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European Patent Office
Office européen des brevets



(11)

EP 1 643 467 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
05.04.2006 Bulletin 2006/14

(51) Int Cl.:
G07F 17/34 (2006.01)

(21) Application number: **05021031.9**

(22) Date of filing: **27.09.2005**

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

(71) Applicant: **Aruze Corp.**
Tokyo 135-0063 (JP)

(72) Inventor: **Okada, Kazuo**
Tokyo 135-0063 (JP)

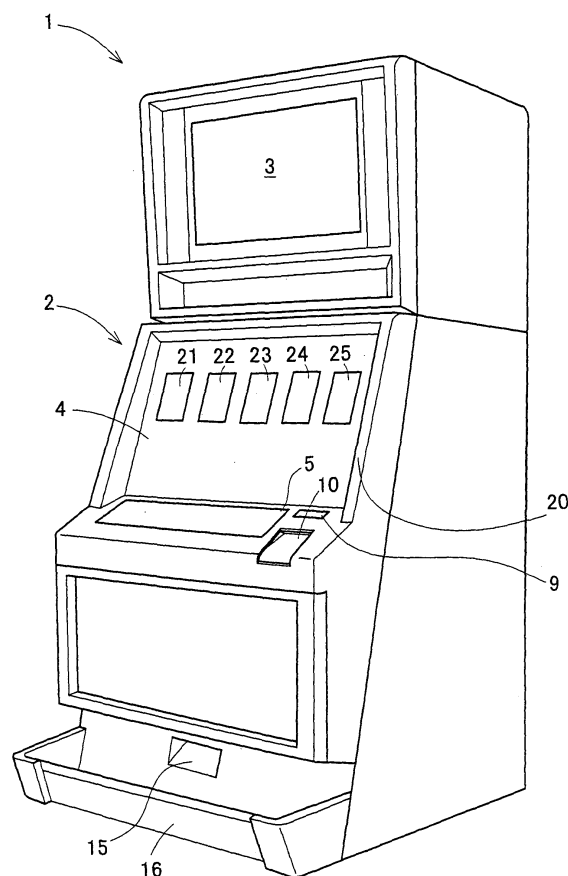
(74) Representative: **HOFFMANN EITLE**
Patent- und Rechtsanwälte
Arabellastrasse 4
81925 München (DE)

(30) Priority: **29.09.2004 JP 2004284809**

(54) Gaming machine

(57) In the lottery process (S12) in the slot machine 1, the symbols displayed on the variable display portions 21 to 25 and the winning symbol combination are determined. Among the symbols constructing the winning symbol combination, one symbol is substituted for the other symbol and it is referred whether or not the other winning symbol combination is realized. Based on the reference result conducted every the display position of each of the symbols constructing the winning symbol combination, the number of the winning symbol combination realized and the total payout are stored in the RAM 52, and based on the data stored therein, the display position of the symbol "BLANK" is determined. And in the stop control (S42) of the slot machine 1, it is conducted variable display in which the symbol "BLANK", the symbol "WILD", the symbol constructing the winning symbol combination and the symbol constructing the other winning symbol combination are sequentially changed and displayed.

FIG.1



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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a gaming machine in which a game is conducted by utilizing symbols variably displayed and stopped.

2. Description of Related Art

[0002] In a conventional gaming machine, for example, a slot machine, it is constructed so that a plurality of reels are rotated for a predetermined time, thereafter if a symbol combination in a state that each of the reels is stopped corresponds to any of winning symbol combinations, coins are paid out corresponding to the winning symbol combination.

[0003] At this point, as for the symbol combination, although such symbol combination is generally constructed from the normal symbols each of which is handled as the symbol itself, there is a case that the above symbol combination is constructed from the symbols including an almighty symbol (called as the symbol "WILD") which can be regarded as any of the normal symbols, as disclosed in Unexamined Japanese Patent Publication Nos. 2004-173950 and 2002-320713.

[0004] Therefore, in a case that the symbol combination including the symbol "WILD" is stopped and displayed and this symbol combination corresponds to any of winning symbol combinations by regarding the symbol "WILD" as any of the normal symbols, coins are certainly paid out corresponding to the winning symbol combination in spite that the symbol combination does not directly coincide with the winning symbol combination. Accordingly, it can be given to a player happy feeling.

[0005] Especially, if the symbol combination corresponds to a plurality of the winning symbol combinations by regarding the symbol "WILD" as any of the normal symbols at a position where the symbol "WILD" is stopped and displayed, coins are paid out corresponding to all of the winning symbol combinations which are realized by regarding the symbol "WILD" as any of the normal symbols. Therefore, the player can obtain satisfaction as if catching good fortune.

[0006] However, as mentioned, in a case that plural winning symbol combinations are realized by regarding the symbol "WILD" as any of the normal symbols at the position where the symbol "WILD" is stopped and displayed, coins are certainly paid out corresponding to all of the winning symbol combinations which are realized by regarding the symbol "WILD" as any of the normal symbols. Thereby, there is a merit that the player concludes to have high expectation. On the contrary, since such winning symbol combinations are certainly realized, there is a demerit that extension for games lacks.

SUMMARY OF THE INVENTION

[0007] In order to dissolve the above problems, the present invention has been done and has an object to provide a gaming machine in which it can be given to the player extension which winning symbol combination is realized by informing possibility indicating whether plural winning symbol combinations are realized or any one of plural winning symbol combinations is realized, thereby new interest for games can be given to the player.

[0008] In order to accomplish the above object, according to one aspect of the present invention, it is provided a gaming machine comprising:

a display device for displaying plural kinds of symbols;
a lottery device for conducting a lottery to determine a symbol combination constructed from the symbols, the symbol combination being stopped and displayed on the display device;
a first determination device for determining whether or not the symbol combination stopped and displayed on the display device becomes a winning symbol combination;
a payout device for conducting a payout corresponding to the winning symbol combination if the first determination device determines that the symbol combination becomes the winning symbol combination;
the gaming machine further comprising:

a substitution device for substituting one of the symbols in the symbol combination for a hypothetical symbol which is substitutable for any of the symbols if the first determination device determines that the symbol combination becomes the winning symbol combination;
a second determination device for determining whether or not a new symbol combination including the hypothetical symbol becomes a new winning symbol combination;
a reference device for referring a symbol display position where the hypothetical symbol is displayed in the display device if the second determination device determines that the new symbol combination becomes the new winning symbol combination; and
a display control device for displaying a specific symbol at the symbol display position, the specific symbol being changeable to a new symbol capable of constructing the new winning symbol combination.

[0009] According to the gaming machine of the present invention, if there is possibility that the symbol combination stopped and displayed on the display device becomes a plurality of the winning symbol combinations, the specific symbol changeable to the new symbol capable of constructing the new winning symbol combina-

tion is displayed at the symbol display position, that is, an intersection of symbol columns each of which constructs the new winning symbol combination. Thereby, since the player cannot immediately judge what winning symbol combination is realized, tension for games can be given to the player.

[0010] The above and further objects and novel features of the invention will more fully appear from the following detailed description when the same is read in connection with the accompanying drawings. It is to be expressly understood, however, that the drawings are for purpose of illustration only and not intended as a definition of the limits of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The accompanying drawings, which are incorporated in and constitute a part of this specification illustrate embodiments of the invention and, together with the description, serve to explain the objects, advantages and principles of the invention.

[0012] In the drawings,

Fig. 1 is a perspective view of a slot machine according to the first embodiment,

Fig. 2 is a front view of a control panel in the embodiment,

Fig. 3 is a block diagram schematically showing a control system of the slot machine of the embodiment,

Fig. 4 is a block diagram showing a liquid crystal drive circuit of liquid crystal displays in the embodiment,

Fig. 5 is an explanatory view schematically showing an example of symbol columns variably displayed on variable display portions in a base game conducted in the slot machine of the embodiment,

Fig. 6 is an explanatory view showing winning symbol combinations and payouts thereof in the embodiment

Fig. 7 is an explanatory view showing a lottery table of stop display symbols in the embodiment,

Fig. 8 is an explanatory view showing stop display areas of five variable display portions in the embodiment,

Fig. 9 is an explanatory view showing a lottery table of the stop display symbols in the embodiment,

Fig. 10 is an explanatory view schematically showing an example of symbol columns variably displayed on the variable display portions in a bonus game conducted in the slot machine of the embodiment,

Fig. 11 is a flowchart of a main process program conducted in the slot machine of the embodiment,

Fig. 12 is a flowchart of a start acceptance process program conducted in the slot machine of the embodiment,

Fig. 13 is a flowchart of a lottery process program conducted in the slot machine of the embodiment,

Fig. 14 is a flowchart of a base game process program conducted in the slot machine of the embodiment,

Fig. 15 is a flowchart of a bonus game process program conducted in the slot machine of the embodiment,

Fig. 16 is a flowchart of a program for determining a display position of a symbol "BLANK",

Fig. 17 is an explanatory view showing a display state of five variable display areas determined in the lottery process,

Fig. 18 is an explanatory view showing a state indicating when the symbol is substituted for a symbol "HYPOTHETICAL BLANK",

Fig. 19 is an explanatory view showing winning symbol combinations realized in Fig. 18 (b),

Fig. 20 is an explanatory view showing a state of variably display by using the symbol "BLANK" which is displayed,

Fig. 21 is an explanatory view showing a state of variably display by using the symbol "BLANK", a symbol "A" being displayed in the state,

Fig. 22 is an explanatory view showing a state of variable display by the symbol "BLANK", a symbol "J" being displayed in the state,

Fig. 23 is an explanatory view showing a state of variable display by the symbol "BLANK", a symbol "FISH" being displayed in the state, and

Fig. 24 is an explanatory view showing a state of variable display by the symbol "BLANK", a symbol "WILD" being displayed in the state.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0013] Hereinafter, concerning with a gaming machine according to the present invention, embodiments embodying the present invention in a slot machine will be described in detail with reference to the drawings. First, an outline construction of the slot machine according to the embodiment will be described with reference to Figs. 1 to 3. Fig. 1 is a perspective view of the slot machine. Fig. 2 is a front view of a control panel. Fig 3 is a block diagram schematically showing a control system of the slot machine.

[0014] In Fig. 1, the slot machine 1 has a cabinet 2 which forms whole construction of the slot machine 1. At an upper position of a front plane of the cabinet 2, an upper liquid crystal display 3 is arranged and a lower liquid crystal display 4 is arranged on a device front panel 20 which is arranged at a center position of the front plane of the cabinet 2. Here, both the upper liquid crystal display 3 and the lower liquid crystal display 4 are constructed from liquid crystal display generally used. On the upper liquid crystal display 3, it is indicated information concerning with a game such as methods, kinds of winning symbol combinations and payouts corresponding thereto and various effects. And on a surface of the lower liquid

crystal display 4, credits are displayed and five variable display portions 21, 22, 23, 24 and 25 are basically displayed as shown in Fig. 1. On each of the variable display portions 21, 22, 23, 24 and 25, various symbols are variably displayed while being scrolled (hereinafter, called as "scroll display") from an upper direction toward a lower direction, thereafter stopped and displayed.

[0015] Therefore, in the slot machine 1 of the embodiment, a slot game (there exist a base game and a bonus game) is conducted through a video reels which are realized by displaying variable display portions 21 to 25 on the lower liquid crystal display 4. In the slot game (there exist a base game and a bonus game), there exist three symbols stopped and displayed on each of the variable display portions 21 to 25. That is to say, as shown in Fig. 8, each of the variable display portions 21 to 25 is constructed from a first stop display area, a second stop display area and a third stop display area. For example, the variable display portion 21 is constructed from a first stop display area 211, a second stop display area 212 and a third stop display area 213. In each of these stop display areas 211 to 213, 221 to 223, 231 to 233, 241 to 243, 251 to 253, the symbol is respectively stopped and displayed.

[0016] And in this slot game (base game and bonus game), there exist twenty-five pay lines, each pay line being constructed from five stop display areas among the stop display areas 211 to 213, 221 to 223, 231 to 233, 241 to 243 and 251 to 253. If each of the pay lines is activated and specific symbols are aligned with a specific display mode along the activated pay line when the symbols are stopped and displayed, a predetermined payout is given to the player. Here, explanation of twenty-five pay lines will be omitted.

[0017] Here, the pay line (s) activated among the 25 pay lines is/are called as "activated pay line (s)"

[0018] Back to Fig. 1, at an lower position of the lower liquid crystal display 4, a control panel 5 which is projected forward is formed. In the control panel 5 as shown in Fig. 9, a COLLECT button 31 and a GAME RULES button 32 are arranged in an upper step from the most left side.

[0019] And in a middle step from the most left side, a BET 1 PER LINE button 33, a BET 2 PER LINE button 34, a BET 3 PER LINE button 35, a BET 5 PER LINE button 36, a BET 8 PER LINE button 37 and a WIN START FEATURE button 38 are arranged. Further, in a lower step from the most left side, a RED PLAY 1 LINE button 39, a PLAY 2 LINES button 40, a PLAY 5 LINES button 41, a PLAY 20 LINES button 42, a BLACK PLAY 25 LINES button 43 and a GAMBLE RESERVE button 44 are arranged. And as shown in Fig. 1, at the right side of the control panel 5, a coin insertion slot 9 and a bill insertion portion 10 are provided.

[0020] Here, the COLLECT button 31 is a button which is pressed when the base game is terminated, and when the COLLECT button 31 is pressed, coins equal to the credits obtained in the game are paid out from a coin payout opening 15 to a coin tray 16. To the COLLECT

button 31, a COLLECT switch 45 is attached and a switch signal is output to a CPU 50 from the COLLECT switch 45 on the basis of press of the COLLECT button 31 (see Fig. 3).

[0021] The GAME RULES button 32 is a button which is pressed if operation methods of the game cannot be understood, and when the GAME RULES button 32 is pressed, various help information is displayed on the upper liquid crystal display 3 or the lower liquid crystal display 4. To the GAME RULES button 32, a GAME RULES switch 46 is attached and a switch signal is output to the CPU 50 from the GAME RULES switch 46 on the basis of press of the GAME RULES button 32 (see Fig. 3).

[0022] To the coin insertion slot 9 and the bill insertion slot 10, a coin sensor 49 and a bill sensor 67 are arranged, and when a coin or a bill is inserted in the coin insertion slot 9 or the bill insertion slot 10, a coin detection signal or a bill detection signal is output to the CPU 50 through the sensor corresponding thereto (see Fig. 3) and credit corresponding to the inserted coin or the bill is added.

[0023] The BET 1 PER LINE button 33 is a button to bet one credit to each of the activated pay lines every one press thereof.

[0024] Similarly, the BET 2 PER LINE button 34 is a button to start the game with 2 bets against each of the activated pay lines on the basis of press thereof, the BET 3 PER LINE button 35 is a button to start the game with 3 bets against each of the activated pay lines on the basis of press thereof, the BET 5 PER LINE button 36 is a button to start the game with 5 bets against each of the activated pay lines on the basis of press thereof, and the BET 8 PER LINE button 37 is a button to start the game with 8 bets against each of the activated pay lines on the basis of press thereof.

[0025] Further, to each of the above buttons, a 1-BET switch 57, a 2-BET switch 58, a 3-BET switch 59, a 5-BET switch 60 or a 8-BET switch 61 is attached and when each of the buttons is pressed, a switch signal is output to the CPU 50 from each of the switches (see Fig. 3). Therefore, there will exist 1 bet, 2 bets, 3 bets, 5 bets and 8 bets as the bet number which can be betted by press of the BET 1 PER LINE button 33, the BET 2 PER LINE button 34, the BET 3 PER LINE button 35, the BET 5 PER LINE button 36 and the BET 8 PER LINE button 37.

[0026] The WIN START FEATURE button 38 is a button to start a bonus game or add the payout obtained in the bonus game to the credit on the basis of press thereof. To the WIN START FEATURE button 38, a WIN-START switch 47 is attached and when the WIN START FEATURE button 38 is pressed, a switch signal is output to the CPU 50 from the WIN-START switch 47 (see Fig. 3).

[0027] The RED PLAY 1 LINE button 39 is a button to start the game while retaining the number of the activated pay line to "1" on the basis of press thereof. To the RED PLAY 1 LINE button 39, a 1-LINE switch 62 is attached and when the RED PLAY 1 LINE button 39 is pressed, a switch signal is output to the CPU 50 from the 1-LINE switch 62 (see Fig. 3).

[0028] And the PLAY 2 LINES button 40 is a button to start the game while retaining the number of the activated pay line to "2" on the basis of press thereof. Similarly, the PLAY 5 LINES button 41, the PLAY 20 LINES button 42 and the BLACK PLAY 25 LINES button 43 are buttons to start the game while retaining the number of the activated pay line to "5", "20" and "25" on the basis of press thereof.

[0029] To each of the above buttons, similar to the RED PLAY 1 LINE button 39, a 2-LINES switch 63, a 5-LINES switch 64, a 20-LINES switch 65 and a 25-LINES switch 66 are respectively attached and when each of the above switches is pressed, a switch signal is output to the CPU 50 from each of the switches on the basis of press thereof (see Fig. 3).

[0030] Therefore, there will exist "1" pay line, "2" pay lines, "5" pay lines, "20" pay lines and "25" pay lines as the number of the activated pay lines which can be determined by press of the RED PLAY 1 LINE button 39, the PLAY 2 LINES button 40, the PLAY 5 LINES button 41, the PLAY 20 LINES button 42, the BLACK PLAY 25 LINES button 43.

[0031] And each of the RED PLAY 1 LINE button 39, the PLAY 2 LINES button 40, the PLAY 5 LINES button 41, the PLAY 20 LINES button 42 and the BLACK PLAY 25 LINES button 43 is a button to start the game with the present bet number and the number of the activated pay lines and to start variable display of the symbols on each of the variable display portions 21 to 25 in the lower liquid crystal display 4.

[0032] Here, the RED PLAY 1 LINE button 39 and the BLACK PLAY 25 LINES button 43 are also used for selecting red or black in the double down game which is conducted by using the credit obtained in the bonus game.

[0033] The GAMBLE RESERVE button 44 is a button to be pressed when the player leaves the seat and to shift to the double down game after the bonus game is terminated. To the GAMBLE RESERVE button 44, a GAMBLE · RESERVE switch 48 is attached and when the GAMBLE RESERVE button 44 is pressed, a switch signal is output to the CPU 50 from the GAMBLE RESERVE switch 48 (see Fig. 3).

[0034] And at a lower position of the cabinet 2, a coin payout opening 15 is formed and a coin tray 16 for receiving coins paid out from the coin payout opening 15 is provided. Within the coin payout opening 15 it is arranged a coin detection portion 73 (mentioned later) which is constructed from sensors and the like (see Fig. 3). And the coin detection portion 73 counts the number of coins paid out from the coin payout opening 15.

[0035] Next, with reference to Fig. 5, it will be described the symbol columns which are variably displayed while being scrolled on each of the variable display portions 21 to 25, the symbol columns being displayed on the lower liquid crystal display 4 in the base game. In Fig. 5, the symbol column indicated by a first reel strip 101 corresponds to a symbol column variably displayed on the

variable display portion 21, the symbol column indicated by a second reel strip 102 corresponds to a symbol column variably displayed on the display portion 22, the symbol column indicated by a third reel strip 103 corresponds to a symbol column variably displayed on the variable display portion 23, the symbol column indicated by a fourth reel strip 104 corresponds to a symbol column variably displayed on the variable display portion 24 and the symbol column indicated by a fifth reel strip 105 corresponds to a symbol column variably displayed on the variable display portion 25.

[0036] Here, the symbol columns respectively indicated by the first to fifth reel strips 101 to 105 have different symbol columns from each other and each symbol column is constructed from 12 symbols by voluntarily combining "WILD", "SHARK", "FISH", "PUNK", "OCTOPUS", "CRAB", "WORM", "A", "K", "Q", "J" and "SARDINE".

[0037] Here, although "SHARK", "FISH", "PUNK", "OCTOPUS", "CRAB", "WORM", "SARDINE" are not shown, each symbol shows a shark, a fish, a person having a guitar, an octopus, a crab, a worm and a sardine, respectively. And each of "WILD", "A", "K", "Q" and "J" shows a symbol of English character (s), respectively.

[0038] Further, "SARDINE" is a scatter symbol to shift to the bonus game as mentioned later and in a case that more than three "SARDINE" symbols are totally displayed on the variable display portions 21 to 25, the game state can be shifted to the bonus game.

[0039] And "WILD" is an almighty symbol which can be substituted for any of "SHARK", "FISH", "PUNK", "OCTOPUS", "CRAB", "WORM", "A", "K", "Q" and "J". However, "WILD" cannot be substituted for "SARDINE" which is the scatter symbol.

[0040] Here, in a case that the symbol columns indicated by the first to fifth reel strips 101 to 105 are scrolled on the variable display portions 21 to 25 and thereafter stopped and displayed, three symbols are stopped and displayed in each variable display portion, as mentioned in the above.

[0041] And various winning symbol combinations are preset based on plural kinds of symbol combinations and when the symbol combination corresponding to the winning symbol combination is stopped on the activated pay line, the payout is added to the credit corresponding to the winning symbol combination. This point is as same as that in the convention slot machine, thus explanation thereof will be omitted.

[0042] Next, it will be described a construction of control system in the slot machine 1 with reference to Fig. 3. Fig. 3 is a block diagram schematically showing a control system of the slot machine 1.

[0043] In Fig. 3, the control system of the slot machine 1 is basically constructed from a CPU 50, and a ROM 51 and a RAM 52 are connected to the CPU 50. In the ROM 51, a main process program mentioned later, a base game process program, a bonus game process program, a lottery table used when it is conducted lottery to determine the symbols which are stopped and displayed in

the base game, a lottery table used when it is conducted lottery to determine the symbols which are stopped and displayed in the bonus game, and the other various programs necessary for control of the slot machine 1 and data tables. And the RAM 52 is a memory to temporarily store various data calculated by the CPU 50.

[0044] And to the CPU 50, a clock pulse generator 53 for generating standard clock pulses and a frequency divider 54 are connected, and a random number generator 55 for generating random numbers and a random number sampling circuit 56 are also connected. The random number sampled through the random number sampling circuit 56 is utilized in various lotteries of the winning symbol combinations and the like. Further, to the CPU 50, the switches corresponding to each of the buttons such as the COLLECT button 31 and the like are respectively connected.

[0045] Here, each of the switches respectively means the COLLECT switch 45, the GAME·RULES switch 46, the WIN·START switch 47, the GAMBLE·RESERVE switch 48, the 1-BET switch 57, the 2-BET switch 58, the 3-BET switch 59, the 5-BET switch 60, the 8-BET switch 61 each of which determines a coin number to be betted to for one pay line, the 1-LINE switch 62, the 2-LINES switch 63, the 5-LINES switch 64, the 20-LINES switch 65, the 25-LINES switch 66 each of which determines a number of the pay line.

[0046] The CPU 50 conducts control to execute various operations each of which corresponds to each button, based on the switch signal output from each switch by press thereof.

[0047] Further, to the CPU 50, the coin sensor 49 arranged in the coin insertion slot 9 and the bill sensor 67 arranged in the bill insertion portion 10 are respectively connected. The coin sensor 49 detects coins inserted from the coin insertion slot 9 and the CPU 50 calculates the number of inserted coins based on the coin detection signal output from the coin sensor 49. The bill sensor 67 detects kinds and sum of the bill inserted from the bill insertion portion 10 and the CPU 50 calculates the credit number equal to the sum of bill, based on the bill detection signal output from the bill sensor 67.

[0048] To the CPU 50, a hopper 71 is connected through a hopper drive circuit 70. When a drive signal is output to the hopper drive circuit 70 from the CPU 50, the hopper 71 pays out a predetermined number of coins from the coin payout opening 15.

[0049] And to the CPU 50, a coin detection portion 73 is connected through a payout completion signal circuit 72. The coin detection portion 73 is arranged in the coin payout opening 15 and when the coin detection portion 73 detects that a predetermined number of coins are paid out from the coin payout opening 15, a coin payout detection signal is output to the payout completion signal circuit 72 from the coin detection portion 73, thereby the payout completion signal circuit 72 outputs a payout completion signal to the CPU 50. Further, to the CPU 50, the upper liquid crystal display 3 and the lower liquid crystal

display 4 are connected through a liquid crystal drive circuit 74, and the upper liquid crystal display 3 and the lower liquid crystal display 4 are controlled by the CPU 50.

[0050] Here, as shown in Fig. 4, the liquid crystal drive circuit 74 is constructed from a program ROM 81, an image ROM 82, an image control CPU 83, a work RAM 84, a VDP (video display processor) 85 and a video RAM 68. And in the program ROM 81, there are stored an image control program for controlling display of the upper liquid crystal display 3 and the lower liquid crystal display 4 and various selection tables. And in the image ROM 82, for example, there are stored dot data for forming images of the symbol columns indicated by the first to fifth reel strips 101 to 105 in Fig. 5 and the symbol "LOB-STER" mentioned later, such images being displayed on the lower liquid crystal display 4 (or variable display portions 21 to 25).

[0051] And the image control CPU 83 determines the images displayed on the upper liquid crystal display 3 and the lower liquid crystal display 4 among the dot data stored beforehand in the image ROM 82, according to the image control program stored beforehand in the program ROM 81 based on parameters set by the CPU 50. Further, the work RAM 84 functions as temporary memory when the image control program is executed by the image control CPU 83. And the VDP 85 forms images corresponding to display contents determined by the image control CPU 83 and outputs such images to the upper liquid crystal display 3 and the lower liquid crystal display 4. Thereby, for example, the symbol columns indicated by the first to fifth reel strips 101 to 105 are scrolled and displayed on the lower liquid crystal display 4 (or the variable display portions 21 to 25). Here, the video RAM 86 functions as temporary memory when images are formed by the VDP 85.

[0052] And to the CPU 50, LEDs 78 are connected through a LED drive circuit 77. Many LEDs 78 are arranged on the front plane of the slot machine 1 and are controlled so as to turn on or turn off by the LED drive circuit 77 based on the drive signal from the CPU 50, when various effects are done. Further, a sound output circuit 79 and a speaker 80 are connected to the CPU 50 and the speaker 80 produces various effect sounds when various effects are conducted based on the output signal from the sound output circuit 79.

[0053] Here, it will be described with reference to Fig. 7 the lottery table which is used when the symbols stopped and displayed on the activated pay line constructed from the second stop display areas 212, 222, 232, 242, 252 of the variable display portions 21 to 25 are determined, when the base game is conducted by using five variable display portions 21 to 25 in the slot machine 1. Fig. 7 is an explanatory view showing a lottery table of the stop display symbols used when the base game is conducted by utilizing five variable display portions 21 to 25.

[0054] The symbols stopped and displayed on the activated pay line constructed from the second stop display

areas 212, 222, 232, 242 and 252 in the variable display portions 21 to 25 are determined every each of the variable display portions 21 to 25. In order to realize this, code Nos. "00" ~ "29" are respectively allotted to the symbol in each symbol column indicated by the first to fifth reel strips 101 to 105 as shown in Fig. 5, in order of the upper most symbol. And the lottery table shown in Fig. 7 is provided beforehand. Further, five random numbers are sampled by the random number sampling circuit 56 so as to correspond to each of the variable display portions 21 to 25.

[0055] Hereinafter, the symbol column indicated by the first reel strip 101 in Fig. 5, the symbol column being scrolled on the variable display portion 21, will be described. If the random number sampled by the random number sampling circuit 56 is "0", the symbol "J" (English character) allotted to the code No. "00" is stopped and displayed on the activated pay line. And if the random number is "2", the symbol "WILD" allotted to the code No. "02" is stopped and displayed on the activated pay line.

[0056] That is to say, based on the random number value sampled through the random number sampling circuit 56, the lottery table of the stop display symbols shown in Fig. 7 is referred and the code No. corresponding to the random number value is read out. And based on the code No. read out and the relation between the code No. shown in Fig. 5 and the symbol, it is determined the symbol stopped and displayed on the activated pay line constructed from the second stop display areas 212, 222, 232, 242 and 252 of the variable display portions 21 to 25.

[0057] Here, as for the symbol column indicated by the second reel strip 102 in Fig. 5 the symbols of which are scrolled on the variable display portion 22, the symbol column indicated by the third reel strip 103 in Fig. 5 the symbols of which are scrolled on the variable display portion 23, the symbol column indicated by the fourth reel strip 104 in Fig. 5 the symbols of which are scrolled on the variable display portion 24 and the symbol column indicated by the fifth reel strip 105 in Fig. 5 the symbols of which are scrolled on the variable display portion 25, the above control is similarly conducted.

[0058] Next, with reference to Fig. 6, it will be described the winning symbol combinations and payouts thereof in a case that the base game is executed by using five variable display portions 21 to 25 in the slot machine 1. Fig. 6 is an explanatory view showing the winning symbol combinations and payouts thereof in a case that the base game is executed by using five variable display portions 21 to 25, and shows payouts in a case that the bet number is "1". Therefore, if the bet number is "1", the payout number shown in Fig. 6 is added to the credit, and if the bet number is more than "2", the value obtained by multiplying the bet number with the payout number shown in Fig. 6 is added to the credit.

[0059] Here, the winning symbol combinations and payouts thereof in the base game will be concretely described. As shown in Fig. 6, for example, as for the symbol

"SHARK", if the symbols "SHARK" are stopped and displayed in series along the activated pay line on the variable display portions 21 and 22 (if two symbols "SHARK" appear in series from the left end (this case is called as "2K")), the payout number "3" can be obtained. And if the symbols "SHARK" are stopped and displayed in series along the activated pay line on the variable display portions 21 to 23 (if three symbols "SHARK" appear in series from the left end (this case is called as "3K")), the payout number "25" can be obtained. Further, if the symbols "SHARK" are stopped and displayed in series along the activated pay line on the variable display portions 21 to 24 (if four symbols "SHARK" appear in series from the left end (this case is called as "4K")), the payout number "150" can be obtained. And if the symbols "SHARK" are stopped and displayed in series along the activated pay line on the variable display portions 21 to 25 (if five symbols "SHARK" appear in series from the left end (this case is called as "5K")), the payout number "1000" can be obtained.

[0060] As mentioned, similarly to the symbol "SHARK", as for the symbol "FISH", the symbol "PUNK", the symbol "OCTOPUS", the symbol "CRAB", the symbol "WORM", the symbol "A", the symbol "K", the symbol "Q", the symbol "J", the payout is given corresponding to the number of the symbols which are serially displayed if the symbols are serially stopped and displayed on the activated pay line (see Fig. 6).

[0061] And as for the symbol "WILD", similarly to the above mentioned symbol, the payout shown in Fig. 6 is given corresponding to the number of the symbols "WILD" which are serially displayed if the symbols "WILD" are serially stopped and displayed on the activated pay line.

[0062] And the symbol "WILD" is substitutable for the symbol "SHARK", the symbol "FISH", the symbol "PUNK", the symbol "OCTOPUS", the symbol "CRAB", the symbol "WORM", the symbol "A", the symbol "K", the symbol "Q", the symbol "J". That is, if the symbol "SHARK", the symbol "SHARK", the symbol "WILD" and the symbol "SHARK" are stopped and displayed on the activated pay line from the left end thereof, the symbol "WILD" displayed on the variable display portion 23 is regarded as the symbol "SHARK". Thereby, similar to the case of 4K that four symbols "SHARK" serially appear from the left end thereof, the payout number "150" can be obtained.

[0063] On the other hand, as for the symbol "SARDINE", if two symbols "SARDINE" appear (are stopped and displayed) on the variable display portions 21 to 25 with no relation to the activated pay lines, that is, if the case "2K" is realized, the payout number "2" can be obtained. If three symbols "SARDINE" appear (are stopped and displayed) on the variable display portions 21 to 25 with no relation to the activated pay lines, that is, if the case "3K" is realized, the payout number "5" can be obtained. And if four symbols "SARDINE" appear (are stopped and displayed) on the variable display portions

21 to 25 with no relation to the activated pay lines, that is, if the case "4K" is realized, the payout number "10" can be obtained. Further, if five symbols "SARDINE" appear (are stopped and displayed) on the variable display portions 21 to 25 with no relation to the activated pay lines, that is, if the case "5K" is realized, the payout number "125" can be obtained.

[0064] Here, concerning with only the payout obtained by the symbol "SARDINE", the payout number calculated by multiplying the payout number shown in Fig. 6 with the total bet number (a product of the bet number and the number of activated pay line) is added to the credit. At that time, if it exists the payout other than the payout on the basis of the symbol "SARDINE", such payout is also added to the credit.

[0065] And as for the symbol "SARDINE", in a case that more than three symbols "SARDINE" are totally stopped and displayed on the variable display portions 21 to 25 with no relation to the activated pay lines, not only the above payout can be obtained but also the game state can be shifted to the bonus game.

[0066] Here, the bonus game is a game which is conducted after the base game is terminated, and in many cases the bonus game is generally more beneficial for the player. If the game state shifts to the bonus game, it is executed a game (so-called free game) in which 15 ~ 25 games can be continuously and automatically executed without betting any credits corresponding to a result of the lottery conducted when the game state shifts to the bonus game.

[0067] By the way, in the slot machine 1 according to the embodiment, when the bonus game is conducted, a lottery table shown in Fig. 9 is utilized. And in this bonus game, the symbol column variably displayed while being scrolled on the variable display portion 21 of the lower liquid crystal display 4 is the symbol column indicated by the first reel strip 123 shown in Fig. 10. Similarly, the symbol column variably displayed while being scrolled on the variable display portion 22 is the symbol column indicated by the second reel strip 124 shown in Fig. 10, the symbol column variably displayed while being scrolled on the variable display portion 23 is the symbol column indicated by the third reel strip 125 shown in Fig. 10. And on the variable display portion 24, the symbol column indicated by the fourth reel strip 126 is variably displayed, and on the variable display portion 25, the symbol column indicated by the fifth reel strip 127 is variably displayed.

[0068] Here, the symbol columns indicated by the reel strips 123 to 126 shown in Fig. 10 are as same as those indicated by the reel strips 101 to 104, which are utilized in the base game, shown in Fig. 5. On the other hand, the symbol column indicated by the reel strip 127 shown in Fig. 10 is substantially as same as the symbol column indicated by the reel strip 105, which is utilized in the base game, shown in Fig. 5, except for the symbol "WILD" allotted to the code No. "10".

[0069] Here, as the bet number and the number of ac-

tivated pay line in the bonus game, the bet number and the number of activated pay line set in the base game are utilized, respectively. And in the bonus game, although the winning symbol combinations and payouts thereof in the bonus game are as same as those in the base game, the symbol "SHARK" is regarded as the symbol "WILD" and if more than three symbols "SARDINE" totally appear (are totally stopped and displayed), the game state in the bonus game can be again shifted to the bonus game. Therefore, the player can obtain a lot of credits in many cases.

[0070] Next, the main process program executed in the slot machine 1 will be described with reference to Fig. 11. Fig. 11 is a flowchart of the main process program. In Fig. 11, at first, in step (abbreviated as "S" hereinafter) 11, a start acceptance process shown in Fig. 12 mentioned later is executed. This process is a process for accepting the switch signal output from the 1-BET switch 57, the 2-BET switch 58, the 3-BET switch 59, the 5-BET switch 60, the 8-BET switch 61, the 1-LINE switch 62, the 2-LINES switch 63, the 5-LINES switch 64, the 20-LINES switch 65, the 25-LINES switch 66, based on operation to determine a number of the pay line during one game through the BET 1 PER LINE button 33, the BET 2 PER LINES button 34, the BET 3 PER LINES button 35, the BET 5 PER LINES 36, the BET 8 PER LINES button 37, the RED PLAY 1 LINE button 39, the PLAY 2 LINES button 40, the PLAY 5 LINES button 41, the PLAY 20 LINES button 42 or the BLACK PLAY 25 LINES button 43. When the switch signal output from each switch is accepted, the game is started.

[0071] And in S12, a lottery process shown in Fig. 13 mentioned later is executed based on the switch signal output from the 1-LINE switch 62, the 2-LINES switch 63, the 5-LINES switch 64, the 20-LINES switch 65, the 25-LINES switch 66.

[0072] Here, if the bonus game is won, a repeat number of the bonus game is determined. In this case, for example, such repeat number is selected among 10 ~ 25 games by a lottery.

[0073] Next, in S13, a base game process shown in Fig. 14 mentioned later is executed. Thereafter, procedure shifts to S 14 and it is determined whether or not the bonus game is won. Concretely, in the lottery process in S12, if more than three symbols "SARDINE" totally appear (are stopped and displayed) on the variable display portions 21 to 25 with no relation to the activated pay lines, the bonus game is won (S14: YES). Thereby, procedure shifts to S15 and the main process program is terminated after the bonus game process shown in Fig. 15 mentioned later is executed. On the other hand, in the lottery process of S12, if more than three symbols "SARDINE" does not totally appear (are not stopped and displayed) on the variable display portions 21 to 25 with no relation to the activated pay lines, the bonus game is not won (S14: NO), thereby the main process program is terminated.

[0074] Next, the start acceptance process program

conducted in the slot machine 1 will be described with reference to Fig. 12. Fig. 12 is a flowchart of the start acceptance process program. In S11 of the main process program shown in Fig. 11, the start acceptance process is conducted. Here, to conduct this process, at first, procedure shifts to S21 of Fig. 12 and it is determined whether or not a predetermined time (for example, 15 seconds) is elapsed. Here, if it is determined that the predetermined time is not elapsed (S21: NO), procedure shifts to S23, and on the other hand, if it is determined that the predetermined time is elapsed (S21: YES), demonstration effect is done on the upper liquid crystal display 3 or the lower liquid crystal display 4 in S22, thereafter procedure shifts to S23.

[0075] And in S23, it is determined whether or not operation of the RED PLAY 1 LINE button 39, the PLAY 2 LINES button 40, the PLAY 5 LINES button 41, the PLAY 20 LINES button 42 or the BLACK PLAY 25 LINES button 43 is done. Here, if it is determined that operation of the RED PLAY 1 LINE button 39 and the like is not done (S23: NO), procedure returns to S21 and the above procedures are repeated. On the other hand, if it is determined that operation of the RED PLAY 1 LINE button 39 and the like is done (S23: YES), procedure returns to the main process program of Fig. 11 and shifts to the lottery process in S12 even while the demonstration effect is done.

[0076] Here, in the determination process in S23, such determination in S23 may be conducted based on the other input signals other than the above operation signals.

[0077] Next, the lottery process program executed in the slot machine 1 will be described with reference to Fig. 13. Fig. 13 is a flowchart of the lottery process program. In S12 of the main process program shown in Fig. 11, the lottery process is executed. To conduct this process, at first, procedure shifts to S31 of Fig. 13 and a symbol determination process is conducted. Here, the symbols stopped and displayed on the activated pay line constructed from the second stop display areas 212, 222, 232, 242, 252 of the variable display portions 21 to 25 in the base game are determined every each of the variable display portions 21 to 25. Concretely, as mentioned above, five random number values are sampled by the random number sampling circuit 56 so as to correspond to each of the variable display portions 21 to 25 and the symbols stopped and displayed are determined through the code Nos. based on the lottery table shown in Fig. 7. And if the symbols stopped and displayed on the activated pay line are determined, a determination process of the winning symbol combination is executed in S32, thereafter procedure returns to the main process program in Fig. 11 and shifts to the base game process in S13. Here, concretely speaking, in the determination process of the winning symbol combination, the winning symbol combination and the payout thereof are determined based on the table shown in Fig. 6 through the code No. obtained in S31, as mentioned.

[0078] Next, the base game process program executed in the slot machine 1 will be described with reference to Fig. 14. Fig. 14 is a flowchart of the base game process program. In S13 of the main process program shown in Fig. 11, the base game is conducted. To realize this, at first, in S41, scroll of each of the symbols is done on the variable display portions 21 to 25 based on the switch signal output from the 1-LINE switch 62, the 2-LINES switch 63, the 5-LINES switch 64, the 20-LINES switch 65 or the 25-LINES switch 66, the switch signal being accepted in S11 mentioned in the above.

[0079] And in S42, scroll of each of the symbols on the variable display portions 21 to 25 is stopped. Here, in this stop control process (S42), although variable display by the symbol "BLANK" is conducted, explanation thereof will be omitted here, and instead thereof such variable display will be described hereinafter.

[0080] Further, in S43, according to the symbol combination corresponding to the winning symbol combination stopped and displayed on the variable display portions 21 to 25, the credit corresponding to the payout determined on the basis of the table shown in Fig. 6 is paid out. Here, after process in S43 is executed, procedure shifts to the main process program shown in Fig. 11 and shifts to the determination process in S14 to determine whether or not the bonus game is won.

[0081] Next, the bonus game process program executed in the slot machine 1 will be described with reference to Fig. 15. Fig. 15 is a flowchart of the bonus game process program. In S14 of the main process program shown in Fig. 11, if it is determined that the bonus game is won (S14: YES), procedure shifts to S15 and the bonus game process is conducted. To realize this, at first, procedure shifts to S51 shown in Fig. 15 and the lottery process during the bonus game is executed. Here, in the bonus game, the symbols stopped and displayed on the activated pay line constructed from the second stop display areas 212, 222, 232, 242, 252 of the variable display portions 21 to 25 are determined every each of the variable display portions 21 to 25. Concretely, as mentioned, five random number values are sampled by the random number sampling circuit 56 so as to correspond to each of the variable display portions 21 to 25, and the symbols stopped and displayed are determined through the code Nos. of Fig. 10 based on the lottery table shown in Fig. 9. And if the symbols stopped and displayed on the pay line are determined, the winning symbol combination and the payout thereof are determined based on the table shown in Fig. 6 through the code Nos..

[0082] Further, in the scroll process in S52, scroll of each of the symbols is automatically done on the variable display portions 21 to 25.

[0083] And in the stop control process in S53, scroll of each of the symbols on the variable display portions 21 to 25 is stopped. Here, also in this stop control process (S53), variable display of the symbol "BLANK" mentioned later is conducted.

[0084] Further, in the payout process in S54, according

to the symbol combination corresponding to the winning symbol combination stopped and displayed on the variable display portions 21 to 25, the credit corresponding to the payout determined based on the table in Fig. 6 (however, the symbol "SHARK" is regarded as the symbol "WILD" (English characters)) is paid out.

[0085] Next, procedure shifts to S55 and it is determined whether or not the execution number of times of the bonus game reaches to the number of times determined in S12 of Fig. 11. At that time, if it is determined that the execution number of times of the bonus game does not reach to the number of times already determined in S12 of Fig. 11 (S55: NO), procedure returns to S51 and the above processes are repeated. On the other hand, if it is determined that the execution number of times of the bonus game reaches to the number of times already determined in S12 of Fig. 11 (S55: YES), the bonus game process program is terminated.

[0086] Here, if the bonus game is won in S51, the repeat number of times of the bonus game is determined again and the determined repeat number of times is added to the "number of times determined in S12 of Fig. 11" used in the determination process in S55. Thereby, when the bonus game is won during the bonus game, procedure can again shift to the bonus game. Concretely speaking, for example, in a case that procedure shifts to the bonus game with 20 number of times for the first time and the bonus game with 17 number of times is won in the twelfth bonus game, the bonus games are conducted in 25 times (20 times - 12 times + 17 times) thereafter.

[0087] And if the credit can be finally obtained in the bonus game, a double down game to bet the credit is executed after the bonus game is terminated. This double down game will be omitted.

[0088] As mentioned in the above, the CPU 50 functions as "game control device" when the main process program of Fig. 16 is executed.

[0089] By the way, in the base game conducted in the slot machine 1 according to the embodiment, when the symbols are stopped and displayed on the variable display portions 21 to 25, the symbol "BLANK" is displayed at a position through which a plurality of winning symbol combinations are realized. And at the position where the symbol "BLANK" is displayed, the symbol "BLANK", the symbol "WILD" and the symbol constructing plural winning symbol combinations (any one of the symbol "SHARK", the symbol FISH", the symbol "PUNK", the symbol OCTOPUS", the symbol "CRAB", the symbol "WORM", the symbol "A", the symbol "K", the symbol "Q" and the symbol "J") are sequentially and variably displayed.

[0090] Here, the symbol "BLANK" is a space display area where no symbol is described within the stop display area and corresponds to a specific symbol in the present invention.

[0091] Here, a program executed when the display position of the symbol "BLANK" is determined will be described with reference to the drawings. Fig. 16 is a flow-

chart of a variable display position determination program of the symbol "BLANK".

[0092] The flowchart of Fig. 16 is executed at a timing W1 right after the lottery process is conducted in S12 in the main process program shown in Fig. 11. That is to say, in the main process program in Fig. 11, after the lottery process is conducted in S12, procedure shifts to S101 in Fig. 16 and it is determined whether or not the winning symbol combination is realized in the symbol combination on the pay line. Here, as determination in S101, the determination result of the winning symbol combination determination process of S32 in the lottery process of Fig. 13 may be utilized.

[0093] And based on determination in S101, if it is determined that the winning symbol combination is realized (S101: YES), procedure shifts to S103. In S103, it is referred whether or not the other winning symbol combination different from the winning symbol combination realized in the lottery process in S12 is realized, while substituting any one of plural symbols constructing the winning symbol combination on the pay line for a symbol which conducts function similar to that of the symbol "WILD".

[0094] Here, the symbol having function similar to that of the symbol "WILD" is not a symbol factually displayed on the variable display portions 21 to 25 but a hypothetical symbol utilized during inner process of the slot machine 1, therefore such symbol is called as a symbol "HYPOTHETICAL WILD" hereinafter and is indicated in Figs. 18 and 19 as the symbol "WILD".

[0095] On the other hand, if it is determined that the winning symbol combination is not realized in the symbol combination on the pay line (S101: NO), procedure returns to the main process program in Fig. 11 and shifts to the base game process in S 13.

[0096] According to a reference result whether or not the other winning symbol combination is realized, in a case that the other winning symbol combination different from the winning symbol combination realized in the lottery process is realized, a number of the winning symbol combination which is realized (number of the winning symbol combination) and total payout data given based on the winning symbol combinations realized are stored in the RAM 52.

[0097] On the contrary, in a case that only the winning symbol combination which is realized in the lottery process is realized, the number of the winning symbol combination realized in the lottery process and total payout data given based thereon are stored in the RAM 52. After the number of the winning symbol combination and the total payout data are stored in the RAM 52, procedure shifts to S104. Here, at that time, a kind of the symbol constructing the other winning symbol combination is also stored in the RAM 52.

[0098] And in S104, it is determined whether or not the process in S103 is conducted for all of plural symbols constructing the winning symbol combination on the pay line. If it is determined that the process in S103 is con-

ducted for all of plural symbols constructing the winning symbol combination on the pay line (S104: YES), procedure shifts to S105. On the other hand, if it is determined that the process in S103 is not conducted for all of plural symbols constructing the winning symbol combination on the pay line (S104: NO), procedure returns to S102 and the process in S103 is conducted for the symbols, which constructs the winning symbol combination on the pay line, about which reference is not completed yet.

[0099] In S105, among the symbols constructing the winning symbol combination, it is determined whether or not it exists a symbol position according to which the other winning symbol combination different from the winning symbol combination already realized in the lottery process is realized. If it is determined that the symbol position to realize the other winning symbol combination exists (S105: YES), procedure shifts to S106. On the other hand, if it is determined that the symbol position to realize the other winning symbol combination does not exist (S105: NO), procedure returns to the main process program in Fig. 11 and shifts to the base game process in S13.

[0100] And in S106, the symbol position on which the symbol "BLANK" is variably displayed is determined. This determination is conducted based on the number of the winning symbol combination every the symbol position according to which the winning symbol combination is realized and the total payout data. In the embodiment, at first, among 2 ~ 5 symbols constructing the winning symbol combination, it is determined the symbol position according to which the number of the winning symbol combination becomes largest in a case that the other winning symbol combination is realized. And if the symbol position cannot be determined according to a size of the number of the winning symbol combination, it is determined the symbol position according to which the total payout including that of the other winning symbol combination becomes largest.

[0101] Based on the above rules, it is determined the position where the symbol "BLANK" is displayed, thereafter procedure shifts to S13.

[0102] And the base game process progresses (S13) and in the stop control process (S42), variable display of the symbol "BLANK" is conducted. Variable display of the symbol "BLANK" in the embodiment is done at the symbol position determined in S106 so that the symbol "BLANK", the symbol "WILD", the symbol determined in the lottery process (S12) and the symbol constructing the other winning symbol combination are serially changed and displayed. At the symbol position, after the symbol "BLANK", the symbol "WILD", the symbol determined in the lottery process (S12) and the symbol constructing the other winning symbol combination are variably displayed for a predetermined time, the symbol determined in the lottery process (S12) is stopped and displayed at the symbol position. Thereafter, procedure shifts to S43.

[0103] Here, as for the process shown in Fig. 16, the

same display control can be conducted in the bonus game if such process is executed at a timing W2 right after the lottery process in S51 in the bonus game process program of Fig. 15 is conducted. However, in the bonus game, the symbol "SHARK" is similarly regarded as the symbol "WILD", and after the process in S106 of Fig. 16 is conducted, procedure returns to the bonus game process program of Fig. 15 and shifts to the scroll process in S52.

[0104] And also in the stop control process in S53 in the bonus game process program, the symbol "BLANK", the symbol "WILD", the symbol determined in the lottery process (S51) and the symbol constructing the other winning symbol combination are serially changed and displayed at the symbol position determined in S106. At the symbol position, after the symbol "BLANK", the symbol "WILD", the symbol determined in the lottery process (S51) and the symbol constructing the other winning symbol combination are variably displayed for a predetermined time, the symbol determined in the lottery process (S51) may be stopped and displayed at the symbol position, thereafter procedure may shift to S54.

[0105] Here, the flowchart shown in Fig. 16 and variable display conducted in the stop control process (S42, S53) will be described with reference to the drawings according to the concrete examples.

[0106] As the concrete example, it is raised a case (see Fig. 17) that it is realized the winning symbol combination (case of 4K of the symbol "A") in which four symbols "A" are continuously displayed in the first stop display areas 211, 221, 231, 241 according to a lottery result in S12. Explanation thereof will be done in detail. Here, for explanation's sake, it is supposed that all twenty-five pay lines are activated.

[0107] As a result of the lottery process (S12), after it is determined to realize the winning symbol combination in which four symbols "A" are continuously displayed in the first stop display areas 211, 221, 231, 241, the flowchart shown in Fig. 16 is executed at the timing W1 right after such determination.

[0108] Since the winning symbol combination is realized in determination in S101 as mentioned, procedure shifts to S103. In S103, it is referred whether the other winning symbol combination is realized while substituting one of the symbols "A" constructing the winning symbol combination (symbol combination of 4K of the symbol "A") in the first stop display areas 211, 221, 231, 241 for the symbol "HYPOTHETICAL WILD".

[0109] At first, the symbol "A" displayed in the first stop display area 211 is substituted for the symbol "HYPOTHETICAL WILD" (see Fig. 18 (a)), and it is referred the other winning symbol combination realized independently of the winning symbol combination already realized (case of 4k of symbol "A") if the first stop display area 211 is regarded as the symbol "HYPOTHETICAL WILD". In a state shown in Fig. 18 (a), only the winning symbol combination (case of 4k of symbol "A") realized in the lottery process (S12) is realized, thus the other winning

symbol combination is not realized. Based on this result, the number of the winning symbol combination (= 1) and the total payout data (= 25) are stored in the RAM 52, thereafter procedure shifts to S 104.

[0110] Here, in S104, in this case, although it is determined whether or not the process in S103 is terminated for all of the first stop display areas 211, 221, 231, 241, 251, such process is done for only the first stop display area 211 (S104: NO) at this timing, therefore procedure returns to S103.

[0111] Next, in S103, the symbol "A" displayed in the first stop display area 221 is substituted for the symbol "HYPOTHETICAL WILD" (see Fig. 18 (b)), and it is referred the other winning symbol combination realized independently of the winning symbol combination already realized (case of 4k of symbol "A").

[0112] At that time, in the slot machine 1 of the embodiment, different from the case that the other winning symbol combination is referred concerning with the first stop display area 211, two winning symbol combinations are realized independently of the winning symbol combination (case of 4k of symbol "A"). Here, the winning symbol combinations realized when the symbol "A" in the first stop display area 221 is processed as the symbol "HYPOTHETICAL WILD" will be described with reference to the drawings.

[0113] At first, as mentioned, since the winning symbol combination, in which four symbols "A" are continuously displayed in the first stop display areas 211, 221, 231, 241 (case of 4k of symbol "A"), the same winning symbol combination (case of 4k of symbol "A") is realized (see Fig. 19 (a)) in a case that the symbol "A" in the first stop display area 221 is processed as the symbol "HYPOTHETICAL WILD".

[0114] At that time, as shown in Fig. 18 (b), if the symbol "A" in the first stop display area 221 is processed as the symbol "HYPOTHETICAL WILD", since the symbol "J" is displayed in both the third stop display areas 213 and 233, the winning symbol combination (case of 3k of symbol "J"), in which three symbols "J" are continuously displayed, is realized on the pay line constructed from the first stop display areas 221, 241, 251 and the third stop display areas 213, 233 (see Fig. 19 (b)).

[0115] Further, since the symbol "FISH" is displayed in the second stop display area 212, the winning symbol combination (case of 2k of symbol "FISH"), in which two symbols "FISH" are continuously displayed, is realized on the pay line constructed from the first stop display areas 221, 241 and the second stop display area 212 and the third stop display areas 233, 253 (see Fig. 19 (c)).

[0116] As mentioned, in case that the symbol "A" in the first stop display area 221 is processed as the symbol "HYPOTHETICAL WILD", two winning symbol combinations (case of 3k of symbol "J" and case of 2k of symbol "FISH"), in addition to the winning symbol combination (case of 4k of symbol "A") realized in the lottery process (S12), are realized. And the number of the winning symbol combination (=3) realized if the symbol in the first

stop display area 221 is processed as the symbol "HYPOTHETICAL WILD" and the total payout data (=32) totally added for each of the winning symbol combinations (see Fig. 6) are stored in the RAM 52. Further, in S104, since the process of S103 is not terminated yet for the first stop display areas 231 and 241, procedure again returns to S103.

[0117] And the symbol "A" displayed in the first stop display area 231 is processed as the symbol "HYPOTHETICAL WILD" (see Fig. 18 (c)) and it is referred the other winning symbol combination which is realized independently of the winning symbol combination (case of 4k of symbol "A"). In the slot machine 1 of the embodiment, in the state shown in Fig. 18 (c), only the winning symbol combination (case of 4k of symbol "A"), which is already realized in the lottery process (S12), is realized, and the other winning symbol combination is not realized. Based on this result, the number of the winning symbol combination (=1) and the total payout data (=25) are stored in the RAM 52, thereafter procedure shifts to S104.

[0118] Here, in S104, since the process concerning with the first stop display area 241 in S103 is not terminated yet, procedure returns to S104.

[0119] Here, the symbol "A" displayed in the first stop display area 241 is processed as the symbol "HYPOTHETICAL WILD" (see Fig. 18 (d)) and it is referred the other winning symbol combination which is realized independently of the winning symbol combination (case of 4k of symbol "A"). In the slot machine 1 of the embodiment, in the state shown in Fig. 18 (d), only the winning symbol combination (case of 4k of symbol "A"), which is already realized in the lottery process (S12), is realized, and the other winning symbol combination is not realized. Based on this result, the number of the winning symbol combination (=1) and the total payout data (=25) are stored in the RAM 52, thereafter procedure shifts to S104.

[0120] At that time, in S104, it is determined that reference in S103 is terminated for all of the first stop display areas 211, 221, 231, 241 in which the symbols constructing the winning symbol combination (case of 4k of symbol "A") are displayed (S104: YES), procedure shifts to S105. And in this case, the other winning symbol combinations (case of 4k of symbol "J" and case of 2k of symbol "FISH") are realized (S105: YES) if the symbol "A" in the first stop display area 221 is processed as the symbol "HYPOTHETICAL WILD" and procedure shifts to the variable display position determination process (S106).

[0121] In S 106, based on the number of the winning symbol combination and the total payout data stored in the RAM 52 in the process of S103 which is conducted every each of the symbols constructing the winning symbol combination (case of 4k of symbol "A"), the display position of the symbol "BLANK" is determined. In the slot machine 1 of the embodiment, at first, the display position of the symbol "BLANK" is determined in the stop display area through which the most winning symbol combinations are realized. In this example, as mentioned, if the symbol "A" in the first stop display area 221 is processed

as the symbol "HYPOTHETICAL WILD", three winning symbol combinations are realized and if the symbol "A" in the first stop display area 211, 231, 241 is processed as the symbol "HYPOTHETICAL WILD", only one winning symbol combination is realized, therefore the display position of the symbol "BLANK" is determined in the first stop display area 221.

[0122] In this case, although the display position of the symbol "BLANK" can be determined according to size of the number of the winning symbol combination, for example, if three winning symbol combinations are realized in the first stop display area 231 in addition to the first stop display area 221, the display position of the symbol "BLANK" is determined in the stop display area according to which the total payout data stored in the RAM 52 become larger. After the display position of the symbol "BLANK" is determined in S106, process in the flowchart shown in Fig. 16 is terminated, thereafter procedure shifts to the base game process (S13).

[0123] Here, in the embodiment, although the display position of the symbol "BLANK" is determined based on size of the number of the winning symbol combination, and if further determination is required, the total payout data are utilized, the display position of the symbol "BLANK" may be determined based any one of the number of the winning symbol combination and the total payout data.

[0124] And the display position of the symbol "BLANK" may be determined based on the result that such display position is judged first based on the total payout data and thereafter judged based on the number of the winning symbol combination. In this case, in the above mentioned concrete example, the total payout data become 32 coins if the symbol "A" in the first stop display area 221 is processed as the symbol "HYPOTHETICAL WILD" and the total payout data become 25 coins if the symbol "A" in each of the first stop display areas 211, 231, 241 is processed as the symbol "HYPOTHETICAL WILD" (see Fig. 18 (a), (c), (d)), therefore the display position of the symbol "BLANK" is determined in the first stop display area 221.

[0125] And in the stop control process (S42) in the base game process program, the symbol "BLANK" is variably displayed in the display position of the symbol "BLANK" determined in S106.

[0126] Here, variable display of the symbol "BLANK" will be described by using the above mentioned concrete example with reference to Fig. 20.

[0127] At first, in the stop control process (S42), scroll of the symbols on the variable display portions 21 to 25 on which the symbols are scrolling is stopped. At that time, since the first stop display area 221 is determined as the display position of the symbol "BLANK" in S106, the symbol "BLANK" is displayed (see Fig. 20) instead of the symbol "A" determined in the lottery process (S12).

[0128] And in the first stop display area 221 in which the symbol "BLANK" is displayed, it is conducted variable display in which the symbol "BLANK", the symbol "WILD"

and the symbol capable of obtaining the winning symbol combination when stopped are sequentially changed. Explaining based on the mentioned example, right after scroll is stopped, the symbol "BLANK" is displayed in the first stop display area 221 (see Fig. 20).

[0129] And the symbol capable of constructing the winning symbol combination is read out from the RAM 52 and display in the first stop display area 221 is changed one by one with a predetermined time interval.

[0130] Here, the symbol capable of constructing the winning symbol combination is the symbol "A" constructing the winning symbol combination (case of 4k of symbol "A", see Fig. 21), the symbol "J" constructing the winning symbol combination (case of 3k of symbol "J", see Fig. 22), the symbol "FISH" constructing the winning symbol combination (case of 2k of symbol "FISH", see Fig. 23) and the symbol "WILD" through which all of the winning symbol combinations (case of 4k of symbol "A", case of 3k of symbol "J", case of 2k of symbol "FISH", see Fig. 24) are realized.

[0131] Variable display of these five symbols (symbol "BLANK", symbol "A", symbol "J", symbol "FISH", symbol "WILD") are serially changed in order of the symbol "BLANK", the symbol "A", the symbol "J", the symbol "FISH", the symbol "WILD", the symbol BLANK..., as shown in Figs. 20 to 24, and after such variable display is conducted for a predetermined time, display contents (symbol "A") of the first stop display area 221 determined in the lottery process (S12) are stopped and displayed.

[0132] Therefore, the image control CPU 83 functions as "display control device" when executing variable display of the symbol "BLANK" in the stop control process in S43 of Fig. 14.

[0133] In the slot machine 1 of the embodiment, as mentioned, while variable display for serially changing five symbols (symbol "BLANK", symbol "A", symbol "J", symbol "FISH", symbol "WILD") is conducted, the player cannot judge whether the coin number becomes 25 or 5 or 2 or 32.

[0134] That is to say, while the symbol "BLANK" is variably displayed, the player can enjoy comfortable tension whether or not all of plural winning symbol combinations are realized and many coins can be obtained based on that the symbol "WILD" is displayed, or whether or not only one winning symbol combination is realized and a few coins for one winning symbol combination can only be obtained based on that the symbols except for the symbol "WILD" are displayed.

[0135] As mentioned in the above in detail, in the slot machine 1 of the embodiment, in a case that the winning symbol combination shown in the table of Fig. 13 is realized in the symbol combination stopped and displayed on the variable display portions 21 to 25 of the lower liquid crystal display 4 and the other winning symbol combination is realized by substituting one symbol constructing the winning symbol combination for a different symbol, the symbol "BLANK" is displayed in the symbol display position thereof and it is conducted variable display in

which the symbol "BLANK", the symbol "WILD", the symbol constructing the winning symbol combination and the symbol constructing the other winning symbol combination are sequentially changed and displayed.

[0136] Describing this point by using the mentioned example, in a case that the symbols are stopped and displayed on each of the variable display portions 21 to 25 as shown in Fig. 17 and all of twenty-five pay lines are activated for explanation's sake, the symbol "BLANK" is displayed instead of the symbol "A" stopped and displayed in the first stop display area 221 of the variable display portion 22.

[0137] And it is conducted variable display (see Figs. 20 to 24) in which the symbol "BLANK", the symbol "A", the symbol "J", the symbol "FISH" and the symbol "WILD" are sequentially changed in the first stop display area 221, thereby it is indicated to the player possibility to win four kinds of the winning patterns including: the winning pattern to win the winning symbol combination of 4k of the symbol "A"; the winning pattern to win the winning symbol combination of 3k of the symbol "J"; the winning pattern to win the winning symbol combination of 2k of the symbol "FISH"; the winning pattern to win all of the winning symbol combinations constructed from the winning symbol combination of 4k of the symbol "A", the winning symbol combination of 3k of the symbol "J" and the winning symbol combination of 2k of the symbol "FISH".

[0138] Thereby, since the player cannot easily judge which winning pattern is won, the player can enjoy comfortable tension while the symbol "BLANK" is variably displayed.

[0139] And in the mentioned example, the display position of the symbol "BLANK" is first determined based on the number of the winning symbol combination. Thereby, it concludes that the symbol "BLANK" is displayed in the symbol position through which the most kinds of the symbols are variably displayed. As a result, since it becomes difficult to judge which winning pattern is won among many patterns, tension given to the player further becomes strong:

[0140] Further, the display position of the symbol "BLANK" is determined to the position that the total payout data become largest by using the total payout data stored in the RAM 52. Thereby, it is given to the player expectation to obtain high payout, thus new interest for the slot machine 1 can be provided.

[0141] Here, the present invention is not limited to the above mentioned embodiment and various modifications may be done within the scope of the present invention. For example, in the slot machine 1 of the embodiment, although the specific symbol of the present invention is realized by using the symbol "BLANK", the specific symbol is not limited to the symbol "BLANK" which indicates a space symbol area. Among the symbols used in the embodiment, for example, the symbol "WILD" may be used as the specific symbol and the other new symbol may be also used as the specific symbol.

[0142] And in the slot machine 1 of the embodiment, although the image control CPU 83 variably changes only the display position of the symbol "BLANK", display mode of the other symbol can be changed in connection with variable display of the symbol "BLANK".

[0143] Explaining by using the example concretely described in the embodiment, in a case that five symbols (the symbol "BLANK", the symbol "A", the symbol "J", the symbol "FISH", the symbol "WILD") are variably displayed in the first stop display area 221, corresponding to the symbol displayed in the first stop display area 221, the symbol constructing the winning symbol combination of 4k of the symbol "A", the symbol constructing the winning symbol combination of 3k of the symbol "J", the winning symbol combination of 2k of the symbol "FISH" and the symbol constructing all of the winning symbol combinations constructed from the winning symbol combination of 4k of the symbol "A", the winning symbol combination of 3k of the symbol "J", the winning symbol combination of 2k of the symbol "FISH" may be displayed with normal brightness and the symbols in the other portions may be displayed with a little bit dark display mode. Thereby, the player can easily grasp what winning symbol combination is constructed by the symbol variably displayed through the symbol "BLANK" and what payout can be obtained, thereby tension for games can be further increased.

[0144] Further, although the slot machine 1 of the embodiment conducts the video slot game through five reels, it may be conducted the video slot game through three reels or nine reels.

[0145] The present invention can be applied to a case that the game is executed by using symbols displayed on the display device.

Claims

1. A gaming machine comprising:

- a display device for displaying plural kinds of symbols;
- a lottery device for conducting a lottery to determine a symbol combination constructed from the symbols, the symbol combination being stopped and displayed on the display device;
- a first determination device for determining whether or not the symbol combination stopped and displayed on the display device becomes a winning symbol combination;
- a payout device for conducting a payout corresponding to the winning symbol combination if the first determination device determines that the symbol combination becomes the winning symbol combination;
- the gaming machine further comprising:
 - a substitution device for substituting one of the symbols in the symbol combination for a hypo-

thetical symbol which is substitutable for any of the symbols if the first determination device determines that the symbol combination becomes the winning symbol combination;

a second determination device for determining whether or not a new symbol combination including the hypothetical symbol becomes a new winning symbol combination;

a reference device for referring a symbol display position where the hypothetical symbol is displayed in the display device if the second determination device determines that the new symbol combination becomes the new winning symbol combination; and

a display control device for displaying a specific symbol at the symbol display position, the specific symbol being changeable to a new symbol capable of constructing the new winning symbol combination.

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2. The gaming machine according to claim 1, wherein the substitution device sequentially substitutes all of the symbols in the symbol combination for the hypothetical symbol one by one, and

wherein the second determination device determines whether or not all new symbol combinations formed based on sequential substitution by the substitution device become the new winning symbol combinations.

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

a count device for counting a number of the new winning symbol combination and the payout corresponding to each of the new winning symbol combinations based on a determination result by the second determination device.

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4. The gaming machine according to claim 3, wherein the reference device refers the symbol display position at which the number of the new winning symbol combination becomes largest.

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5. The gaming machine according to claim 3, wherein the reference device refers the symbol display position at which the payout becomes highest.

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6. The gaming machine according to claim 1, wherein a plurality of new symbols capable of constructing the new winning symbol combinations are variably displayed at the symbol display position.

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FIG.1

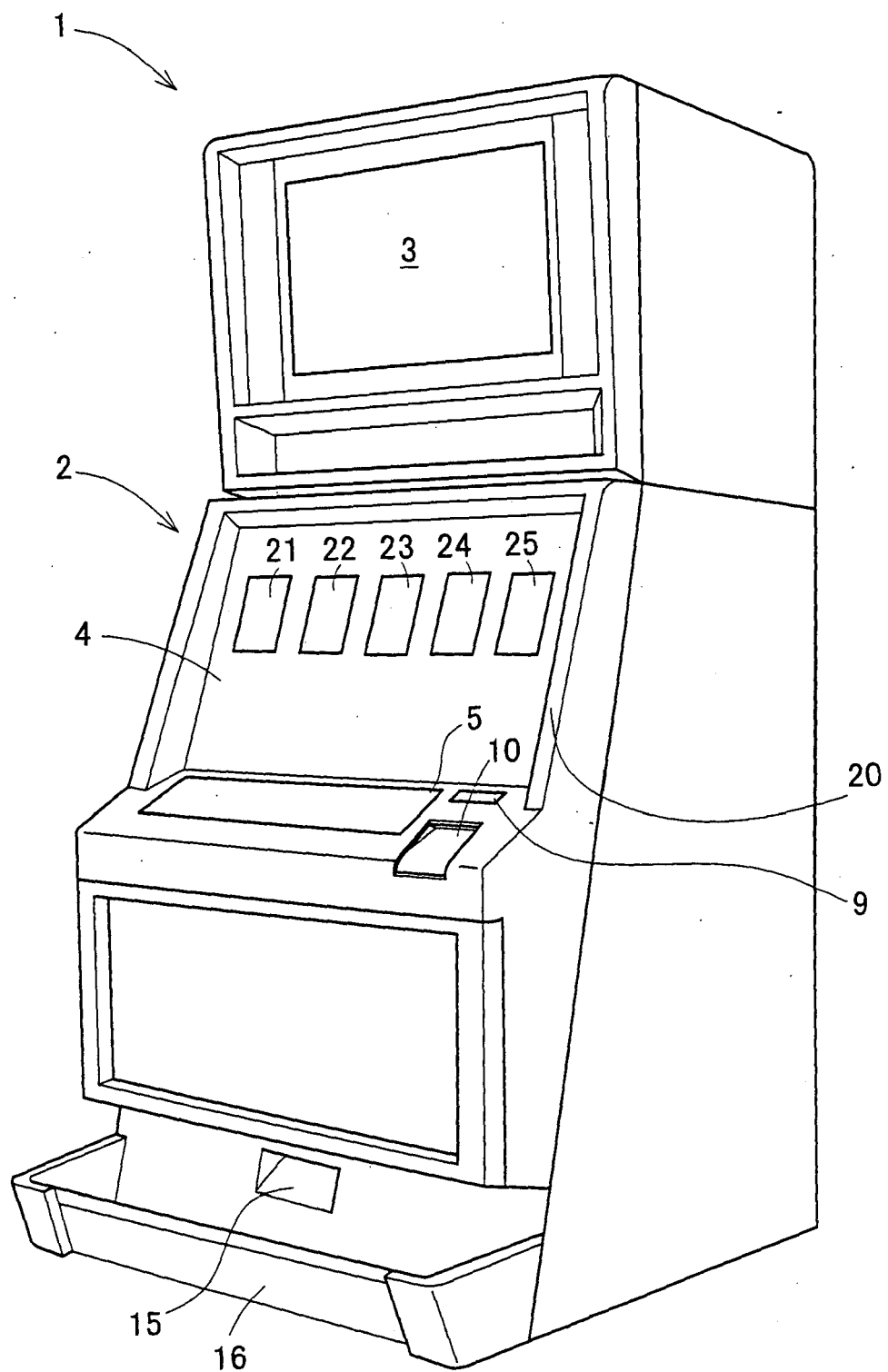


FIG.2

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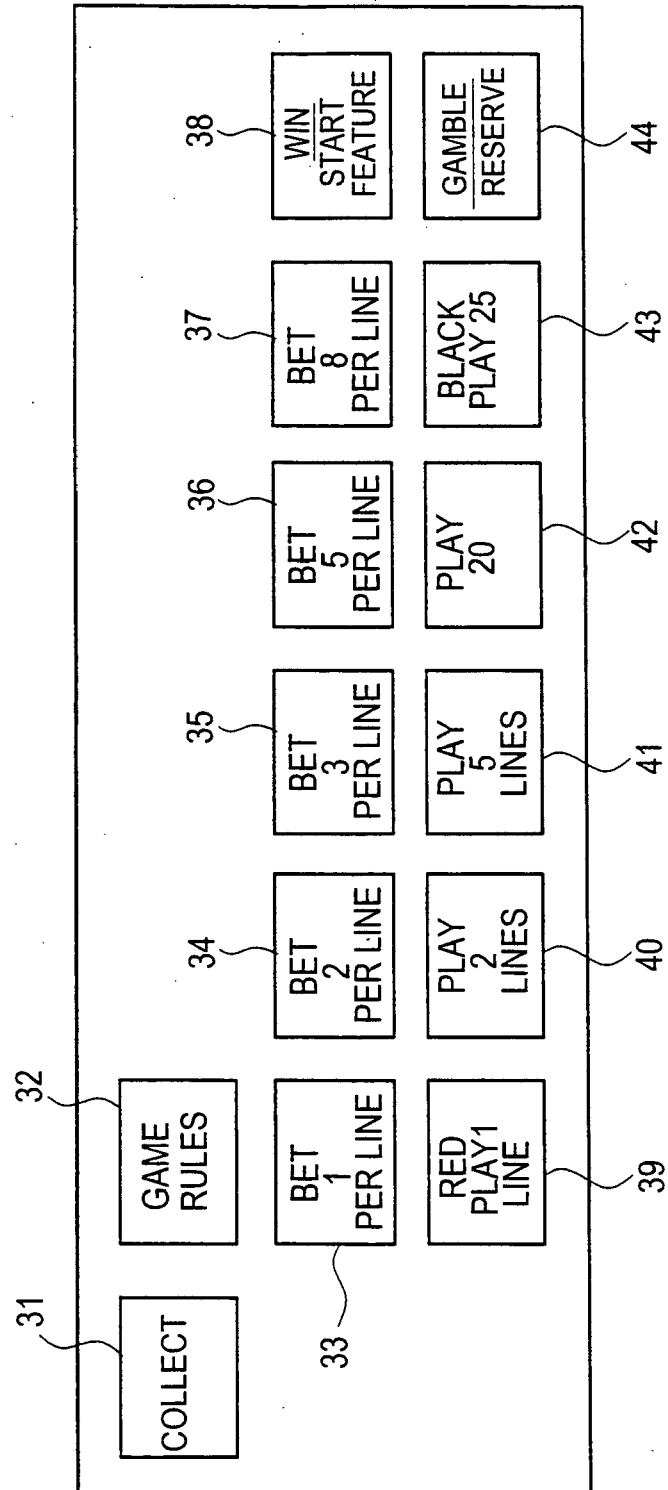


FIG.3

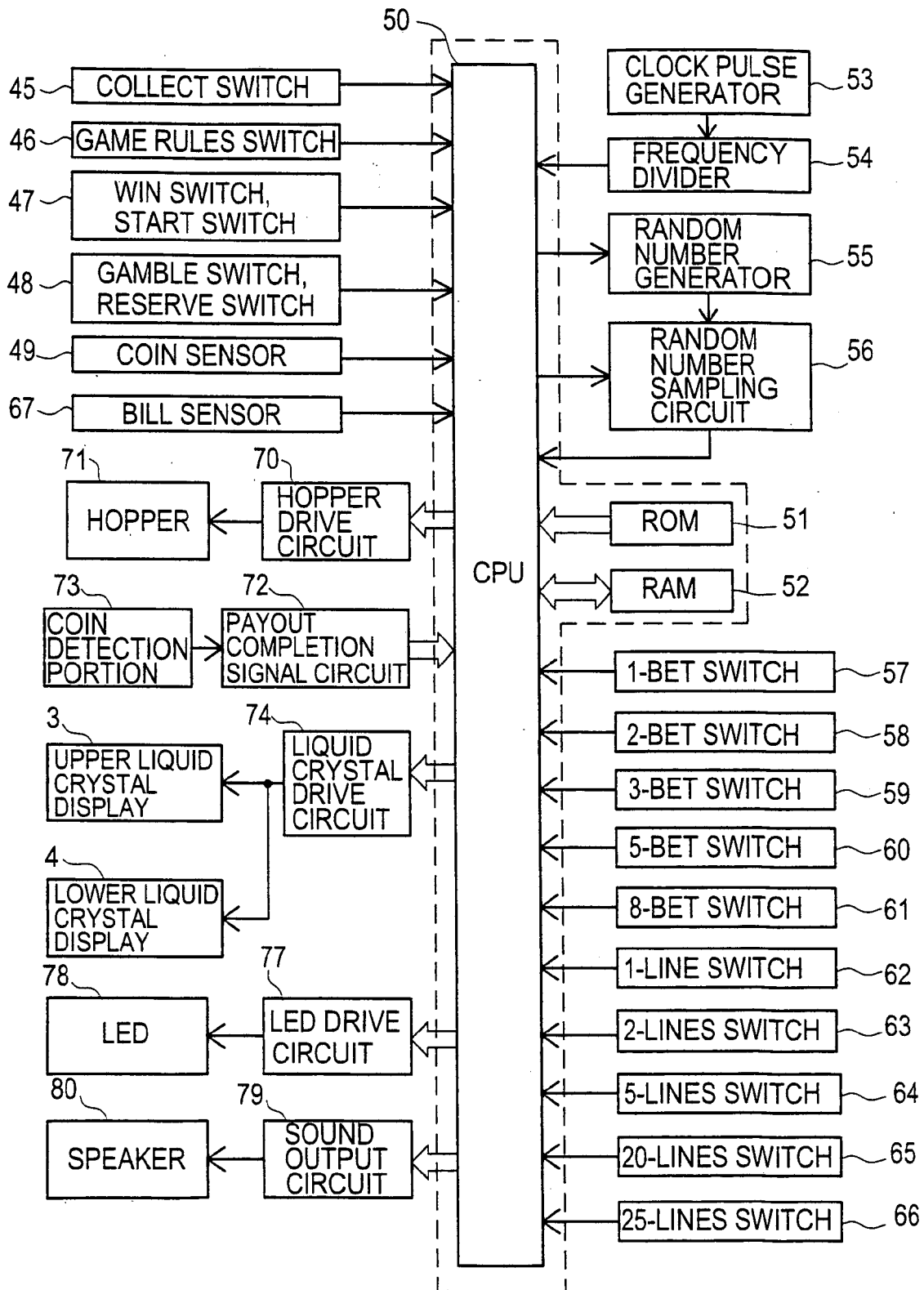


FIG.4

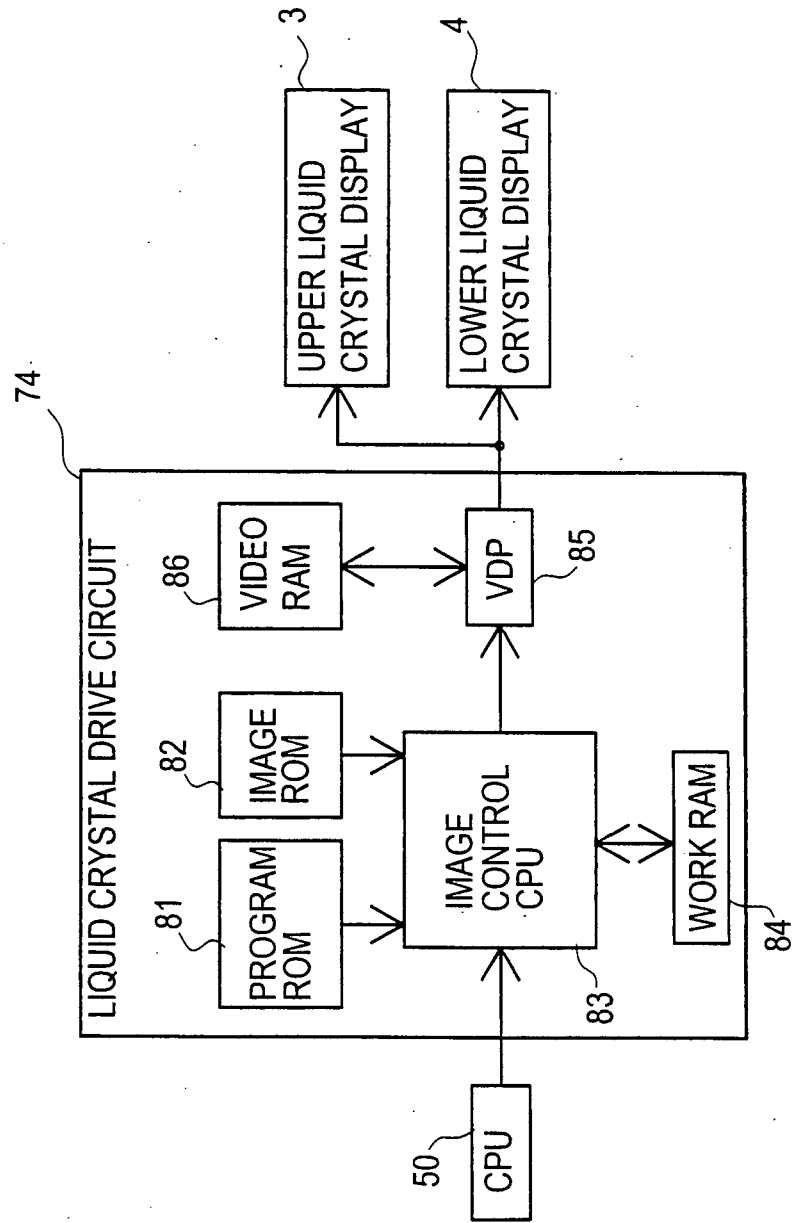


FIG.5

FIRST REEL STRIP		SECOND REEL STRIP		THIRD REEL STRIP		FOURTH REEL STRIP		FIFTH REEL STRIP	
CODE No.	SYMBOL	CODE No.	SYMBOL	CODE No.	SYMBOL	CODE No.	SYMBOL	CODE No.	SYMBOL
00	J	00	OCTOPUS	00	A	00	Q	00	J
01	Q	01	A	01	K	01	J	01	A
02	WILD	02	WILD	02	WILD	02	WILD	02	WILD
03	J	03	OCTOPUS	03	WORM	03	Q	03	J
04	Q	04	K	04	Q	04	K	04	A
05	CRAB	05	J	05	WILD	05	WILD	05	FISH
06	A	06	FISH	06	PUNK	06	A	06	CRAB
07	WORM	07	WORM	07	A	07	K	07	PUNK
08	K	08	J	08	J	08	SARDINE	08	K
09	FISH	09	CRAB	09	SARDINE	09	A	09	SARDINE
10	PUNK	10	OCTOPUS	10	A	10	K	10	Q
11	Q	11	A	11	Q	11	CRAB	11	CRAB
12	SHARK	12	SARDINE	12	WORM	12	PUNK	12	K
13	CRAB	13	WORM	13	K	13	K	13	WORM
14	K	14	J	14	FISH	14	SHARK	14	FISH
15	A	15	OCTOPUS	15	Q	15	WORM	15	J
16	OCTOPUS	16	SHARK	16	CRAB	16	A	16	OCTOPUS
17	J	17	J	17	A	17	OCTOPUS	17	Q
18	Q	18	OCTOPUS	18	K	18	FISH	18	WORM
19	FISH	19	CRAB	19	SHARK	19	K	19	J
20	K	20	Q	20	Q	20	WORM	20	Q
21	J	21	PUNK	21	K	21	PUNK	21	OCTOPUS
22	SARDINE	22	CRAB	22	OCTOPUS	22	A	22	A
23	CRAB	23	OCTOPUS	23	Q	23	FISH	23	PUNK
24	J	24	J	24	A	24	CRAB	24	WORM
25	WORM	25	WORM	25	WORM	25	K	25	Q
26	Q	26	CRAB	26	J	26	Q	26	CRAB
27	CRAB	27	K	27	Q	27	OCTOPUS	27	PUNK
28	A	28	OCTOPUS	28	PUNK	28	WORM	28	K
29	FISH	29	WORM	29	K	29	Q	29	OCTOPUS

FIG.6

	2K	3K	4K	5K	
WILD	10	320	2500	6000	Left→Right/SUBSTITUTE
SHARK	3	25	150	1000	Left→Right
FISH	2	15	120	500	Left→Right
PUNK	2	10	120	400	Left→Right
OCTOPUS	2	8	50	300	Left→Right
CRAB		7	50	200	Left→Right
WORM		6	40	150	Left→Right
A		5	25	120	Left→Right
K		5	25	120	Left→Right
Q		5	20	100	Left→Right
J		5	20	100	Left→Right
SARDINE	2	5	10	125	SCATTER/Trigger

FIG.7

CODE No.	RANDOM NUMBER
00	0
01	1
02	2
03	3
04	4
05	5
06	6
07	7
08	8
09	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29

FIG. 8

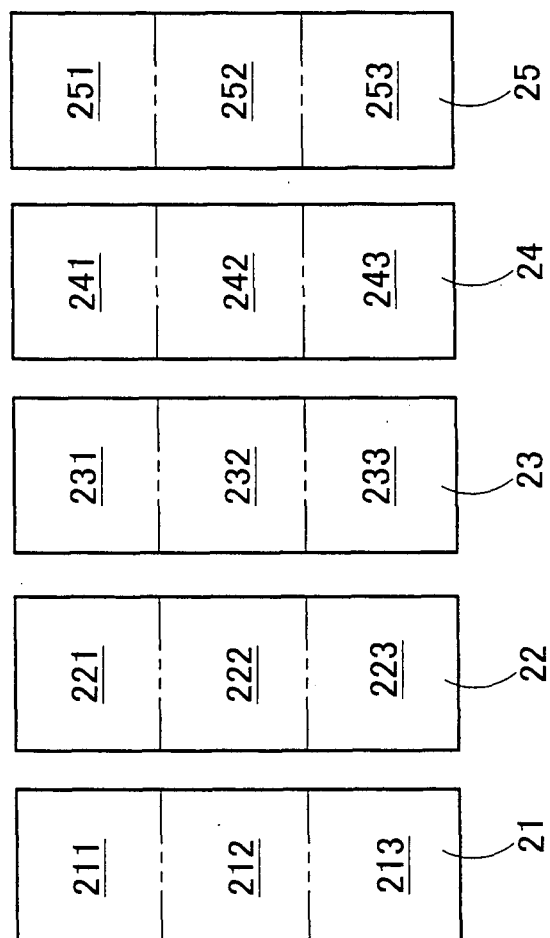


FIG.9

CODE No.	RANDOM NUMBER
0	0~539
1	540~1040
2	1041~1592
3	1593~2131
4	2132~2665
5	2666~3215
6	3216~3751
7	3752~4299
8	4300~4821
9	4822~5351
10	5352~5972
11	5973~6321
12	6322~6953
13	6954~7492
14	7493~8121
15	8122~8630
16	8631~9151
17	9152~9723
18	9724~10257
19	10258~10872
20	10873~11327
21	11328~11874
22	11875~12450
23	12451~13011
24	13012~13552
25	13553~14033
26	14034~14624
27	14625~15121
28	15122~15722
29	15723~16383

FIG. 10

FIRST REEL STRIP		SECOND REEL STRIP		THIRD REEL STRIP		FOURTH REEL STRIP		FIFTH REEL STRIP	
CODE No.	SYMBOL	CODE No.	SYMBOL	CODE No.	SYMBOL	CODE No.	SYMBOL	CODE No.	SYMBOL
00	J	00	OCTOPUS	00	A	00	Q	00	J
01	Q	01	A	01	K	01	J	01	A
02	WILD	02	WILD	02	WILD	02	WILD	02	WILD
03	J	03	OCTOPUS	03	WORM	03	Q	03	J
04	Q	04	K	04	Q	04	K	04	A
05	CRAB	05	J	05	WILD	05	WILD	05	FISH
06	A	06	FISH	06	PUNK	06	A	06	CRAB
07	WORM	07	WORM	07	A	07	K	07	PUNK
08	K	08	J	08	J	08	SARDINE	08	K
09	FISH	09	CRAB	09	SARDINE	09	A	09	SARDINE
10	PUNK	10	OCTOPUS	10	A	10	K	10	WILD
11	Q	11	A	11	Q	11	CRAB	11	CRAB
12	SHARK	12	SARDINE	12	WORM	12	PUNK	12	K
13	CRAB	13	WORM	13	K	13	K	13	WORM
14	K	14	J	14	FISH	14	SHARK	14	FISH
15	A	15	OCTOPUS	15	Q	15	WORM	15	J
16	OCTOPUS	16	SHARK	16	CRAB	16	A	16	OCTOPUS
17	J	17	J	17	A	17	OCTOPUS	17	Q
18	Q	18	OCTOPUS	18	K	18	FISH	18	WORM
19	FISH	19	CRAB	19	SHARK	19	K	19	J
20	K	20	Q	20	Q	20	WORM	20	Q
21	J	21	PUNK	21	K	21	PUNK	21	OCTOPUS
22	SARDINE	22	CRAB	22	OCTOPUS	22	A	22	A
23	CRAB	23	OCTOPUS	23	Q	23	FISH	23	PUNK
24	J	24	J	24	A	24	CRAB	24	WORM
25	WORM	25	WORM	25	WORM	25	K	25	Q
26	Q	26	CRAB	26	J	26	Q	26	CRAB
27	CRAB	27	K	27	Q	27	OCTOPUS	27	PUNK
28	A	28	OCTOPUS	28	PUNK	28	WORM	28	K
29	FISH	29	WORM	29	K	29	Q	29	OCTOPUS

FIG.11

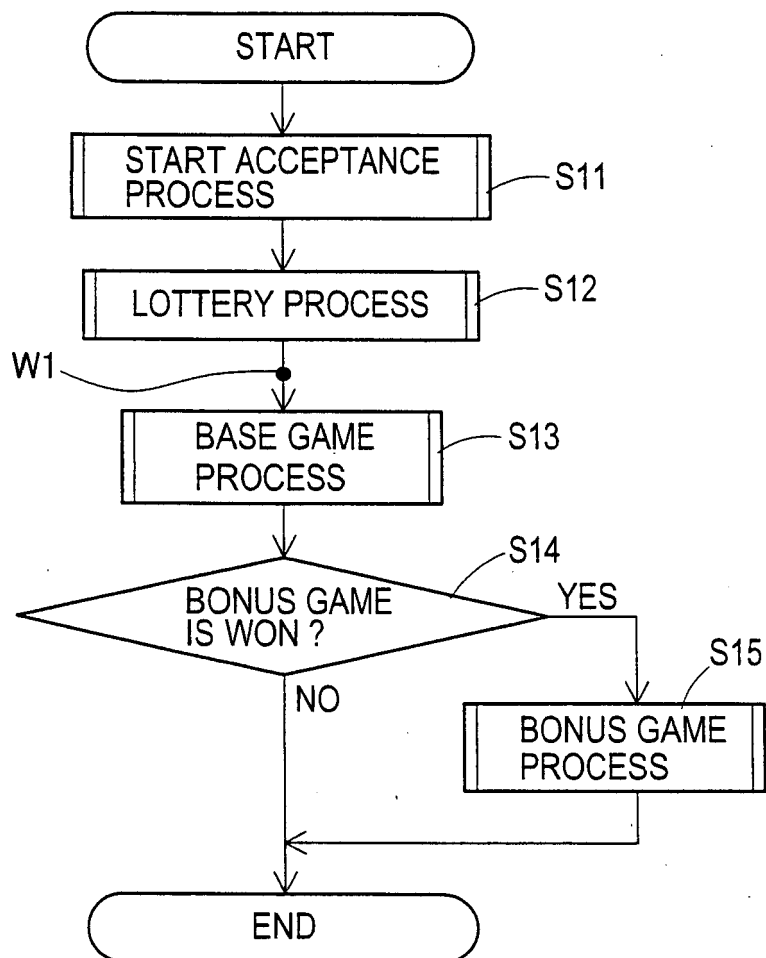


FIG.12

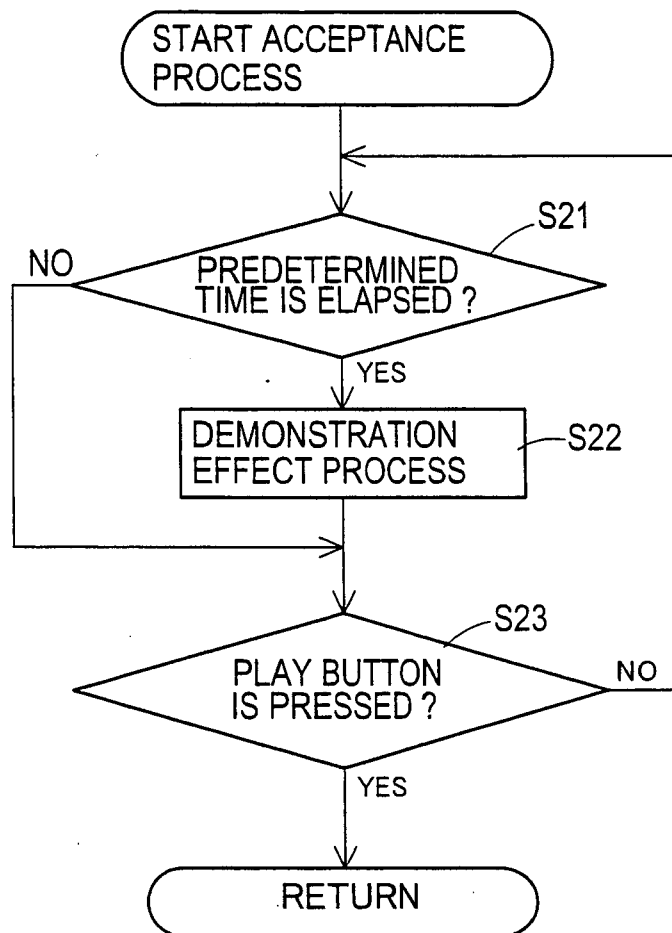


FIG.13

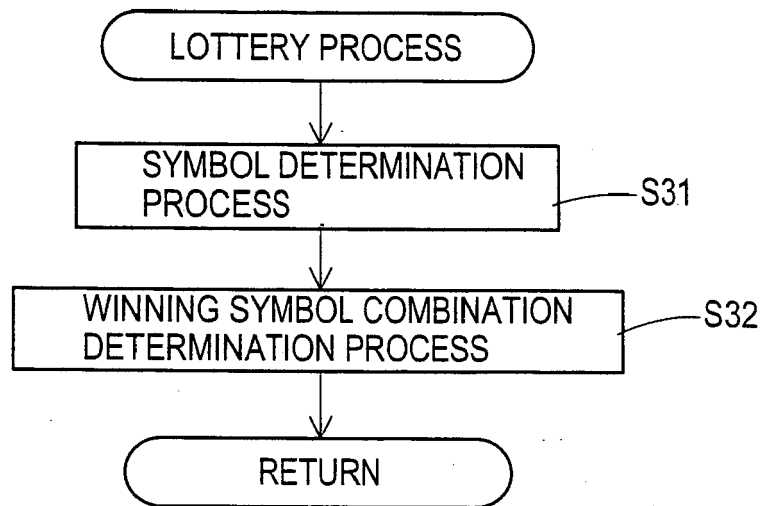


FIG.14

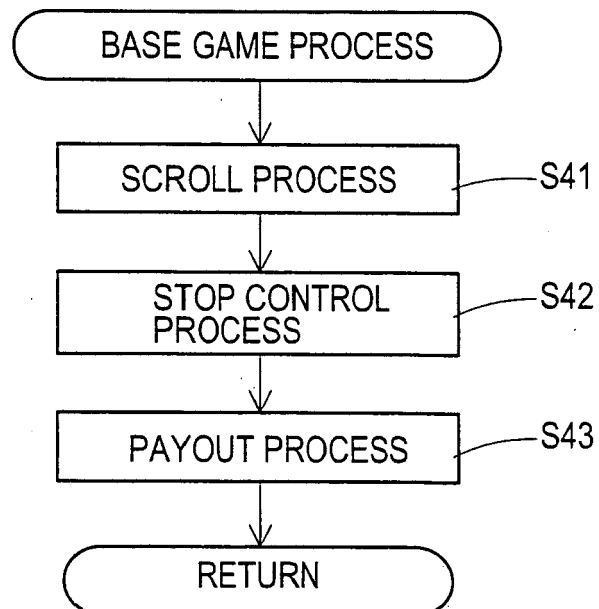


FIG.15

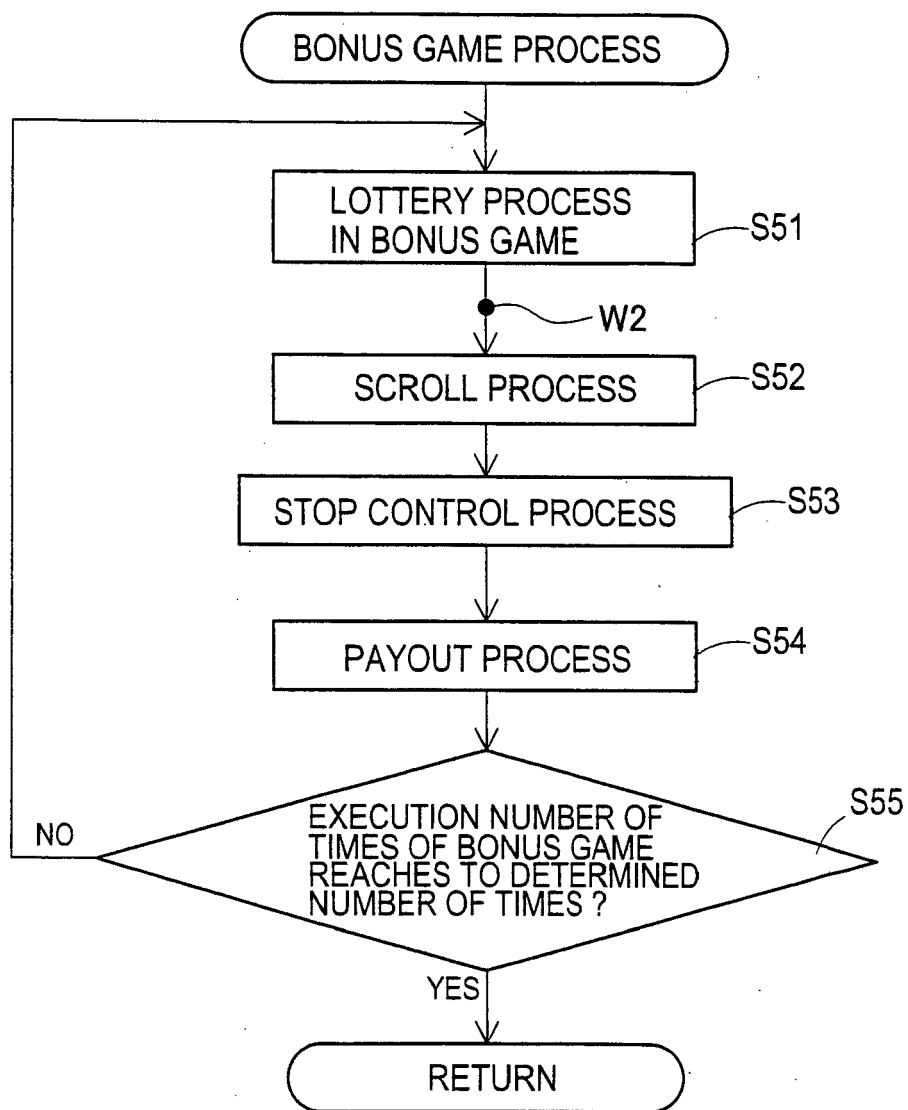


FIG.16

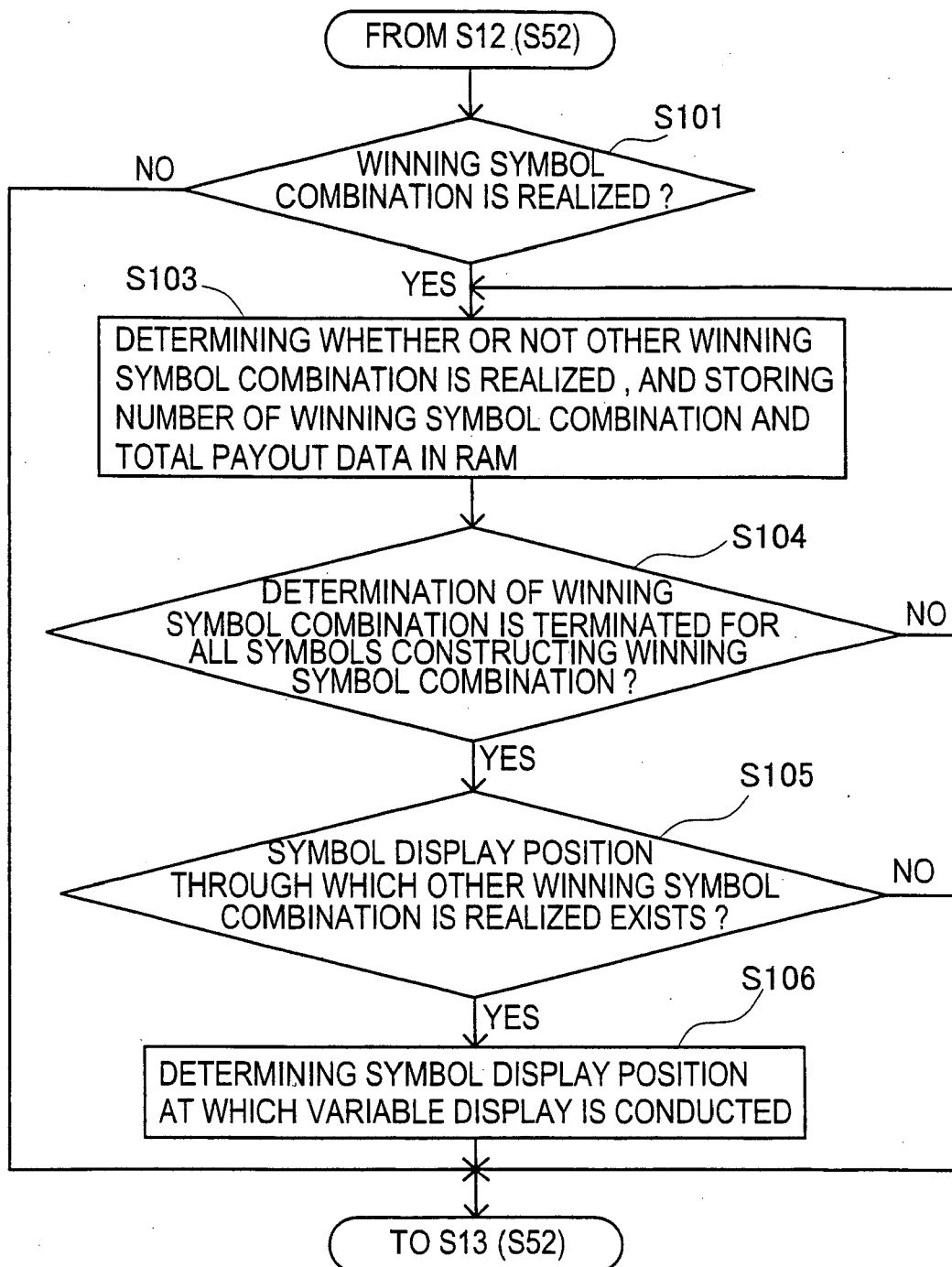


FIG.17

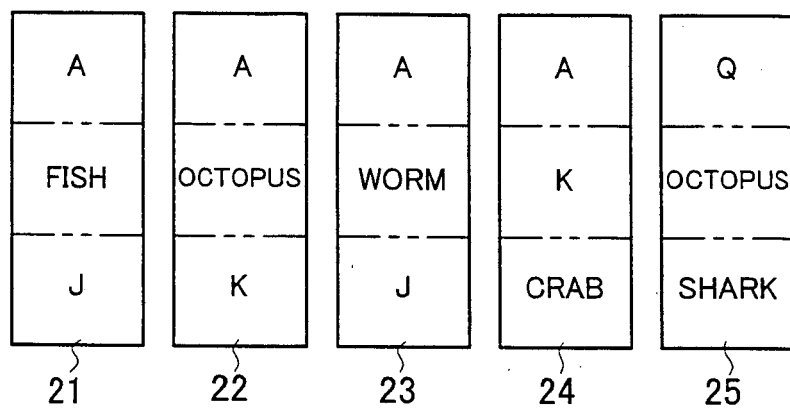
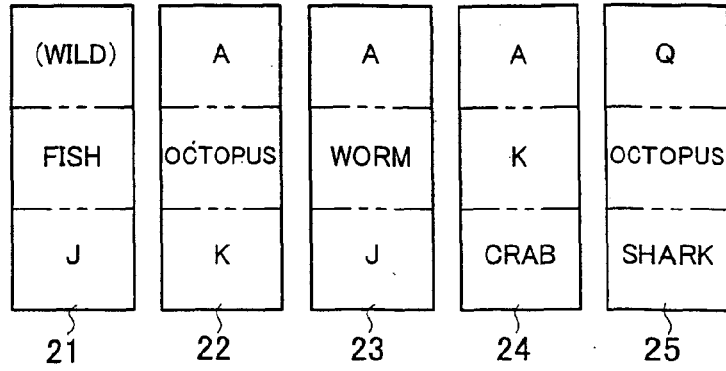
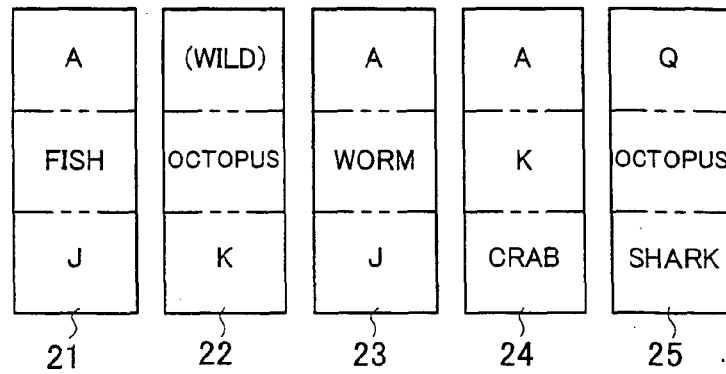


FIG.18

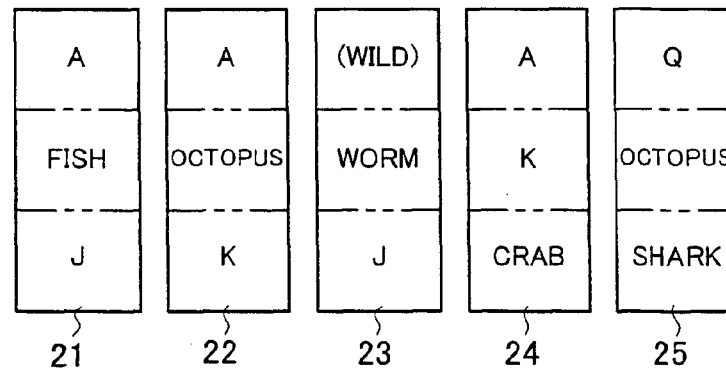
(a)



(b)



(c)



(d)

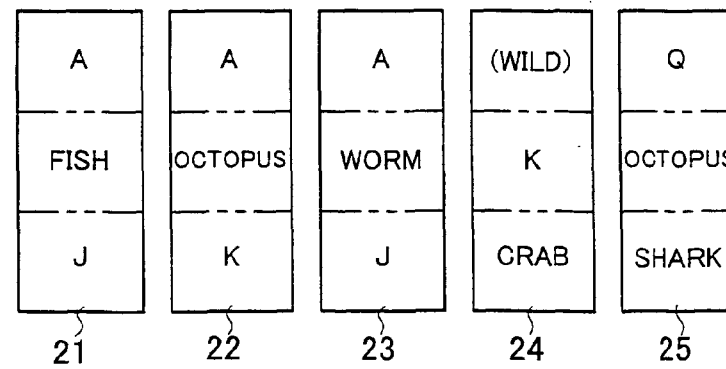


FIG.19

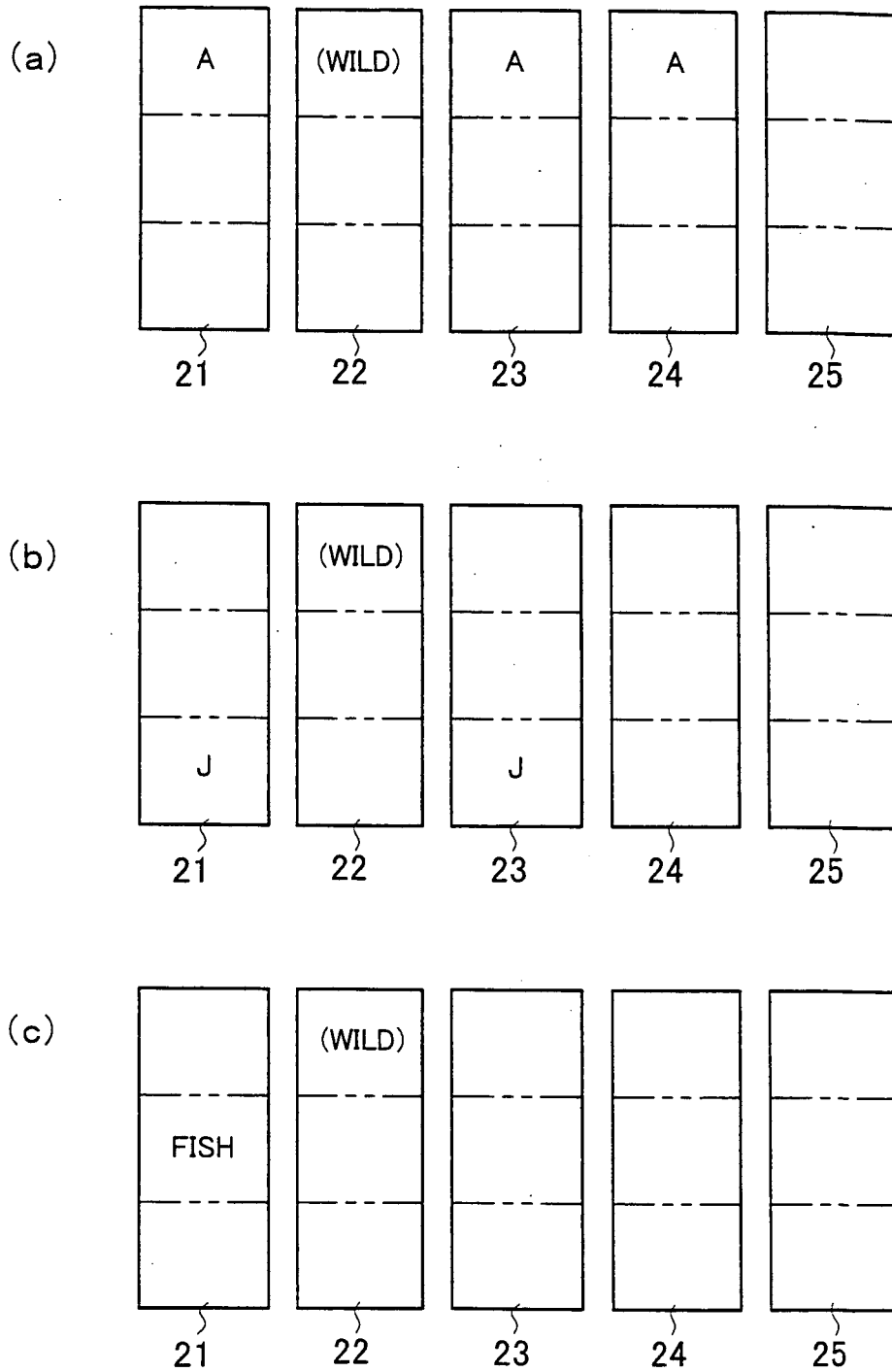


FIG.20

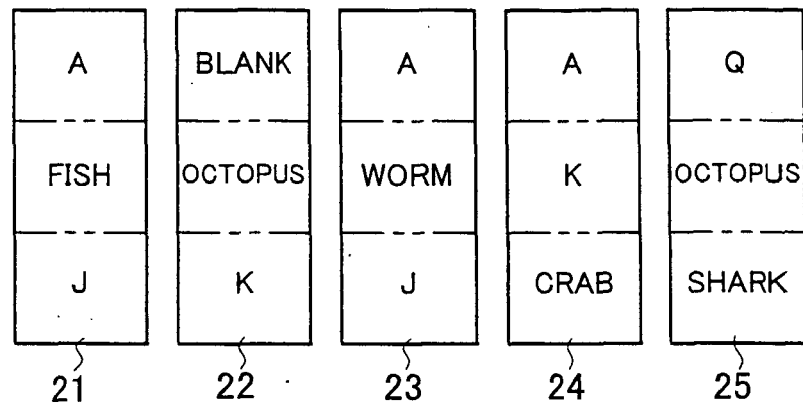


FIG.21

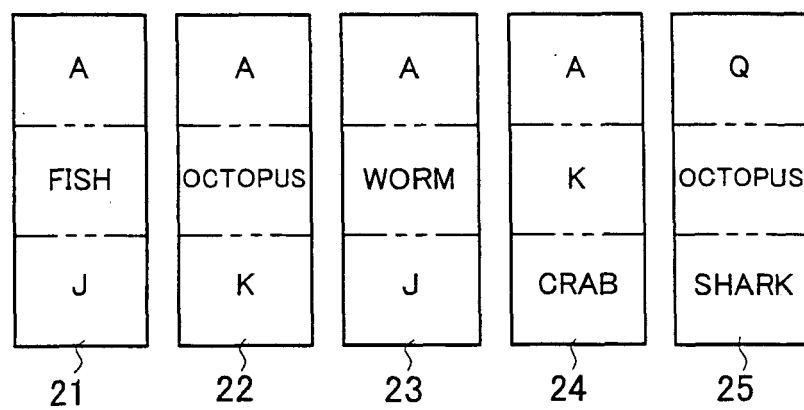


FIG.22

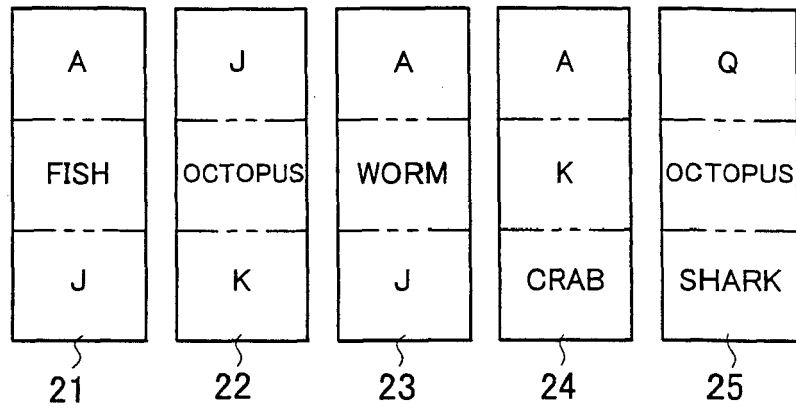


FIG.23

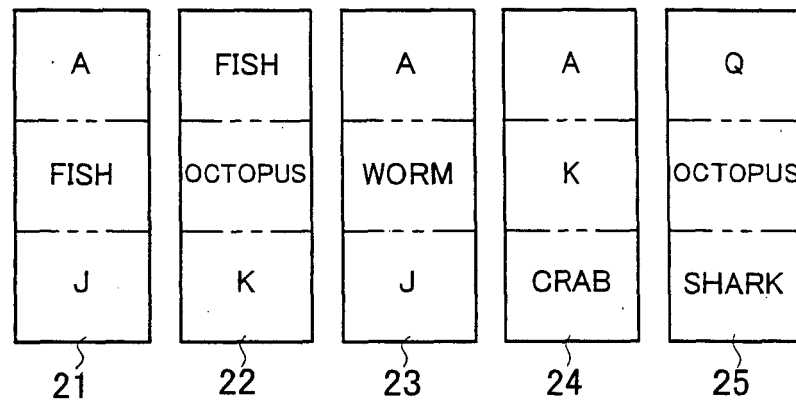
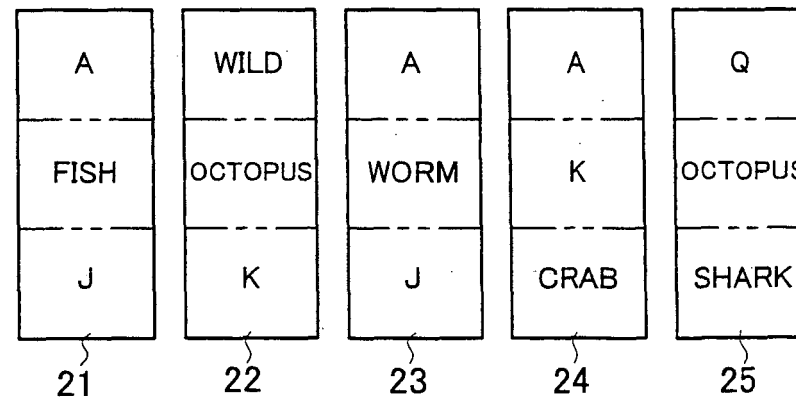


FIG.24





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 02 1031

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2002/068623 A1 (GAUSELMANN MICHAEL) 6 June 2002 (2002-06-06) * abstract * * paragraph [0002] - paragraph [0013] * -----	1-6	G07F17/34
X	WO 97/32285 A (ARISTOCRAT LEISURE INDUSTRIES PTY. LTD; BENNETT, NICHOLAS, LUKE) 4 September 1997 (1997-09-04) * page 2, line 5 - line 29 * -----	1-6	
X	US 2003/054874 A1 (KAMINKOW JOSEPH E) 20 March 2003 (2003-03-20) * paragraph [0002] - paragraph [0007] * -----	1-6	
			TECHNICAL FIELDS SEARCHED (IPC)
			G07F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 16 January 2006	Examiner Verhoef, P
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1
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 02 1031

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The members are as contained in the European Patent Office EDP file on
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16-01-2006

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