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(71) Applicant: **Atronic International GmbH**
32312 Lübbecke (DE)

(72) Inventor: **Gauselmann, Michael**
32339 Espelkamp (DE)

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(54) **Gaming machine**

(57) In one embodiment, a certain number of special games are granted to a player, or the special games are only enabled for a certain time period. The special games may be free bonus games or paid games. At the end (or beginning) of each special game, at least one position in the array of symbols is designated as a special symbol. The special symbol may be a wild card, a scatter symbol, a multiplier, or any other special symbol. The special symbol selected for a particular game is carried over into the next special game, so the special symbols are accumulated and remain in their positions in the array for the series of special games. Awards, if any, are granted after each game based on the use of the special symbol(s) in combination with other symbols across one or more pay lines. The special symbol position in the array (or the special symbol type) may be selected by the gaming machine (10) or by the player. Other embodiments are disclosed where special symbols are designated by the gaming machine (10) or the player.

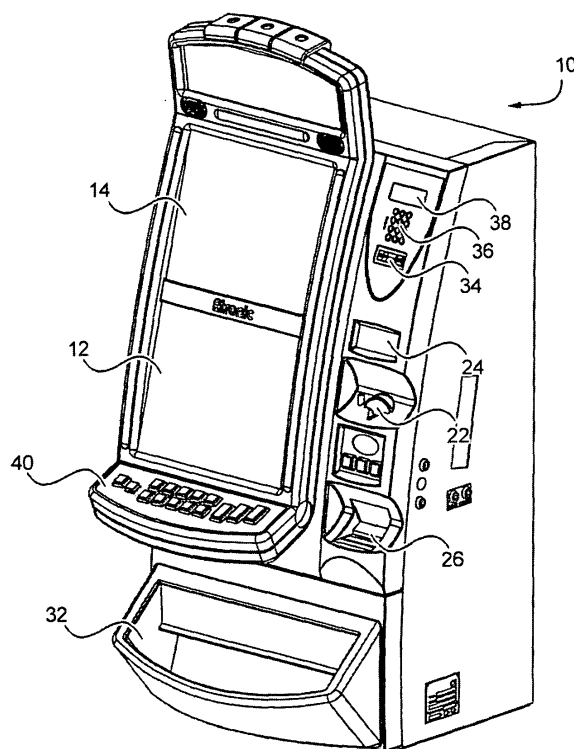


Fig. 1

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Description

[0001] This invention relates to gaming machines and, in particular, to a particular feature in a game played on a video gaming machine.

[0002] Video gaming machines that randomly select symbols for display on the video screen and grant awards to a player based upon the displayed symbol combinations are very popular. The symbols may form a 3x1 array, having three symbols in a single row, or the display may be a two dimensional array of symbols having, for example, three rows of symbols in five columns. The granting of an award is based on the symbol combinations across pay lines extending across the array of symbols.

[0003] Although the above-described gaming machines are popular, it is desirable to create a game that achieves more player excitement to generate more revenue by the gaming machine.

[0004] In one embodiment, a special feature is offered by a spinning reels type video slot machine, where virtual reels displayed on a video screen appear to rotate and are stopped to reveal an array of symbols. Awards are granted to the player based on certain combinations of symbols across a pay line or in a pattern. While the reels appear to be spinning, or at any time prior to the final symbol display, the player chooses via a touch screen one of the positions in the array to be designated as a special symbol. This special symbol may be a wild card, a high value symbol, a scatter symbol, a multiplier, a bonus game trigger symbol, or any other type of special symbol. The virtual reels stop rotating, and all other symbols in the array are then displayed along with the special symbol in the designated position. The player is then granted an award based upon any winning symbol combinations as affected by the special symbol.

[0005] In another embodiment, the position of the special symbol in the array is selected automatically by the gaming machine.

[0006] In another embodiment, the player may identify one or more certain patterns within the array that will form a winning pattern of symbols. For example, the player may choose a block pattern of four positions in the array, wherein, if certain symbols are arranged in the block pattern after the virtual reels have stopped rotating, the player wins an award. The amount of the award is based on the likelihood of the winning pattern of symbols occurring. Any other pattern of symbols may be selected by the player. The pattern may be selected by the player using a touch screen or other type of controller.

[0007] In another embodiment, a certain number of special games are granted to a player, or the special games are only enabled for a certain time period. Such special games may be awarded as bonus games for a certain outcome in the main game or may be awarded for any other reason, such as randomly. At the end of the first special game, a position in the array of symbols is designated as a special symbol. The special symbol

may be a wild card, a scatter symbol, a multiplier, or any other special symbol. The special symbol position in the array may be selected by the gaming machine or by the player. More than one special symbol may be designated at the end of a game. An award is then granted based on the use of the special symbol in combination with other symbols across one or more pay lines. A next special game is then played, and the first special symbol retains its position in the array. At the end of the second special game, an additional special symbol is designated, and an award is granted based on the use of both special symbols in conjunction with the other symbols. The accumulated special symbols retain their positions for the subsequent games. Any number of special games may be carried out while accumulating more and more special symbols. Other embodiments using this concept are also envisioned. For example, the special symbol may be designated before the game or at the end of a previous game.

[0008] The offer of the additional features by the gaming machine may be pursuant to the player betting a maximum bet, or by the player paying for the features, or pursuant to the player obtaining a bonus by achieving a special winning combination of symbols in a previous game, or the features may be automatically offered in every game.

[0009] The above features, as appropriate, may be offered for video games other than a virtual reel type video game such as a video card game, roulette, bingo, keno, or other types of games. Instead of symbols being displayed on a video screen, the symbols may be displayed by mechanical means such as flip cards and motor driven reels.

Fig. 1 is a perspective view of one type of video gaming machine that may be programmed to play the game in accordance with the present invention.

Fig. 2 is a block diagram illustrating various functional units in the machine of Fig. 1.

Fig. 3 illustrates a display on the display screen in Fig. 1 of a 5x3 array of randomly selected symbols and five pay lines to be used as an example to illustrate the special features of the game.

Fig. 4 illustrates the various symbol positions on the video screen, prior to the symbols being selected, and identifies a selected position for a special symbol.

Fig. 5 illustrates the display screen after the various symbols have been randomly selected by the gaming machine and displayed, where the array incorporates the special symbol at the selected position.

Figs. 6, 7, and 8 illustrate a pattern selected by the player whereby, if certain symbols are displayed in

the positions of the pattern, a special award is granted to the player.

Figs. 9, 10, and 11 illustrate the display screen in an embodiment of the invention where special symbols are designated that are carried over into subsequent special games.

[0010] Although the invention can typically be implemented by installing a software program in most types of modern video gaming machines, one particular gaming machine platform will be described in detail.

[0011] Fig. 1 is a perspective view of a gaming machine 10 that incorporates the present invention. Machine 10 includes a display 12 that may be a thin film transistor (TFT) display, a liquid crystal display (LCD), a cathode ray tube (CRT), or any other type of display. Display 12 may be a touch screen for inputting player commands. A second display 14 provides game data or other information in addition to display 12. Display 14 may provide static information, such as an advertisement for the game, the rules of the game, pay tables, pay lines, or other information, or may even display the game itself along with display 12. Alternatively, the area for display 14 may be a display glass for conveying information about the game.

[0012] A coin slot 22 accepts coins or tokens in one or more denominations to generate credits within machine 10 for playing games. A slot 24 for an optical reader and printer receives machine readable printed tickets and outputs printed tickets for use in cashless gaming. A bill acceptor 26 accepts various denominations of banknotes.

[0013] A coin tray 32 receives coins or tokens from a hopper upon a win or upon the player cashing out.

[0014] A card reader slot 34 accepts any of various types of cards, such as smart cards, magnetic strip cards, or other types of cards conveying machine readable information. The card reader reads the inserted card for player and credit information for cashless gaming. The card reader may also include an optical reader and printer for reading and printing coded barcodes and other information on a paper ticket.

[0015] A keypad 36 accepts player input, such as a personal identification number (PIN) or any other player information. A display 38 above keypad 36 displays a menu for instructions and other information and provides visual feedback of the keys pressed.

[0016] Player control buttons 40 include any buttons needed for the play of the particular game or games offered by machine 10 including, for example, a bet button, a repeat bet button, a play two-ways button, a spin reels button, a maximum bet button, a cash-out button, a display pay lines button, a display payout tables button, select icon buttons, and any other suitable button. Additional buttons that may be used with the invention include symbol position selection buttons, pattern selection buttons, and other control buttons that may be used

by the player to carry out the invention, as described in detail below. Buttons 40 may be replaced by a touch screen with virtual buttons, a joystick, a touchpad, or other types of controllers.

[0017] Fig. 2 illustrates basic circuit blocks in a suitable gaming device. A control unit (CPU 60) runs a gaming program stored in a program ROM 63. A coin/credit detector 61 enables the CPU 60 to initiate a next game. A pay table ROM 64 detects the outcome of the game and identifies awards to be paid to the player. A payout device 62 pays out an award to the player in the form of coins upon termination of the game or upon the player cashing out. A payout may also be in the form of a coded paper ticket, credits on a smart card or magnetic strip card, or in any other form. A display controller 65 receives commands from the CPU 60 and generates signals for the various displays 66. If a display 66 is a touch screen, player commands may be input through the display screen into the CPU 60.

[0018] Fig. 3 is one example of a screen display on machine 10 showing five different pay lines 1-5 and an array of symbols A-O. After the player makes a bet and presses a spin button, the symbols are randomly selected by a pseudo-random number generator in the gaming machine and displayed on the display screen.

[0019] The gaming machine typically shows, either on its display glass or on a video screen, a pay table identifying the various awards that will be paid upon obtaining certain symbol combinations along activated pay lines or in certain patterns. The player may be required to bet additional credits to activate additional pay lines.

[0020] Pursuant to the player making a maximum bet, or increasing a wager, or based on any other factor, the player is given the opportunity to select a particular position in the array that will become a certain special symbol.

[0021] Fig. 4 illustrates the symbol positions in the 5x3 array. During the time that the five vertical reels appear to be spinning, the player makes a selection of one or more of the symbol positions that will be special symbol. This may also occur prior to the game commencing. In Fig. 4, the player has chosen the bottom middle symbol position for the location of the special symbol, shown as a question mark. The special symbol may have any function. Examples of such special symbols include a wild card symbol, a high value symbol, a scatter symbol that can be used to create a winning combination of symbols even if it does not line up on a pay line, a multiplier symbol that multiplies an award for winning combinations across the same pay line, or a trigger for a bonus game if the trigger symbol is in a winning pay line. The scatter symbol may be one where, if a certain number of scatter symbols appear anywhere on the screen, the player gets an award. The multiplier may also be a wild card. The special symbol may have multiple functions. The bonus game may be a free game or a special type of game played on the same or a different video screen. Of course, other special symbols may be

used.

[0022] In one embodiment, the player is prompted by the video display to select a symbol position by touching an area on the touch screen display. In another embodiment, buttons, a joy stick, a touch pad, or any other type of player controller is used by the player to identify the symbol position.

[0023] In another embodiment, the gaming machine automatically selects a position at random using a pseudo-random number generator.

[0024] As shown in Fig. 5, after the player or the machine has made the selection, the virtual reels are then stopped to display a random arrangement of symbols, where the special symbol is in the array at the selected position. The gaming machine's microprocessor in conjunction with a pay table ROM then grants an award to the player for any winning symbol combinations across the pay lines as affected by the special symbol.

[0025] In another embodiment, the player may elect more than one position for the special symbol. The special symbol can be a fixed type of special symbol, such as a wild card, or the gaming machine may cycle through a number of different special symbols either randomly or in a fixed order. In one embodiment, the player may be given the option of selecting the special symbol from a variety of special symbols. The value of the special symbol may also be increased upon certain events happening, such as the player obtaining a certain winning symbol combination. This increased value may be a higher multiplier or the special symbol having a combination of the functions described herein.

[0026] The feature of allowing the player or the machine to designate a position for the special symbol may be based on the player wagering a certain amount, or may be as a result of a bonus win by the player, or may occur for each game. A bonus win may be a result of a special winning combination or a special trigger symbol in a previous game.

[0027] The invention may also apply to other types of games, such as where the symbols are displayed using individual flip card units. The player may select the special symbol to be displayed by one or more of the flip card units. Other games, such as roulette, bingo, and keno may also use the invention, where a particular spot on the virtual roulette betting table, the bingo card, or the keno card is designated by the player or the machine with a special symbol, such as a multiplier or other suitable symbol.

[0028] Fig. 6 illustrates another embodiment where the player or the gaming machine selects a pattern. The selected pattern (a pay pattern) may be in addition to, or instead of, the pay lines shown in Fig. 3. The player may get a higher award for a winning combination of symbols in her pay pattern. The player may choose more than one pattern. If certain symbols in the displayed array of symbols are arranged in the pattern selected by the player or by the machine, the player wins a special award. In Fig. 6, the pattern selected is a cross

pattern. If certain symbols are displayed in such a pattern, the player wins an award. In one embodiment, the player may win an award if the cross pattern of symbols is formed at any position across the entire array.

[0029] Fig. 7 illustrates a box-type pattern where, for example, if four Kings were displayed in the box pattern, the player would win a special award. In one embodiment, the four Kings may appear anywhere in the array in a box-type pattern and the player would win the award.

[0030] Fig. 8 illustrates a pattern that is simply a diagonal line. An X pattern is another possibility.

[0031] The player may choose the pattern(s) during the game or prior to the game either by creating/selecting patterns using a touch screen or by selecting patterns from a menu presented by the machine on the display screen. Other means for identifying a pattern are envisioned.

[0032] By the player betting additional amounts, additional patterns may be offered. In one embodiment, the pattern feature is only available when the player makes a maximum bet. Alternatively, the option of choosing patterns may be a bonus for the player obtaining certain special winning combinations of symbols, or a special trigger symbol, in a previous game.

[0033] As described above, a video or mechanical gaming machine is augmented with a special feature wherein the player interacts with the display of symbols to either affect the final display of symbols or the patterns for a winning combination of symbols. Numerous other embodiments are envisioned using these concepts.

[0034] A special game feature will now be described with respect to the display screens illustrated in Figs. 9, 10, and 11. A conventional (main) game may be first played on a gaming machine, and its outcome may be the symbol array of Fig. 3. The player is granted an award based on winning combinations of symbols across enabled pay lines. A special game feature is then enabled by a triggering event such as the player obtaining a special outcome in the main game. The special outcome may be a special combination of symbols, or a special symbol occurring, or any other outcome. The triggering event may also be a random time or other event. The special feature enables the player to play a certain number of special games or to play special games for a certain period of time. The special games may be free games or may be paid games.

[0035] The first special game is played, where the virtual reels display a randomly selected 5x3 array of symbols A-O. The random selection may be based on the output of a random number generator. The array may be any number of rows and columns, including a single row of symbols. As shown in Fig. 9, the gaming machine then randomly selects one of the symbol positions to be a special symbol (shown as "?1") for the current special game. The image of the original symbol ("M") may change into the "?1" symbol, or any other type of display

may occur. The player wins an award based on winning combinations of symbols that may include the special symbol. In another embodiment, the special symbol "?1" is designated at the beginning of the game (before other symbols are randomly chosen) or at the end of the previous game.

[0036] The special symbol may be any type of special symbol, such as a wild card, a scatter symbol (winning combinations do not have to be along a pay line), a high value symbol, a multiplier (multiplies an award if the special symbol is used in a combination), a bonus award symbol (grants a bonus award if the special symbol is used in a combination), a bonus game symbol (enables a bonus game if the special symbol is used in a combination), or any other symbol having a special feature.

[0037] The player then spins the virtual reels again to obtain a new array of symbols, but the special symbol "?1" does not change its position. In Fig. 10, the gaming machine selects another position to be a special symbol "?2." An award to the player is based on winning combinations in the new array of symbols that may use either or both special symbols in the combination.

[0038] The player again spins the reels. In Fig. 11, the gaming machine selects another position to be a special symbol "?3," while the previously designated special symbols retain their positions. An award to the player is based on winning combinations in the new array of symbols that may use any or all special symbols in the combination. This process may continue for any number of special games.

[0039] In one embodiment, the pay lines bet by the player during the main game are frozen for use in the special games. In another embodiment, the player may select more or fewer pay lines by betting different amounts. In another embodiment, multiple special symbols can be designated during each special game. In another embodiment, the player, rather than the gaming machine, designates the location of the special symbol. The player may designate the position using a touch screen. In another embodiment, the special symbol type (e.g., a wild card) is the same for each special game. In another embodiment, the special symbol type may change.

[0040] At the end of the series of special games, the special symbols are extinguished, and normal play may resume.

[0041] The carrying over one or more special symbols to subsequent games adds an exciting feature to the gaming machine.

[0042] Having described the invention in detail, those skilled in the art will appreciate that, given the present disclosure, modifications may be made to the invention without departing from the spirit of the inventive concepts described herein. Therefore, it is not intended that scope of the invention be limited to the specific embodiments illustrated and described.

Claims

1. A gaming method wherein an array of symbols is displayed and an award is granted based on the displayed array of symbols, the method comprising:

displaying a first array of randomly selected symbols by the gaming machine (10);

designating at least one particular symbol position in the first array as a first special symbol for a first game;

granting any award to the player for the first game based upon the symbols displayed in the first game including the first special symbol;

displaying a second array of randomly selected symbols by the gaming machine (10) while retaining the special symbol from the first game;

designating at least one particular symbol position in the second array as a second special symbol for a second game; and

granting any award to the player based upon the symbols displayed in the second game including the first special symbol and the second special symbol.

2. The method of Claim 1 further comprising:

after the second game, displaying an array of randomly selected symbols by the gaming machine (10) for one or more additional games;

designating at least one particular symbol position in the array as an additional special symbol for the one or more additional games; and

granting an award to the player based upon the symbols displayed in the one or more additional games including the first special symbol, the second special symbol, and the additional special symbol.

3. The method of Claim 1 wherein designating the at least one particular symbol position in the first array as the first special symbol comprises the gaming machine (10) receiving a signal from a player controller designating the at least one particular symbol position in the array selected by the player.

4. The method of Claim 1 wherein designating at least one particular symbol position in the first array for the first special symbol comprises the player selecting the at least one position using a touch screen.

5. The method of Claim 1 wherein designating the at least one particular symbol position in the first array for the first special symbol comprises the gaming machine (10) selecting the position. 5
6. The method of Claim 1 wherein the first game and the second game are bonus games for a special outcome of a main game or of free games.
7. The method of Claim 1 wherein the first special symbol or the second special symbol has a wild card or a scatter or a multiplier function or is a high value symbol. 10
8. The method of Claim 1 wherein the first special symbol or the second special symbol triggers a bonus game if the first special symbol or the second special symbol forms part of a winning symbol combination. 15
9. The method of Claim 1 wherein designating at least one particular symbol position in the first array as a first special symbol for a first game comprises: 20
 - designating at least one particular symbol position as a first special symbol prior to the first array of symbols being displayed, and then applying the first special symbol to the first array, and wherein, 25
 - designating at least one particular symbol position in the second array as a second special symbol for a second game comprises designating at least one particular symbol position as a second special symbol prior to the second array of symbols being displayed, and then applying the first special symbol and the second special symbol to the second array. 30 35
10. A gaming device (10) comprising: 40
 - a display area for displaying a game, the game displaying an array of symbols, certain combinations of symbols across at least one pay line determining an award to a player; and 45
 - at least one processor (60) for carrying out the following method:
 - displaying a first array of randomly selected symbols by the gaming machine (10); 50
 - designating at least one particular symbol position in the first array as a first special symbol for a first game; 55
 - granting any award to the player for the first game based upon the symbols displayed
- in the first game including the first special symbol;
- displaying a second array of randomly selected symbols by the gaming machine while retaining the special symbol from the first game;
- designating at least one particular symbol position in the second array as a second special symbol for a second game; and
- granting any award to the player based upon the symbols displayed in the second game including the first special symbol and the second special symbol.
11. The device (10) of Claim 10 wherein the at least one processor (60) is further for carrying out the method comprising:
 - after the second game, displaying an array of randomly selected symbols by the gaming machine (10) for one or more additional games;
 - designating at least one particular symbol position in the array as an additional special symbol for the one or more additional games; and
 - granting an award to the player based upon the symbols displayed in the one or more additional games including the first special symbol, the second special symbol, and the additional special symbol.
12. The device (10) of Claim 10 wherein designating the at least one particular symbol position in the array for the first special symbol comprises the gaming machine (10) receiving a signal from a player controller designating the at least one particular symbol position in the array selected by the player.
13. The device (10) of Claim 10 wherein designating the at least one particular symbol position in the first array as the first special symbol comprises the gaming machine (10) selecting the position.
14. The device (10) of Claim 10 wherein the first game and the second game are bonus games for a special outcome of a main game.
15. The device (10) of Claim 10 wherein the first special symbol or the second special symbol has a wild card or a scatter or a multiplier function or is a high value symbol.
16. The device (10) of Claim 10 wherein granting an award for the first game or the second game com-

prises granting an award based on combinations of symbols across one or more pay lines.

17. The device (10) of Claim 10 wherein designating at least one particular symbol position in the first array as a first special symbol for a first game comprises:

designating at least one particular symbol position as a first special symbol prior to the first array of symbols being displayed, and then applying the first special symbol to the first array, and wherein,

designating at least one particular symbol position in the second array as a second special symbol for a second game comprises designating at least one particular symbol position as a second special symbol prior to the second array of symbols being displayed, and then applying the first special symbol and the second special symbol to the second array.

18. A gaming method wherein an array of symbols is displayed and an award is granted based on the displayed array of symbols, the method comprising:

designating at least one particular symbol position in the array as a special symbol offered by a gaming machine (10);

pseudo-randomly selecting symbols by the gaming machine (10) to fill in positions in the array and

granting an award to the player based upon the symbols displayed including the special symbol.

19. The method of Claim 18 wherein designating the at least one particular symbol position in the array for a special symbol comprises the gaming machine (10) receiving a signal from a player controller designating the at least one particular symbol position in the array selected by the player.

20. The method of Claim 18 wherein designating at least one particular symbol position in the array for a special symbol comprises the player selecting the at least one position using a touch screen.

21. The method of Claim 18 wherein designating the at least one particular symbol position in the array comprises the gaming machine (10) pseudo-randomly selecting the position.

22. The method of Claim 18 wherein designating the at least one particular symbol position in the array occurs during the gaming machine (10) simulating the

rotation of virtual reels having symbols printed thereon.

23. The method of Claim 18 wherein granting the award is based upon winning combinations of symbols across at least one pay line.

24. The method of Claim 18 wherein the special symbol has a wild card function or is a high value symbol or is a scattered symbol or has a multiplier function.

25. The method of Claim 18 wherein the special symbol triggers a bonus game if the special symbol forms part of a winning symbol combination.

26. A gaming method wherein an array of symbols is displayed and an award is granted based on combinations of symbols across at least one pay line, the method comprising:

designating at least one pattern in the array other than a pay line;

pseudo-randomly selecting symbols by the gaming machine (10) and displaying the symbols; and

granting an award to the player based upon combinations of symbols across the at least pay line and in the at least one pattern.

27. The method of Claim 26 wherein designating the at least one pattern in the array comprises the gaming machine (10) receiving a signal from a player controller designating at least one pattern selected by the player.

28. The method of Claim 26 wherein designating the at least one pattern in the array comprises the gaming machine (10) pseudo-randomly selecting the at least one pattern.

29. A gaming device (10) comprising:

a display area for displaying a game, the game displaying an array of symbols, certain combinations of symbols across at least one pay line determining an award to a player; and

at least one processor (60) for carrying out the following method:

designating at least one particular symbol position in the array for a special symbol offered by a gaming machine (10);

pseudo-randomly selecting symbols by the gaming machine (10) to fill in positions in

the array and

granting an award to the player based upon
the symbols displayed including the special symbol.

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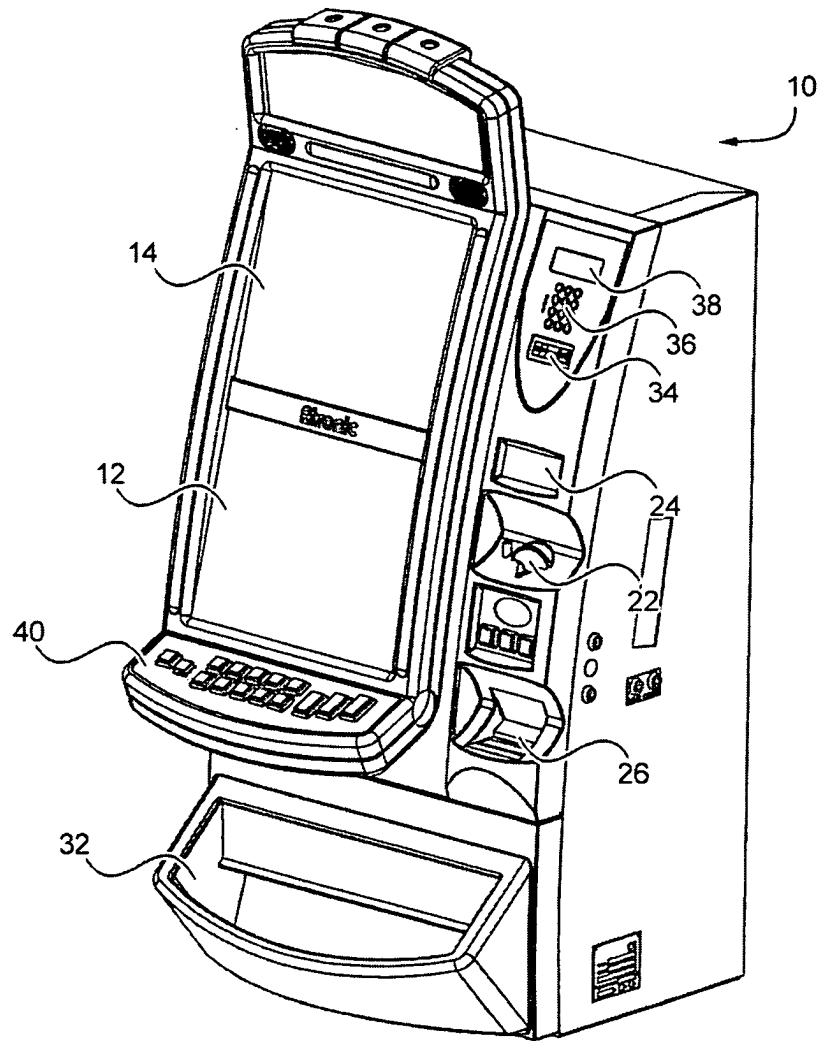


Fig. 1

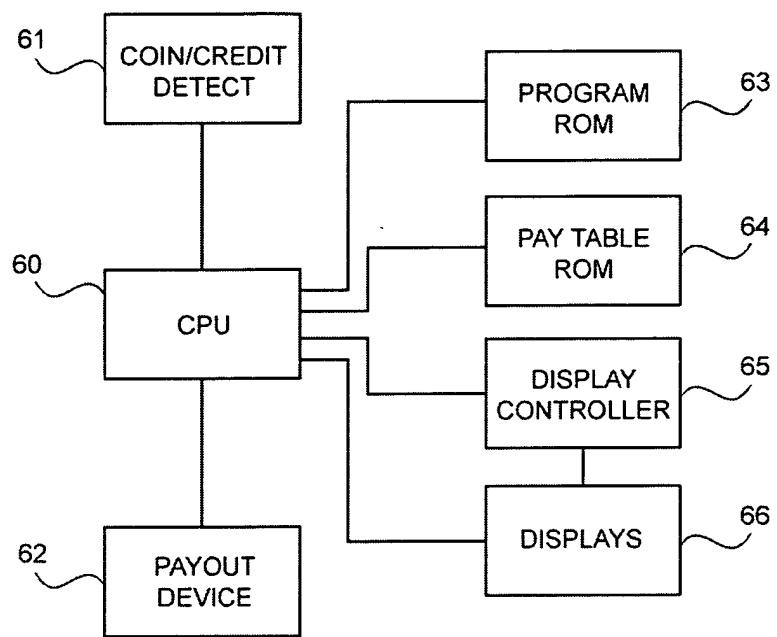


Fig. 2

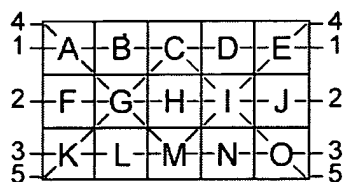


Fig. 3

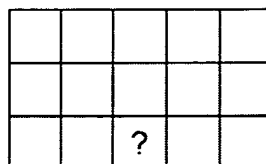


Fig. 4

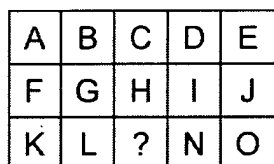


Fig. 5

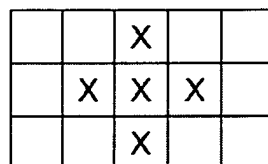


Fig. 6

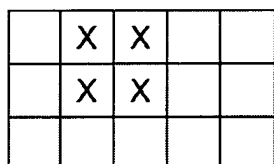


Fig. 7

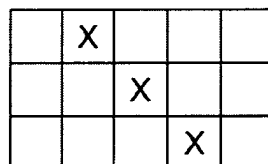


Fig. 8

A	B	C	D	E
F	G	H	I	J
K	L	?1	N	O

Fig. 9

?2	B	C	D	E
F	G	H	I	J
K	L	?1	N	O

Fig. 10

?2	B	C	D	E
F	G	H	?3	J
K	L	?1	N	O

Fig. 11