIG. 4

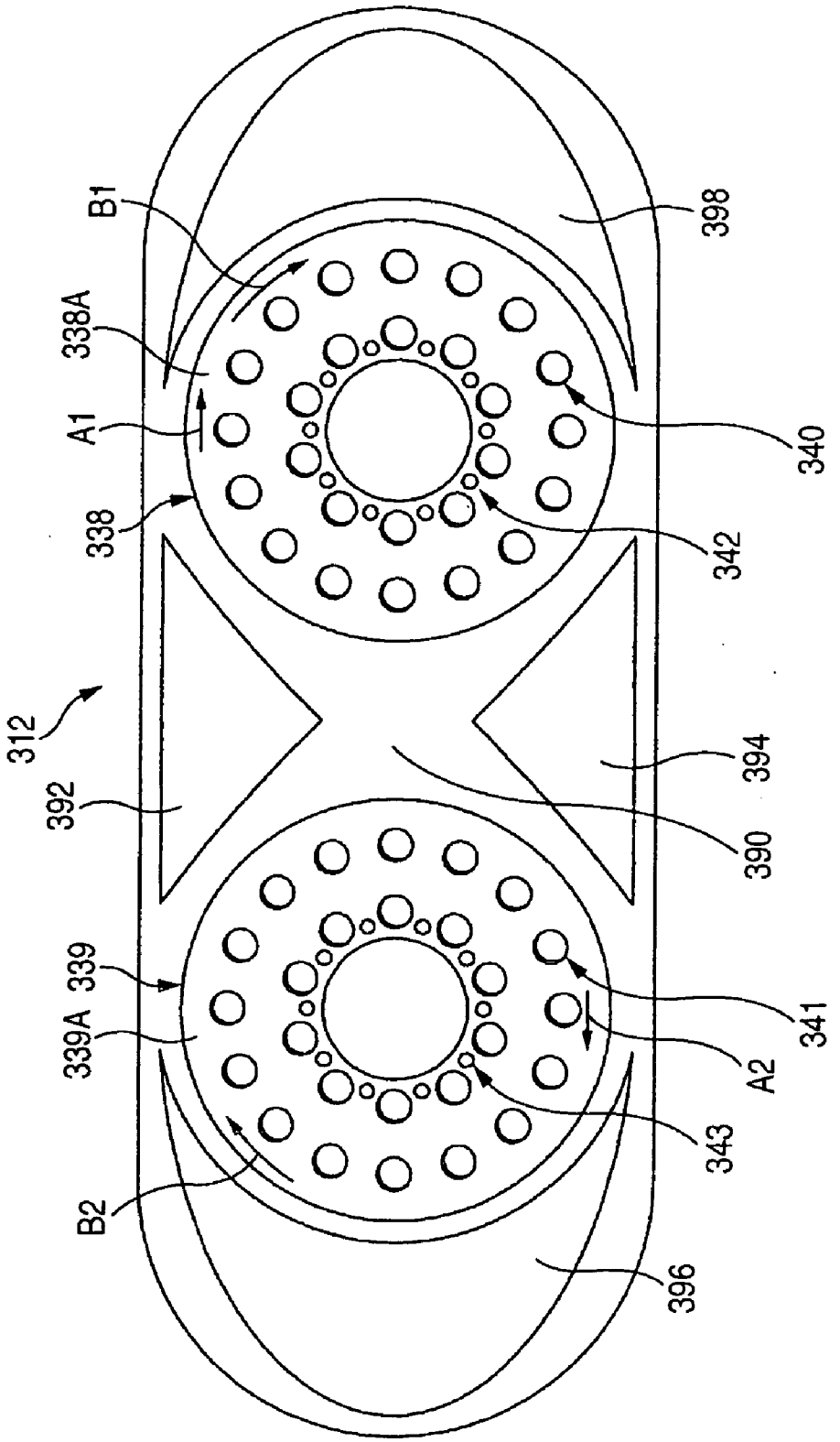

B1
398
338A
A1
340
338
342
312
394
392
390
339
339A
341
A2
343
B2
396

FIG. 5

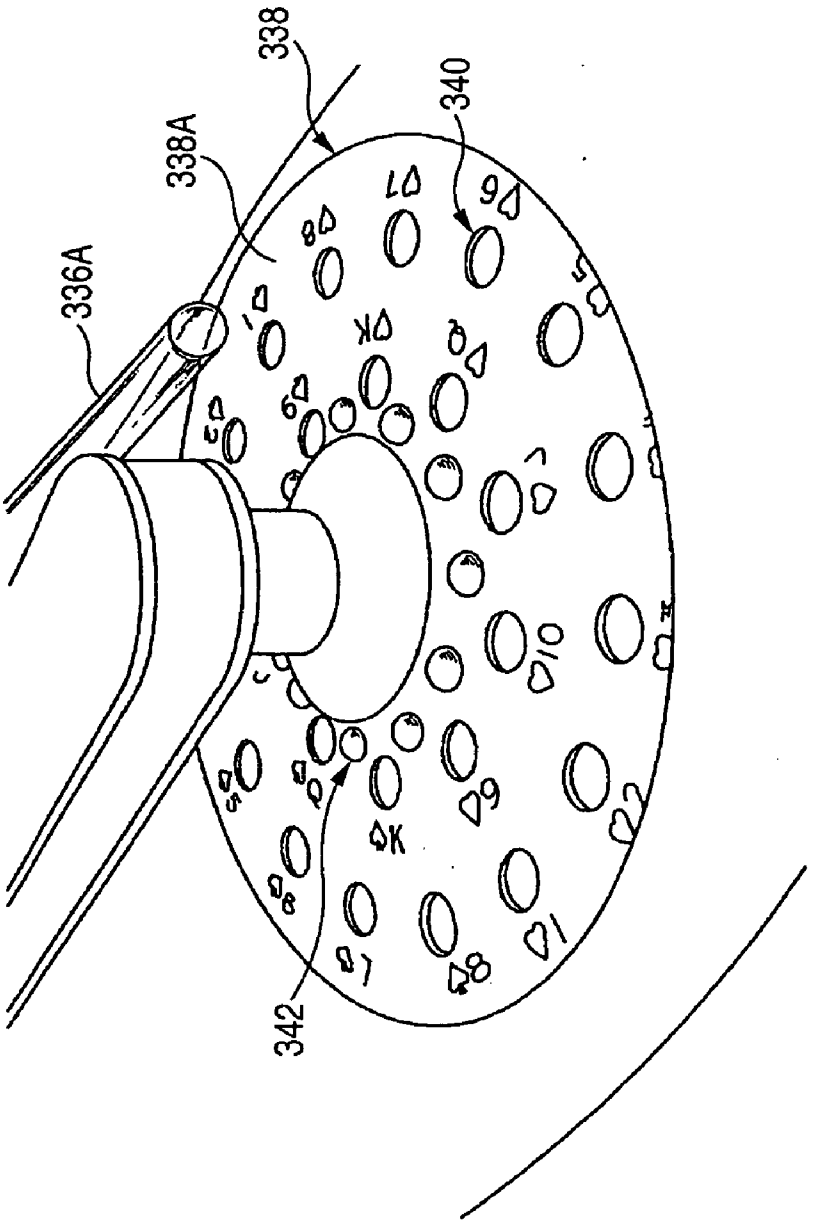


FIG. 6

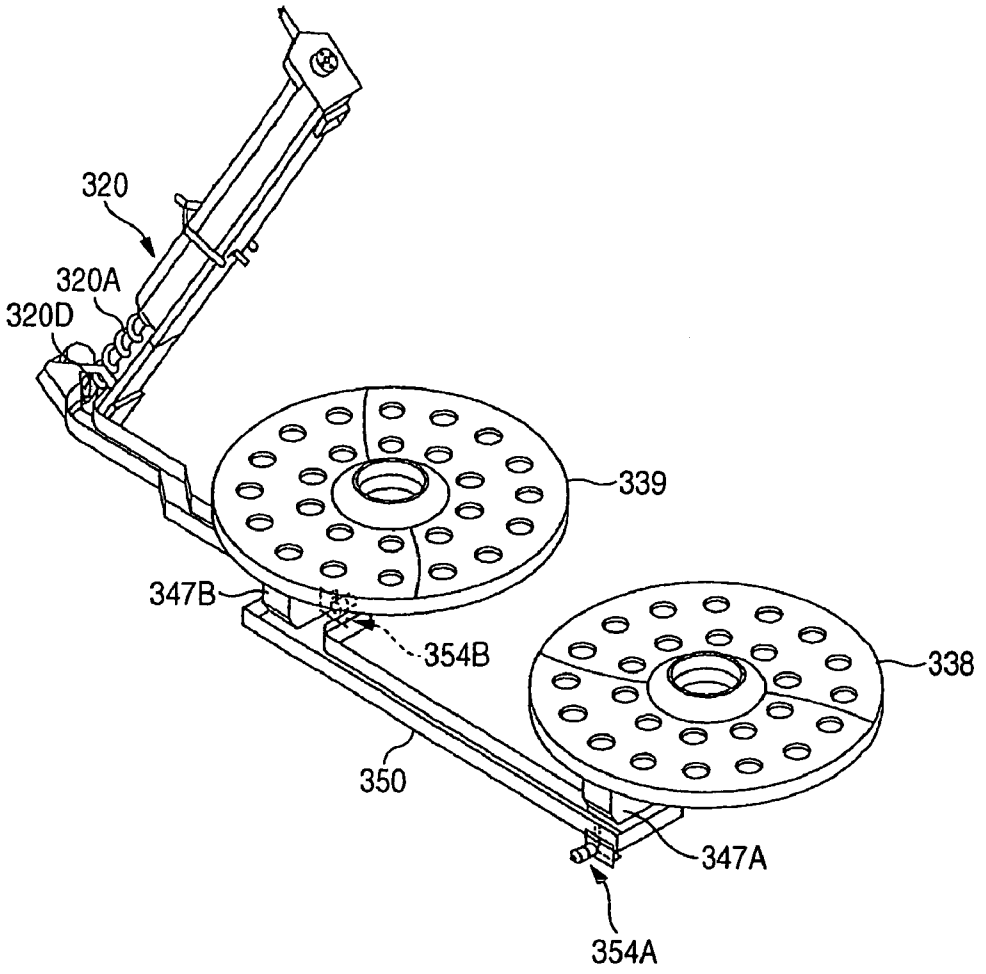


FIG. 7

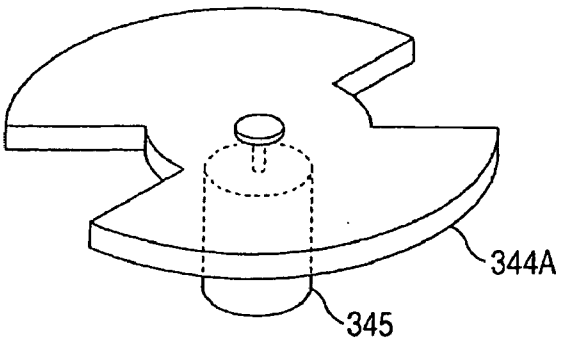


FIG. 8

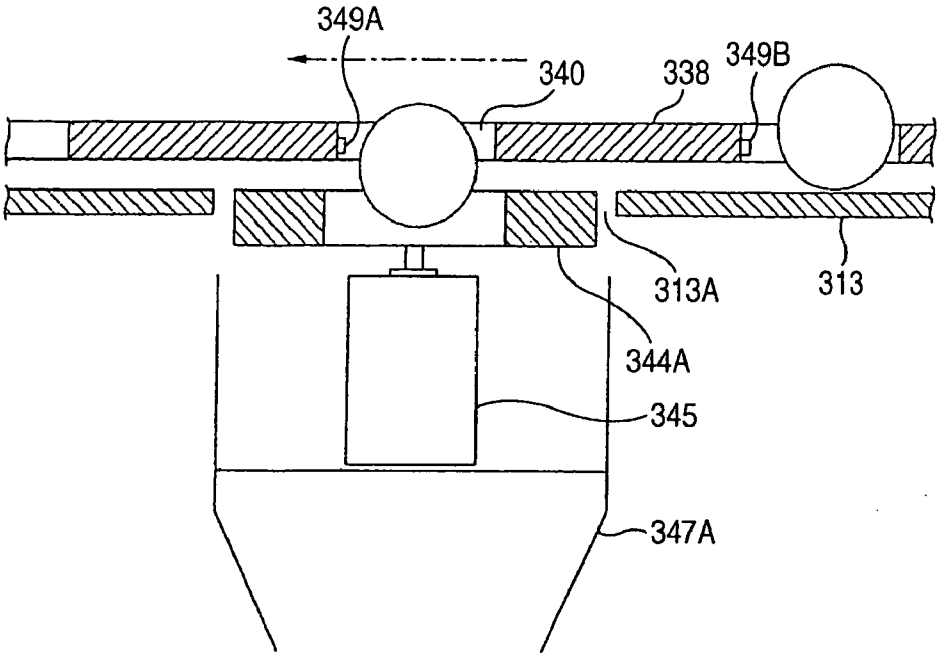

349A
340
338
349B
313A
313
344A
345
347A

FIG. 9

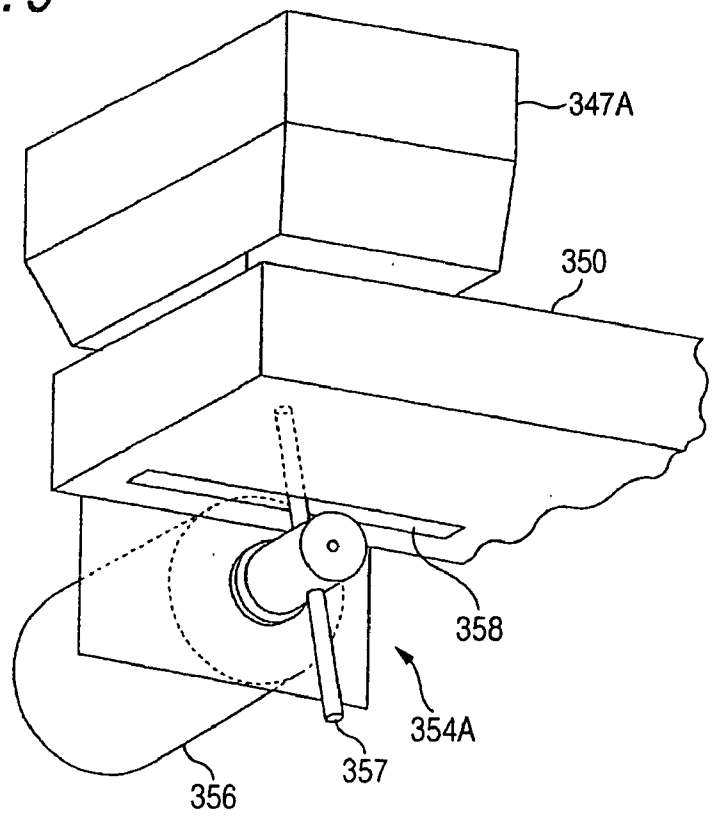

347A
350
358
354A
357
356

FIG. 10

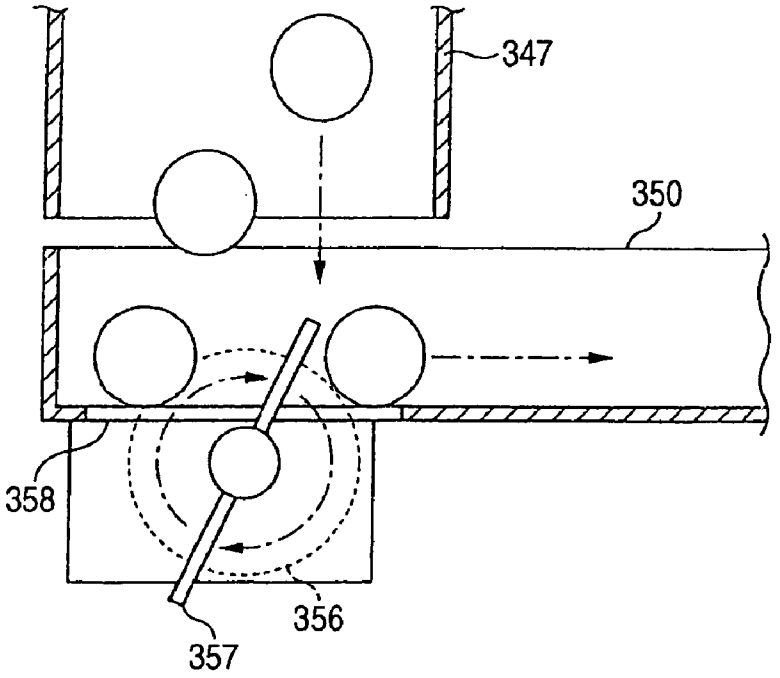


FIG. 11

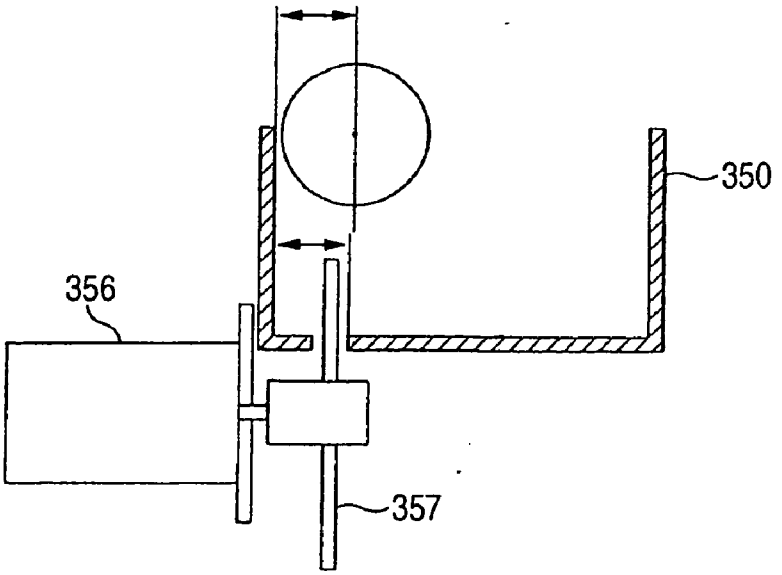


FIG. 12A

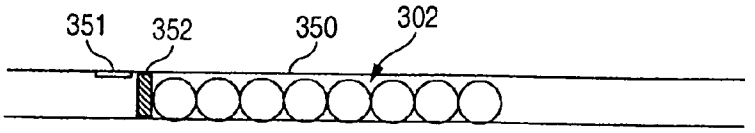


FIG. 12B

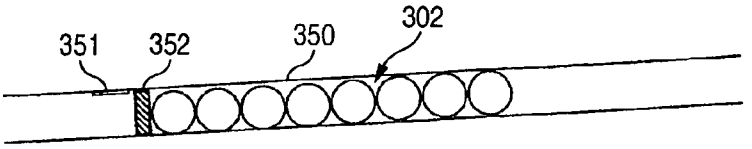


FIG. 12C

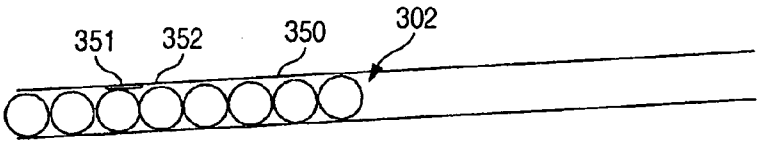


FIG. 12D

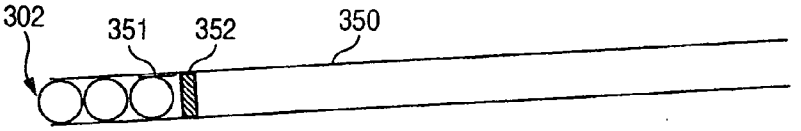


FIG. 12E

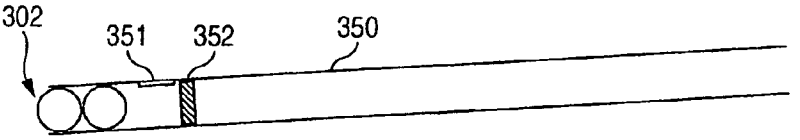


FIG. 12F

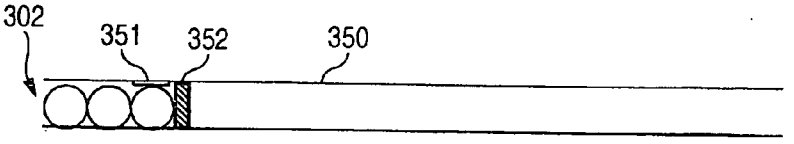


FIG. 12G

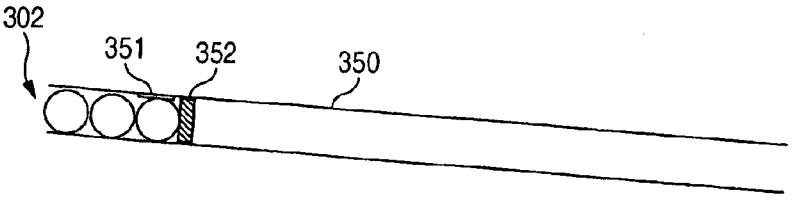


FIG. 13

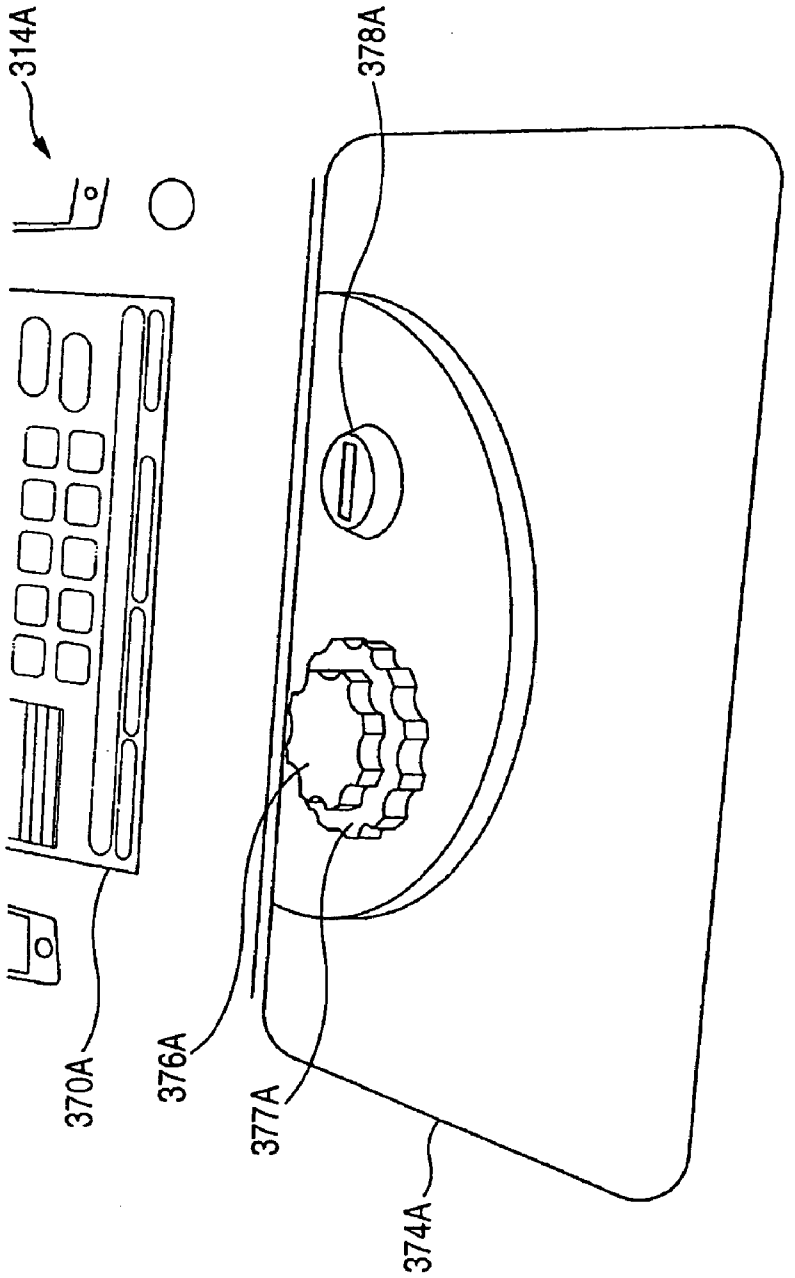
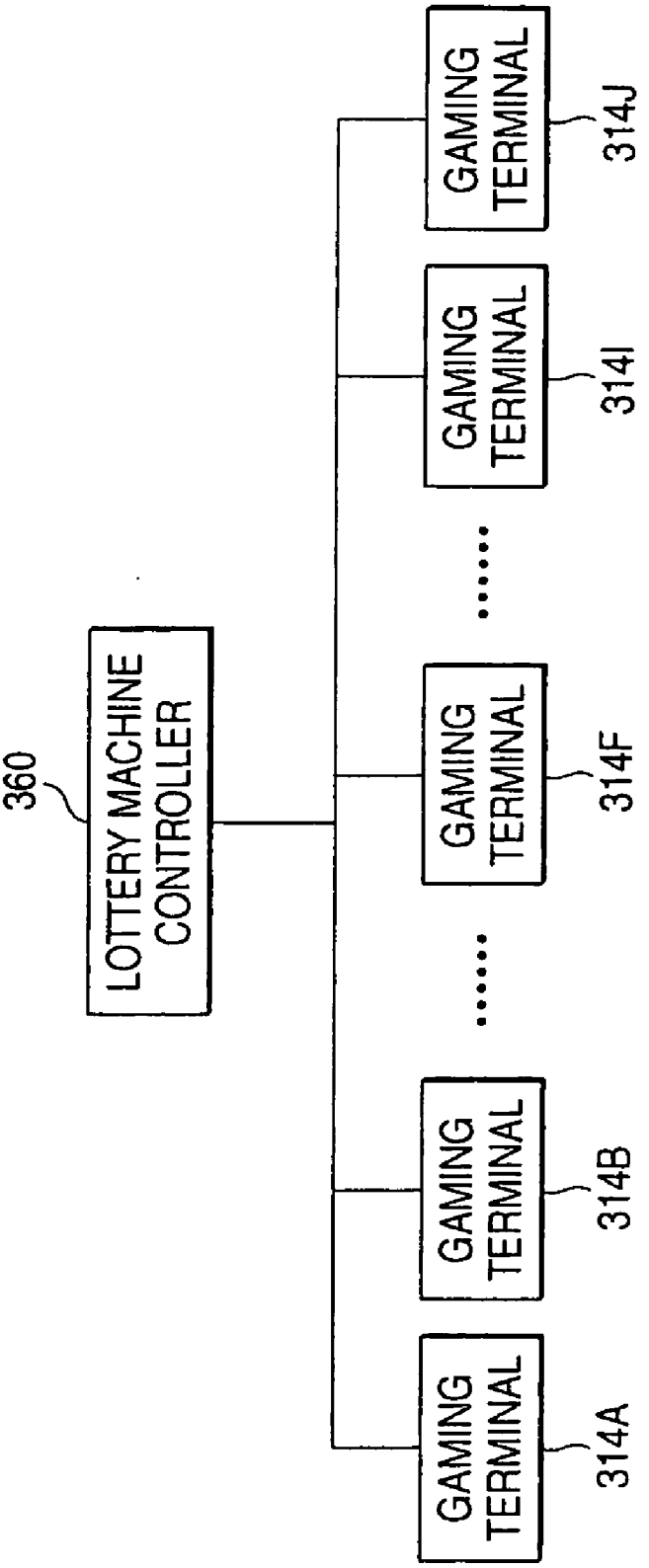


FIG. 14


360
LOTTERY MACHINE CONTROLLER
GAMING TERMINAL
314A
GAMING TERMINAL
314B
GAMING TERMINAL
314F
GAMING TERMINAL
314I
GAMING TERMINAL
314J

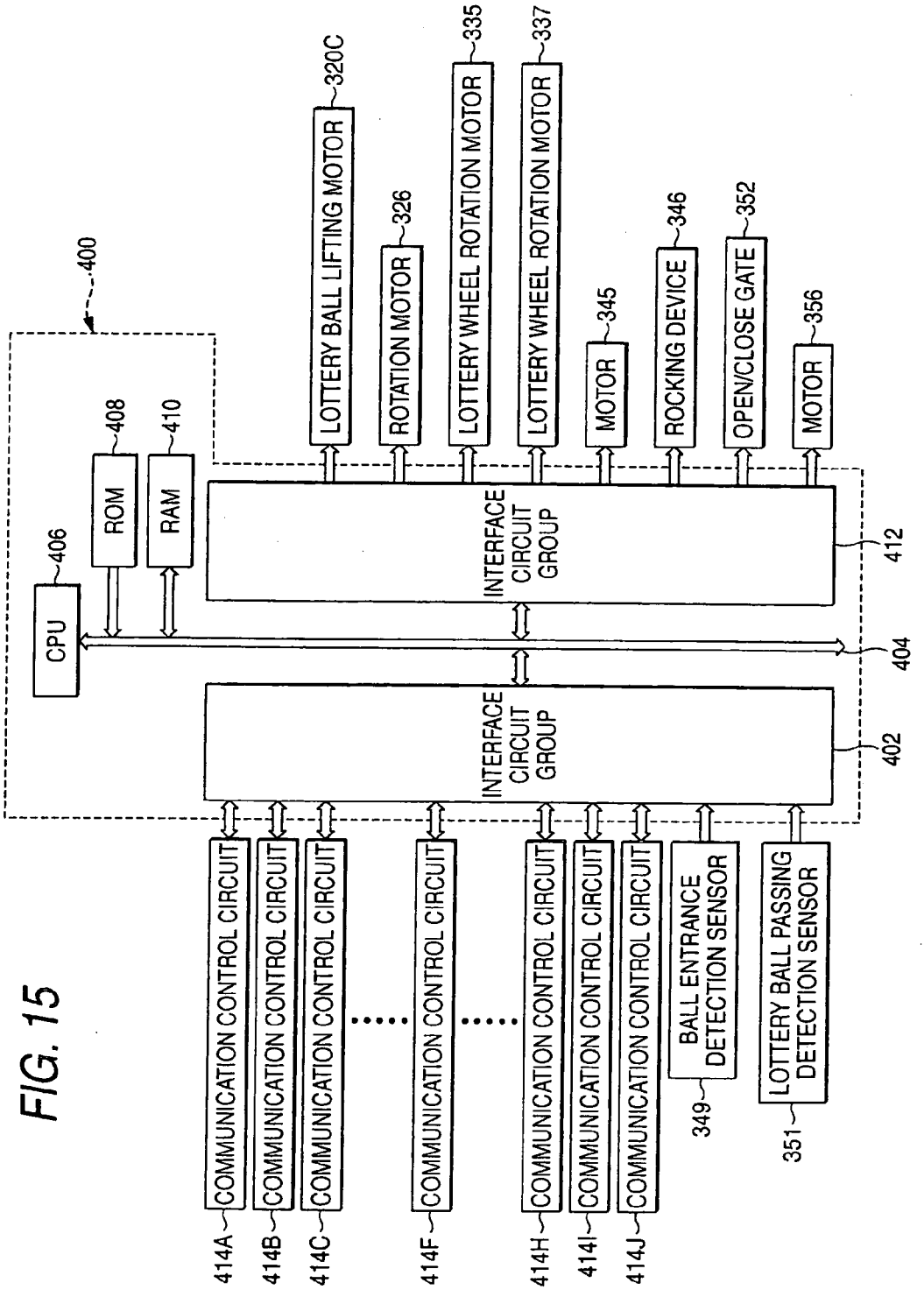

400
CPU
406
ROM
408
RAM
410
LOTTERY BALL LIFTING MOTOR
320C
ROTATION MOTOR
326
LOTTERY WHEEL ROTATION MOTOR
335
LOTTERY WHEEL ROTATION MOTOR
337
MOTOR
345
ROCKING DEVICE
346
OPEN/CLOSE GATE
352
MOTOR
356
INTERFACE CIRCUIT GROUP
412
404
INTERFACE CIRCUIT GROUP
402
COMMUNICATION CONTROL CIRCUIT
414A
COMMUNICATION CONTROL CIRCUIT
414B
COMMUNICATION CONTROL CIRCUIT
414C
COMMUNICATION CONTROL CIRCUIT
414F
COMMUNICATION CONTROL CIRCUIT
414H
COMMUNICATION CONTROL CIRCUIT
414I
COMMUNICATION CONTROL CIRCUIT
414J
BALL ENTRANCE DETECTION SENSOR
349
LOTTERY BALL PASSING DETECTION SENSOR
351

FIG. 15

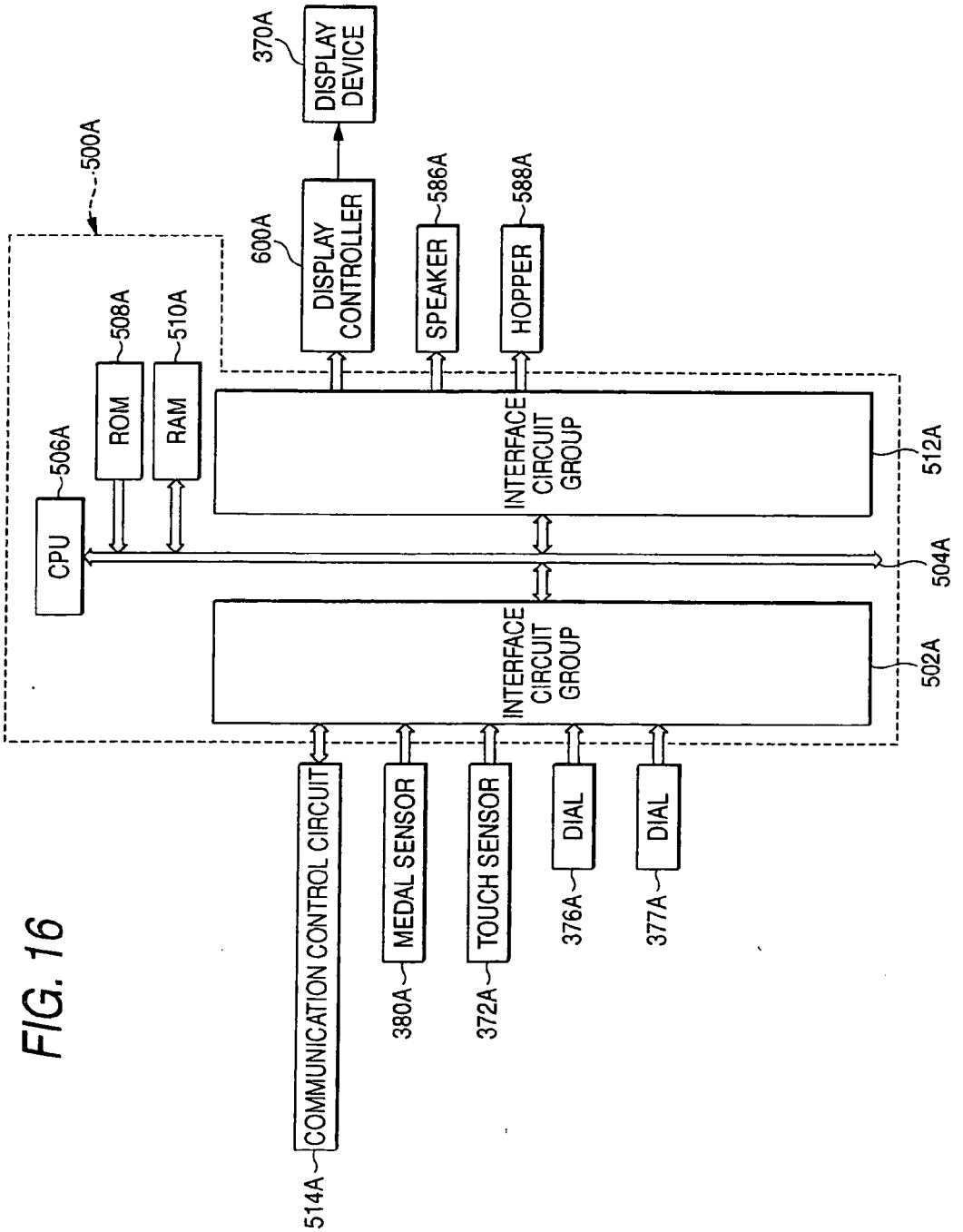

500A
370A
DISPLAY DEVICE
600A
DISPLAY CONTROLLER
586A
SPEAKER
588A
HOPPER
508A
ROM
510A
RAM
506A
CPU
INTERFACE CIRCUIT GROUP
512A
504A
INTERFACE CIRCUIT GROUP
502A
COMMUNICATION CONTROL CIRCUIT
514A
MEDAL SENSOR
380A
TOUCH SENSOR
372A
DIAL
376A
DIAL
377A

FIG. 16

FIG. 17

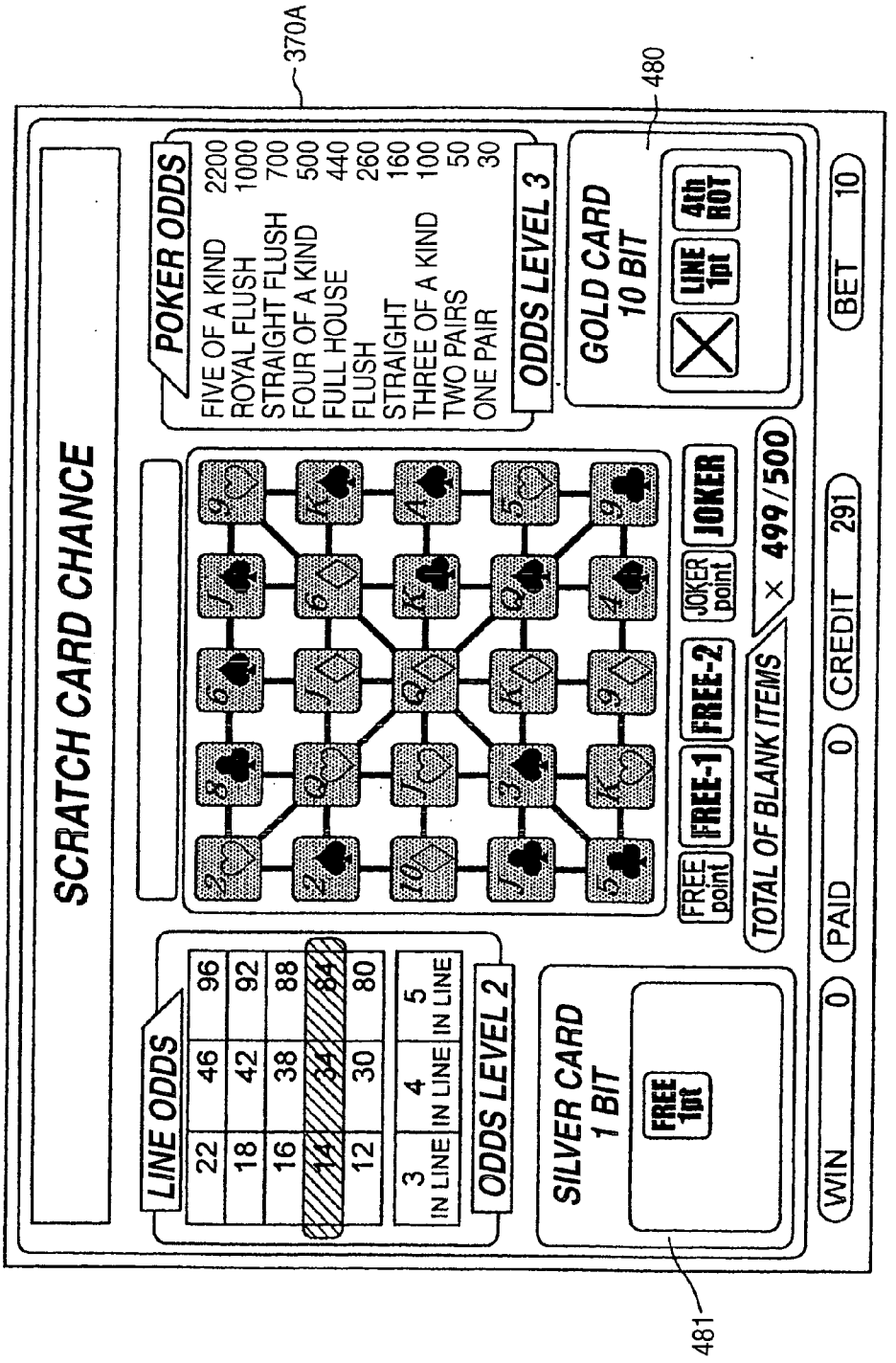

370A
480
481
SCRATCH CARD CHANCE
LINE ODDS
22 46 96
18 42 92
16 38 88
14 34 84
12 30 80
3 IN LINE
4 IN LINE
5 IN LINE
ODDS LEVEL 2
SILVER CARD 1 BIT
FREE 1pt
POKER ODDS
FIVE OF A KIND 2200
ROYAL FLUSH 1000
STRAIGHT FLUSH 700
FOUR OF A KIND 500
FULL HOUSE 440
FLUSH 260
STRAIGHT 160
THREE OF A KIND 100
TWO PAIRS 50
ONE PAIR 30
ODDS LEVEL 3
GOLD CARD 10 BIT
LINE 1pt
4th ROT
FREE point
FREE-1
FREE-2
JOKER point
JOKER
TOTAL OF BLANK ITEMS
× 499/500
WIN 0
PAID 0
CREDIT 291
BET 10

FIG. 18

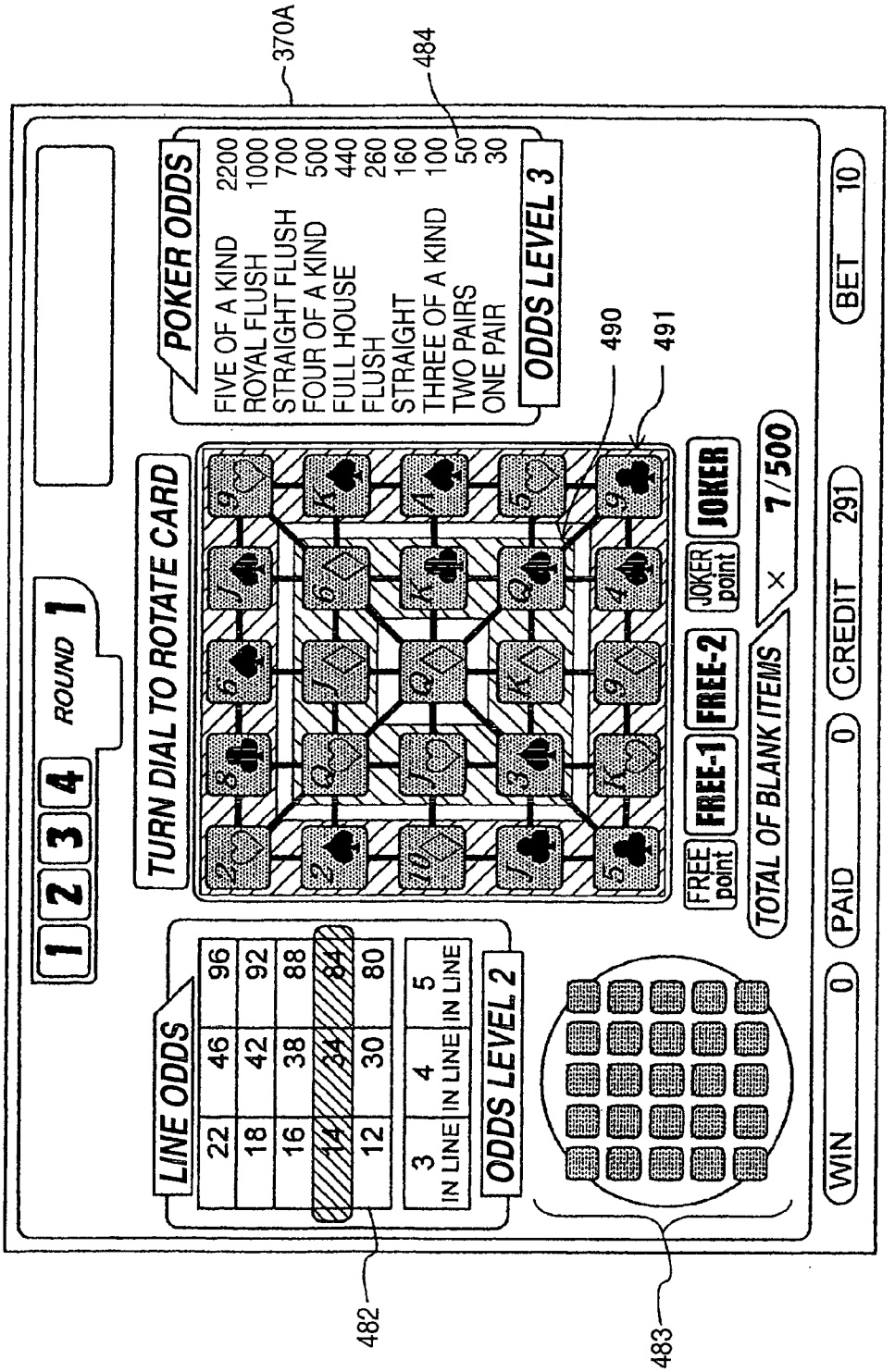
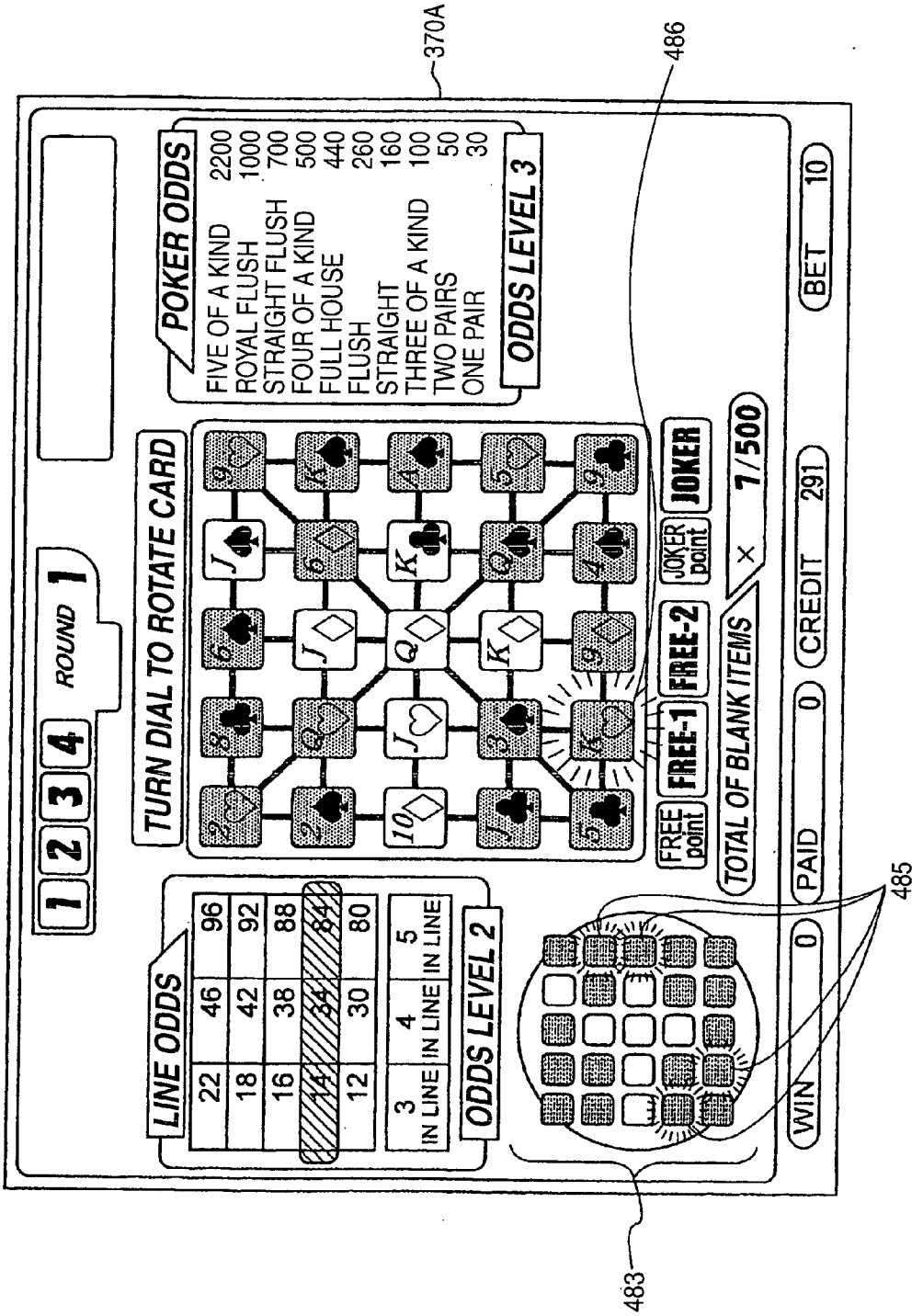

370A
484
POKER ODDS
FIVE OF A KIND 2200
ROYAL FLUSH 1000
STRAIGHT FLUSH 700
FOUR OF A KIND 500
FULL HOUSE 440
FLUSH 260
STRAIGHT 160
THREE OF A KIND 100
TWO PAIRS 50
ONE PAIR 30
ODDS LEVEL 3
1 2 3 4 ROUND 1
TURN DIAL TO ROTATE CARD
490
491
FREE point
FREE-1
FREE-2
JOKER point
JOKER
TOTAL OF BLANK ITEMS
× 7/500
LINE ODDS
22 46 96
18 42 92
16 38 88
14 34 84
12 30 80
3 IN LINE
4 IN LINE
5 IN LINE
ODDS LEVEL 2
WIN 0
PAID 0
CREDIT 291
BET 10
482
483

FIG. 19


370A
486
1 2 3 4 ROUND 1
TURN DIAL TO ROTATE CARD
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
LINE ODDS
22 46 96
18 42 92
16 38 88
14 34 84
12 30 80
3 IN LINE 4 IN LINE 5 IN LINE
ODDS LEVEL 2
FREE point
FREE-1
FREE-2
JOKER point
JOKER
TOTAL OF BLANK ITEMS
× 1/500
WIN 0
PAID 0
CREDIT 291
BET 10
485
483

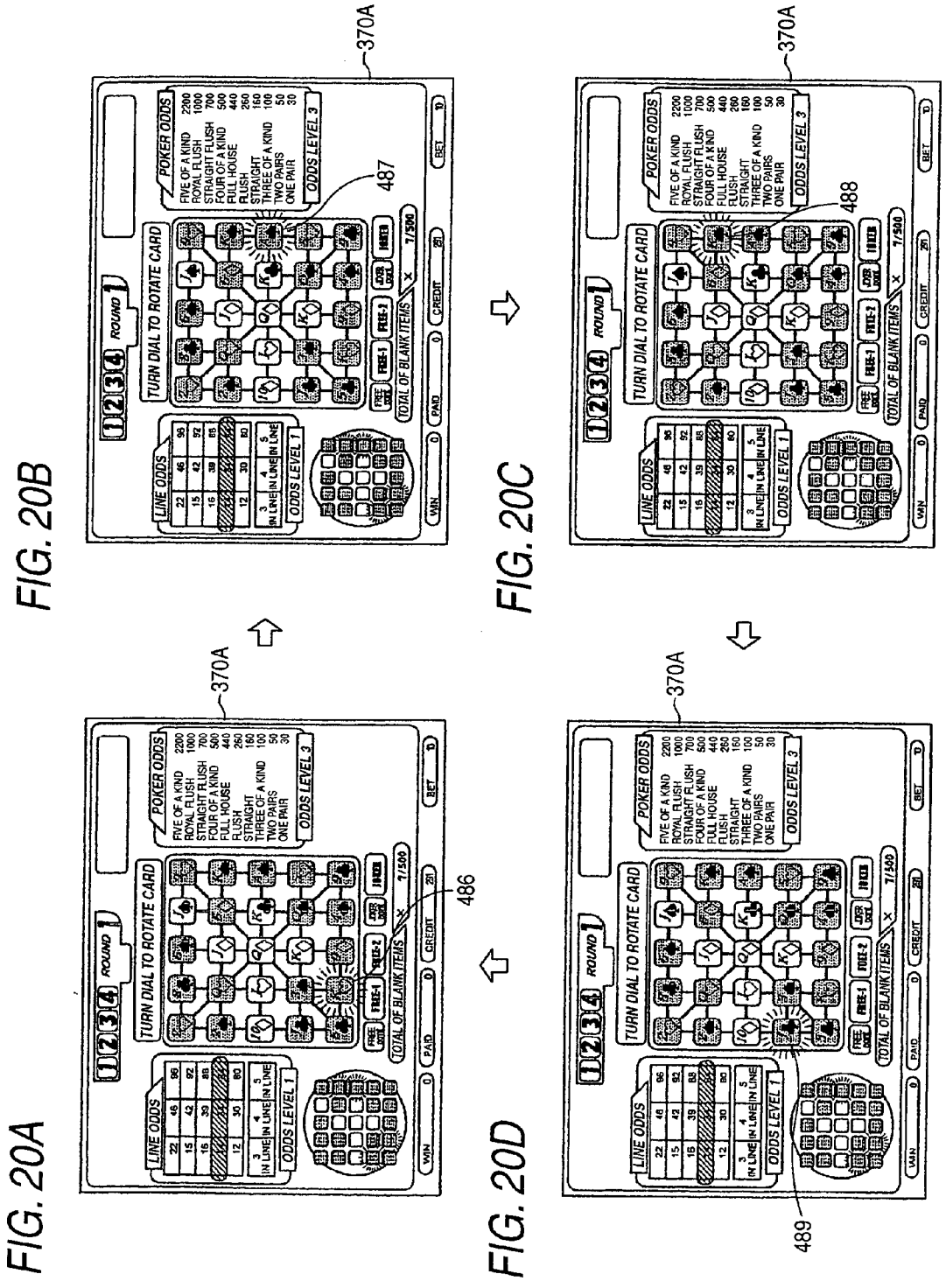

370A
487
488
489
486
1234 ROUND 1
TURN DIAL TO ROTATE CARD
POKER ODDS
FIVE OF A KIND 2200
ROYAL FLUSH 1000
STRAIGHT FLUSH 700
FOUR OF A KIND 500
FULL HOUSE 440
FLUSH 260
STRAIGHT 160
THREE OF A KIND 100
TWO PAIRS 50
ONE PAIR 30
ODDS LEVEL 3
LINE ODDS
ODDS LEVEL 1
TOTAL OF BLANK ITEMS
WIN
PAID
CREDIT
BET
FIG. 20A
FIG. 20B
FIG. 20C
FIG. 20D

FIG. 21

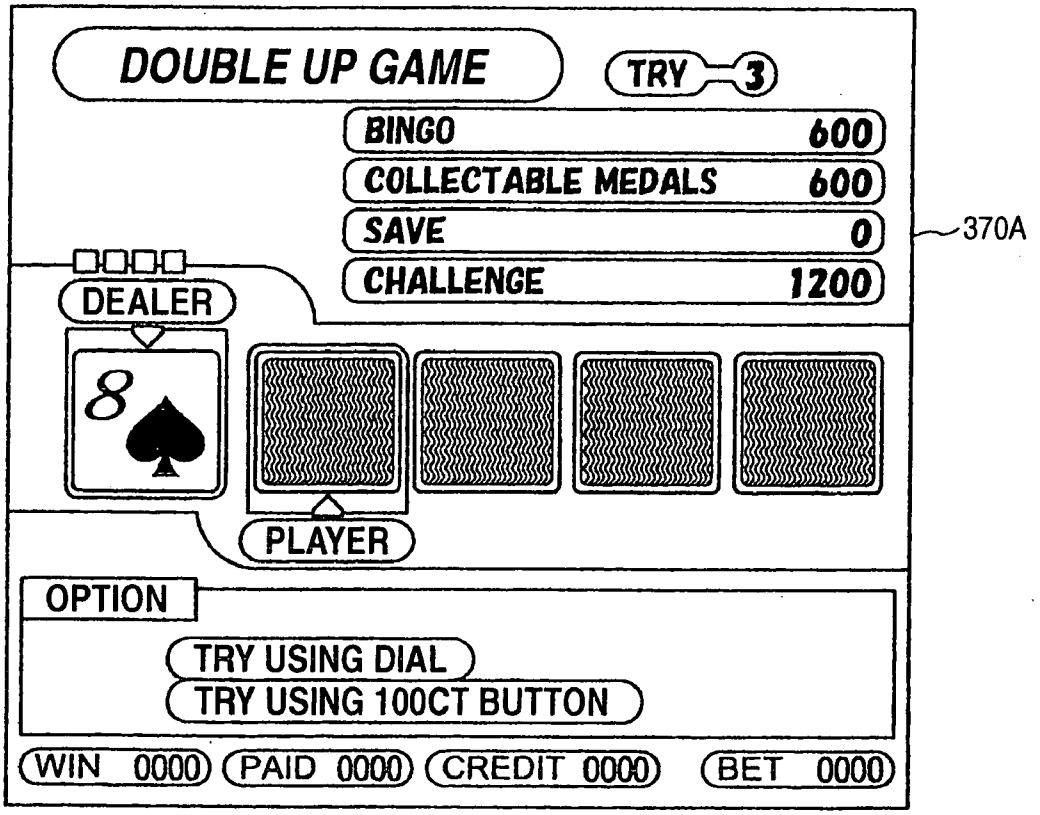

DOUBLE UP GAME
TRY 3
BINGO 600
COLLECTABLE MEDALS 600
SAVE 0
CHALLENGE 1200
370A
DEALER
8
PLAYER
OPTION
TRY USING DIAL
TRY USING 100CT BUTTON
WIN 0000
PAID 0000
CREDIT 0000
BET 0000

FIG. 22

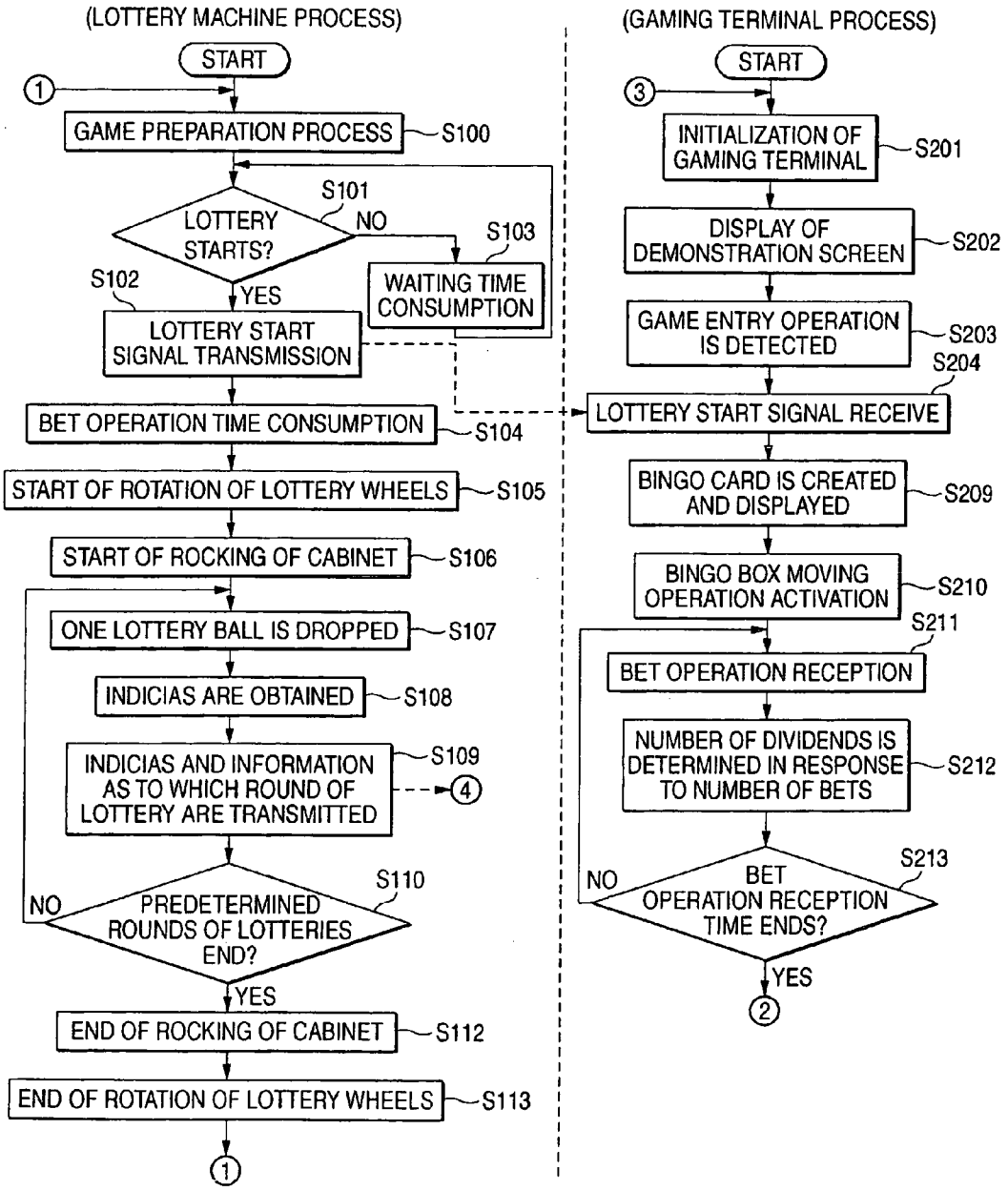

(LOTTERY MACHINE PROCESS)
START
1
GAME PREPARATION PROCESS
S100
S101
LOTTERY STARTS?
NO
S103
WAITING TIME CONSUMPTION
S102
YES
LOTTERY START SIGNAL TRANSMISSION
BET OPERATION TIME CONSUMPTION
S104
START OF ROTATION OF LOTTERY WHEELS
S105
START OF ROCKING OF CABINET
S106
ONE LOTTERY BALL IS DROPPED
S107
INDICIAS ARE OBTAINED
S108
INDICIAS AND INFORMATION AS TO WHICH ROUND OF LOTTERY ARE TRANSMITTED
S109
4
NO
PREDETERMINED ROUNDS OF LOTTERIES END?
S110
YES
END OF ROCKING OF CABINET
S112
END OF ROTATION OF LOTTERY WHEELS
S113
1
(GAMING TERMINAL PROCESS)
START
3
INITIALIZATION OF GAMING TERMINAL
S201
DISPLAY OF DEMONSTRATION SCREEN
S202
GAME ENTRY OPERATION IS DETECTED
S203
S204
LOTTERY START SIGNAL RECEIVE
BINGO CARD IS CREATED AND DISPLAYED
S209
BINGO BOX MOVING OPERATION ACTIVATION
S210
S211
BET OPERATION RECEPTION
NUMBER OF DIVIDENDS IS DETERMINED IN RESPONSE TO NUMBER OF BETS
S212
NO
BET OPERATION RECEPTION TIME ENDS?
S213
YES
2

FIG. 23

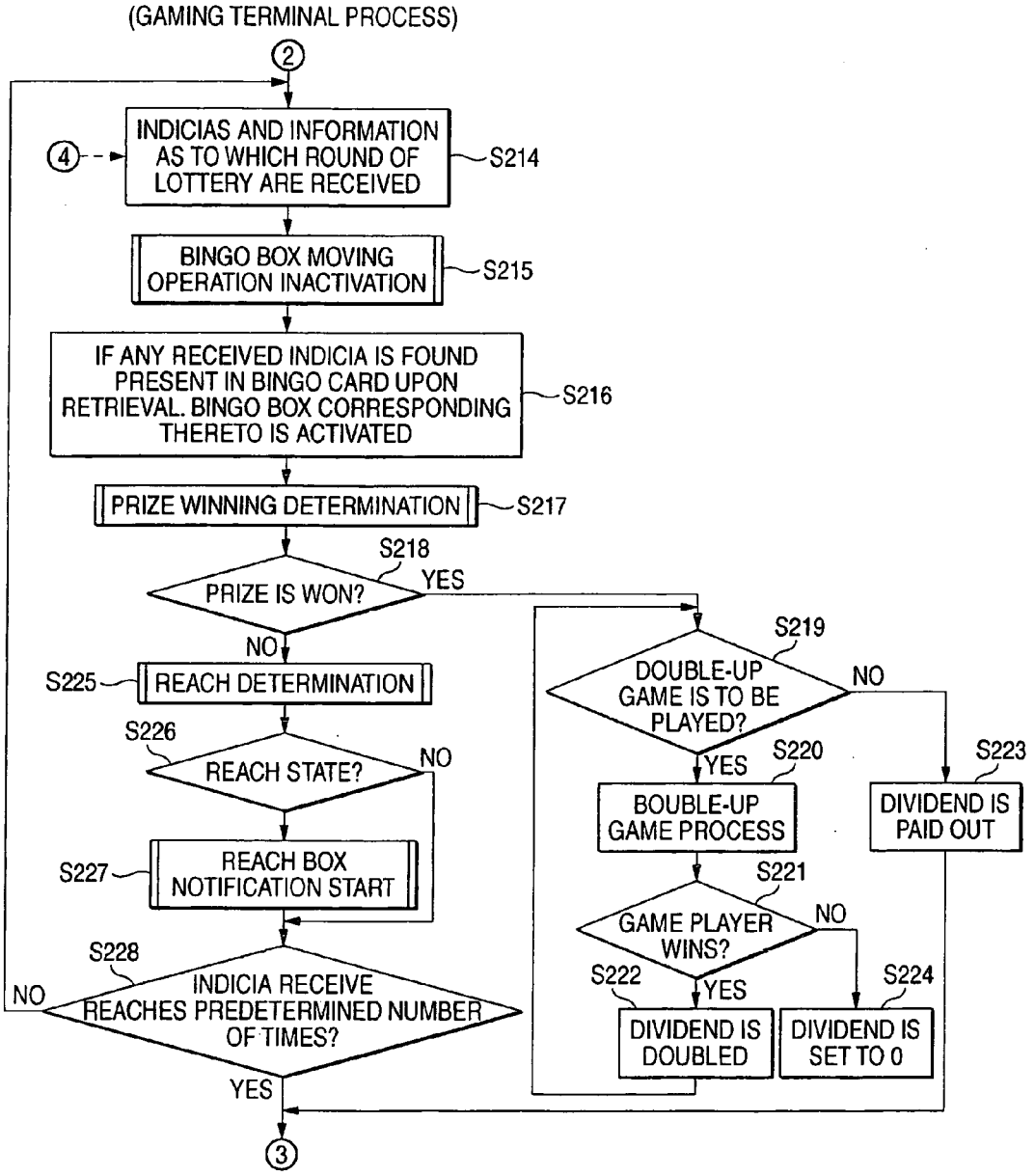

(GAMING TERMINAL PROCESS)
2
4
INDICIAS AND INFORMATION AS TO WHICH ROUND OF LOTTERY ARE RECEIVED
S214
BINGO BOX MOVING OPERATION INACTIVATION
S215
IF ANY RECEIVED INDICIA IS FOUND PRESENT IN BINGO CARD UPON RETRIEVAL. BINGO BOX CORRESPONDING THERETO IS ACTIVATED
S216
PRIZE WINNING DETERMINATION
S217
S218
PRIZE IS WON?
YES
NO
S225
REACH DETERMINATION
S226
REACH STATE?
NO
S227
REACH BOX NOTIFICATION START
S228
INDICIA RECEIVE REACHES PREDETERMINED NUMBER OF TIMES?
NO
YES
3
S219
DOUBLE-UP GAME IS TO BE PLAYED?
NO
YES
S220
BOUBLE-UP GAME PROCESS
S221
GAME PLAYER WINS?
NO
YES
S222
DIVIDEND IS DOUBLED
S224
DIVIDEND IS SET TO 0
S223
DIVIDEND IS PAID OUT

FIG. 24

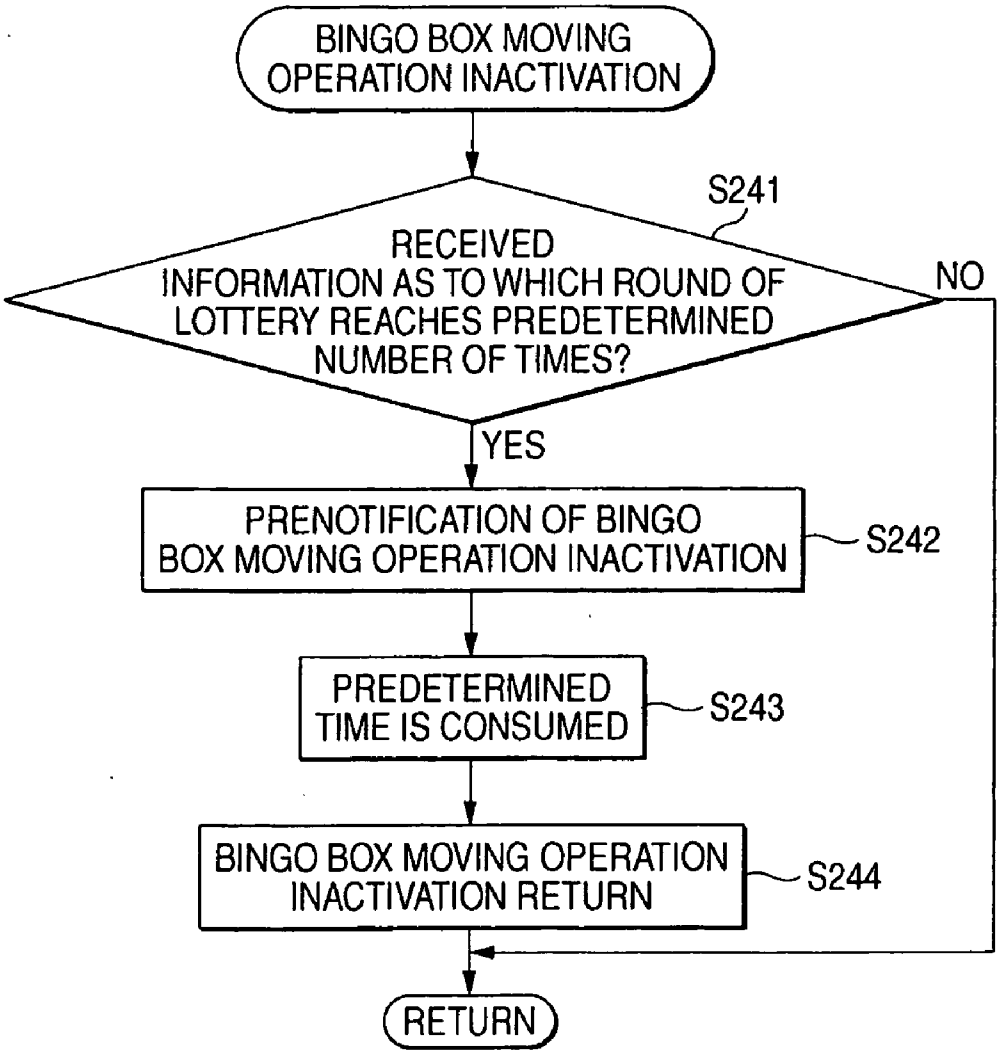

BINGO BOX MOVING OPERATION INACTIVATION
S241
RECEIVED INFORMATION AS TO WHICH ROUND OF LOTTERY REACHES PREDETERMINED NUMBER OF TIMES?
NO
YES
PRENOTIFICATION OF BINGO BOX MOVING OPERATION INACTIVATION
S242
PREDETERMINED TIME IS CONSUMED
S243
BINGO BOX MOVING OPERATION INACTIVATION RETURN
S244
RETURN

FIG. 25

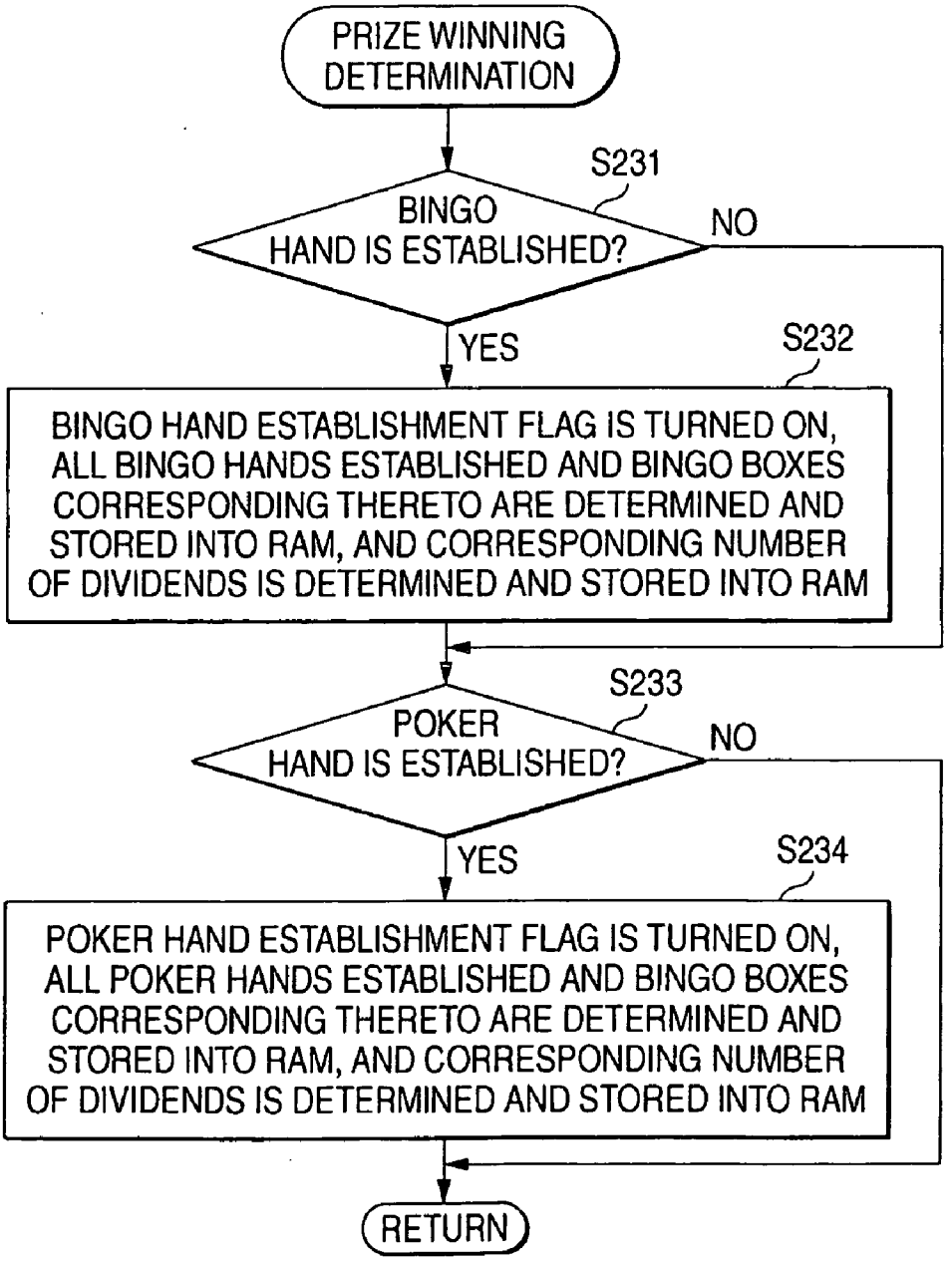

PRIZE WINNING DETERMINATION
S231
BINGO HAND IS ESTABLISHED?
NO
YES
S232
BINGO HAND ESTABLISHMENT FLAG IS TURNED ON, ALL BINGO HANDS ESTABLISHED AND BINGO BOXES CORRESPONDING THERETO ARE DETERMINED AND STORED INTO RAM, AND CORRESPONDING NUMBER OF DIVIDENDS IS DETERMINED AND STORED INTO RAM
S233
POKER HAND IS ESTABLISHED?
NO
YES
S234
POKER HAND ESTABLISHMENT FLAG IS TURNED ON, ALL POKER HANDS ESTABLISHED AND BINGO BOXES CORRESPONDING THERETO ARE DETERMINED AND STORED INTO RAM, AND CORRESPONDING NUMBER OF DIVIDENDS IS DETERMINED AND STORED INTO RAM
RETURN

FIG. 26

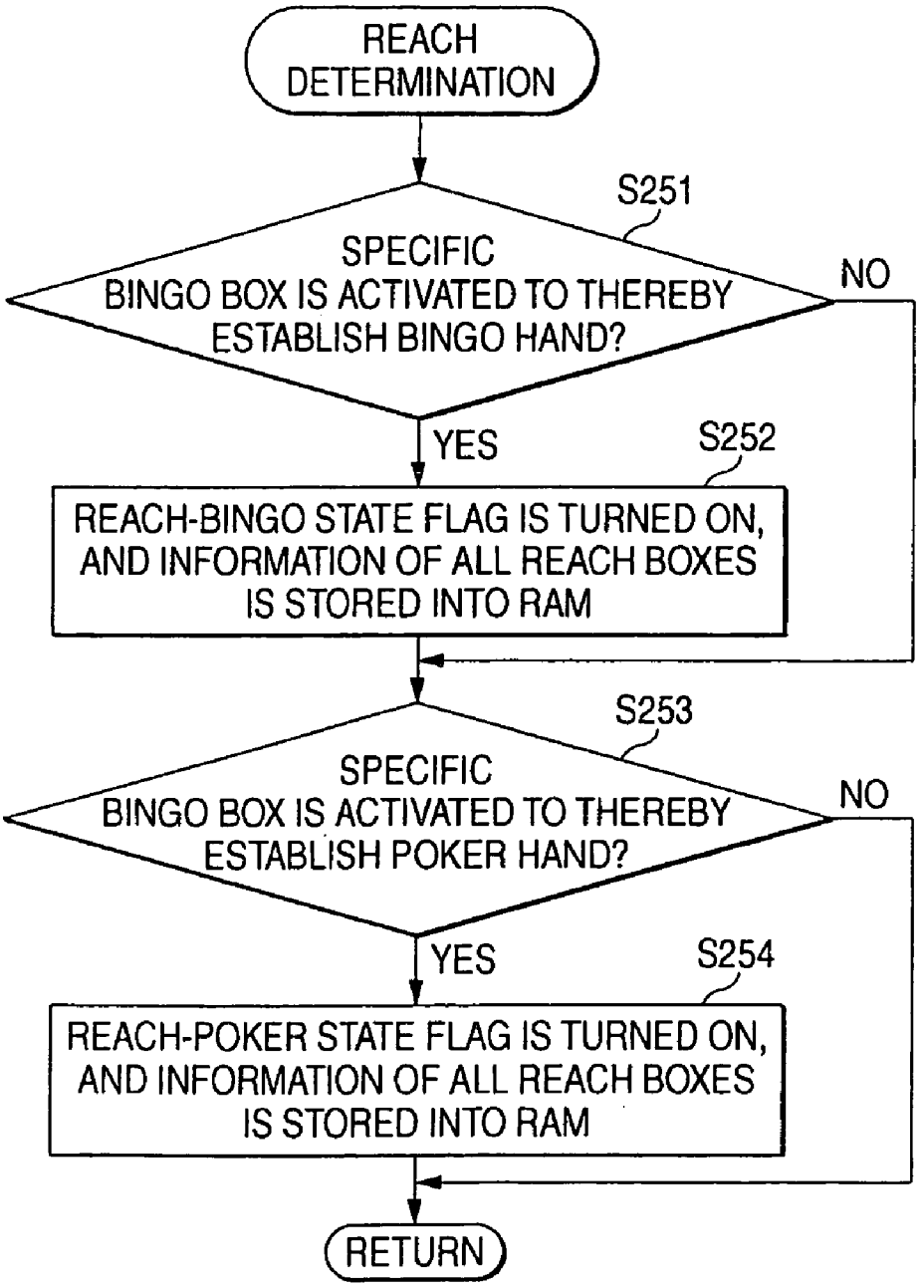

REACH DETERMINATION
S251
SPECIFIC BINGO BOX IS ACTIVATED TO THEREBY ESTABLISH BINGO HAND?
NO
YES
S252
REACH-BINGO STATE FLAG IS TURNED ON, AND INFORMATION OF ALL REACH BOXES IS STORED INTO RAM
S253
SPECIFIC BINGO BOX IS ACTIVATED TO THEREBY ESTABLISH POKER HAND?
NO
YES
S254
REACH-POKER STATE FLAG IS TURNED ON, AND INFORMATION OF ALL REACH BOXES IS STORED INTO RAM
RETURN

FIG. 27

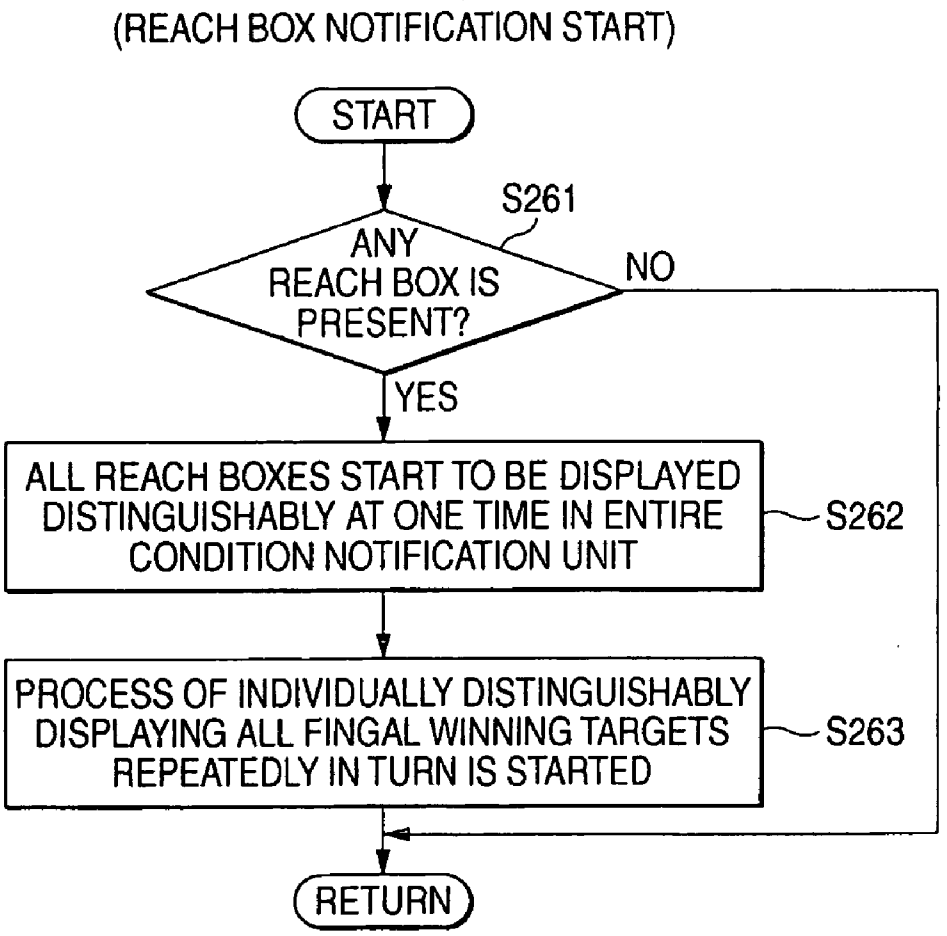
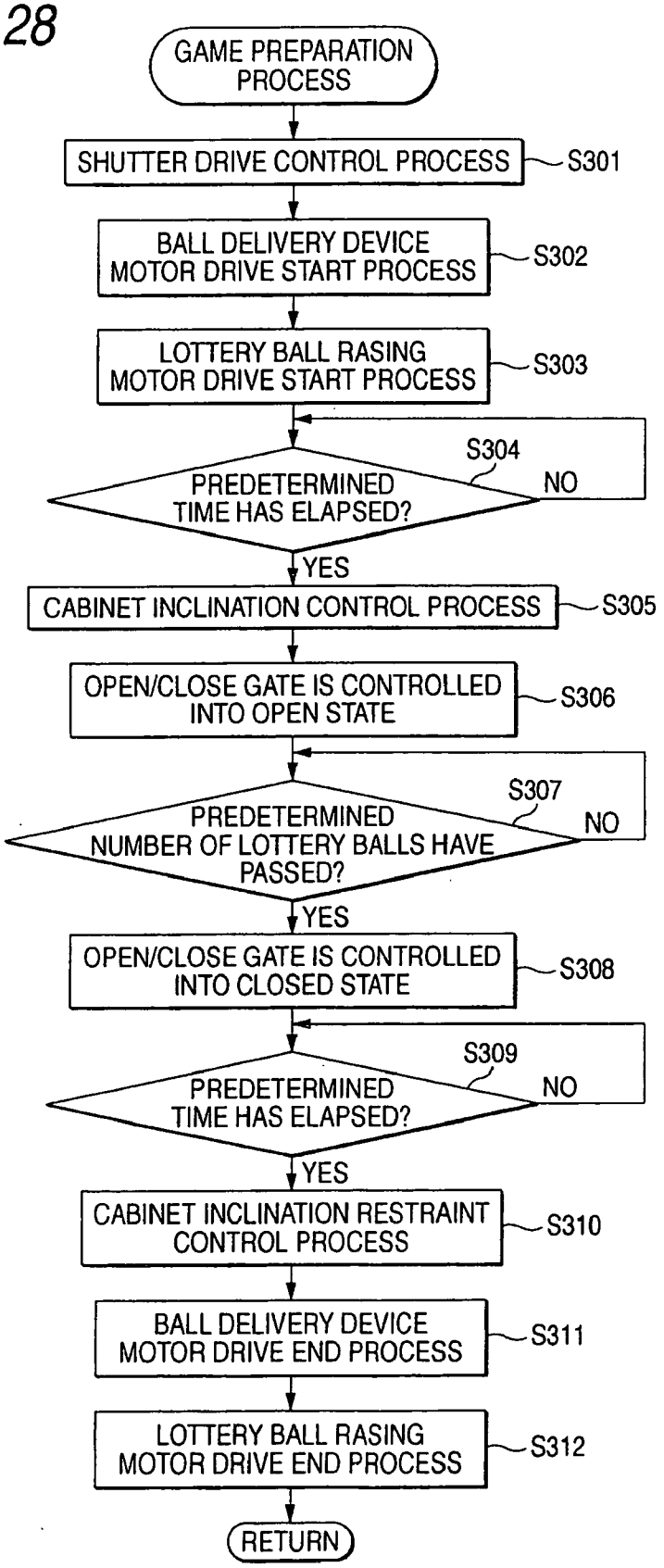

(REACH BOX NOTIFICATION START)
START
S261
ANY REACH BOX IS PRESENT?
NO
YES
ALL REACH BOXES START TO BE DISPLAYED DISTINGUISHABLY AT ONE TIME IN ENTIRE CONDITION NOTIFICATION UNIT
S262
PROCESS OF INDIVIDUALLY DISTINGUISHABLY DISPLAYING ALL FINGAL WINNING TARGETS REPEATEDLY IN TURN IS STARTED
S263
RETURN

FIG. 28


GAME PREPARATION PROCESS
SHUTTER DRIVE CONTROL PROCESS
S301
BALL DELIVERY DEVICE MOTOR DRIVE START PROCESS
S302
LOTTERY BALL RASING MOTOR DRIVE START PROCESS
S303
S304
PREDETERMINED TIME HAS ELAPSED?
NO
YES
CABINET INCLINATION CONTROL PROCESS
S305
OPEN/CLOSE GATE IS CONTROLLED INTO OPEN STATE
S306
S307
PREDETERMINED NUMBER OF LOTTERY BALLS HAVE PASSED?
NO
YES
OPEN/CLOSE GATE IS CONTROLLED INTO CLOSED STATE
S308
S309
PREDETERMINED TIME HAS ELAPSED?
NO
YES
CABINET INCLINATION RESTRAINT CONTROL PROCESS
S310
BALL DELIVERY DEVICE MOTOR DRIVE END PROCESS
S311
LOTTERY BALL RASING MOTOR DRIVE END PROCESS
S312
RETURN

GAMING MACHINE

CROSS-REFERENCE TO THE RELATED APPLICATION(S)

[0001] This application is based upon and claims a priority from prior Japanese Patent Application No. 2003-435133 filed on Dec. 26, 2003, the entire contents of which are incorporated herein by reference. This application is related to co-pending U.S. applications claiming priorities for JP-2003-435134 to file on the even date with this application, U.S. applications claiming priorities for JP-2003-316020, and JP-2003-316021, filed on Sep. 8, 2004, International Application No. PCT/JP/03/11439, PCT/JP/03/11440, and PCT/JP/03/11441, filed on Sep. 8, 2003 in Japan. The co-pending applications are expressly incorporated herein by reference

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a gaming machine, and more specifically, it relates to a gaming machine determining a result of a game based on a fact that a lottery ball enters to a lottery hole in the lottery wheel

[0004] 2. Description of the Related Art

[0005] Hitherto, a bingo game is played by using a bingo card having squares aligned in a matrix form. In this case, different indicias are assigned to the squares, and the square corresponding to the indicia won by a lottery is punched. The player can win by punching squares aligned in one vertical, horizontal or diagonal line.

[0006] While a bingo card made of paper is generally used in a bingo game, various electronically controlled gaming machines (see JP-A-2001-161888, for example) imitating the game have been developed. Such a gaming machine displays a bingo card on a display device thereof, and, when an indicia won by a lottery exists on the bingo card, the box is activated to display so that the activated box can be distinguished from the other boxes. Generally, a lottery wheel has a plurality of lottery holes having indicia, and, when a lottery ball stops at one of the lottery holes, a square corresponding to the indicia where the lottery ball stops is activated. The gaming machine is often placed in a game arcade since many players can participate therein.

[0007] Besides, generally, such a gaming machine can be roughly divided into two types: a gaming machine (so-called lottery ball drawing type) configured such that a lottery ball is drawn from a plurality of lottery balls assigned with indicias, thereby activating a box corresponding to the indicia of the lottery ball drawn; and a gaming machine (so-called roulette wheel type) configured such, as in JP-A-2001-161888, that plural lottery holes assigned with indicias are provided on the outer peripheral side of a lottery wheel, and that when a lottery ball stops in any one of the plural lottery holes, a box corresponding to the indicia at which the lottery ball has stopped is activated. Furthermore, in such a gaming machine, to break down a simple gaming property of the bingo game, it has been desired that a large number of indicias are used to thereby increase interest. However, in the aforesaid gaming machine of lottery ball drawing type, it is difficult for players to find their desired lottery balls from a large number of lottery balls, which is likely to reduce amusingness peculiar to the bingo game. Thus, this type of gaming machine is not particularly suitable for the configuration of using a large number of indicias. On the contrary, in the gaming machine of roulette wheel type, since a large number of lottery holes are provided therein, it may be considered to increase the size of the lottery wheel. From the viewpoint of installation space in a gaming hall or the like, however, it is not desirable to increase the size of the lottery wheel.

[0008] Thereupon, to provide a larger number of lottery holes on the lottery wheel from the viewpoint of space for providing the lottery holes therein, easy visibility from the players, or like condition, there has been developed a gaming machine including a lottery wheel that is provided with the plural lottery holes not only on the outer peripheral side but along a plurality of kinds of circumferences, thus making an attempt to increase interest in the bingo games

[0009] However, the aforesaid gaming machine has a limitation in downsizing because of the provision of a large number of lottery holes, the viewability of a lottery event attended by a large number of people at one time, etc. Unlike a personal one, in a gaming machine having a certain scale, after one game (lottery) ends, it takes time from when the lottery balls are collected from the lottery holes until a preparation for the nest game is completed, which is likely to make the players feel bored.

SUMMARY OF THE INVENTION

[0010] An object of the invention is to provide a gaming machine provided with plural lottery holes, the gaming machine making a smooth preparation, reducing feeling of boredom given to the players, and providing amusingness

[0011] More specifically, the invention provides the following gaming machine.

[0012] According to a first aspect of the invention there is provided a gaming machine including: a lottery wheel having a plurality of lottery holes that accept balls thereinto; a game content determination device that, as the lottery balls enter any of the plural lottery holes, determines a game result based on the any plural lottery holes that has accepted the balls; a discharge path that is provided below the lottery wheel and that discharges the lottery balls accepted in each of the plurality of lottery holes; a lifting device that conveys the lottery balls to a position higher than the lottery wheel; and a collection path that guides the lottery balls discharged from the discharge path, to a conveyance start position of the lifting devices wherein the collection path includes a ball delivery device for delivering the lottery balls being collected, toward the conveyance start position of the lifting device.

[0013] According to first aspect of the invention, in the gaming machine that determines the game result based on the entrance of the lottery balls into the lottery holes, the ball delivery device disposed in the collection path for guiding the lottery balls of the lottery holes to the conveyance start position of the lifting device. Consequently, the lottery balls move at a high speed through the collection path, so that the lottery balls can be collected in a shorter time. Besides, even when there is an obstacle such as a minute convex or concave and a speck of dust, the lottery balls can be restrained from getting stuck there, so that the next game can

be started smoothly. Furthermore, the ball delivery device delivers the lottery balls toward the conveyance start position, which can restrain the lottery balls from returning to the discharge path side.

[0014] According to the invention, in the gaming machine that determines the game result based on the entrance of the lottery balls into the lottery holes, the ball delivery device disposed in the collection path for guiding the lottery balls of the lottery holes to the conveyance start position of the lifting device. The lottery balls are thus delivered more positively through the collection path, so that the lottery balls can be collected in a shorter time.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] 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:

[0016] **FIG. 1** is a perspective view showing the outline of a gaming machine according to an embodiment of the invention;

[0017] **FIG. 2** is a longitudinal sectional view showing the outline of a lottery machine according to the embodiment of the invention;

[0018] **FIG. 3** is a top view of a lottery ball receiving portion according to the embodiment of the invention;

[0019] **FIG. 4** is a top view of the lottery machine according to the embodiment of the invention;

[0020] **FIG. 5** is a perspective view of lottery wheels according to the embodiment of the invention;

[0021] **FIG. 6** is a perspective view showing a discharge path and a collection path according to the embodiment of the invention;

[0022] **FIG. 7** is a perspective view showing an open/close shutter according to the embodiment of the invention;

[0023] **FIG. 8** is a sectional view showing how the open/close shutter is disposed according to the embodiment of the invention;

[0024] **FIG. 9** is a perspective view showing the structures of the discharge path, the collection path, and a ball delivery device according to the embodiment of the invention;

[0025] **FIG. 10** is a sectional view schematically showing how the ball delivery device operates according to the embodiment of the invention;

[0026] **FIG. 11** is a sectional view schematically showing the ball delivery device according to the embodiment of the invention;

[0027] **FIGS. 12A** to **12G** are longitudinal sectional views showing the collection path in the vicinity of an open/close gate;

[0028] **FIG. 13** is a perspective view showing an operation portion of a gaming terminal according to the embodiment of the invention;

[0029] **FIG. 14** is a view showing the system structure of the gaming machine according to the embodiment of the invention;

[0030] **FIG. 15** is a view showing the electrical configuration of the lottery machine according to the embodiment of the invention;

[0031] **FIG. 16** is a view showing the electrical configuration of the gaming terminal according to the embodiment of the invention;

[0032] **FIG. 17** is an example of a standby screen of the gaming terminal, displayed on a display screen of the gaming terminal according to the embodiment of the invention;

[0033] **FIG. 18** is an example of a screen of the gaming terminal after game entry, displayed on the display screen of the gaming terminal according to the embodiment of the invention;

[0034] **FIG. 19** is an example of a screen of the gaming terminal during a game, displayed on the display screen of the gaming terminal according to the embodiment of the invention;

[0035] **FIGS. 20A** to **20D** are examples of a transition of a reach state individual display screen displayed on the display screen of the gaming terminal according to the embodiment of the invention;

[0036] **FIG. 21** is an example of a double-up game screen of the gaming terminal, displayed on the display screen of the gaming terminal according to the embodiment of the invention;

[0037] **FIG. 22** is main flowcharts of processes in main control circuits of the lottery machine and gaming terminal, respectively, according to the embodiment of the invention;

[0038] **FIG. 23** is a flowchart followed by **FIG. 22**;

[0039] **FIG. 24** is a flowchart of a bingo box moving operation inactivation process;

[0040] **FIG. 25** is a flowchart of a prize winning determination process;

[0041] **FIG. 26** is a flowchart of a reach determination process;

[0042] **FIG. 27** is a flowchart of a reach box notification start process; and

[0043] **FIG. 28** is a flowchart of a game preparation process.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0044] An example of embodiments of the invention will be described with reference to drawings.

[0045] While a gaming machine **310** of this embodiment is a gaming machine to be played by using a game medium such as a card storing information on a game value given to or to be given to a player as well as a coin, medal, lottery ball or token, a medal is used in the description below.

[0046] Configuration of Gaming Machine

[0047] **FIG. 1** is a perspective view showing a schematic appearance of a gaming machine in this embodiment.

[0048] The gaming machine **310** includes a lottery machine **312** and a plurality of gaming terminals **314**. The

gaming machine **310** can simultaneously provide a game to a plurality of players through the plurality of gaming terminals **314**A to **314**J.

[**0049**] The lottery machine **312** mainly includes a cabinet **313** having a form imitating a ship and is placed at the center of the gaming machine **310**. Furthermore, two lottery wheels **338** and **339** are placed at the center of the lottery machine **312**. These two lottery wheels **338** and **339** have 52 lottery holes **340** and **341** in total (see **FIG. 4**). These plural lottery holes **340** and **341** are associated with indicias, which are combinations of first signs including spades, clubs, hearts and diamonds, and second signs including numbers from 2 to 10 and letters A, J, Q and K. The indicia is used for determining a lottery result. In other words, indicias for determining lottery results are associated with the plurality of lottery holes **340** and **341** in the lottery wheels **338** and **339**, respectively. A lottery is performed in accordance with one of the plurality of lottery holes **340** and **341** to which a lottery ball enters, and the game result is determined. Two struts **354**A and **354**B compared to masts of a ship extend upward from the respective centers of the lottery wheels **338** and **339**. Metallic horizontal bars **355**A to **355**H are attached to the struts **354**A and **354**B, respectively, substantially orthogonally to each other with metallic latches so as to become parts of the masts of the ship, which are decorations of the lottery machine. An rocking device **346** (see **FIG. 2**) including a motor is placed in the lottery machine **312** so that the cabinet **313** can be rocked to move a stem **312**A and a stern **312**B vertically. In other words, the rocking device **346** rocks the cabinet **313**. Notably, the incline has an angle of about 8 degree vertically with respect to the horizontal plane in this embodiment but is not limited thereto. Furthermore, while the oscillating operation takes about 12 seconds from the state that the stem **312**A is positioned above at an angle of about 8 degree with respect to the horizontal plane to the state that the stem **312**A is positioned below at an angle of about 8 degrees with respect to the horizontal plane, the time is not limited thereto. Preferably, the oscillating operation takes about 8 seconds to about 16 seconds. More specifically, the cycle of the rocking can be controlled by a main control circuit **400**, which will be described later, and may be defined to be adjustable by, for example, a manager of the game arcade. Furthermore, since the ship-shaped cabinet **313** is used, which can be rocked, in this embodiment, a visual effect can be given to players, which can therefore enhance the amusingness.

[**0050**] A plurality of gaming terminals **314**A to **314**J are placed on both sides of the lottery machine **312**. In this embodiment, **10** gaming terminals **314** to **314**J are provided. The plurality of gaming terminals **314**A to **314**J have medal payout ports **382**A to **382**J. **FIG. 1** does not show the gaming terminals **314**F to **314**H and medal payout ports **382**F to **382**J, which are hidden by the lottery machine **312**.

[**0051**] While, in this embodiment, the ten gaming terminals **314**A to **314**J are provided as the plurality of gaming terminals, the invention is not limited thereto, but other forms may be adopted. For example, different gaming terminals rather than ten gaming terminals may be provided or one gaming terminal may be provided.

[**0052**] Configuration of Lottery Machine

[**0053**] **FIG. 2** is a longitudinal sectional view showing a schematic appearance of the lottery machine **312** in this embodiment.

[**0054**] As an example of an lifting device, a screw conveyer **320** is placed in the stern **312**B of the lottery machine **312**. The screw conveyer **320** is an apparatus for conveying a lottery ball used for a lottery upward with respect to the lottery wheels **338** and **339** through the internal part of the lottery machine **312**. While the lottery ball in this embodiment has a diameter of about 60 mm, other forms may be adopted therefor. For example, the lottery ball may have a diameter equal to, larger than or smaller than about 60 mm. Furthermore, the lottery ball is preferably made of a material not allowing infrared ray to pass through or is preferably processed so as not to allow infrared ray to pass through such that the lottery ball can be easily detected by different kinds of sensors such as an optical sensor.

[**0055**] The screw conveyer **320** includes a spiral body **320**A, a supporting plate **320**B and a lottery ball lifting motor **320**C. The spiral body **320**A extends upward from a conveyance start position **320**D at a predetermined angle of inclination. The supporting plate **320**B extends along the spiral body **320**A. The lottery ball lifting motor **320**C rotates the spiral body **320**A. The spiral body **320**A has a helical groove having a radius of curvature larger than a radius of the lottery ball. Driving the lottery ball lifting motor **320**C rotates the spiral body **320**A, and a lottery ball is conveyed to the upper part with the lottery ball retained between the helical groove in the spiral body **320**A and the supporting plate **320**B. The screw conveyer **320** conveys the lottery ball **302** to be conveyed in a manner that the lottery ball **302** can be visually checked.

[**0056**] One end of a lottery ball guide portion **324** is provided at the upper end of the screw conveyer **320**. The lottery ball guide portion **324** has a guide path (not shown). The lottery ball guide portion **324** guides a lottery ball conveyed by the screw conveyer **320** through the guide path.

[**0057**] Besides, a lottery ball holding portion **332** is disposed in an upper portion of the lottery machine **312**. This lottery ball holding portion **332** is formed from a resin having transparency so as to be made visible from the players, etc. Consequently, the remaining number of lottery balls can be clearly shown to the players. This lottery ball holding portion **332** has an upwardly opening shape and holds the lottery balls guided thereto from the lottery ball guide portion **324**. Besides, an opening (not shown) for passing one lottery ball therethrough is formed in the bottom surface of the lottery ball holding portion **332**.

[**0058**] A rotary body **328** is provided below the lottery ball holding portion **332**. The rotary body **328** is cylindrical and is an example of a dropping portion. The rotary body **328** has a function of closing the opening in the bottom surface of the lottery ball holding portion **332**. Thus, the state that a lottery ball is held in the lottery ball holding portion **332** can be maintained.

[**0059**] The rotary body **328** has a holding hole (not shown) for holding one lottery ball. A drive portion (not shown) including a rotation motor **326** (see **FIG. 15**) is provided at the edge of the rotary body **328**. Driving the drive portion rotates the rotary body **328**. Rotating the rotary body **328** opens the holding hole to the above so that one lottery ball held in the lottery ball holding portion **332** can be dropped to the holding hole through the opening. Furthermore, rotating the rotary body **328** closes the opening in the lottery ball holding portion **332** and holds one lottery ball

in the holding hole. Furthermore, rotating the rotary body **328** closes the opening in the lottery ball holding portion **332** and opens the holding hole to the bottom so that one lottery ball held in the holding hole can be dropped downward. Thus, one lottery ball held in the lottery ball holding portion **332** can be extracted and dropped downward. In other words, the rotary body **328** has a function of dropping a lottery ball having been conveyed by the screw conveyer **320** from the upper part to plane portions **338**A and **339**A. The rotary body **328** is made of a transparent resin such that a lottery ball held in the holding hole can be visually checked by players. Thus, the developments of a game can be clearly shown to players.

[**0060**] A transparent lottery ball receiving portion **334** is provided below the rotary body **328**. The lottery ball receiving portion **334** receives a lottery ball dropped from the holding hole of the rotary body thereabove. Thus, a lottery ball having been dropped from the holding hole of the rotary body **328** is held in the lottery ball receiving portion **334** with the lottery ball visually checkable by players. The lottery ball receiving portion **334** has notches **334**C and **334**D (see **FIG. 4**) through which a received lottery ball can be dropped to one of the lottery wheels **338** and **339**. Since the lottery machine **312** has a function of oscillating, a lottery ball held in the lottery ball receiving portion **334** is guided to one of the two lottery wheels **338** and **339** in accordance with the angle of inclination thereof.

[**0061**] Slopes **336**A and **336**B having input paths allowing lottery balls to pass through are provided to the notches **334**C and **334**D (see **FIG. 3**) of the lottery ball receiving portion **334**. These slopes **336**A and **336**B are used for dropping a lottery ball held in the lottery ball receiving portion **334** to one of the lottery wheels **338** and **339**. The slopes **336**A and **336**B are made of a transparent resin. Thus, lottery balls passing through the slopes **336**A and **336**B can be visually checked by players. In this way, the above-described screw conveyer **320**, rotary body **328**, slopes **336**A and **336**B and so on can drop lottery balls having been discharged from the plurality of lottery holes **340** and **341** to the lottery wheels **338** and **339** through a collection path **350** as described later.

[**0062**] The two lottery wheels **338** and **339** are placed at the lower ends of the slopes **336**A and **336**B. These lottery wheels **338** and **339** have plane portions **338**A and **339**A, respectively, having surfaces horizontal to the cabinet **313**. Lottery balls can roll on the plane portions **338**A and **339**A. In other words, the lottery wheels **338** and **339** have plane portions **338**A and **339**A, respectively, on which lottery balls can roll and have the plurality of lottery holes **340** and **341** in the upper surface of the plane portions **338**A and **339**A. Furthermore, these two lottery wheels **338** and **339** can rotate horizontally with respect to the upper surfaces of the plane portions **338**A and **339**A.

[**0063**] The upper surfaces of these plane portions **338**A and **339**A have the plurality of lottery holes **340** and **341** each for holding one lottery ball. These plural lottery holes **340** and **341** are deep enough for one lottery ball to project about 2/5. Thus, lottery balls having entered to these plural lottery holes **340** and **341** are held in a manner that players can visually check the lottery balls. Furthermore, subsequently dropped lottery balls come into collision with the lottery balls held in the plurality of lottery holes **340** and **341** and change the direction of rolling. As described later, the lottery balls having entered to the lottery holes **340** and **341** move in response to rotations of lottery wheels **338** and **339** with the lottery balls held in the lottery holes **340** and **341** until the end of one game.

[**0064**] Open/close shutters **344** (**344**A and **344**S) are provided below the lottery wheels **338** and **339** at positions through which the lottery holes **340** and **341** pass in response to the rotation of the lottery wheels **338** and **339**. While a game is being played, the open/close shutter s **344**A and **344**B are controlled to close, and the lottery wheels **338** and **339** hold lottery balls in the lottery holes **340** and **341**. After the game ends, the open/close shutters **344**A and **344**B are controlled to open, and the lottery balls in the plurality of lottery holes **340** and **341** are discharged through an discharge path **347**A and **337**B.

[**0065**] As shown in **FIG. 8**, ball entrance detection sensors **349** (ball entrance detection sensors **349**A and **349**B in **FIG. 7**) are provided in the lottery holes **340** and **341**. Each of the ball entrance detection sensors **349** detects that a lottery ball enters to one of the plurality of lottery holes. On the condition that a lottery ball enters to one of the plurality of lottery holes **340** and **341** in the lottery wheels **338** and **339**, indicia is selected in accordance with the lottery hole to which the lottery ball has entered, and a game result thereof is determined based on the selected indicia. In other words, on the condition that a lottery ball has entered to one of the plurality of lottery holes **340** and **341**, the game result is determined based on the indicia associated with one of the plurality of lottery holes **340** and **341** to which the lottery ball has entered. While, in this embodiment, one ball entrance detection sensor **349** is provided in each of the plurality of lottery holes **340** and **341**, other forms may be adopted. For example, a plurality of ball entrance detection sensors may be provided for each of plural lottery holes such that the fact that a lottery ball has entered thereto can be immediately detected. Furthermore, in order to reduce works in a producing process therefor and to reduce costs, an ball entrance detection sensor may not be provided in each of the plurality of lottery holes. In other words, two ball entrance detection sensors may be used to detect that lottery balls have entered to plural lottery holes. For example, a fixed sensor may be provided below a lottery wheel so that a lottery hole to which a lottery ball has entered can be located based on a rotating position of the lottery wheel when the lottery wheel rotates and the sensor detects that the lottery ball passes.

[**0066**] The discharge paths **347**A and **347**B extending downward from the positions of the open/close shutters **344**A and **344**B are provided below the lottery wheels **338** and **339**. When the lottery wheels **338** and **339** rotate with the open/close shutters **344**A and **344**B closed, the discharge paths **347**A and **347**B guide the lottery balls falling one after another from the lottery holes **340** and **341** and discharge them downward.

[**0067**] The collection path **350** is provided below the discharge paths **347**A and **347**B. The lottery balls discharged from the discharge paths **347**A and **347**B fall further and enter the collection path **350**. The collection path **350** continues to the conveyance start position of the lifting device, and the lottery balls roll inside the collection path **350** while being guided toward the conveyance start posi-

tion. Here, ball delivery devices **354**A and **354**B for delivering the lottery balls toward the conveyance start position are disposed at the positions of the collection path **350** opposite the discharge paths. The ball delivery devices **354**A and **354**B cause the lottery balls to move at a high speed through the collection path. This shortens the time required to collect the lottery balls. Besides, even when the collection path **350** has an obstacle such as a minute convex or concave and a speck of dust, the lottery balls can be prevented from getting stuck there. Furthermore, the lottery balls are delivered by the ball delivery devices **354**A and **354**B toward the conveyance start position, which therefore reduces the frequency in which the lottery balls return to the discharge path side.

[**0068**] An open/close gate **352** is disposed in the collection path **350**. This open/close gate **352** is controlled so as to be freely openable and closeable. Consequently, when the open/close gate **352** comes into an open state, it provides the state where the lottery balls can pass between the collection path **350** and the conveyance start position **320**D located at the lower end of the spiral body **320**A. On the contrary, when the open/close gate **352** comes into a closed state, it provides the state where the lottery balls cannot pass between the collection path **350** and the lower end of the spiral body **320**A. Thus, the lottery machine **312** is rocked so that the stern **312**B side becomes lower than the stem **312**A side, and the open/close gate **352** is controlled into the open state. Thereby, the lottery balls held in the collection path **350** are led out to the lower end of the spiral body **320**A. 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 **320**A from returning to the collection path **350**, and furthermore preventing the lottery balls held in the collection path **350** from being led out to the lower end of the spiral body **320**A.

[**0069**] A lottery ball passing detection sensor **351** is disposed between the open/close gate **352** and the lower end of the spiral body **320**A. This lottery ball passing detection sensor **351** is intended for detecting the number of lottery balls led out to the lower end of the spiral body **320**A from the collection path **350** via the open/close gate **352**. Accordingly, the lottery machine **312** is inclined so that the stern **312**B side becomes lower than the stem **312**A 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 states so that the predetermined number of lottery balls are led out to the lower end of the spiral body **320**A. Besides, after the predetermined number of lottery balls are led out to the lower end of the spiral body **320**A, these lottery balls do not return to the collection path **350**.

[**0070**] Besides, the lottery machine **312**, provided with the rocking device **346**, is rockable and inclinable about a rocking shaft **348**.

[**0071**] A dot LED display device **327** is provided above the lottery ball holding portion **332**. The dot LED display device **327** includes a plurality of LEDs. The dot LED display device **327** displays a round number in a game. A START lamp **329** is provided at the center of the lottery machine **312**. The START lamp **329** contains a lamp lighting up when a lottery ball drops down from the holding hole of the rotary body **328** to the lottery ball receiving portion **334**. In response to the lighting-up of the contained lamp, the word, START, is displayed so that players can visually check it. Furthermore, the gaming machine **310** includes a plurality of illumination apparatus (not shown) so that the ship-shaped lottery machine **312** can be lighted up in various colors and various effects can be given in response to rocking operations.

[**0072**] Lottery Ball Receiving Portion

[**0073**] **FIG. 3** is a top view showing the lottery receiving portion **334** and slopes **336**A and **336**B. The lottery ball receiving portion **334** has a recessed portion **334**A. The recessed portion **334**A receives lottery balls dropping from the holding holes of the rotary body **328**. A side **334**B of the lottery ball receiving portion **334** has two notches **334**C and **334**D. Thus, the lottery ball received by the recessed portion **334**A rolls from one of the two notches **334**C and **334**D to the outside of the recessed portion **334**A in response to the rocking of the lottery machine **312**.

[**0074**] The upper ends of the slopes **336**A and **336**B are connected to these notches **334**C and **334**D. Furthermore, the lower ends of the slopes **336**A and **336**B are placed above the lottery wheels **338** and **339**, respectively, as described above. Thus, these slopes **336**A and **336**B receive lottery balls rolled from the notches **334**C and **334**D of the above-described lottery ball receiving portion **334** to the outside of the lottery ball receiving portion **334** and are then guided to one of the lottery wheels **338** and **339**. Each of these slopes **336**A and **336**B is placed such that lottery balls can be dropped in the same direction as the direction of rotation of each of the lottery wheels **338** and **339**. While, in this embodiment, the slope **336**A and **336** have a straight form, they do not have to have a straight form but may have a curve, for example.

[**0075**] Lottery Wheels

[**0076**] **FIG. 4** is a top view showing the lottery machine **312** and lottery wheels **338** and **339**. Since the lottery wheel **339** has a similar configuration to that of the lottery wheel **338**, the description will be omitted herein. As shown in **FIG. 9**, the lottery machine **312** includes the two lottery wheels **338** and **339** as described above. Since the two lottery wheels **338** and **339** can have the plurality of lottery holes **340** and **341**, the installed space in a place of amusingness can be used more effectively without requiring a wasteful space required for many lottery holes than the space having one lottery wheel, for example. Thus, the lottery wheels can have many lottery holes, which can increase amusingness such as providing a variety of dividends.

[**0077**] Conventionally, for example, 52 lottery balls are required in a gaming machine configured such that a lottery ball is drawn from a plurality of the lottery balls assigned with the indicias, thereby determining the game result based on the indicia of the lottery ball drawn. With such a configuration, it is not easy to let the game go on while making the players distinguish their desired lottery balls from many lottery balls, which results in the omission of the process leading to the result of lottery ball drawing. Thus, it is likely to impair the gaming property providing impatience and expectation which is the spice of a bingo game or the like and thus damp interest in the game. On the contrary, in

such a roulette wheel-type gaming machine as that of this embodiment, 52 lottery holes or more are required in order to realize a bingo game using poker. Particularly, when one lottery wheel is used, the lottery wheel increases in size. Consequently, not only is the space of the gaming hall wasted, but the lottery wheel is also difficult to make visible, which is likely to damp interest in the game.

[0078] Thereupon, the wasted space for lottery wheel installation can be omitted by using two lottery wheels. Given below is a specific example configured to use one circular lottery wheel and two circular lottery wheels. The total circumference of the two circular lottery wheels used is made equal to that of the one circular lottery wheel used, thereby enabling substantially the same number of lottery holes to be provided both in the two circular lottery wheels and in the one circular lottery wheel. However, the radius of a lottery wheel in case of using the two circular lottery wheels becomes one half that in case of using the one circular lottery wheel. Consequently, the area of a lottery wheel decreases when the two circular lottery wheels are used. By thus using a plurality of lottery wheels, interest in the game can be prevented from being damped without wasting the space of the gaming hall. Furthermore, a plurality of lottery holes are provided along a plurality of circumferences, which can prevent interest in the game from being damped without wasting the space of the gaming hall.

[0079] The lottery wheels **338** and **339** are circular in the top view. These lottery wheels **338** and **339** are rotatably provided at positions on the deck of the cabinet **313** having a form in imitation of a ship. The standard rotational speed of the lottery wheel **338** is a speed at which one rotation takes 8 to 12 seconds but can be controlled by a main control circuit **400**, which will be described later. For example, the rotational speed can be adjusted in the range of 5 to 12 seconds per rotation. While, in this embodiment, the lottery wheels **338** and **339** are rotated by lottery wheel rotation motors **335** and **337** (see **FIG. 15**) positioned at the respective center thereof, other forms can be adopted. For example, power for rotation can be conducted from other parts such as outer peripheries and bottom surfaces thereof. The lottery wheels **338** and **339** have the plane portions **338**A and **339**A, which allows rolling of lottery balls. Furthermore, the lottery wheels **338** and **339** rotate in the same directions (see arrows B**1** and B**2**) as the directions (see arrows A**1** and A**2**) in which lottery balls are dropped from the slopes **336**A and **336**B. More specifically, the lottery wheel **338** rotates clockwise, and the slope **336**A is disposed in the clockwise direction as shown in **FIG. 5**. Thus, when lottery balls roll on the lottery wheels **338** and **339**, the speed does not rapidly decrease. Therefore, the possibility is low that a lottery ball enters to one of the plurality of lottery holes **340** and **341** in an extremely short period of time. Furthermore, the rotation of the lottery wheels **338** and **339** allows lotteries to be performed without any change in speed of lottery balls sequentially dropped from the slopes **336**A and **336**B. When the lottery wheels **338** and **339** do not rotate, that is, the positions of the lottery holes **340** and **341** are not changed, an uneven game can be achieved in which a lottery ball dropped at a predetermined speed can easily or hardly enter a specific one of the plurality of lottery holes **340** and **341**. The rotation of the lottery wheels **338** and **339** can prevent uneven lotteries.

[0080] A connection table **390** is provided between the two lottery wheels **338** and **339**. The connection table **390** has a surface horizontal to the plane portions **338**A and **339**A of the lottery wheels **338** and **339**. Thus, a lottery ball can roll between the lottery wheels **338** and **339**. Furthermore, in response to the inclining (rocking) of the cabinet **313**, a lottery ball rolls across the plurality of lottery wheels **338** and **339**.

[0081] Guide portions **392** and **394** are provided between the lottery wheels **338** and **339**. These guide portions **392** and **394** are provided at positions sandwiching the connection table **390** along the outer peripheries of the lottery wheels **338** and **339**. These guide portions **392** and **394** are hither than the plane portions **338**A and **339**A of the lottery wheels **338** and **339** and have a convex form. Lottery balls come into collision with the guide portion **392** and **394** so that the orbits of the lottery balls can be guided.

[0082] 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** are higher than the plane portions **338**A and **339**A of the lottery wheels **338** and **339** and have a convex form. In other words, the bank portions **396** and **398** higher than the top surface of the plane portions **338**A and **339**A are provided along the outer peripheries of these plane portions **338**A and **339**A. Thus, even when lottery balls dropped from the slopes **336**A and **336**B to the lottery wheels **338** and **339** roll to the outside of the lottery wheels **338** and **339**, the lottery balls run onto the bank portions **396** and **398** and roll on the lottery wheels **338** and **339** again. Furthermore, since the orbits of lottery balls returning from the bank portions **396** and **398** are changed by momentum and/or directions of the lottery balls running onto the bank portions **396** and **398**, an unpredictable game can be provided to players, which can enhance amusingness of the game. Furthermore, when lottery balls having run onto the bank portions **396** and **398** roll on the lottery wheels **338** and **339**, the speed does not significantly decrease. Thus, when the lottery balls having run onto the bank portions **396** and **398** roll onto the lottery wheels **338** and **339**, the speed does not significantly decrease. Therefore, the possibility is low that a lottery ball enters to one of the plurality of lottery holes **340** and **341** in an extremely short period of time, and a lottery ball enters to one of the plurality of lottery holes **340** and **341** in about 10 to 30 seconds.

[0083] Furthermore, the lottery wheels **338** and **339** rotate in the opposite directions as indicated by the arrows B**1** and B**2**. Thus, lottery balls having dropped to the lottery wheel **338** roll from the lottery wheel **338** to the lottery wheel **339** through the connection table **390** conversely, lottery balls having dropped to the lottery wheel **339** rolls from the lottery wheel **339** to the lottery wheel **338** through the connection table **390**. Thus, lottery balls roll between the lottery wheels **338** and **339**. Furthermore, since the rocking device **346** is provided in the lottery machine **312**, the cabinet **313** of the lottery machine **312** is rocked thereby. Then, for example, lottery balls are rolled in infinity orbit between the lottery wheels **338** and **339**. Thus, an unpredictable and innovative game can be provided to players, which can enhance amusingness of the game. Notably, the lottery wheels **338** and **339**, connection table **390**, guide portions **392** and **394** and bank portions **396** and **398** are

enclosed by a fence made of a transparent resin so that no lottery balls can roll to the outside of the fence.

[0084] These lottery wheels **338** and **339** have 26 lottery holes **340** and 26 lottery holes **341**, respectively. As shown in **FIG. 5**, indicias including spades and hearts as first signs are assigned to the plurality of lottery holes **340** in the lottery wheel **338**. More specifically, A, **2** to **10**, J, Q and K of spades and A, 2 to 10, J, Q and K of hearts are assigned to the plurality of lottery holes **340** in the lottery wheel **338**. On the other hand, indicias including clubs and diamonds as first signs are assigned to the plurality of lottery holes **341** in the lottery wheel **339**. More specifically, A, 2 to 10, J, Q and K of clubs and A, 2 to 10, J, Q and K of diamonds are assigned to the plurality of lottery holes **341** in the lottery wheel **339**. In other words, a position where a lottery ball is rolling is visually checked for matching some of the plurality of signs so that the indicia desired by a player can be easily recognized. Thus, haste and expectations of the player can be more raised and amusingness of the game can be enhanced. For example, while a lottery ball is rolling on the lottery ball **338**, the fact that the first sign is spades or hearts can be easily recognized. While a lottery ball is rolling on the lottery ball **339**, the fact that the first sign is clubs or diamonds can be easily recognized. In other words, on the two lottery wheels **338** and **339**, indicias some of first signs of which match are assigned to the plurality of lottery holes **340** and **341** in the two lottery wheels **338** and **339**. Thus, a position where a lottery ball is rolling is visually checked for matching some of the plurality of signs so that the indicia desired by a player can be easily recognized. Therefore, haste and expectations can be more raised and amusingness of the game can be enhanced.

[0085] Discharge Path and Collection Path

[0086] **FIG. 6** is a perspective view showing the discharge paths **347**A and **347**B and the collection path **350**. **FIG. 6** shows the positional relationship of the lottery wheels **338** and **339** and the screw conveyor **320** with respect to these paths. Therefore, **FIG. 6** also shows the lottery wheels **338** and **339** and the screw conveyor **320** in combination therewith.

[0087] Below the lottery wheels **338** and **339**, the respective discharge paths **347**A and **347**B are each transversely disposed on (under) the circumferences of two concentric circles along which the lottery holes **340**, **341** are arranged. The open/close shutters **344**A and **344**B (see **FIG. 7**) are provided in upper end portions within the discharge paths **347**A and **347**B, respectively

[0088] The collection path **350** is provided below the discharge paths **347**A and **347**B. The collection path **350** is a gutter-like path obtained by forming a metal plate to shape, and the bottom surface thereof is preferably a smooth-faced flat plate. The collection path **350** extends with a portion thereof below the discharge path **347**A as one end, passing through the portion below the discharge path **347**A and then rounding a bend, down to the other end that is the conveyance start position **320**D of the screw conveyor **320**. The ball delivery devices **354**A and **354**B are provided at the positions of the collection path **350** opposite the discharge paths **347**A and **347**B, i.e., at the positions below the discharge paths **347**A and **347**B. Additionally, the discharge paths **347**A and **347**B and the collection path **350** are fixed to the cabinet **313** together with the lottery wheels **338** and **339** and the screw conveyor **320**, and incline as the cabinet **313** inclines.

[0089] Open/Close Shutter

[0090] **FIG. 7** is a perspective view showing the open/close shutter **344**A, wherein, since having the same structure, the open/close shutter **344**B is not illustrated. The open/close shutter **344**A is a disklike plate having two notches at opposed positions. The rotating shaft of a motor **345** that is a stepping motor is connected to the center of the disklike plate. The open/close shutter **344**A is rotatably driven by the motor **345** and changes alternately into the open state and the closed state for each 90-degree rotation.

[0091] **FIG. 8** is a sectional view showing the structure of the open/close shutter **344**A disposed in the lottery machine **312**. Additionally, since showing the movement of the lottery ball, the sectional view shows a section taken along the outer circumference arranged with the lottery holes of the lottery wheel **338**.

[0092] While the lottery wheel **338** is provided above the cabinet **313**, a part of the cabinet **313** under the lottery wheel **338** has a circular hole **313**A, and the open/close shutter **344**A is provided in the hole. When a draw is being made, the open/close shutter **344**A is closed. A lottery ball having dropped to a lottery hole is supported by the cabinet **313** and open/close shutter **344**A so as to be retained not to fall any further. Once the game ends and the open/close shutter **344**A is rotationally driven by 90 degrees by the motor **345**, the two notches of the open/close shutter **344**A are positioned under the outer circumference and inner circumference having lottery holes (the state shown in **FIG. 8**). When the lottery wheel **338** rotates under this state, a lottery ball having passed above the open/close shutter **344**A further passes through the notches of the open/close shutter **344**A and falls to the discharge path **347**A. Thus, the lottery balls retained in the plurality of lottery holes **340** of the lottery wheel **338** are all discharged from the discharge path **347**A as a result of one rotation of the lottery wheel **338**. Then, the lottery balls enter the collection path **350** below the discharge path **347**A. When all of the lottery balls have been discharged, the open/close shutter **344**A is rotationally driven by 90 degrees again by the motor **345** and is closed. Since an discharging mechanism does not have to be provided to each of all of the lottery holes **340** but one centralized discharging mechanism can be provided because of this configuration, the mechanism can be simplified and the costs for producing the gaming machine can be reduced. The number of lottery balls (number of balls) discharged from the discharge path **347**A in each unit time depends on the speed of rotation of the lottery wheel **338**. As the speed of rotation of the lottery wheel **338** increased, the number of lottery balls to be discharged in each unit time increases.

[0093] Ball Delivery Device

[0094] **FIG. 9** is a perspective view showing the configuration of the discharge path **347**A, collection path **350**, and ball delivery device **354** (**354**A, **354**B) as seen from below.

[0095] The ball delivery device **354**A is disposed opposite to the collection path **350**, and the collection path **350** is disposed opposite to the discharge path **347**A. Specifically, the ball delivery device **354**A includes a motor **356**, a ball delivery rod **357**, and a ball delivery rod hole **358** provided

in the collection path **350**, the ball delivery rod **357** and the ball delivery rod hole **358** are provided on the collection path **350**. The ball delivery rod hole **358** is disposed opposite to the discharge path **347**A. The ball delivery rod **357** is a rod made of a metal bar, whose center is attached, at right angles, to the rotating shaft of the motor **356**. The ball delivery rod **357** is rotatably driven by the motor **356** so that both ends of the ball delivery rod **357** move in a circular pattern. When the ball delivery rod **357** rotates, a portion thereof having a predetermined length from either end protrudes from the ball delivery rod hole **358** to the collection path **350**.

[**0096**] **FIG. 10** is a sectional view schematically showing how the ball delivery device **354**A delivers the lottery balls in the collection path **350**. The ball delivery rod **357** is driven by the motor **356**, so that the ball delivery rod **357** protruding from the ball delivery rod hole **358** rotates in the direction in which the lottery balls move toward the screw conveyor **320**. On this occasion, then the collection path **350** has therein any lottery ball in the range where the ball delivery rod **357** protrudes from the ball delivery rod hole **358** to the collection path **358**, the lottery ball is pushed out and accelerated as being flicked to the ball delivery rod hole **358**, and thus moves toward the screw conveyor **320** through the collection path **350**.

[**0097**] Since being thus accelerated and moving at a high speed through the collection path, the lottery balls quickly reach the conveyance start position **320**D of the screw conveyor **320**. Thereby, after the game ends, the lottery balls can be collected in a shorter time to complete preparation for the start of the next game. Besides, even when the collection path **350** has an obstacle such as a minute convex or concave and a speck of dust, the lottery balls can be prevented from getting stuck there, so that the game can be provided smoothly. In the gaming machine of this embodiment, the cabinet is inclined by the rocking device **346**, along with which the collection path **350** is also inclined to move the lottery balls therewithin. However, such an inclination is essentially intended for giving variety to the way that the lottery balls enter the lottery holes **340**, **341** at the game. And, conventionally, a long time is sometimes required in order to move the lottery balls within the collection path **350**. The ball delivery device **354**A for delivering the lottery balls is provided as described in this embodiment which can shorten the time required to move, i.e., collect the lottery balls.

[**0098**] Additionally, it is preferred that the speed at which the ball delivery rod **357** rotates is properly adjusted in response to the distance of the collection path **350** and the mass of the lottery balls, depending upon the selection of the motor **356** or the voltage applied to the motor **356**. Besides, since the lottery balls are accelerated at an early stage and collected in a shorter time, it is preferred that the position at which the ball delivery rod **357** protrudes from the ball delivery rod hole **358** falls in a position opposite the discharge path **347**A. In order to prevent the problem that the lottery balls stick into the ball delivery rod hole **358**, thus increasing the resistance to the delivery, preferably, the width of the ball delivery rod hole **358** is set to be narrow so as not to impede the rotation of the ball delivery rod **357**, more preferably, to be twice or less the width of the ball delivery rod **357**. Otherwise, more desirably, the distance between either one wall of the collection path **350** and an edge positioned further away from the one wall out of the longitudinal edges of the ball delivery rod hole **358** is smaller than the radius of the lottery balls (see **FIG. 11**). This can prevent the lottery balls from sticking into the ball delivery rod hole **358**. Further, the length of the ball delivery rod **357** is a preferably a little shorter than the radius of the lottery balls or may be shorter than the diameter of the lottery balls. Further, more preferably, the shape of the ball delivery rod **357** is a circular cylinder. Further, more preferably, the ball delivery rod **357** may rotate in the direction contrary to the direction that the lottery balls move toward the screw conveyor **320**. Further, more preferably, the ball delivery rod **357** is two as shown in **FIG. 10**, in order to prevent a jam of the lottery balls.

[**0099**] Open/Close Gate

[**0100**] **FIGS. 12A** to **12**G are longitudinal sectional views showing the collection path **350** in the vicinity of the open/close gate **352**.

[**0101**] After one game ends, the lottery balls **302** enter the collection path **350** from the discharge paths **347**A and **347**B and are delivered by the ball delivery device **354**A. After the elapse of a predetermined time, as shown in **FIG. 12A**, these lottery balls **302** are then accumulated on the discharge path side of the collection path **350** in the vicinity of the open/close gate **352**. The cabinet **313** is inclined by the rocking device **346** with the lottery balls **302** held in the aforesaid collection path **350** as shown in **FIG. 12A**. In this case, as shown in FIG. **12**B, since the open/close gate **352** provided in the collection path **350** is in the closed state, the lottery balls **302** are held in the collection path **350** so as to be positioned on the open/close gate **352** side. Then, as shown in **FIG. 12C**, the open/close gate **352** is controlled into the open state, whereby the lottery balls **302** positioned in the collection path **350** roll toward a lower portion of the spiral body **320**A. That is, the cabinet **313** is inclined, and the lottery balls **302** positioned in the 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 **320**A, the lottery ball passing detection sensor **351** detects the number of lottery balls **302** rolling toward the lower portion of the spiral body **320**A. That is, the lottery ball passing detection sensor **351** detects the number of lottery balls **302** led out to the screw conveyor **320** from the collection path **350**. In other words, the lottery ball passing detection sensor **351** detects the number of lottery balls **302** passed through the open/close gate **352**. When the number of lottery balls **302** detected by the lottery ball passing detection sensor **351** reaches a predetermined number, as shown in **FIG. 12D**, the open/close gate **352** is controlled into the closed state. Thereby, as shown in **FIG. 12E**, the predetermined number of lottery balls **302** roll toward the lower portion of the spiral body **320**A and conveyed upward by the screw conveyor **320**. That is, the lottery balls **302** are made ready to be inputted. Besides, in this state, as shown in **FIG. 12F**, the inclination of the cabinet **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 cabinet **313**. Besides, as shown in **FIG. 12F**, the lottery balls **302** that have rolled toward the lower portion of the spiral body **320**A do not return. Of course, as shown in **FIG. 12G**, even when the cabinet **313** is inclined

in the reverse direction, similarly, the lottery balls **302** that have rolled toward the lower portion of the spiral body **320**A do not return.

[**0102**] Thereby, the cabinet **313** (see **FIG. 1**) is inclined, and the lottery balls positioned in the collection path **350** are led out to the lower portion of the spiral body **320**A. Therefore, the lottery balls **302** can be reliably collected by inclining the cabinet **313**, thus enabling the gaming machine to be manufactured in a simple fashion 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.

[**0103**] Gaming Terminal

[**0104**] The gaming terminal **314**A in the gaming machine **310** will be described with reference to **FIG. 13**. **FIG. 13** is a perspective view showing an operation part of the gaming terminal **314** viewed from a player's position. Since the gaming terminals **314**B to **314**J have a configuration similar thereto, the description will be omitted herein.

[**0105**] The gaming terminal **314**A mainly includes a display device **370**A, a touch sensor **372**A (**FIG. 16**), two dials **376**A and **377**A, a medal input port **378**A and a main control circuit **500**A (**FIG. 16**).

[**0106**] The display device **370**A is provided in the upper part of the gaming terminal **341**A. A matrix card image for a bingo game assigned to a player and other information or images relating to an optional game and so on are displayed on the display device **370**A. In other words, the display device **370** includes a plurality of boxes in a plurality of rows by a plurality of columns and displays a matrix in which indicias are assigned to the respective a plurality of boxes. Furthermore, as described later, on the condition that indicia selected by the main control circuit **400** or the like agrees with one of identification pieces assigned to the respective plural boxes, the main control circuit **500**A or the like controls to activate the box corresponding to one of the identification pieces and controls to give a dividend on the condition that a result from the control for activating has a predetermined form. Under this configuration, the game is developed with various kinds of information displayed on the display device **370**A being visually checkable by a player.

[**0107**] Furthermore, a camera (not shown) for shooting entire images of the lottery wheels **338** and **339** may be provided in the lottery machine **312**. Then, by displaying a shot image on the display device **370**A, the lottery wheels **338** and **339** can be visually checked by a player even when one of the lottery wheels **338** and **339** is hard to see.

[**0108**] Furthermore, a touch panel mainly including the touch sensor **372**A is provided in the display device **370**A. Thus, at the touch of the display device **370**A, a game environment allowing inputting various data or commanding can be provided to a player.

[**0109**] While, in this embodiment, various input operations are allowed by the touch sensor **372**A, other operation forms may be adopted. For example, a plurality of operation buttons may be provided therein so that various input operation can be performed.

[**0110**] A seat portion **374**A is provided on the player side of the display device **370**A. The two dials **376**A and **377**A positioning as upper and lower layers are provided on the top surface of the seat portion **374**A. By using the dials **376**A and **377**A, a game environment, which is hard to operate only by pressing a normal operation button or touching the touch panel, can be provided to a player.

[**0111**] For example, in this embodiment, on a bingo game matrix image displayed on the display device **370**A, an indicia assigned to a bingo box in the outer periphery of the matrix image can be moved to an adjacent bingo box along the outer periphery. In the past, when a second indicia needs to be moved continuously and when only pressing a normal operation button and touching the touch panel are allowed as operations, the operations must be performed again and again, which is significantly burdensome. Accordingly, by using input devices such as the dials **376**A and **377**A, continuous operations can be performed through one action. Thus, a highly operable game can be provided to a player. Furthermore, operations can be performed very easily for analog movements such as scrolling on screens and moving a pointer thereon. Thus, a highly operable game can be provided to a player.

[**0112**] The medal input port **378**A for inserting a medal is provided on the right side of the dials **376**A and **377**A A medal sensor **380**A (see **FIG. 16**) is provided within the metal slot **378**A. The medal sensor **380**A senses that a medal has been inserted to the medal input port **378**A. Thus, when a medal is inserted to the medal input port **378**A by a player, the fact that the medal has been inserted is sensed by the medal sensor **380**A.

[**0113**] The main control circuit **500**A is placed within the seat portion **374**A and controls the above-described different devices.

[**0114**] System Configuration of Gaming Machine

[**0115**] A system configuration in the gaming machine **310** will be described with reference to **FIG. 14**.

[**0116**] As shown in **FIG. 14**, the gaming machine **310** mainly includes a lottery machine controller **360** for controlling the lottery machine **312** and the gaming terminals **314**A to **314**J.

[**0117**] The lottery machine controller **360** is communicably connected to the ten gaming terminals **314**A to **314**J. The lottery machine controller **360** can control the ten gaming terminals **314**A to **314**J by exchanging various kinds of data and signals with the **314**A to **314**J.

[**0118**] Electric Configuration of Lottery Machine

[**0119**] An electric configuration in the lottery machine **312** of the gaming machine **310** will be described with reference to **FIG. 15**.

[**0120**] As shown in **FIG. 15**, the ball entrance detection sensor **349** is connected to an interface circuit group **402** of the main control circuit **400**. When the lottery balls enter any of the plural lottery holes **340**, **341**, the ball entrance 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 central processing unit (hereinafter called the CPU) **406**.

[**0121**] Besides, the lottery ball passing detection sensor **351** is also connected to the interface circuit group **402** of the

main control circuit **400**. When a lottery ball passes 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**.

[**0122**] Furthermore, communication control circuits **414**A to **414**J are connected to the interface circuit group **402**. The communication control circuits **414**A to **414**J are used for communicably connecting the lottery machine controller **360** and the gaming terminals **314**A to **314**J.

[**0123**] A read-only memory (ROM) **408** and a random access memory (RAM) **410** are also connected to the above-described input/output bus **404**. The ROM **408** records a control program for controlling processing relating to a game in the lottery machine controller **360**. Furthermore, the ROM **408** stores initial data used for executing the control program and various programs. Furthermore, the RAM **410** stores values of flags and/or variants to be used in the above-described programs.

[**0124**] Furthermore, an interface circuit group **412** is connected to the input/output bus **404**. A lottery ball lifting motor **320**C, a rotation motor **326**, lottery wheel rotation motors **335** and **337**, a motor **345** for the open/close shutter **344**, the rocking device **346** and a reclosable gate **352** are connected to the interface circuit group **412**. Thus, the devices are controlled by the CPU **406** so that the above-described lottery machine **312** can be driven.

[**0125**] Electric Configuration of Gaming Terminal

[**0126**] An electric configuration of the gaming terminal **314**A of the gaming machine **310** will be described with reference to **FIG. 16**. Since the gaming terminals **314**B to **314**J have configurations similar thereto, the description will be omitted herein. Each of these gaming terminals functions as an apparatus for determining details of a game along with the main control circuit **400** of the lottery machine **312**.

[**0127**] As shown in **FIG. 16**, the medal sensor **380**A is connected to an interface circuit group **502**A of a main control circuit **500**A. When a medal is inserted through the medal input port **378**A by the medal sensor **380**A, a predetermined signal is supplied to an input/output bus **504**A through the interface circuit group **502**A. The input/output bus **504**A inputs/outputs data signals or address signals to a central processing unit (CPU) **506**A.

[**0128**] Furthermore, the touch sensor **372**A is also connected to the interface circuit group **502**A of the main control circuit **500**A. When the fact that a position displaying a command displayed on the display device **370**A is touched by a player is detected, the touch sensor **372**A supplies a signal corresponding to the command to the interface circuit group **502**A.

[**0129**] Furthermore, the dials **376**A and **377**A are connected to the above-described interface circuit group **502**A. When the dial **376**A or **377**A is rotated by a player, a signal corresponding to the angle of rotation is supplied to the interface circuit group **502**A.

[**0130**] Furthermore, a communication control circuit **514**A is connected to the interface circuit group **502**A. The communication control circuit **514**A is communicably connected to the lottery machine controller **360** and the gaming terminal **314**A.

[**0131**] A read-only memory (ROM) **508**A and a random access memory (RAM) **510**A are connected to the above-described input/output bus **504**A. The ROM **508**A records a control program for controlling processing relating to a game in the gaming terminal **314**A. Furthermore, the ROM **508**A stores initial data used for executing the control program and programs for display control in the display device **370**A. Furthermore, the RAM **510**A stores values of flags and/or variants to be used in the above-described programs.

[**0132**] Furthermore, an interface circuit group **512**A is connected to the input/output bus **504**A. A speaker **586**A and a hopper **588**A are connected to the interface circuit group **512**A, and the interface circuit group **512**A supplies drive signals and drive power so as to control the above-described devices in accordance with results of computing processing in the CPU **506**A.

[**0133**] Furthermore, a display controller **600**A is connected to the interface circuit group **512**A. The display controller **600**A supplies image signals for displaying images to the display device **370**A based on an image display command supplied from the main control circuit **500**A.

[**0134**] Standby Screen of Gaming Terminal

[**0135**] A standby screen to be displayed on the display device **370**A of the gaming terminal **314**A will be described with reference to **FIG. 17**.

[**0136**] FIGS. **17** to **21** show an embodiment in which the invention is applied to a bingo game using a bingo card having 5.5 bingo boxes as described below. The conventional dominating bingo game includes drawing a predetermined number of numbers from 25 numbers at a probability of 1/25 for a bingo card having 5.5 bingo boxes, when a drawn number is on the bingo card, activating the bingo box corresponding to the number, and making a bingo hand by five activated bingo boxes in a horizontal, vertical or diagonal line. In this embodiment, instead of numbers acting as indicias used in a conventional bingo game, playing-card designs are used as indicias (where one joker or two jokers may be included or no joker may be included, or a free spot having a specific bingo box activated irrespective of a drawn indicia may be regarded as a joker). Then, a lottery is performed at a probability of 1/52 (or at a probability of 1/53 or 1/54). In this case, in addition to conventional bingo hands, poker hands may be made (such as One Pair, Two Pair, Three Of A Kind, Straight, Flush, Full House, Four Of A Kind, Straight Plush, Royal Flush and Five Of A Kind), and a dividend in accordance with a bingo hand or poker hand is given to a player. Furthermore, a poker hand and a bingo hand may be made in a specific same line on a bingo card at the same time. In this case, both of the dividend corresponding to the poker hand and the dividend corresponding to the bingo hand are given to a player. However, bingo boxes are activated at a lower probability than that of a conventional bingo came, which lowers the possibility that a bingo hand is made. Accordingly, while a bingo hand is conventionally made by five activated bingo boxes in a horizontal, vertical or diagonal line, a bingo hand may be made by not only five but also three or four activated bingo boxes in a line.

[**0137**] Furthermore, receiving operations on the gaming terminal **314** in relation to a game is all by a touch panel

method excluding operations through the dials **376**A and **377**A (See **FIG. 13** for both of them). In other words, the touch sensor **372**A (see **FIG. 16**) is provided on the surface of the display device **370**A such that a player can operate a gaming terminal that the player intends by touching a predetermined touch portion of the display device **370**A. However, the invention is not limited thereto, but an operation receiving method not using a touch panel method may be adopted. For example, predetermined switches may be provided for receiving operations of a player.

[**0138**] **FIG. 17** is an example in which a screen for receiving an entry of a game through the gaming terminal **314** is displayed on the display device **370**A of the gaming terminal **314** and operations on a touch portion **480**, a touch portion **481** and the dials **376**A and **377**A (see **FIG. 13**) for receiving an entry operation of a game are valid. Other operations on the dial **376**A and/or dial **377**A (see **FIG. 13** for both of the) are invalid. Furthermore, medal insertion to the medal input port **378**A (see **FIG. 13**) is also invalid, and an inserted medal is returned to a player from a medal payout port **382**A. Furthermore, all of bingo boxes having playing-card designs in a matrix form on a bingo card displayed on the display device **370**A are also displayed darker or shaded so as to indicate that the bingo boxes do not still win in a lottery and are not activated. Activating a bingo box refers to processing for displaying a bingo box having the same pattern as a playing-card design drawn by the lottery machine **312**, if any, distinctively from the other bingo boxes hereinafter. Through the processing of activating a bingo box, the bingo box is displayed brighter or is unshaded, for example. Notably, a bingo box on a bingo card on the standby screen of the gaming terminal **314** is not activated based on a drawing of an indicia in the lottery machine **312**. Furthermore, the values of line odds and poker odds shown on the display device **370**A are not changed by any operations by a player.

[**0139**] An arrangement of playing-card designs displayed on bingo cards having 5.5 bingo boxes displayed on the standby screen of the gaming terminal **314** is different from the arrangement on a bingo card to be used in a game after the game entry. Here, it is a display of a demonstration screen only, and an arrangement of playing-card designs displayed on a bingo card is not determined until the game entry.

[**0140**] An entry to a game is received when the touch portion **480** or touch portion **481** is touched by a player. When the game entry is received by the gaming terminal **314**, the display is changed to the screen in **FIG. 18**.

[**0141**] Screen on Gaming Terminal After Game Entry

[**0142**] A screen after game entry to be displayed on the display device **370**A of the gaming terminal **314** will be described with reference to **FIG. 18**.

[**0143**] **FIG. 18** shows a screen displaying a determined bingo card including 5.5 bingo boxes having playing-card designs. Here, playing-card designs are placed in an arrangement including a predetermined poker hand (such as a poker hand made by five playing cards, that is, Straight, Flush, Full House, Straight Flush or Royal Flush) on a specific line in advance. By preparing a high dividend hand on a bingo card in advance in this way, the expectations of a player can be advantageously enhanced. Notably, playing-card designs are arranged at random in bingo boxes excluding the predetermined poker hand. The display of the touch portion **480** and touch portion **481** are eliminated, and the display of an entire condition notification unit **483**, which will be described later, appears. At the state on the screen, a BET operation based on medal insertion by a player or an operation on the dial **378**A or **377**A (see **FIG. 13** for both of them) are valid for a certain period of time (such as a predetermined time like 45 seconds). For example, through a BET operation based on medal insertion by a player, a predetermined number of medals are BET so that the level of line odds shown on a line odds table **482** can rise. Thus, the shaded part in the figure is moved upward in the figure, and the value indicating the odds level of the line odds in the figure rises (in **FIG. 18**, the shaded part positioned in the second row from the bottom of the line odds table **482**, and the odds level is 2). Furthermore, a predetermined number of medals are BET so that the value of the poker odds shown on a poker odds table **484** can increase and the value on the display of the odds level of the poker odds in the figure can increase in the same manner (in the figure, the odds values for poker hands are as displayed, and the odds level of the poker odds is 3). Odds level here refers to an index indicating the rank among hierarchies of odds values. In this case, odds values are divided into a predetermined number of hierarchies in accordance with the magnitudes of odds values. For example, the odds value may increase as the value of the odds level increases, or the odds value may decrease as the value of odds level decreases.

[**0144**] Also on the display device **370**A of the gaming terminal after a game entry, bingo boxes on a bingo card may be all displayed darker or shaded so that the bingo boxes are indicated as bingo boxes, which are not won in the lottery and are not activated.

[**0145**] When a BET operation based on medal insertion by a player and an operation on the dial **376**A and/or dial **377**A (see **FIG. 13** for both of them) are valid, a player can rotationally move a bingo box in the inner periphery **490** of the bingo card Hatched with lines oriented diagonally upward right as seen in **FIG. 18** by operating the dial **376**A and can rotationally move a bingo box in the outer periphery **491** of a bingo card Hatched with lines oriented diagonally downward right as seen in **FIG. 18** by operating the dial **377**A. More specifically, when a player rotationally operates the dial **376**A counterclockwise by a predetermined amount, the bingo box in the inner radius **490** of the bingo cards is, in accordance thereto, also rotationally moved counterclockwise about the center of the bingo cards only by the predetermined amount. For example, when the dial **376**A is rotationally operated counterclockwise by an amount corresponding to the amount of movement equal to one bingo box, Queen of hearts positioning at the upper left corner of the inner radius **490** of the bingo cards in **FIG. 18** moves to a place hating Jack of hearts, and Jack of hearts moves to a place having 3 of clubs. In this way, each of bingo boxes moves counterclockwise by one. This is also true for the rotational movement in the outer periphery **491** of the bingo card in response to an operation on the dial **377**A. Thus, a player can move a bingo box rotationally in an arbitrary manner about the center of the bingo card. Then, the operation is an operation allowed as far as the operations can be received in the gaming terminal **314**. By allowing this kind of operation, bingo boxes must be moved not only to have an arrangement highly possibly making a bingo hand but also in consideration of a poker hand, which requires a

strategy. Requiring a strategy means that bingo boxes must be moved in consideration of whether Two Pair having a high possibility to be made while giving a low dividend is aimed or Royal Flush having a low possibility to be made while giving a high dividend is aimed.

[0146] As the above, according to the invention, substantially all of one surface of the attachment base fixed to the cabinet frame within the cabinet is a ground plane, and the cabinet frame and strut are electrically connected thereto. The attachment base to which the detector is attached and the strut extending upward are grounded so that the radiant noise generated by the gaming machine can be suppressed. Furthermore, the strut and the lottery wheel rock in response to the rocking of the cabinet so that the rocking of the cabinet can be visually emphasized. Therefore, the generated radiant noise can be suppressed, and the presence can be enhanced by the rocking of the cabinet, which can increase the amusingness of a game.

[0147] Screen of Gaming Terminal During Game

[0148] An example of the display of the display device **370**A of the gaming terminal **314** during the game will be described with reference to **FIG. 19**.

[0149] When the lottery machine **312** draws the playing-card designs, the result is transmitted to the gaming terminal **314**. Upon receipt of the result, the gaming terminal **314** determines whether or not the same playing-card designs as the aforesaid playing-card designs exist in the bingo card displayed on the display device **370**A of the gaming terminal **314**. When this determination is that the same playing-card designs exist in the bingo card displayed on the display device **370**A of the gaming terminal **314**, the bingo boxes assigned with the aforesaid playing-card designs of the bingo card are displayed in a relatively bright condition, with half-tone dot meshing display cancelled, or in like manner, thereby indicating that the aforesaid bingo boxes are activated ones.

[0150] In **FIG. 19**, for example, seven bingo boxes assigned with the ten of diamonds, the jack of hearts, etc. are displayed in a relatively bright condition, with half-tone dot meshing display cancelled, or in like manner, thereby indicating that the aforesaid bingo boxes are activated ones. And, while the drawing of the lottery machine **312** is performed a predetermined number of times, the bingo boxes activated by the drawing are displayed in a relatively bright condition, with half-tone dot meshing display cancelled, or in like manner, thereby continuing to indicate that the aforesaid bingo boxes are activated ones.

[0151] Display of Reach State

[0152] Furthermore, in the display device **370**A of the gaming terminal during the game as shown in **FIG. 19**, based on the determination as to which bingo box is activated next to establish the bingo hand or the poker hand, the bingo box to be activated next is displayed distinguishably to the players. Such display has two methods: the method of individually displaying bingo boxes any one of which is activated next to establish the bingo hand or the bingo hand (hereinafter called a reach state individual display); and the method of displaying the aforesaid bingo boxes recognizably at one time (hereinafter called a reach state display). The reach state refers to the state in which the bingo hand or the poker hand is established when a specific bingo box is activated next.

[0153] Additionally, the reach state individual display and the reach state display can display the reach state that responds to the movement of the bingo boxes, i.e., that corresponds to the bingo boxes after their movement each time they move.

[0154] The reach state individual display is configured as follows. That is, for example, in **FIG. 19**, when the bingo box assigned with the king of hearts is activated, three of a kind serving as the poker hand is established, and three bingo boxes are lined up as the bingo hand. Therefore, the player is notified of such a state by the method of flashing the bingo box assigned with the king of hearts or like method. Furthermore, as described later, when there exist a plurality of the bingo boxes any one of which is activated to establish the poker hand and/or the bingo hand, the flashing display is performed by switching between the bingo boxes for the poker hand and the bingo boxes for the bingo hand. Therefore, the players can identify which bingo box is activated to establish the poker hand and/or the bingo hand.

[0155] The reach state display is configured as follows. That is, for example, in **FIG. 19**, when the bingo boxes assigned with the king of hearts, the ace of spades, the king of spades, and the jack of clubs are activated, the poker hand and/or the bingo hand is established. Therefore, these bingo boxes are displayed in the entire condition notification unit **483** at one time, thus notifying the players of such a state. In **FIG. 19**, a flashing display **485** indicates where the bingo boxes any one of which is activated to establish the poker hand and/or the bingo hand are positioned in the entire bingo card. The flashing display **485** indicates only the positions, within the bingo card, of the bingo boxes any one of which is activated to establish the poker hand and/or the bingo hand, but does not indicate the playing-card designs assigned to the aforesaid bingo boxes. However, the invention is not limited thereto, but the playing-card designs may also be indicated therein.

[0156] At the bingo game, the playing-card designs are used as the indicias (particularly, playing-card numbers are used as the first indicias and playing-card suits are used as the second indicias). Therefore, both the bingo hand and the poker hand can be established, so that the number of patterns of the reach state increases, which becomes difficult to discriminate. Besides, since the bingo boxes can be moved, the reach state varies in many ways according to the movement. Consequently, it becomes difficult for the players to quickly determine what kind of reach state occurs. However, the aforesaid two methods of displaying the reach state is adopted, thereby enabling the players to easily and accurately recognize which bingo box is expected to be activated to establish the poker hand and/or the bingo hand in playing the bingo game. Therefore, the players, having expectation roused, can play the game at ease while maintaining interest.

[0157] Transition of Reach State Individual Display Screen of Gaming Terminal

[0158] The transition of a reach state individual display screen displayed on the display device **370**A of the gaming terminal **314** will be described with reference to **FIGS. 20A** to **20**D.

[0159] As the reach state individual display has been described above, in **FIG. 19**, when the bingo boxes assigned with the king of hearts, the ace of spades, the king of spades,

and the jack of clubs are activated, the poker hand and/or the bingo hand is established. **FIGS. 20A** to **20**D have the same situation as **FIG. 19**, and **FIGS. 20A** to **20**D show, in due order, how the bingo boxes assigned with the king of hearts, the ace of spades, the king of spades, and the jack of clubs are individually displayed in a flashing manner.

[0160] In **FIG. 20A**, when the king of hearts is activated, three of a kind serving as the poker hand is established, and three activated bingo boxes serving as the bingo hand are lined up. Therefore, the bingo box assigned with the king of hearts is displayed in a flashing manner as in a flashing display **486**. After this flashing display is performed for a predetermined time, a transition is made to the state of the next **FIG. 20B**.

[0161] In **FIG. 20B**, when the ace of spades is activated, straight serving as the poker hand is established, and five activated bingo boxes serving as the bingo hand are lined up. Therefore, the bingo box assigned with the ace of spades is displayed in a flashing manner as in a flashing display **487**. After this flashing display is performed for a predetermined time, a transition is made to the state of the next **FIG. 20C**.

[0162] In **FIG. 20C**, when the king of spades is activated, three of a kind serving as the poker hand is established, and three activated bingo boxes serving as the bingo hand are lined up. Therefore, the bingo box assigned with the king of spades is displayed in a flashing manner as in a flashing display **488**. After this flashing display is performed for a predetermined time, a transition is made to the state of the next **FIG. 20D**.

[0163] In **FIG. 20D**, when the jack of clubs is activated, four of a kind serving as the poker hand is established, and four activated bingo boxes serving as the bingo hand are lined up. Therefore, the bingo box assigned with the jack of clubs is displayed in a flashing manner as in a flashing display **489**. After this flashing display is performed for a predetermined time, a transition is made again to the state of **FIG. 20A**.

[0164] Thus, the flashing display **486** of **FIG. 20A**, the flashing display **487** of **FIG. 20B**, the flashing display **488** of **FIG. 20C**, and the flashing display **489** of **FIG. 20D** are repeatedly displayed, in the order named, so that each display is displayed for the predetermined time and then makes its transition. This makes it possible to easily and accurately recognize which bingo box is expected to be activated to establish the poker hand and/or the bingo hand. Therefore, the players, having expectation roused, can play the game at ease while maintaining interest.

[0165] Additionally, in the aforesaid, the flashing display **486** of **FIG. 20A**, the flashing display **487** of **FIG. 20B**, the flashing display **488** of **FIG. 20C**, and the flashing display **489** of **FIG. 20D** are repeatedly displayed, in the order named, so that each display is displayed for the predetermined time and then makes its transition. However, the configuration may be such that the flashing displays make their transition in the order of the strength of the bingo hand and the poker hand (e.g., the hand awarding more dividends may be designated as a stronger hand).

[0166] Double-Up Game Screen of Gaming Terminal

[0167] A double-up game screen displayed on the display device **370**A of the gaming terminal **314** will be described with reference to **FIG. 21**.

[0168] The double-up game is the game that, when awarded any dividend at the bingo game of the gaming machine **310**, the player bets the dividend to play. In the double-up game, a dealer's playing-card design selected by control of the gaming terminal **314** is compared with one playing-card design selected by the player from a plurality of playing cards that are laid out face-down by control of the gaming terminal **314**. Then, one who selects the stronger playing card wins the game. When the player wins the game, the dividend won by the player increases twice, whereas when the dealer wins the game, the dividend won by the player is all forfeited.

[0169] For example, in **FIG. 21**, the configuration is such that the playing-card design selected by the dealer is first to be shown, in response to which the player can select one from four playing cards laid out face-down by control of the gaming terminal **314**. When the player selects the desired playing card by touching the display of this playing card, the aforesaid playing card is faced to display its design, thus determining the game result of the double-up game. When the player wins the game, the player can make a selection as to whether to play the double-up game again or not.

[0170] Additionally, when awarded any dividend at the bingo game of the gaming machine **310**, the player can make a selection, at his/her discretion, as to whether to play the double-up game again or not.

[0171] Thus, a game enabling an increase in the dividend won by the player is provided separately from the game that is the intended objective of the gaming machine **310**. Thereby, the player finds it significant to win the dividend at the game of the intended objective and thus tries to further increase the dividend won. Therefore, the player may be able to take a great interest in playing the game on the gaming machine **310**.

[0172] Operation of Lottery Machine and Gaming Terminal

[0173] The process of the main control circuit **400** (see **FIG. 15**) of the lottery machine **312** and the process of the main control circuit **500**A (see **FIG. 16**) of the gaming terminal **314** will be described with reference to **FIGS. 22 and 23**.

[0174] Operation of Lottery Machine

[0175] The process of the main control circuit **400** of the lottery machine **312** will first be shown with reference to **FIG. 22**.

[0176] A step S**100** performs a game preparation process. Specifically, a predetermined number of the lottery balls held on the screw conveyor are moved to the lottery ball holding portion **332**. Besides, in addition thereto, the CPU **406** performs various processes such as inclining the cabinet **313** at a predetermined angle. When this process ends, the process moves to a step S**101**.

[0177] At the step S**101**, 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 S**102**, and when NO, the process moves to a step S**103**.

[0178] At the step S**102**, 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 **414**A to **414**J to the gaming terminals **314**A to **314**J, respectively. When this process ends, the process moves to a step S**104**. Additionally, the aforesaid lottery start signal is received by the gaming terminal **314** at a to-be-described step S**204** that is the process of the main control circuit **500**A of the gaming terminal **314**.

[**0179**] On the contrary, at the step S**103**, the CPU **406** of the lottery machine **312** performs waiting time consumption. The CPU **406** measures the time elapsing until the predetermined waiting time has elapsed. When this process ends, the process returns to the step S**101**.

[**0180**] At the step S**104**, the CPU **406** of the lottery machine **312** performs bet operation reception time consumption. The CPU **406** measures the time elapsing until a predetermined bet operation reception time has elapsed. When this process ends, the process moves to a step S**105**.

[**0181**] The step S**105** starts the rotation of the lottery wheels. By control of the main control circuit **400** of the lottery machine **312**, the lottery wheel rotation motors **335** and **337** are started to start the rotation of the plane portions **338**A and **339**B. When this process ends, the process moves to a step S**106**.

[**0182**] The step S**106** starts the rocking of the cabinet. By control of the main control circuit **400** of the lottery machine **312**, the rocking device **346** is started to start the rocking of the cabinet of the lottery machine **312**. When this process ends, the process moves to a step S**107**.

[**0183**] The step S**107** performs the process of dropping one lottery ball. By control of the main control circuit **400** of the lottery machine **312**, the rotary body **328** (see **FIG. 1**) is controlled to drop one lottery ball into the lottery ball receiving portion **334**. When this process ends, the process moves to a step S**108**.

[**0184**] The step S**108** performs the process of obtaining the indicias. In this process, by control of the main control circuit **400** of the lottery machine **312**, one of the ball entrance detection sensors **349** disposed one in each of the plural lottery holes **340** detects the entrance of one lottery ball. Thus, the CPU **406** of the lottery machine **312** obtains the indicia corresponding to the lottery hole **340** that the one lottery ball has entered. The CPU **406**, etc. for executing such a process, etc. correspond to an example of game result determination means. When this process ends, the process moves to a step S**109**.

[**0185**] At the step S**109**, the CPU **406** of the lottery machine **312** transmits the indicias obtained at the step SOB and the information of which round is the current lottery in. The CPU **406** transmits the indicias and the information of which round is the current lottery in, to the gaming terminals **314**A to **314**J via the communication control circuits **414**A to **414**J, respectively. When this process ends, the process moves to a step S**110**. Additionally, the aforesaid information of which round is the current lottery in is counted by the CPU **406** and stored in the RAM **410** (see **FIG. 15**). Furthermore, the aforesaid indicias and information of which round is the current lottery in are received by the gaming terminal **314** at a to-be-described step S**214** that is the process of the main control circuit **500**A of the gaming terminal **314**.

[**0186**] At the step S**110**, the CPU **406** of the lottery machine **312** makes a determination as to whether a predetermined number of rounds of lottery has ended or not. Referring to the aforesaid information of which round is the current lottery in, which is stored in the RAM **410**, the CPU **406** determines whether this information has reached the predetermined number of rounds or not. When this determination is YES, the process moves to a step S**112**, and when NO, the process returns to the step S**107**.

[**0187**] The step S**112** terminates the rocking of the cabinet. By control of the main control circuit **400** of the lottery machine **312**, the rocking device **346** is stopped to terminate the rocking of the cabinet of the lottery machine **312**. When this process ends, the process moves to a step S**113**.

[**0188**] The step S**113** terminates the rotation of the lottery wheels. By control of the main control circuit **400** of the lottery machine **312**, the lottery wheel rotation motors **335** and **337** are stopped to terminate the rotation of the lottery wheels **338** and **339**. When this process ends, the process moves to the step S**100**.

[**0189**] [Operation of Gaming Terminal]

[**0190**] The process of the main control circuit **500**A (see **FIG. 16**) of the gaming terminal **314** will be shown with reference to **FIGS. 22 and 23**.

[**0191**] A step S**201** performs the initialization of the gaming terminal **314**. The CPU **506**A (see **FIG. 16**) of the gaming terminal **314** performs processes such as clearing of various variables allocated to the RAM **510**A (see **FIG. 16**) and initialization of the display of the display device **370**A. When this process ends, the process moves to a step S**202**.

[**0192**] The step S**202** performs the display of the demonstration screen. When this process ends, the process moves to a step S**203**.

[**0193**] The step S**203** performs the process of detecting the game entry operation. In this process, the players make a game entry. By control of the main control circuit **50**A of the gaming terminal **314**, the touch sensor **372**A (or the main control circuit **500**A itself) detects that the player has touch-operated the display device **370**A (or has operated the dial **376**A or **377**A). When this process ends, the process moves to a step S**204**.

[**0194**] The step S**204** performs the process of receiving the lottery start signal. By control of the main control circuit **500**A (see **FIG. 16**) of the gaming terminal **314**, the CPU **506**A of the gaming terminal **314** receives, via the communication control circuit **514**A, the lottery start signal transmitted by the lottery machine **312** through the process of the step S**102**. When this process ends, the process moves to a step S**209**.

[**0195**] The step S**209** performs the process of creating and displaying the bingo card. The CPU **506**A of the gaming terminal **314** selects a predetermined number (e.g., twenty five) of display data from display data (e.g., the playing-card designs) that are stored in the ROM **508**A and used for displaying the indicias. Thus, the predetermined number of display data are displayed on the display device **370**A as being arranged in matrix form. When this process ends, the process moves to a step S**210**.

[**0196**] The step S**210** performs bingo box moving operation activation. In this process, the CPU **506**A of the gaming

terminal **314** turns on a bingo box moving operation activation flag allocated to the RAM **510**A (see **FIG. 16**). Thereby, the operation of the dial **376**A or **377**A for moving the bingo boxes is activated on the gaming terminal **314**. As long as the bingo box moving operation activation flag is on, the operation of the dial **376**A or **377**A is valid. When this process ends, the process moves to a step S**211**.

[**0197**] The step S**211** performs bet operation receptions. In this process, the CPU **506**A of the gaming terminal **314** processes the information that is the information about the bet operation the player has performed by touching the display device **370**A and that the touch sensor **372**A has detected by control of the main control circuit **500**A of the gaming terminal **314**, and stores the bet information into the RAM **510**A (see **FIG. 16**). When this process ends, the process moves to a step S**212**.

[**0198**] The step S**212** determines the number of dividends in response to the number of bets. In this process, based on the bet information stored in the RAM SIA (see **FIG. 16**) at the step **211** the CPU **506**A of the gaming terminal **314** determines the number of dividends at the game. The determination result is stored into the RAM **510**A (see **FIG. 16**) and displayed in a predetermined display portion of the display device **370**A. When this process ends, the process moves to a step S**213**.

[**0199**] The step S**213** makes a determination as to whether a bet reception time ends or not. The CPU **506**A of the gaming terminal **314** measures the time elapsing after the process of the step S**209** 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 S**214** of **FIG. 23**, and when NO, the process returns to the step S**211**.

[**0200**] The step S**214** receives the indicias that are transmitted through the process of the step S**199** and obtained by the CPU **406** of the lottery machine **312** at the step S**108** (see **FIG. 22**), and the information of which round is the current lottery in. By control of the main control circuit **500**A (see **FIG. 16**) of the gaming terminal **314**, the aforesaid informations are received via the communication control circuit **514**A. The CPU **506**A of the gaming terminal **314** stores, into the RAM **510**A (see **FIG. 16**), the aforesaid indicias and the information of which round is the current lottery in. When this process ends, the process moves to a step S**215**.

[**0201**] The step S**215** performs a bingo box moving operation inactivation process. The detail of this process will be described in the to-be-described detail of the bingo box moving operation inactivation process. When this process ends, the process moves to a step S**216**.

[**0202**] The step S**216** retrieves whether the indicias received at the step S**214** exist on the bingo card and, if they exist, activates the corresponding bingo boxes. In this process, it is retrieved whether or not the indicias received at the step **214** exist on the bingo card that is created at the step S**209** and displayed on the display device **370**A. If any identical indicia exists, the activation flag, allocated to the RAM **510**A (see **FIG. 16**), of the bingo box assigned with the identical indicia is turned on. Furthermore, the aforesaid bingo box on the display device **370**A is displayed so as to be distinguishable from the other bingo boxes in a relatively bright condition, with half-tone dot meshing display cancelled, or in like manner. When this process ends, the process moves to a step S**217**.

[**0203**] The step S**217** performs a prize winning determination process. The detail of this process will be described in the to-be-described detail of the prize winning determination process. Additionally, the CPU **406**, etc. for executing the steps S**216**, S**217**, etc. correspond to an example of the game result determination means. When this process ends, the process moves to a step S**218**.

[**0204**] The step S**218** makes a determination as to whether a prize is won or not. Referring to the determination result of the step S**217**, the CPU **506**A of the gaming terminal **314** determines whether the prize is won or not. When this determination is YES, the process moves to a step S**219**, and when No, the process moves to a step S**225**.

[**0205**] The step S**219** determines whether the double-up game is to be played or not. By control of the main control circuit **500**A of the gaming terminal **314**, the CPU **506**A of the gaming terminal **314** determines whether or not the touch sensor **372** has detected that the player has operated the predetermined touch portion displayed on the display device **370**A in order to play the double-up game. When this determination is YES, the process moves to a step S**220**, and when NO, the process moves to a step S**223**.

[**0206**] The step S**220** performs a double-up game process. This process is performed by control of the main control circuit **500**A of the gaming terminal **314**, and the process content is as described in the aforesaid description of the double-up game screen of the gaming terminal. When this process ends, the process moves to a step S**221**.

[**0207**] The step S**221** determines whether the player has won the game or not. By control of the main control circuit **500**A of the gaming terminal **314**, the game result is determined as described in the aforesaid description of the double-up game screen of the gaming terminal, thus determining whether the player has won the game or not. When this determination is YES, the process moves to a step S**222**, and when NO, the process moves to a step S**224**.

[**0208**] The step S**222** performs the process of doubling the dividend of the player. Referring to the information of the number of dividends obtained by the player which information is stored in the RAM **510**A (see **FIG. 16**), the CPU **506**A of the gaming terminal **314** doubles this number and updates the original information. When this process ends, the process moves to the step S**219**.

[**0209**] On the contrary, the step S**223** performs the process of paying out the dividend. The CPU **506**A of the gaming terminal **314** Refers to the information of the number of dividends obtained by the player which information is stored in the RAM **510**A (see **FIG. 16**), by control of the main control circuit **500**A, the hopper **588**A pays out the number of medals corresponding to the aforesaid information of the number of dividends obtained by the player. When this process ends, the process moves to the step S**201**.

[**0210**] Besides, the step S**224** performs the process of zeroing the number of dividends obtained by the player. Referring to the information of the number of dividends obtained by the player which information is stored in the RAN **510**A (see **FIG. 16**), the CPU **506**A of the gaming

terminal **314** reduces this number to 0 and updates the original information. When this process ends, the process moves to the step S**201**.

[**0211**] On the contrary, the step **225** performs a reach determination process. The detail of this process will be described in the to-be-described detail of the reach determination process. When this process ends, the process moves to a step **226**.

[**0212**] The step S**226** makes a determination as to whether the reach state is reached or not. Based on the reach determination result of the step S**225**, the CPU **506**A of the gaming terminal **314** determines whether or not the reach state is reached in which some bingo boxes of the bingo card displayed on the display device **370**A are activated and one more bingo box is activated to thereby establish the bingo hand and/or the poker hand. When this determination is YES, the process moves to a step S**227**, and when NO, the process moves to a step S**228**.

[**0213**] The step S**227** performs a reach box notification start process. The detail of this process will be described in the to-be-described detail of the reach box notification start process. When this process ends, the process moves to the step S**228**.

[**0214**] The step S**228** makes a determination as to whether the indicia receive has reached a predetermined number of times. With reference to the information of which round is the current lottery in, which is stored in the RAM **510**A (see **FIG. 16**) at the step S**214**, it is determined based on this information whether or not the indicia receive has reached the predetermined number of times. When this determination is YES, the process moves to the step S**201**, and when NO, the process moves to the step S**214**.

[**0215**] Detail of Bingo Box Moving Operation Inactivation Process

[**0216**] The detail of the bingo box moving operation inactivation process will be described with reference to **FIG. 24**.

[**0217**] The step S**241** makes a determination as to whether the information received at S**214** of which round is the current lottery in has reached the predetermined number of rounds or not. The CPU **506**A of the gaming terminal **314** determines the aforesaid information, thus determining whether or not the predetermined number of rounds has been reached (which number may be three for example or may have another value). When this determination is YES, the process moves to a step S**242**, and when NO, the present sub-routine is put to an immediate end and the process moves to the step S**216** of **FIG. 23**.

[**0218**] The step S**242** performs the prenotification of the bingo box moving operation inactivation. The main control circuit **500**A of the gaming terminal **314** performs, on the display device **370**A, a predetermined prenotification display for prenotifying the player that the process of closing the reception of the dial **376**A or **377**A operation for moving the bingo boxes is to be performed. When this process ends, the process moves to a step S**243**.

[**0219**] The step S**243** performs the process of consuming a predetermined time. In this process, the CPU **506**A of the gaming terminal **314** measures the time elapsing after the process of the step S**242** is performed, thus preventing the process from proceeding to the next step until the aforesaid time has spent the predetermined time. When this process ends, the process moves to a step S**244**.

[**0220**] The step **244** performs the bingo box moving operation inactivation process. In this process, the CPU **506**A of the gaming terminal **314** turns off the bingo box moving operation activation flag allocated to the RAM **510**A (see **FIG. 16**). Thereby, the operation of the dial **376**A or **377**A for moving the bingo boxes is inactivated on the gaming terminal **314**. When this process ends, the present sub-routine is put to an end and the process moves to the step S**216** of **FIG. 23**.

[**0221**] Detail of Prize Winning Determination Process

[**0222**] The detail of the prize winning determination process will be described with reference to **FIG. 25**.

[**0223**] A step S**231** makes a determination as to whether the bingo hand is established or not. In this process, the CPU **506**A of the gaming terminal **314** determines the combination of: the indicias configuring the bingo card displayed on the display device **370**A which informations are stored in the RAM **510**A (see **FIG. 16**); the information about the positions of the bingo boxes assigned with the indicias; and the activation flags corresponding to the indicias. Thus, the CPU **506**A determines whether or not the bingo hand is established on a specific line of the bingo card. When this determination is YES, the process moves to a step S**232**, and when NO, the process moves to a step S**233**.

[**0224**] The step S**232** turns on a bingo-hand establishment flag, stores into the RAM the information about all bingo hands established and the then bingo boxes, and stores the corresponding number of dividends into the RAM. The CPU **506**A of the gaming terminal **314** turns on the bingo-hand establishment flag allocated to the RAM **510**A (see **FIG. 16**). Furthermore, the CPU **510**A stores into the RAM **510**A the information about all bingo hands established and the then bingo boxes. And, the CPU **510**A determines the number of dividends equivalent to the all bingo hands established and stores the determination result into the RAM **510**A. When this process ends, the process moves to the step S**233**.

[**0225**] The step S**233** makes a determination as to whether the poker hand is established or not. In this process, the CPU **506**A of the gaming terminal **314** determines the combination of: the indicias configuring the bingo card displayed on the display device **370**A which informations are stored in the RAM **510**A (see **FIG. 16**); the information about the positions of the bingo boxes assigned with the indicias; and the activation flags corresponding to the indicias. Thus, the CPU **506**A determines whether or not the poker hand is established on a specific line of the bingo card. When this determination is YES, the process moves to a step S**234**, and when NO, the present sub-routine is put to an immediate end and the process moves to the step S**218** of **FIG. 23**.

[**0226**] The step S**234** turns on a poker-hand establishment flag, stores into the RAM the information about all poker hands established and the then bingo boxes, and stores the corresponding number of dividends into the RAM. The CPU **506**A of the gaming terminal **314** turns on the poker-hand establishment flag allocated to the RAM **510**A (see **FIG. 16**). Furthermore, the CPU **510**A stores into the RAM **510**A the information about all poker hands established and the

then bingo boxes. And, the CPU **510**A determines the number of dividends equivalent to the all poker hands established and stores the determination result into the RAM **510**A. When this process ends, the present sub-routine is put to an end and the process moves to the step S**218** of **FIG. 23**.

[**0227**] As described above, the prize winning determination process determines the bingo hand establishment and the poker hand establishment independently one of the other. This makes it possible that the bingo hand and the poker hand are simultaneously established on the specific identical line of the bingo card. And, the dividend is awarded for each of the bingo hand and poker hand that are established on the specific identical line of the bingo card. That is, the total amount of the dividend for the bingo hand and the dividend for the poker hand is awarded to the player. In this way, the player may be able to place a high expectation on the possibility that the hand awarding more dividends is established on the specific identical line of the bingo card. Additionally, this embodiment enables the bingo hand and the poker hand to be simultaneously established on the specific identical line of the bingo card. However, the invention is not limited thereto. It may be determined that only the bingo hand is established, or it may be determined that only the poker hand is established. On this occasion, the player is awarded only the dividend for the bingo hand or only the dividend for the poker hand.

[**0228**] Detail of Reach Determination Process

[**0229**] The detail of the reach determination process will be described with reference to **FIG. 26**.

[**0230**] A step S**251** makes a determination as to whether a specific bingo box is activated to thereby establish the bingo hand or not. In this process, the CPU **506**A of the gaming terminal **314** determines the combination of: the indicias configuring the bingo card displayed on the display device **370**A which informations are stored in the RAM **510**A (see **FIG. 16**); the information about the positions of the bingo boxes assigned with the indicias; and the activation flags corresponding to the indicias. Thus, the CPU **506**A determines whether or not the situation is that the bingo hand can be established on the specific line of the bingo card when the specific bingo box is activated. When this determination is YES, the process moves to a step S**252**, and when NO, the process moves to a step S**253**

[**0231**] The step **252** turns on a reach-bingo state flag and stores the information of all reach boxes for the bingo hand into the RAM **510**A. In the situation where the bingo hand can be established on the specific line when one more bingo box is activated, the reach box refers to the one more bingo box. The CPU **506**A of the gaming terminal **314** turns on the reach-bingo state flag allocated to the RAM **510**A (see **FIG. 16**). Furthermore, the CPU **506**A stores the information of all reach boxes for the bingo hand into the RAM **510**A. When this process ends, the process moves to the step S**253**.

[**0232**] The step S**253** makes a determination as to whether the specific bingo box is activated to thereby establish the poker hand or not. In this process, the CPU **506**A of the gaming terminal **314** determines the combination of: the indicias configuring the bingo card displayed on the display device **370**A which informations are stored in the RAM **510**A (see **FIG. 16**); the information about the positions of the bingo boxes assigned with the indicias; and the activation flags corresponding to the indicias. Thus, the CPU **506**A determines whether or not the situation is that the bingo hand can be established on the specific line of the bingo card when the specific bingo box is activated. When this determination is YES, the process moves to a step S**254**, and when NO, the present sub-routine is put to an immediate end and the process moves to the step S**226** of **FIG. 23**.

[**0233**] The step **254** turns on a reach-poker state flag and stores the information of all reach boxes for the poker hand into the RAM. The CPU **506**A of the gaming terminal **314** turns on the reach-poker state flag allocated to the RAM **510**A (see **FIG. 16**). Furthermore, the CPU **506**A stores the information of all reach boxes for the poker hand into the RAM **510**A. When this process ends, the present sub-routine is put to an end and the process moves to the step S**226** of **FIG. 23**.

[**0234**] Detail of Reach Box Notification Start Process

[**0235**] The detail of a reach box notification start process will be described with reference to **FIG. 27**.

[**0236**] A step S**261** makes a determination as to whether any reach box is present or not. The CPU **506**A of the gaming terminal **314** determines whether at least one of the reach-bingo state flag and the reach-poker state flag that are stored into the RAM **510**A (see **FIG. 16**) at the steps S**252** and/or S**254** of **FIG. 26** is on or not. When this determination is YES, the process moves to a step S**262**, and when NO, the present sub-routine is put an immediate end and the process moves to the step S**228** of **FIG. 23**.

[**0237**] The step **262** performs the process of starting to display all the reach boxes distinguishably at one time in the entire condition notification unit. By control of the main control circuit **500**A (see **FIG. 16**) of the gaming terminal **314**, the display controller **600**A is driven to start displaying all the reach boxes, which are stored into the RAM **510**A (see **FIG. 16**) at the steps S**252** and/or S**254** of **FIG. 26**, in the entire condition notification unit **483** displayed on the display device **370**A. When this process ends, the process moves to a step S**263**.

[**0238**] The step S**263** performs the process of starting to individually distinguishably display all the reach boxes repeatedly in turn. By control of the main control circuit **500**A (see **FIG. 16**) of the gaming terminal **314**, the display controller **600**A is driven to start to individually distinguishably display all the reach boxes, which are stored in the RAM **510**A (see **FIG. 16**) at the step **252** and/or the step **254** of **FIG. 26**, repeatedly in turn on the bingo card displayed on the display device **370**A. This display situation is as described in the aforesaid description of the transition of the reach state individual display screen of the gaming terminal. Additionally, the reach box notification screen display started at the steps S**262** and S**263** continues until the step S**201** of **FIG. 22** is executed to initialize the gaming terminal **314**. When this process ends, the present sub-routine is put to an end and the process moves to the step S**228** of **FIG. 23**.

[**0239**] The step S**263** in the reach box notification start process of **FIG. 27** is executed, thereby enabling the gaming terminal **314** to individually distinguishably display all the reach boxes repeatedly in turn on the display device **370**A thereof. That is, a gaming machine comprises: display means that displays a bingo card formed of a plurality of bingo boxes arranged in matrix form; indicia display data

storage means that stores display data for displaying indicias including the combinations of different indicias; bingo card indicia determination means that selects from the indicias and determines bingo card indicias corresponding to the plurality of bingo boxes; lottery means that draws the indicias; activation means that activates bingo boxes corresponding to the bingo card indicias when the indicias drawn by the lottery means and the bingo card indicias match each other by comparison; and hand determination means that determines whether or not the combination of the bingo boxes activated by the activation means and inactivated specific bingo boxes can form a predetermined bingo hand, or whether or not the combination of the bingo card indicias corresponding to the bingo boxes activated by the activation means and the bingo card indicias corresponding to the inactivated specific bingo boxes can form a hand different from the predetermined bingo hand in a predetermined combination. In such a gaming machine, the reach box notification start process, particularly, the step **S263** therein is an example showing the method of reach box notification in which the inactivated specific bingo boxes are sequentially individually displayed in response to the determination of the hand determination means.

[**0240**] Besides, the game preparation process executed by the CPU **406** at the step **S100** of **FIG. 22** will be described using **FIG. 28**.

[**0241**] At a step **S301**, the CPU **406** supplies a drive signal to the motor **345** of the open/close shutter **344**, thereby executing the process of placing the open/close shutter **344** in the open state. Besides, the CPU **406** also stops the supply of the drive signal to the motor **345** of the ball delivery device **354**. And, the open/close shutter **344** is placed in the closed state after the elapse of a predetermined time. Then, in order to make preparation for the next game, the CPU **406** executes the process of initializing the information about the preparation. Additionally, this information about the preparation is positioned in the RAM **510**A, etc. When this process ends, the process moves to a step **S302**.

[**0242**] At the step **S302**, the CPU **406** supplies the drive signal of the motor **356** to thereby perform a motor drive start process of the ball delivery devices **354**A and **354**B, and then moves the process to a step **S303**. This process of the step **S302** is performed prior to a cabinet inclination control process (step **S304**), thereby making it possible to collect the lottery balls earlier than the inclination of the collection path **350** together with the inclination of the cabinet, so that the preparation for the next game can be completed in a short time.

[**0243**] At the step **S303**, the CPU **406** supplies a drive signal to the lottery ball lifting motor **320**C, thereby performing a drive start process of the lottery ball lifting motor **320**C when this process ends, the process moves to the step **S304**.

[**0244**] At the step **S304**, the CPU **406** determines whether a predetermined time has elapsed or not. The term "a predetermined time" here refers to a time long enough for the lottery balls to fall from the lottery holes **340**, **341** and reach the collection path **350**. In this process, the CPU **406** moves the process to a step **S305** when determining that the predetermined time has elapsed. And, the CPU **406** moves the process again to the step **S304** when not determining that the predetermined time has elapsed. Thereby, the CPU **406** executes the process at or after the step **S305** only when the long enough time has elapsed from when the lottery balls fall from the lottery holes **340**, **341** until they reach the collection path **350**.

[**0245**] At the step **S305**, the CPU **406** supplies the rocking device **346** with a signal for inclining the cabinet **313** at a predetermined angle. This predetermined angle refers to the angle at which the stern **312**B side becomes lower than the stem **312**A side. Thereby, the rocking device **346** inclines the cabinet **313** so that the stern **312**B side becomes lower than the stem **312**A side. Subsequently, the CPU **406** supplies the open/close gate **352** with a signal indicative of the open state (step **S306**). Upon receipt of the signal indicative of the open state, the open/close gate **352** is placed in the open state. Accordingly, the stern **312**B side becomes lower than the stem **312**A side and, at the same time, the open/close gate **352** is placed in the open state, so that the lottery balls positioned in the collection path **350** roll toward the lower portion of the spiral body **320**A. Such control makes it possible to collect the lottery balls by only inclining the cabinet and thus to manufacture the gaming machine in a simple fashion and at low cost. When this process ends, the process moves to a step **S307**.

[**0246**] At the step **S307**, the CPU **406** determines whether the predetermined number of lottery balls have passed through the open/close gate **352** in response to the predetermined signal supplied from the lottery ball passing detection sensor **351**. When determining that the predetermined number of lottery balls have passed through the open/close gate **352**, the CPU **406** supplies the open/close gate **352** with a signal indicative of the closed state (step **S308**). Upon receipt of the signal indicative of the closed state, the open/close gate **352** is placed in the closed state. On the contrary, when determining that the predetermined number of lottery balls have passed through the open/close gate **352**, the CPU **406** moves the process again to the step **S307**. Accordingly, the lottery balls led out to the lower end of the spiral body **320**A do not return to the collection path **350**. Furthermore, the lottery balls held in the collection path **350** are prevented from being let out to the lower end of the spiral body **320**A. Such control makes it possible to collect the lottery balls by only inclining the cabinet and thus to manufacture the gaming machine in a simple fashion and at low cost. When this process ends, the process moves to a step **S309**.

[**0247**] At the step **S309**, the CPU **406** determines whether a predetermined time has elapsed or not. The term "a predetermined time" here refers to a time long enough that the predetermined number of lottery balls positioned in the collection path **350** are led out to the lower portion of the spiral body **320**A and become ready to be conveyed by the screw conveyor **320** after the cabinet **313** is inclined at the predetermined angle and the open/close gate **352** is placed in the open state. In this process, the CPU **406** moves the process again to the step **S309** when determining that the predetermined time has elapsed. And, the CPU **406** moves the process to a step **S310** when not determining that the predetermined time has elapsed. Thereby, the CPU **406** executes the process at or after the step **S305** only when the long enough time has elapsed from when the lottery balls fall from the lottery holes **340**, **341** until they reach the collection path **350**.

[0248] At the step S310, the CPU 406 supplies the rocking device 346 with a signal for inclining the cabinet 313 at a predetermined angle, thereby executing a cabinet inclination restraint control process. This predetermined angle refers to the angle at which the stern 312B side becomes horizontal to the stem 312A side. Thereby, the rocking device 346 performs the control of restraining the inclination of the cabinet 313 so that the stern 312B side becomes horizontal to the stem 312A side.

[0249] Subsequently, the CPU 406 stops the supply of the drive signal of the motor 356, thereby performing a motor drive end process of the ball delivery devices 354A and 354B (step S311). Still subsequently, the CPU 406 supplies a stop signal to the lottery ball lifting motor 320C, thereby executing a drive end process of the lottery ball lifting motor 320C (step S312). When this process ends, the present sub-routine is put to an end.

[0250] According to the invention, in the gaming machine that determines the game result based on the entrance of the lottery balls into the lottery holes, the ball delivery device disposed in the collection path for guiding the lottery balls of the lottery holes to the conveyance start position of the lifting device. Consequently, the lottery balls move at a high speed through the collection path, so that the lottery balls can be collected in a shorter time. Besides, even when there is an obstacle such as a minute convex or concave and a speck of dust, the lottery balls can be restrained from getting stuck there, so that the next game can be started smoothly. Furthermore, the ball delivery device delivers the lottery balls toward the conveyance start position, which can restrain the lottery balls from returning to the discharge path side.

[0251] According to the invention, the lottery balls discharged from the discharge path, immediately after entering the collection path, are delivered toward the conveyance start position of the lifting device. Accordingly, it becomes possible to accelerate the lottery balls at an early stage, so that the lottery balls can be collected in a shorter time. Besides, even when a large number of lottery balls are discharged from the discharge path for a short time, the lottery balls can be restrained from getting stuck in the collection path or the discharge path.

[0252] According to the invention, the collection path inclines together with the cabinet and moves the lottery balls thereinside. Such a collection path is provided with the ball delivery device for delivering the lottery balls more positively, thereby enabling an improvement in lottery ball collection time.

[0253] According to the invention, in the gaming machine that determines the game result based on the entrance of the lottery balls into the lottery holes, the ball delivery device disposed in the collection path for guiding the lottery balls of the lottery holes to the conveyance start position of the lifting device. The lottery balls are thus delivered more positively through the collection path, so that the lottery balls can be collected in a shorter time.

[0254] Additionally, the embodiments of the invention have been described, which merely illustrates specific examples and does not particularly limit the invention.

[0255] In the aforesaid embodiments, the ball delivery device is described as being disposed at the position of the collection path opposite the discharge path. However, the invention is not limited thereto. The ball delivery device may be disposed in a place other than this position. For example, the ball delivery device 354A including a motor 356, a ball delivery rod 357, and a ball delivery rod hole 358 may be disposed at the side of the collection path 350.

[0256] Besides, the ball delivery device is described as including the ball delivery rod that rotates in a vertical plane. However, the invention is not limited thereto. The ball delivery rod may rotate in a horizontal plane.

[0257] Besides, the collection path is described as being inclinably fixed to the cabinet. However, the invention is not limited thereto. The collection path need not incline as long as it has a gentle inclination.

[0258] Additionally, the advantages described in the embodiments 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 embodiments of the invention.

What is claimed is:

1. A gaming machine comprising:

a lottery wheel having a plurality of lottery holes that accept balls thereinto;

a game content determination device that, as the lottery balls enter any of the plural lottery holes, determines a game result based on the any plural lottery holes that has accepted the balls;

a discharge path that is provided below the lottery wheel and that discharges the lottery balls accepted in each of the plurality of lottery holes;

a lifting device that conveys the lottery balls to a position higher than the lottery wheel; and

a collection path that guides the lottery balls discharged from the discharge path, to a conveyance start position of the lifting device, wherein

the collection path includes a ball delivery device for delivering the lottery balls being collected, toward the conveyance start position of the lifting device.

2. The gaming machine according to claim 1, wherein

the ball delivery device is disposed opposite to the collection path, and the collection path is disposed opposite to the discharge path.

3. The gaming machine according to claim 2, wherein

the ball delivery device includes a motor, a ball delivery rod, and a ball delivery rod hole provided in the collection path; and

the ball delivery rod and the ball delivery rod hole are provided the collection path.

4. The gaming machine according to claim 1, wherein

the collection path is provided in an inclinable cabinet.

5. The gaming machine according to claim 4, further comprising

a rocking device for inclining the inclinable cabinet at a predetermined angle, wherein:

the inclinable cabinet includes the lifting device and the ball delivery device; and

the predetermined angle is an angle that one end where the lifting device is disposed becomes lower than the other end where the ball delivery device is disposed.

* * * * *