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(54) **GAMING DEVICE HAVING A PLURALITY OF MULTIPLE-IMAGE PANELS**

**Publication Classification**

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(52) **U.S. Cl.** ..... **463/20**

(57) **ABSTRACT**

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A gaming device having a plurality of multiple-image panels. Each multiple-image panel includes multiple sides, wherein each side displays an image. Each multiple-image panel is connected to an actuator which the processor causes the multiple-image panel to move independently of the other image panels. In one embodiment, each multiple-image panel and connected actuator is supported by a removable unit which is removably attached to a housing. Upon a triggering event occurring in a primary or bonus game, the gaming device's processor randomly independently determines the image to be displayed by each of the plurality of multiple-image panels. The gaming device causes the actuators to move the multiple-image panels to display the selected image or images to the player.

(21) Appl. No.: **10/243,707**

(22) Filed: **Sep. 13, 2002**

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 09/990,693, filed on Nov. 9, 2001, which is a continuation-in-part of application No. 09/605,809, filed on Jun. 28, 2000, now Pat. No. 6,315,664.

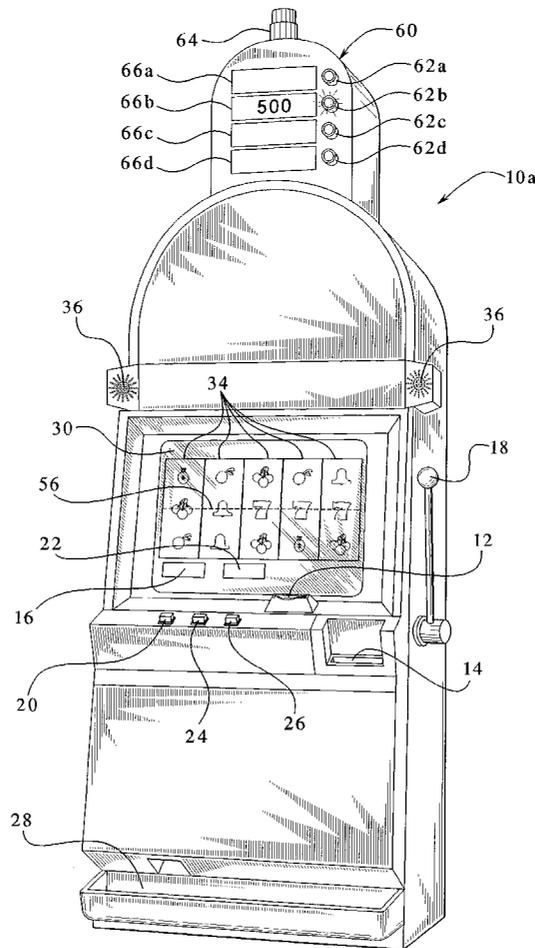


FIG.1A

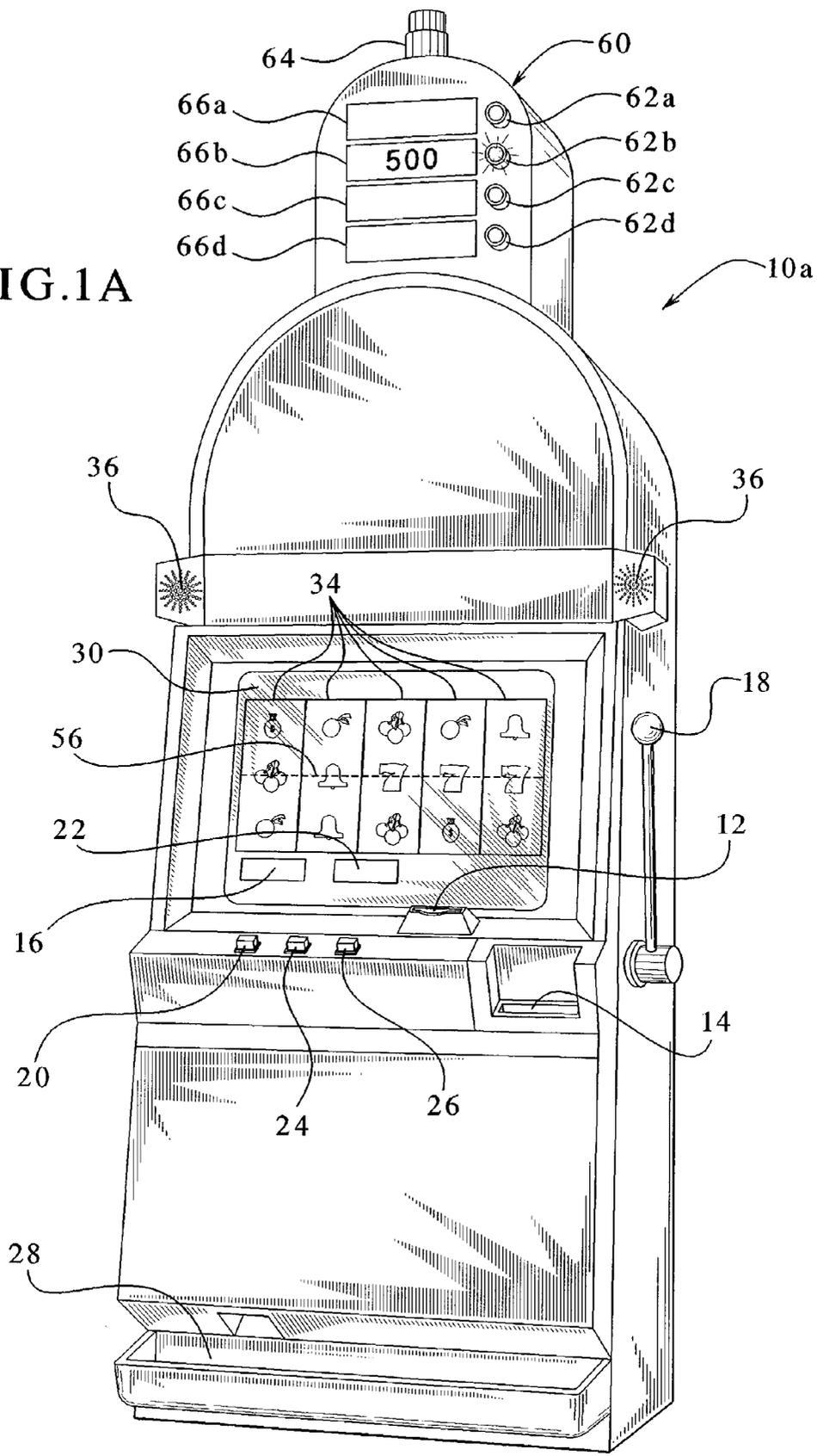


FIG. 1B

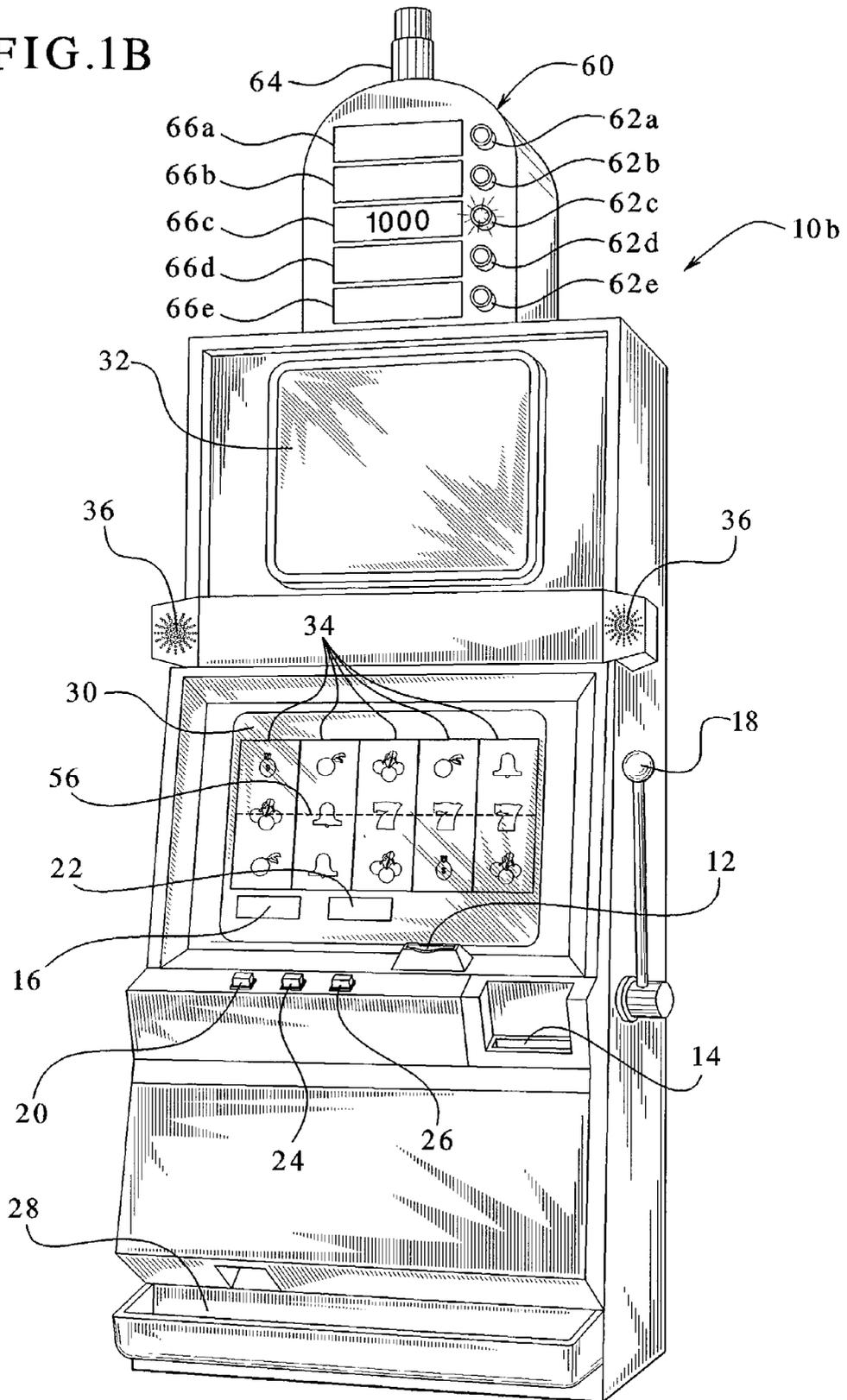


FIG. 2

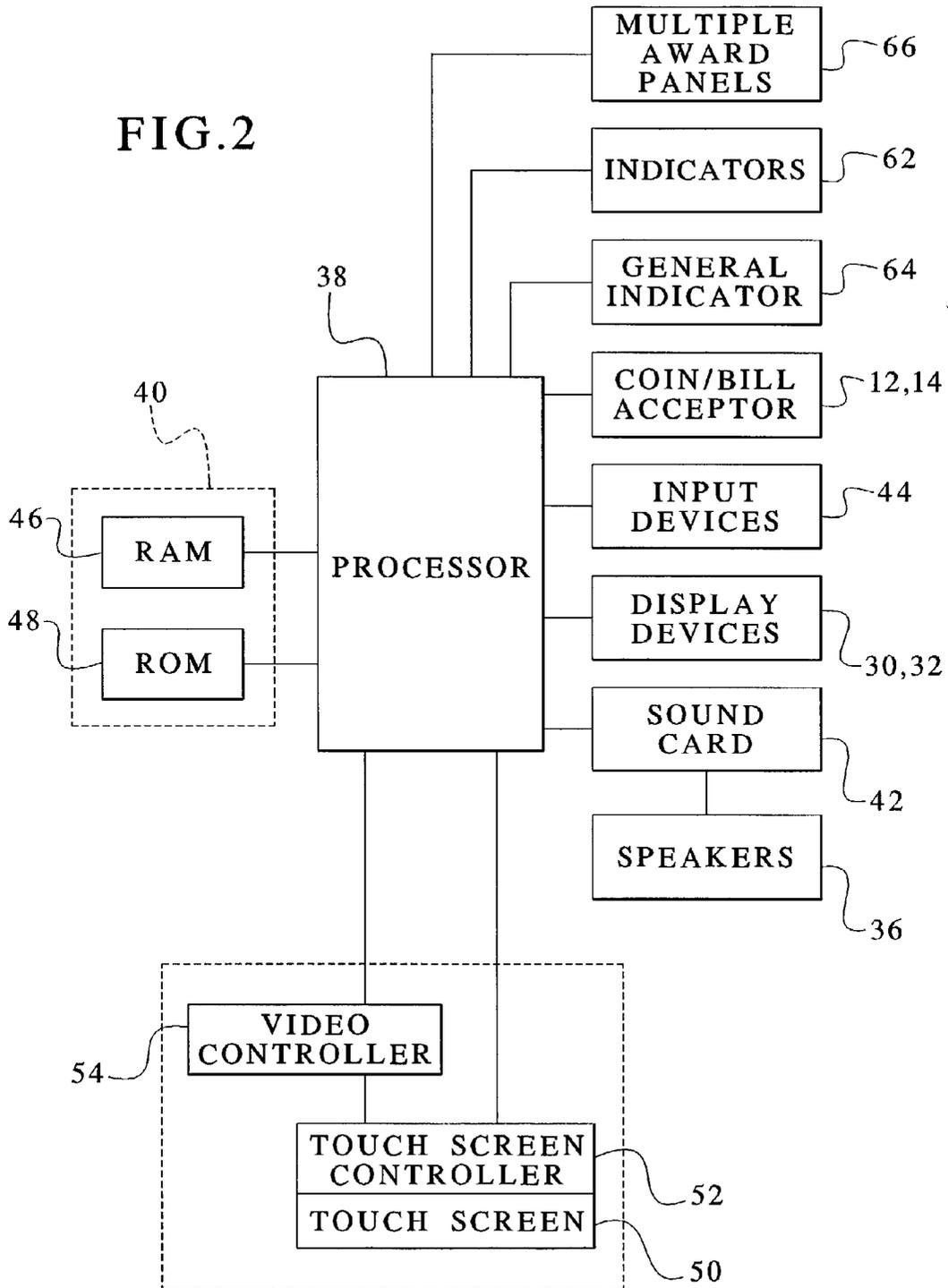


FIG. 3

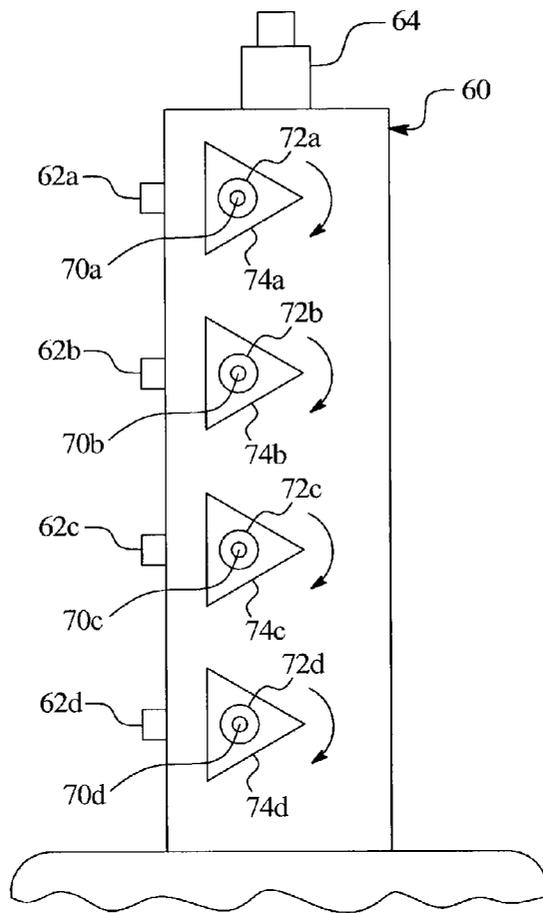


FIG. 4

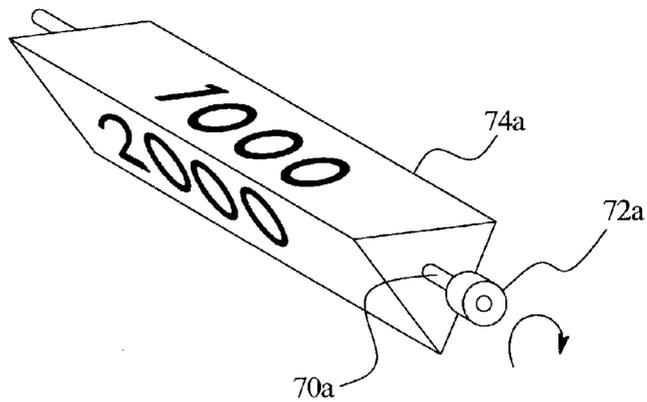


FIG. 5

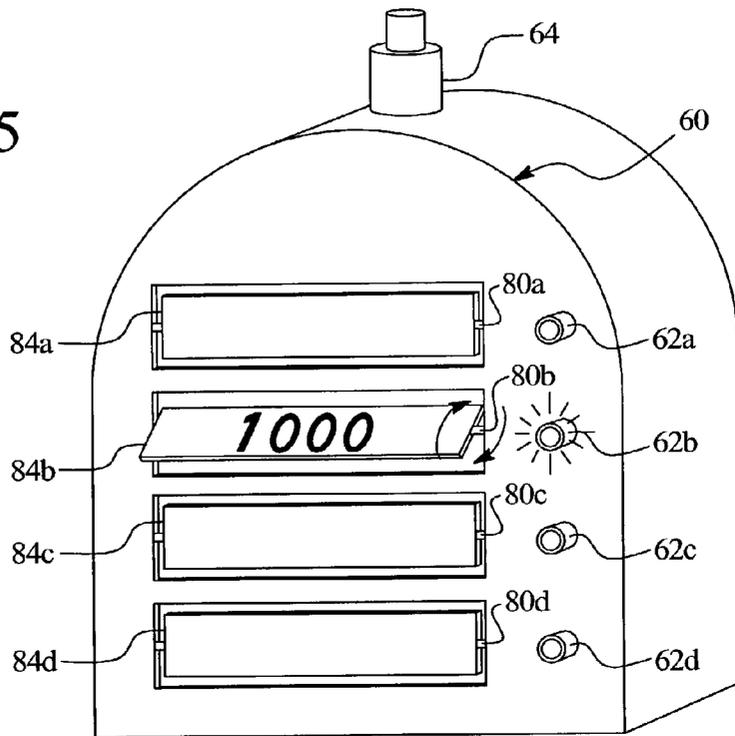


FIG. 6

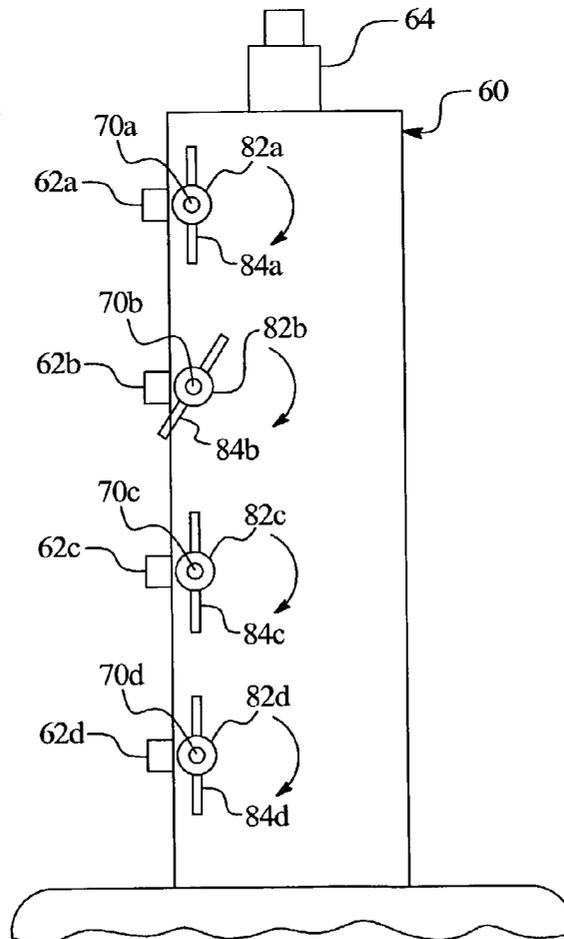
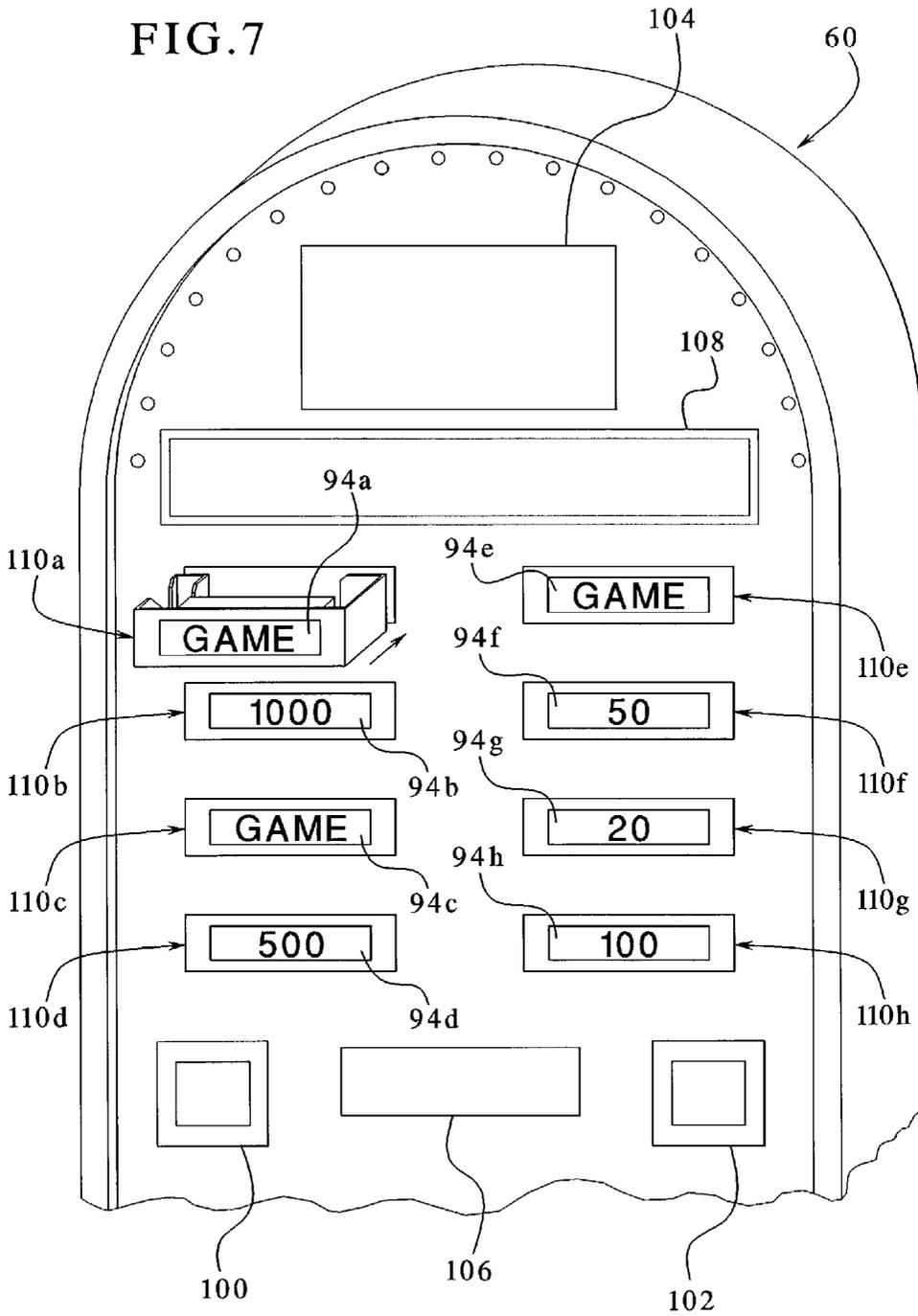


FIG. 7



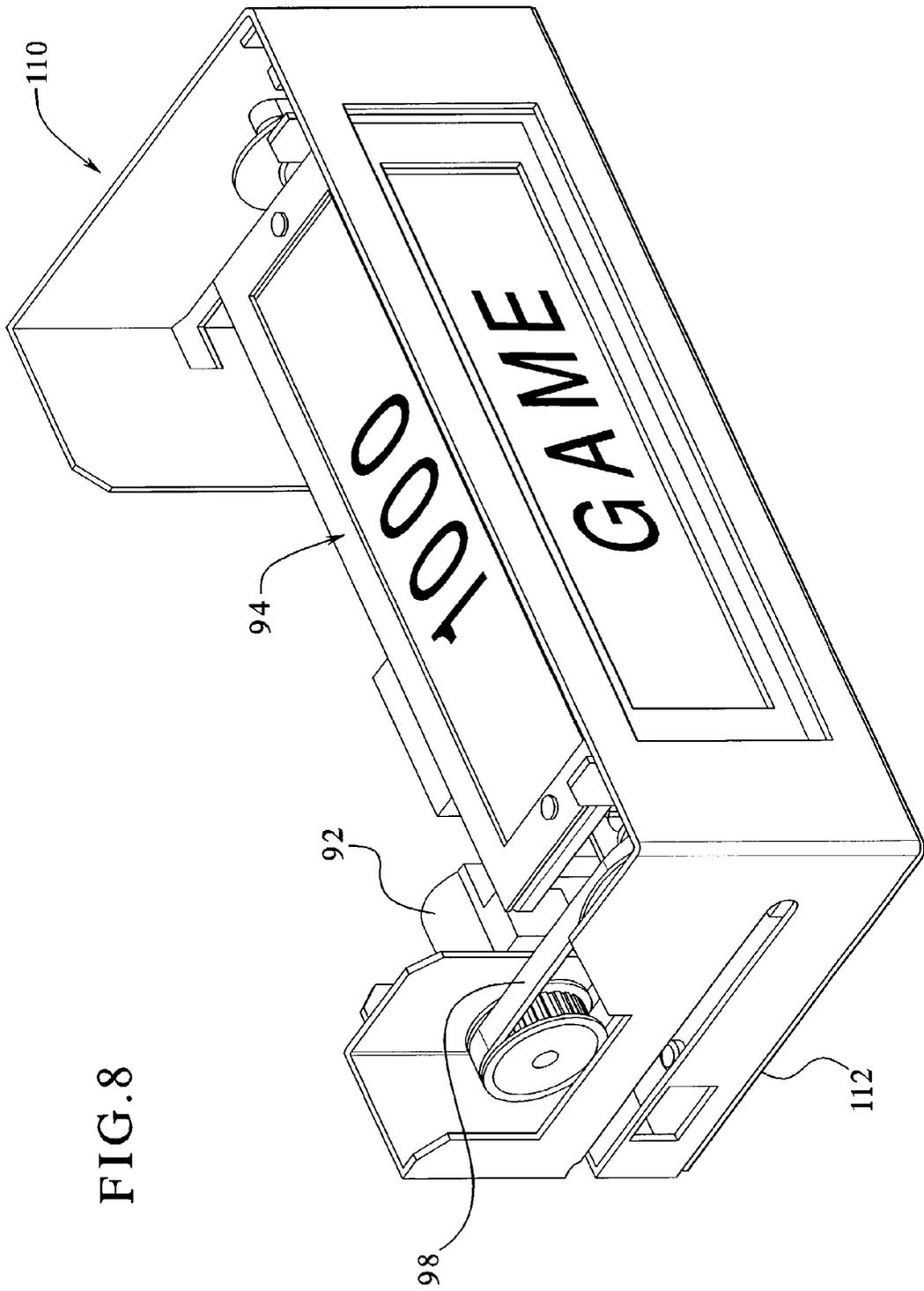


FIG. 9

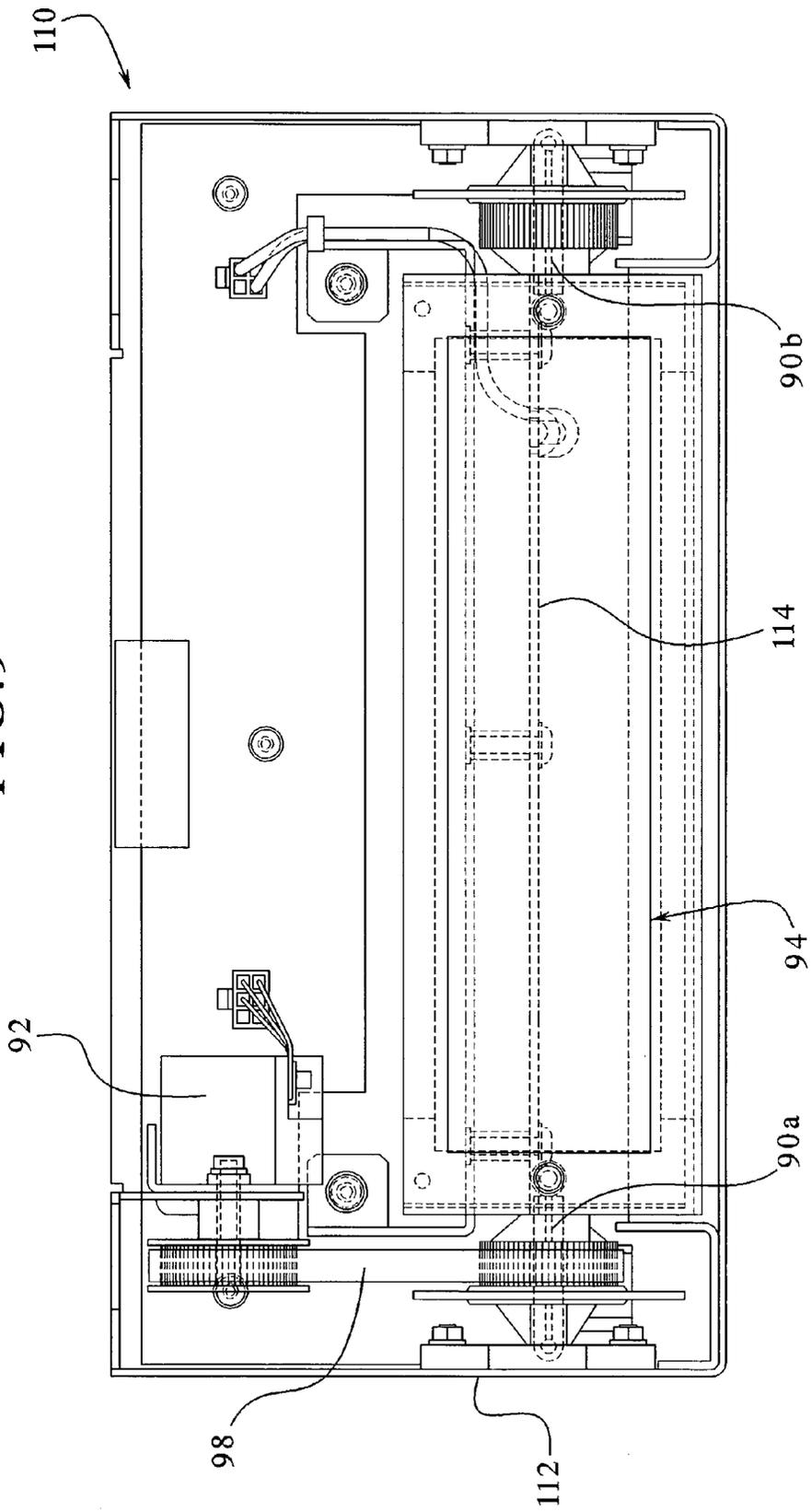
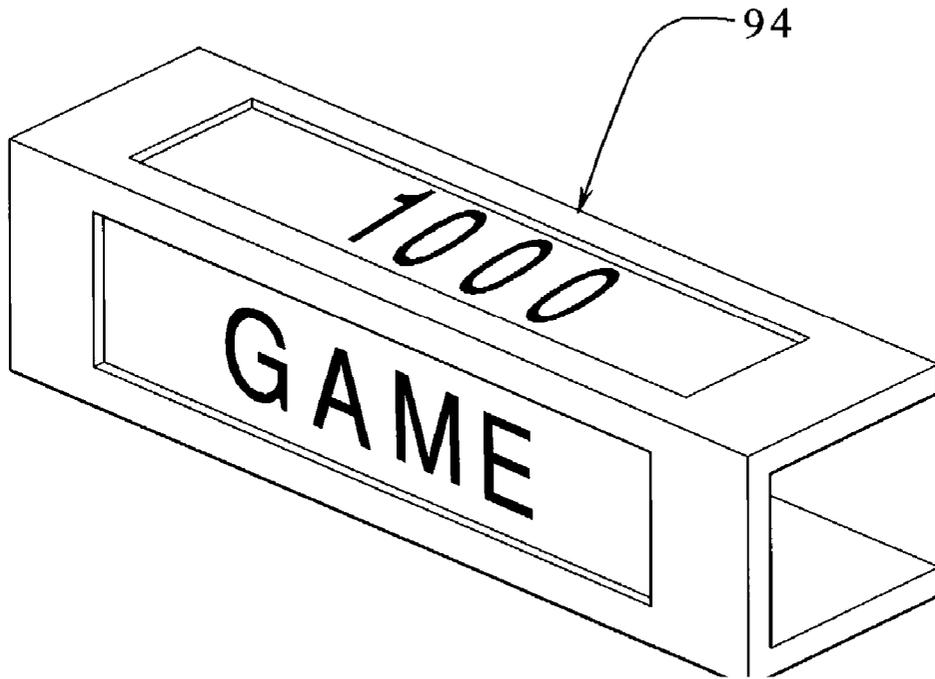


FIG.10



## GAMING DEVICE HAVING A PLURALITY OF MULTIPLE-IMAGE PANELS

### PRIORITY CLAIM

[0001] This application is a continuation-in-part application of and claims the benefit of U.S. patent application Ser. No. 09/990,693, filed Nov. 9, 2001 which is incorporated herein in its entirety, and which is a continuation-in-part of U.S. patent application Ser. No. 09/605,809, filed Jun. 28, 2000, now U.S. Pat. No. 6,315,664.

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### DESCRIPTION

[0003] The present invention relates in general to a gaming device, and more particularly to a gaming device having a plurality of multiple-image panels.

### BACKGROUND OF THE INVENTION

[0004] Gaming device manufacturers strive to make gaming devices that provide as much enjoyment, entertainment and excitement as possible to players. Providing interesting and exciting primary games and secondary games in which a player has an opportunity to win potentially large awards or credits is one way to enhance player enjoyment and excitement. Another way to enhance a player's enjoyment, entertainment and excitement with a gaming device is by including lights, sounds and other visual or audio or audiovisual effects in the gaming machines.

[0005] Certain known gaming device use mechanical devices such as reels or wheels to enhance the attraction of wagering gaming machines to players and also to enhance the player's game playing experience. These mechanical devices enable a player to see physical representations of a game or a portion of a game, which increases the player's enjoyment of the game.

[0006] It is desirable to offer many different bonus award values to players in games such as secondary games. Most wheels employed in secondary games have twenty-two values. These values are easily readable by the player. The use of more values would generally require the use of more space on the gaming machines. In many instances, the use of more space on the gaming machine would require larger gaming machines. However, larger gaming machines are generally not desirable due to low ceilings and weight limitations in certain gaming establishments such as riverboat casinos.

[0007] To increase player enjoyment and excitement, it is desirable to provide new and different mechanical devices in conjunction with wagering gaming devices.

### SUMMARY OF THE INVENTION

[0008] The present invention provides a gaming device having a plurality of multiple-image panels. In one embodi-

ment, the gaming device includes a housing connected to the top of the gaming device cabinet or supported by the cabinet of the gaming device. In one embodiment, the housing supports a plurality of multiple-image panels. In one embodiment, each multiple-image panel is removably supported by or connected to the housing. In one embodiment, the multiple-image panels are mounted such that each multiple-image panel is adjacent to at least one other multiple-image panel. In one embodiment of the present invention, each multiple-image panel is in substantial vertical alignment with at least one other and preferably a plurality of multiple-image panels, and each multiple-image panel is also in substantial horizontal alignment with at least one other multiple-image panel. The multiple-image panels can display any suitable visual images, representations or symbols such as words, pictures, values, award indicia, and awards. A multiple-image panel can include any suitable viewing surface which can be used to display any visual representation such as glass or plastic, a display surface, a video monitor or screen, a liquid crystal display or any other suitable display mechanism or apparatus.

[0009] In one embodiment, the multiple-image panels are multi-sided mechanical members wherein each side of the members display at least one image. Each multiple-image panel is suitably connected, coupled to or driven by an actuator which is operable to cause the multiple-image panel to move independently of the other multiple-image panels. The multiple-image panels can be directly connected to the actuators or can be indirectly connected to the actuators using suitable gear mechanisms or other suitable linkage assemblies.

[0010] Each multiple-image panel can be arranged or constructed in a variety of different configurations. In one preferred embodiment, each multiple-image panel is a three-sided mechanical member, wherein each side of the member is disposed in a substantially perpendicular relation to at least one other side of the member, and wherein each of the three sides displays an image. In the preferred embodiment, the sides of the multiple-image panel are substantially perpendicular. It should be appreciated that in alternative embodiments, the sides could be arranged at angles greater than sixty degrees and less than ninety degrees. In one such embodiment, the two opposing sides display award symbols and an intermediate side displays a null or neutral symbol. The intermediate side is in substantially perpendicular arrangement with both of the opposing sides. The sides are disposed in a substantially perpendicular manner to facilitate movement between the panels and display in close proximity to a display surface. It should be appreciated that the multiple-image panels can have more or less than the three-sides as described above. It should also be appreciated that the multiple-image panels can be configured differently than the sides being substantially perpendicular to each other.

[0011] In one embodiment, the images displayed by the mechanical multiple-image panels are backlit using lights, other illumination devices or other suitable indicators. In one embodiment, the lights are disposed in a channel extending between and defined by opposing sides of the multiple-image panel. The lights enable the processor to selectively illuminate one or more of the displays of the plurality of multiple-image panels. Lighting symbols or images, commonly referred to in the art as backlighting, is well known.

The processor can backlight certain images or symbols on a particular multiple-image panel such as an award generating multiple-image panel. Alternatively, the gaming device can backlight a plurality of multiple-image panels.

[0012] In one embodiment of the present invention, each multiple-image panel, actuator, and illumination device is contained in a removable frame or unit which is removably supported by or connected to the housing. The plurality of multiple-image panels can, thus, be easily installed during manufacturing and changed to modify the images, values or symbols of the gaming device.

[0013] In one embodiment of the present invention, the housing encloses the plurality of multiple-image panels. The housing may additionally support a plurality of display devices other than the multiple-image panels. The additional display devices can display any suitable visual representation or symbol including words, values, award indicia, awards, pictures and dynamic images.

[0014] In one embodiment, the housing supports a plurality of separate lights, illumination devices or indicators, wherein each indicator is associated with at least one multiple-image panel. The indicators are used to direct the player's attention to the associated multiple-image panels. The gaming device may additionally include a general indicator attached to the housing, such as the top of the housing, for directing a player's attention to the plurality of multiple-image panels.

[0015] One embodiment of the present invention includes a plurality of award symbols and at least one neutral symbol associated with each of the plurality of multiple-image panels. In this embodiment, no awards, award indicia or termination schemes are associated with the neutral symbol. The awards associated with the award symbols can be any suitable awards, such as values and/or multipliers. Initially, each of the plurality of multiple-image panels displays the neutral symbol. Upon a triggering event in a primary or secondary game associated with the gaming device, the gaming device's processor determines for each multiple-image panel which symbol, such as which award symbol, if any, or the neutral symbol, associated with each particular multiple-image panel will be displayed to the player. If the processor's determination results in any award symbols being selected, the processor causes the multiple-image panels to move and display the processor-selected award symbols.

[0016] As indicated above, in one preferred embodiment, each of the plurality of multiple-image panels includes three sides, wherein each side is disposed in a substantially perpendicular fashion to at least one other side. Each of the two opposing sides displays one of the award symbols and the intermediate side displays the neutral symbol. In one embodiment, the multiple-image panels which display the neutral symbols selected by the processor's determination do not move. In one embodiment, the processor causes the multiple-image panel to oscillate before causing the multiple-image panel to move and display the processor-determined award symbol. In this embodiment, the player may see the three symbols associated with the multiple-image panel before being shown the processor-selected symbol. This adds to the level of excitement and anticipation.

[0017] It should be appreciated that the processor preferably randomly independently determines the symbol to be

displayed by each of the plurality of multiple-image panels based on independent probabilities associated with each of the symbols on each of the multiple-image panels. The probabilities add up to one-hundred percent. It should be further appreciated that each award symbol's probability of being displayed varies depending on the size of the award. As the probabilities preferably add up to one hundred percent, it should be appreciated that when each award or neutral symbol's probability is varied, the probability of the other symbols on the multiple-image panel being selected and displayed are varied as well.

[0018] It should be appreciated that in one preferred embodiment of the present invention, the null or neutral symbol has a lower probability of being selected than the probabilities of the award symbols on the other sides of the multiple-image panel. It should thus be appreciated that based on the probabilities, all of the null or neutral symbols can be indicated in any one iteration or play of the game. If this occurs, a consolidation award could be provided to the player or the game could be replayed. Thus, if at least one award or award amount or level is not obtained, the game could be replayed or reset in a secondary game version.

[0019] More specifically, in one embodiment, upon a trigger or triggering event in a primary or secondary game associated with the gaming device, the processor independently determines for each multiple-image panel which symbol will be displayed to the player based upon probabilities associated with each symbol on each multiple-image panel. One preferred embodiment includes the above-mentioned plurality of three-sided multiple-image panels, wherein each of the two opposing sides displays one of the award symbols and the intermediate side displays the neutral symbol. In one such embodiment, one of the award symbols on each multiple-image panel is associated with a relatively larger award, and the other award symbol is associated with a relatively smaller award. In one such embodiment, the neutral symbol has the highest probability of being displayed to the player. The award symbol associated with the relatively smaller award has the second highest probability of being displayed to the player. The award symbol associated with the relatively largest award has the lowest probability of being displayed to the player. Thus, in this embodiment, the multiple-image panel has a neutral symbol and two award symbols and different probabilities associated with such symbols. The processor makes an independent determination for each such panel based on the probabilities associated with that panel or the symbols or outcomes associated with that panel.

[0020] Each of the plurality of multiple-image panels initially displays the neutral symbol to the player. The processor independently determines for each of the plurality of multiple-image panels which symbol will be displayed to the player based upon the probabilities of the symbols associated with that multiple-image panel. If the processor's determination results in any of the award symbols being selected, the processor causes the multiple-image panels with the processor-selected award symbols to move so that such award symbols will be displayed to the player. The processor provides the awards associated with such award symbols to the player. Thus, the player has an opportunity to obtain an award associated with each of the multiple-image panels. Based on the probabilities and the random determinations, the processor may or may not cause each multiple-

image panel to move. It should, however, be appreciated that the multiple image panels could be used in a variety of alternative ways in the game play of the gaming device of the present invention. It should also be appreciated that the determinations could be made before any of the symbols are revealed to the player or sequentially after each symbol is revealed to the player.

[0021] For instance, in one alternative embodiment, the processor enables the player to choose a randomly determined or predetermined number of multiple-image panels. The processor makes the independent determination for each player-chosen multiple-image panel based on the probabilities associated with the symbols of that panel. If any of the player-chosen multiple-image panels display one of the award symbols, the player is provided with the associated award. It should be appreciated that the randomly determined number of player selections could be determined in a game or sub-game and that the predetermined number of multiple-image panels the player can choose can alternatively be based upon a wager made by the player or a number of trigger symbols or a combination of trigger symbols obtained in, for example, a primary game.

[0022] In one player selection embodiment, the player may choose multiple-image panels which have a higher difference between the awards (such as 1000 and 10), a moderate difference between the awards (such as 700 and 300) or a small difference between the awards (such as 550 and 450). This embodiment enables the player to select a certain volatility in the range of possible awards in the game. Appropriate probabilities would be associated with such different award symbols.

[0023] In another embodiment, the multiple-image panels are employed in an offer and acceptance primary or bonus game, wherein the processor enables the player to accept or reject the awards or award symbols offered to the player. In one embodiment, the plurality of multiple-image panels initially display the neutral symbols to the player. The processor independently randomly determines for each multiple-image panel which symbol will be displayed to the player. If the processor's determination results in any of the award symbols being selected, the processor causes the multiple-image panels with the processor-selected award symbols to move and display the award symbols to the player. The processor offers the award or awards associated with the displayed award symbols to the player. This offer in one embodiment is the sum of the awards or award symbols. In other embodiments, the offer can be otherwise suitably based on the awards or award symbols. The processor enables the player to accept or reject the offer using one or more suitable accept and reject input devices. If the player accepts the offer, the processor provides the displayed awards to the player. If the player rejects the offer, the processor again makes random independent determinations of which symbol to display for each multiple-image panel, causes the multiple-image panels to display any processor-selected award symbols, offers the awards associated with any displayed award symbols to the player, and enables the player to reject or accept the offer. This process may be repeated a predetermined or randomly determined number of times until a final offer is determined and provided to the player if the player has not accepted any of the previous offers.

[0024] In another embodiment of the present invention, the processor enables the player to select multiple-image panels and the processor selects multiple image panels. If the player and processor selected multiple-image panels match, the player is provided the randomly independently determined awards, if any, displayed by those panels.

[0025] It should be appreciated that the multiple image panels could alternatively be used to display the award provided or offered to the player in a primary or bonus game. In one embodiment, the multiple-image panels display a plurality of award symbols each associated with an award that is provided during game play. When the player is provided with an award or awards, the processor determines which multiple-image panel or panels display the award symbol or symbols associated with the provided award, and causes the multiple-image panels to move so that the award symbol or symbols associated with the provided award are displayed to the player.

[0026] In one embodiment, the multiple-image panels each display a plurality of values. If the player is awarded with a value during game play, the processor determines which multiple-image panel displays the awarded value and causes the multiple-image panel to move and display the award value. If the awarded value is more than the highest value displayed by the multiple-image panels, the processor determines which multiple-image panels display a total value equal to the awarded value, and cause multiple-image panels displaying the total value to move and display the total value equaling the awarded value to the player.

[0027] In another embodiment, the player could select one or more of a plurality of displayed selections, such as in the form of a plurality of answers to a question. The selections are associated with award symbols of the multiple-image panels, which are operable to move to reveal one of the two different awards associated with the multiple-image panels. The processor can provide the selections to the player a randomly determined or predetermined number of times, or alternatively in another embodiment until a selection having an associated terminator is selected. In this embodiment, the processor can make an independent determination based on the probabilities associated with each of the award symbols and neutral symbol of each multiple-image panel. In another alternative embodiment, one or more of the multiple-image panels has a terminator associated with one of the side and the processor makes the determination based on the probabilities associated with the award symbols, the neutral symbol and/or the terminator. When the terminator is randomly determined the game ends.

[0028] In an alternative embodiment, the gaming device enables the player to select one of a plurality of groups of multiple-image panels, such as one of the columns or rows of panels. The processor makes the independent random determinations for those player selected multiple-image panels. In a further alternative embodiment, the gaming device enables the player to sequentially select multiple-image panels from a group of multiple-image panels, such as each row of multiple image panels.

[0029] In one embodiment of the present invention, the processor randomly causes or alternatively causes according to a predetermined routine, the multiple-image panels to oscillate and the indicators to flash before displaying an award to be provided to the player, thus, giving the player a

greater sense of anticipation. In one embodiment of the present invention, the processor causes the multiple-image panels to display awards simultaneously and causes the indicators to flash randomly or alternatively.

[0030] It is therefore an advantage of the present invention to provide a gaming device having one or more multiple-image panels.

[0031] Another advantage of the present invention is to enhance the indication of game outcomes and awards to players.

[0032] Still another advantage of the present invention is to increase the attraction of a gaming device.

[0033] Additional features and advantages of the present invention are described in, and will be apparent from, the following Detailed Description of the Invention and the figures.

#### BRIEF DESCRIPTION OF THE FIGURES

[0034] FIG. 1A and FIG. 1B are front perspective views of general embodiments of the gaming device of the present invention.

[0035] FIG. 2 is a schematic block diagram of the electronic configuration of one embodiment of the gaming device of the present invention.

[0036] FIG. 3 is a schematic side view of the housing, multiple-image panels, indicators and general indicator of one embodiment of the present invention.

[0037] FIG. 4 is an enlarged perspective view of a multiple-image panel of the embodiment of FIG. 3 shown removed from the housing.

[0038] FIG. 5 is a front perspective view of the housing, multiple-image panels, indicators and general indicator of one embodiment of the present invention.

[0039] FIG. 6 is a schematic side view of the housing, multiple-image panels, indicators and general indicator of the embodiment of FIG. 5.

[0040] FIG. 7 is a fragmentary front perspective view of the housing, multiple-image panels and additional display devices of an alternative embodiment of the present invention.

[0041] FIG. 8 is a front perspective view of a removable frame or unit of the embodiment of FIG. 7 which includes a multiple-image panel, actuator and belt.

[0042] FIG. 9 is a schematic top view of the removable unit of the embodiment of FIG. 7 which includes a multiple-image panel, actuator and belt.

[0043] FIG. 10 is a front perspective view of one of a multiple-image panel of the embodiment of FIG. 7.

#### DETAILED DESCRIPTION OF THE INVENTION

##### Gaming Device and Electronics

[0044] Referring now to the drawings, two embodiments of the gaming device of the present invention are illustrated in FIGS. 1A and 1B as gaming device 10a and gaming device 10b, respectively. Gaming device 10a and/or gaming

device 10b are generally referred to herein as gaming device 10. In one embodiment, gaming device 10 is a slot machine having the controls, image panels and features of a conventional slot machine. It is constructed so that a player can operate it while standing or sitting, and gaming device 10 may be mounted in console or cabinet. However, it should be appreciated that gaming device 10 can be constructed as a pub-style table-top game (not shown) which a player can operate preferably while sitting. Furthermore, gaming device 10 can be constructed with varying cabinet and display designs, as illustrated by the designs shown in FIGS. 1A and 1B.

[0045] Gaming device 10 can incorporate any primary game such as slot, poker, blackjack or keno, any of their bonus triggering events and any of their bonus round games. The symbols and indicia used on and in gaming device 10 may be in mechanical, electrical, electronic or video form.

[0046] As illustrated in FIGS. 1A and 1B, gaming device 10 includes a coin slot 12 and bill acceptor 14 where the player inserts money, coins or tokens. The player can place coins in the coin slot 12 or paper money in the bill acceptor 14. Other devices could be used for accepting payment such as readers or validators for credit cards or debit cards. When a player inserts money in gaming device 10, a number of credits corresponding to the amount deposited is shown in a credit display 16. After depositing the appropriate amount of money, a player can begin the game by pulling arm 18 or pushing play button 20. Play button 20 can be any play activator used by the player which starts any game or sequence of events in the gaming device.

[0047] As shown in FIGS. 1A and 1B, gaming device 10 also includes a bet display 22 and a bet one button 24. The player places a bet by pushing the bet one button 24. The player can increase the bet by one credit each time the player pushes the bet one button 24. When the player pushes the bet one button 24, the number of credits shown in the credit display 16 decreases by one, and the number of credits shown in the bet display 22 increases by one. The gaming device can include other wager indicators such as a bet max button.

[0048] A player may cash out and thereby receive a number of coins corresponding to the number of remaining credits by pushing a cash out button 26. When the player cashes out, the player receives the coins in a coin payout tray 28. The gaming device 10 may employ other payout mechanisms such as credit slips redeemable by a cashier or electronically recordable cards which keep track of the player's credits.

[0049] Gaming device 10 also includes one or more display devices. The embodiment shown in FIG. 1A includes a central display device 30, and the alternative embodiment shown in FIG. 1B includes a central display device 30 as well as an upper display device 32. Gaming device 10 preferably displays a plurality of reels 34, preferably three to five reels 34 in mechanical or video form at one or more of the display devices. A display device can be any viewing surface such as glass, a video monitor or screen, a liquid crystal display or any other display mechanism or apparatus. If the reels 34 are in video form, the display device for the video reels 34 is preferably a video monitor. Each reel 34 displays a plurality of indicia such as bells, hearts, fruits, numbers, letters, bars or other images which preferably

correspond to a theme associated with the gaming device 10. Furthermore, gaming device 10 preferably includes speakers 36 for making sounds or playing music.

[0050] As illustrated in FIG. 2, the general electronic configuration of gaming device 10 preferably includes: a processor 38; a memory device 40 for storing program code or other data; a central display device 30; an upper display device 32; a sound card 42; a plurality of speakers 36; and one or more input devices 44. The processor 38 is preferably a microprocessor or microcontroller-based platform which is capable of displaying images, symbols and other indicia such as images of people, characters, places, things and faces of cards. The memory device 40 can include random access memory (RAM) 46 for storing event data or other data generated or used during a particular game. The memory device 40 can also include read only memory (ROM) 48 for storing program code which controls the gaming device 10 so that it plays a particular game in accordance with applicable game rules and pay tables.

[0051] As illustrated in FIG. 2, the player preferably uses the input devices 44, such as pull arm 18, play button 20, the bet one button 24 and the cash out button 26 to input signals into gaming device 10. In certain instances it is preferable to use a touch screen 50 and an associated touch screen controller 52 instead of a conventional video monitor display device. Touch screen 50 and touch screen controller 52 are connected to a video controller 54 and processor 38. A player can make decisions and input signals into the gaming device 10 by touching touch screen 50 at the appropriate places. As further illustrated in FIG. 2, the processor 38 can be connected to coin slot 12 or bill acceptor 14. The processor 38 can be programmed to require a player to deposit a certain amount of money in order to start the game.

[0052] It should be appreciated that although a processor 38 and memory device 40 are preferable implementations of the present invention, the present invention can also be implemented using one or more application-specific integrated circuits (ASIC's) or other hard-wired devices, or using mechanical devices (collectively or alternatively referred to herein as a "processor"). Furthermore, although the processor 38 and memory device 40 preferably reside on each gaming device 10 unit, it is possible to provide some or all of their functions at a central location such as a network server for communication to a playing station such as over a local area network (LAN), wide area network (WAN), Internet connection, microwave link, and the like. The processor 38 and memory device 40 is generally referred to herein as the computer or controller.

[0053] With reference to FIGS. 1A, 1B and 2, to operate the gaming device 10 in one embodiment the player must insert the appropriate amount of money or tokens at coin slot 12 or bill acceptor 14 and then pull the arm 18 or push the play button 20. The reels 34 will then begin to spin. Eventually, the reels 34 will come to a stop. As long as the player has credits remaining, the player can spin the reels 34 again. Depending upon where the reels 34 stop, the player may or may not win additional credits.

[0054] In addition to winning credits in this manner, preferably gaming device 10 also gives players the opportunity to win credits in a bonus round. This type of gaming device 10 will include a program which will automatically begin a bonus round when the player has achieved a quali-

fying condition in the game. This qualifying condition can be a particular arrangement of indicia on a display device. The gaming device 10 preferably uses a video-based central display device 30 to enable the player to play the bonus round. In one embodiment, the qualifying condition is a predetermined combination of indicia appearing on a plurality of reels 34. As illustrated in the five reel slot game shown in FIGS. 1A and 1B, the qualifying condition could be the number seven appearing on three adjacent reels 34 along a payline 56. It should be appreciated that the present invention can include one or more paylines displayed in a horizontal and/or diagonal fashion.

#### Multiple-Image Panels

[0055] As illustrated in FIGS. 1A and 1B, in one embodiment the gaming device 10 includes a plurality of multiple-image panels 66a, 66b, 66c, 66d and 66e suitably mounted in a housing 60 connected to the top of the cabinet of the gaming device 10. Each multiple-image panel is preferably located adjacent to at least one other multiple-image panel. Each multiple-image panel has a plurality of sides which are each displayed or are adapted to display at least one image or symbol. In the illustrated embodiment, the panels extend substantially horizontally and are aligned vertically. The horizontal dimension of each panel is substantially greater than the vertical dimension of each panel. In one embodiment, the horizontal dimension is approximately two, three or four times greater than the vertical dimension. It should also be appreciated that the panels could be arranged to extend substantially vertically and be arranged horizontally. Thus, the panels in one embodiment are arranged in a column, in another embodiment arranged in a row and in another embodiment arranged in rows and columns. It should also be appreciated that the multiple-image panel can display any visual image, representation or symbol such as awards, award indicia, values, pictures and words. Each multiple-image panel has multiple viewing surfaces which are adapted to display an image.

[0056] As further illustrated in FIGS. 1A and 1B, one embodiment of the present invention includes a plurality of indicators 62a, 62b, 62c, 62d and 62e in FIG. 1B. Each indicator is associated with a multiple-image panel. In this embodiment, each of the indicators 62a to 62e is located adjacent to the associated multiple-image panel 66a, 66b, 66c, 66d and 66e. A general indicator 64 is also connected to the housing 60 as shown in FIGS. 1A and 1B. The multiple-image panels 66a to 66e, indicators 62a, 62b, 62c, 62d and 62e in FIG. 1B, and the general indicator 64 are all connected to and controlled by the processor 38, as illustrated in FIG. 2.

[0057] As illustrated in FIG. 3, in one embodiment of the present invention, the multiple-image panels are multiple-sided mechanical panels. In one embodiment, the multiple-image panels 74a, 74b, 74c and 74d are a plurality of three-sided mechanical panels supported by the housing 60. The plurality of multiple-image panels 74a, 74b, 74c and 74d are vertically aligned. Each multiple-image panel 74a to 74d includes an image or symbol on at least two of the sides as illustrated in FIG. 4. The multiple-image panels 74a, 74b, 74c and 74d are suitably connected to axles 70a, 70b, 70c and 70d, respectively which are attached to the housing 60. The multiple-image panels 74a, 74b, 74c and 74d and axles 70a, 70b, 70c and 70d are respectively connected to a

plurality of actuators **72a**, **72b**, **72c** and **72d**. The processor of the gaming device causes the plurality of actuators **72a** to **72d** to move or rotate each of the multiple-image panels **74a** to **74d**. Each multiple-image panel **74a** to **74d** can be rotated independently of each other. The housing **60** in this embodiment of the present invention also supports the plurality of indicators **62a**, **62b**, **62c** and **62d** and the general indicator **64**.

[0058] As illustrated in **FIG. 5**, in another embodiment of the present invention, the multiple-image panels **84a**, **84b**, **84c** and **84d** are a plurality of double-sided mechanical panels which are supported by the housing **60**. The plurality of multiple-image panels **84a** to **84d** are vertically aligned. Each multiple-image panel is adapted to display at least one image or symbol on at least one of its sides. The multiple-image panels **84a**, **84b**, **84c** and **84d** are respectively suitably connected to a plurality of axles **80a**, **80b**, **80c** and **80d** which are supported by the housing **60**. The multiple-image panels **84a**, **84b**, **84c** and **84d** and axles **80a**, **80b**, **80c** and **80d** are respectively connected to a plurality of actuators **82a**, **82b**, **82c** and **82d** as illustrated in **FIG. 6**. The processor of the gaming device causes the plurality of actuators **82a** to **82d** to rotate or move each multiple-image panel **84a** to **84d**. The processor is operable to cause each multiple-image panel **84a** to **84d** to rotate independently of each other. The housing **60** in this embodiment of the present invention also supports the plurality of indicators **62a**, **62b**, **62c** and **62d** and the general indicator **64**.

[0059] As seen in **FIG. 7**, in one embodiment of the present invention, the housing **60** supports a plurality of multiple-image panels **94a**, **94b**, **94c**, **94d**, **94e**, **94f**, **94g** and **94h**. In this alternative embodiment, each image panel **94a** to **94h** is vertically aligned and horizontally aligned with at least one other image panel **94a** to **94h**. Each of the plurality of multiple-image panels **94a**, **94b**, **94c**, **94d**, **94e**, **94f**, **94g** and **94h** is included in one of a plurality of removable frames or units **110a**, **110b**, **110c**, **110d**, **110e**, **110f**, **110g** and **110h** which are removably supported by the housing **60**. In the illustrated embodiment, the frame **112** of each of the plurality of removable frames or units **110a**, **110b**, **110c**, **110d**, **110e**, **110f**, **110g** and **110h** is removably attached to the housing **60**.

[0060] The housing **60** in addition to the multiple-image panels **94a** to **94h** supports a number of other different display devices **104**, **106** and **108**. The additional displays **104**, **106** and **108** can be any viewing surface including glass or plastic, video monitor or screen, liquid crystal display or any other suitable type of display device. The additional display devices **104**, **106** and **108** are preferably adapted to display images relating to the theme of the gaming device, information relating to the game played on the gaming device, advertisements and/or information relating to the awards of the multiple-image panels. The housing **60** also supports player input devices **100** and **102**. In one embodiment, the display **106** directs the player to select one of two inputs **100** and **102** which in one embodiment are accept offer and reject offer inputs.

[0061] As illustrated in **FIG. 8**, each removable frame or unit **110** supports a multiple-image panel **94** and its associated actuator **92** which is supported by the frame **112**. The actuator **92** is suitably connected to the multiple-image panel **94** by a linkage assembly, in this embodiment the linkage

assembly includes a drive belt **98**. The processor of the gaming device causes the actuator **92** to move, rotate or oscillate the multiple-image panel **94**. As seen in **FIG. 9**, the multiple-image panel **94** is connected to two axles **90a** and **90b**. Each side of the multiple-image panel **94** is connected to one of the two axles **90a** and **90b** which are supported by the frame **112**. In this embodiment, an illumination device or light **114** is disposed between two opposing sides of the multiple-image panel **94**. The processor causes the light **114** to backlight the multiple-image panel. In this embodiment, as illustrated in **FIG. 10**, the multiple-image panel **94** includes a three-sided member, wherein each side is disposed in a substantially perpendicular fashion to at least one other side.

[0062] As discussed above, embodiments of the present invention which utilize multiple-image panels having a plurality of sides can display a different image or symbol on each of the sides. It should be appreciated that the multiple-image panels can include more than three sides. It should also be appreciated that at least one side of the multiple-image panel may include an image or symbol other than an award or value and in some alternative embodiments at least one side will have no images, symbols or awards displayed. Additionally, in other embodiments of the present invention, the multiple-image panels may also slide or oscillate so as to display more than one image, award or symbol. However, it should be appreciated that one advantage of the present invention is to save space by containing multiple symbols, such as award symbols, in the same physical area.

[0063] It should also be appreciated that the actuator connected to the multiple-image panels or axles may be a solenoid, motor, lever or biasing device, or a combination of these devices which causes the multiple-image panel to rotate or move. The actuator may also be connected to the axle or multiple-image panel using a suitable linkage assembly. It should be appreciated that in an alternative embodiment, the multiple-image panels may be otherwise connected, such as directly connected to the actuators without the support of the axles.

[0064] It should further be appreciated that the multiple-image panels can be supported directly by the gaming device's cabinet. It should also be appreciated that the housing which supports one or a plurality of multiple-image panels can be suitably connected to the cabinet other than to the top of the cabinet.

[0065] The multiple-image panels can be used to display a plurality of symbols which are associated with awards, values, multipliers, termination schemes, or other types of award or termination indicia. It should also be appreciated that the multiple-image panels can also display symbols which are null or neutral. These neutral symbols are not associated with any awards, values, multipliers or other types of award indicia. The plurality of multiple-image panels can be used in a variety of ways to lend additional excitement and anticipation to a gaming device's primary and/or bonus games.

[0066] In one embodiment of the present invention, the plurality of multiple-image panels display a plurality of award symbols and at least one neutral symbol. The multiple-image panels are multi-sided and each side displays one award symbol or one neutral symbol. In one embodiment, the awards associated with the award symbols can be

values and/or multipliers. The plurality of multiple-image panels initially display the neutral symbol and upon a triggering event in the primary or bonus game of the gaming device, the processor independently randomly determines for each of the plurality of multiple-image panels which symbol associated with each multiple-image panel will be displayed to the player. If the processor's determination results in any award symbols being selected to be displayed by the plurality of multiple-image panels, the processor causes the multiple-image panels which display the processor-selected award symbols to move and display the selected award symbols. The processor provides the player with the award associated with any displayed award symbols. The other game play descriptions are described above in the summary of the invention.

[0067] While the present invention is described in connection with what is presently considered to be the most practical and preferred embodiments, it should be appreciated that the invention is not limited to the disclosed embodiments, and is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the claims. Modifications and variations in the present invention may be made without departing from the novel aspects of the invention as defined in the claims, and this application is limited only by the scope of the claims.

1. A gaming device comprising:

a cabinet;

a housing connected to the cabinet;

a plurality of images;

a plurality of independently frames removably connected to the housing, each removable frame including an actuator mounted to the frame and coupled to a multiple-image panel mounted to the frame, wherein each multiple-image panel includes a plurality of sides wherein at least two of the sides are disposed in substantially perpendicular relation and wherein each side displays one of the images; and

a processor operable to independently randomly determine for each multiple-image panel which side of said multiple-image panel to display based on probabilities associated with said images and to cause the actuator to move each said multiple-image panel, if necessary, to display the selected image of said multiple image panel to a player.

2. The gaming device of claim 1, wherein the processor randomly determines the image to be displayed by each multiple-image panel based upon a separate probability associated with each image of said multiple-image panel.

3. The gaming device of claim 1, wherein each of said plurality of frames includes at least one illumination device which is operable to illuminate the image being displayed to the player by said multiple-image panel.

4. The gaming device of claim 1, wherein each multiple-image panel includes three sides, wherein each side is disposed substantially perpendicular to at least one of the other sides of said multiple-image panel.

5. The gaming device of claim 1, wherein each of said frames is in a vertical alignment with at least one other of said frame.

6. The gaming device of claim 5, wherein each of said frames is in a horizontal alignment with at least one other of said frames.

7. The gaming device of claim 1, which includes at least one indicator associated with each of the multiple-image panels and connected to the housing.

8. The gaming device of claim 1, which includes a general indicator connected to said housing for the multiple-image panels.

9. The gaming device of claim 1, which includes at least one independent display device supported by said housing.

10. The gaming device of claim 1, which includes a plurality of independent display devices supported by said housing.

11. The gaming device of claim 1, wherein each multiple-image panel is rotatable relative to said frame.

12. The gaming device of claim 1, wherein the images displayed by the multiple-image panel are selected from the group consisting of: words, values, awards and other symbols.

13. A gaming device comprising:

a cabinet;

a housing connected to the cabinet;

a plurality of images;

a plurality of multiple-image panels supported by the housing, each multiple-image panel including three sides, wherein each side displays one of the images, and each side is disposed substantially perpendicular to at least one other side;

a plurality of actuators supported by the housing, each actuator coupled to one of the plurality of multiple-image panels; and

a processor operable to randomly independently determine which of said three images will be displayed to a player on each of the plurality of multiple-image panels based on probabilities associated with said three images, and cause said actuators to independently oscillate, if necessary, each of said multiple-image panels so that the selected image on each multiple-image panel is displayed to a player.

14. The gaming device of claim 13, wherein the processor randomly determines the images to be displayed by each of multiple-image panels based upon a probability associated with each of said plurality of images.

15. The gaming device of claim 13, which includes a plurality of illumination devices connected to the multiple-image panels which illuminate said images being displayed to the player by the plurality of multiple-image panels.

16. The gaming device of claim 13, which includes at least one indicator and associated with each of the multiple-image panels and supported by the housing.

17. The gaming device of claim 13, which includes a general indicator connected to said housing.

18. The gaming device of claim 13, wherein the images displayed by the plurality of multiple-image panels are selected from the group consisting of: words, values, awards and other symbols.

19. A gaming device comprising:

a cabinet;

a housing connected to the cabinet;

- a plurality of symbols including a plurality of award symbols and a plurality of neutral symbols;
  - a plurality of multiple-image panels supported by said housing, each multiple-image panel including a plurality of sides, wherein at least one of said sides displays said neutral symbol and each of at least two other of said sides displays one of said plurality of award symbols;
  - at least one player input device;
  - a plurality of actuators supported by said housing, each actuator coupled to one of said multiple-image panels; and
  - a processor operable with the player input device and the plurality of multiple-image panels to independently randomly determine the symbol to be displayed by each player selected multiple-image panel, if necessary, cause said actuators to move said player-selected multiple-image panels so that the randomly determined symbols are displayed to the player on each of the multiple-image panels, and provide the player with any awards associated with any of the award symbols displayed by the player-chosen multiple-image panels.
- 20.** The gaming device of claim 19, wherein the processor randomly determines the symbol to be displayed by each of said player selected plurality of multiple-image panels based upon a probability associated with each of said plurality of award symbols and neutral symbols on said multiple-image panels.
- 21.** The gaming device of claim 19, wherein the awards symbols include values and/or multipliers.
- 22.** A gaming device comprising:
- a cabinet;
  - a housing connected to the cabinet;
  - a plurality of symbols including a plurality of award symbols and a plurality of neutral symbols;
  - a plurality of multiple-image panels supported by said housing, each multiple-image panel including a plurality of sides, wherein at least one of said sides displays said neutral symbol and each of at least two of the other sides displays one of said plurality of award symbols;
  - a plurality of actuators supported by said housing, each actuator coupled to one of said multiple-image panels; and
  - a processor operable with the plurality of multiple-image panels to independently randomly determine the symbol to be displayed by each of a plurality of selected multiple-image panels, if necessary, cause said actuators to move said multiple-image panels so that the randomly determined symbol on each selected multiple-image panel is displayed to the player, and provide the player with an awards associated with any of the award symbols displayed by the selected multiple-image panels.
- 23.** The gaming device of claim 22, wherein the processor randomly determines the symbol to be displayed by each of said plurality of multiple-image panels based upon a probability associated with each of said plurality of symbols and the neutral symbol on said multiple-image panel.
- 24.** The gaming device of claim 22, wherein the awards symbols include values and/or multipliers.
- 25.** A gaming device comprising:
- a cabinet;
  - a housing connected to the cabinet;
  - a plurality of symbols including a plurality of award symbols and a plurality of neutral symbols;
  - a plurality of multiple-image panels supported by said housing, each multiple-image panel including a plurality of sides, wherein at least one of said sides displays said neutral symbol and at least one other of said sides displays one of said plurality of award symbols;
  - at least one player input device;
  - a plurality of actuators supported by said housing, each actuator coupled to one of said multiple-image panels; and
  - a processor operable with the player input device and the plurality of multiple-image panels to independently randomly determine the symbol to be displayed by each of said plurality of multiple-image panels, if necessary, cause said actuators to move said multiple-image panels so that the selected symbols are displayed to a player, and enable the player to accept or reject said displayed symbols using said player input device.
- 26.** The gaming device of claim 25, which includes at least one award associated with each of said award symbols, wherein if the player accepts the displayed symbols, the processor provides the player with the awards associated with any of said displayed award symbols.
- 27.** The gaming device of claim 26, wherein the processor randomly determines the symbol to be displayed by each of said plurality of multiple-image panels based upon a probability associated with each of said plurality of symbols on said multiple-image panel.
- 28.** The gaming device of claim 26, wherein the awards symbols include values multipliers.
- 29.** A gaming device comprising:
- a cabinet;
  - a housing connected to said cabinet;
  - a plurality of award symbols, each associated with at least one award;
  - a plurality of null symbols, wherein no awards are associated with each null symbol;
  - a plurality of multiple-image panels supported by said housing, each multiple-image panel including a plurality of substantially perpendicularly arranged sides wherein each side displays one of the award symbols or one of the null symbols;
  - a probability associated with each side of each multiple-image panel;
  - a plurality of actuators supported by said housing, each actuator connected to one of said multiple-image panels; and
  - a processor operable with the plurality of multiple-image panels to cause the actuators to move the multiple-image panels based on an independent random determination made for each multiple-image panel based on

the probabilities associated with the sides of said multiple-image panels so that the award symbols or null symbols are displayed to a player.

**30.** A gaming device comprising:

a cabinet;

a plurality of symbols;

a plurality of independently movable panels supported by the cabinet, each panel including a plurality of sides wherein at least one of said sides displays one of the symbols, wherein the plurality of panels extend substantially horizontally and are in arranged in vertical alignment; and

a processor operable to independently cause each panel to move to display the symbol on said panel based on an independent random determination associated with said panel.

**31.** The gaming device of claim 30, wherein each panel has a horizontal dimension substantially greater than its vertical dimension.

**32.** The gaming device of claim 30, wherein an indicator supported by the cabinet is associated with each panel.

**33.** The gaming device of claim 30, wherein each panel has a horizontal dimension substantially greater than its vertical dimension.

**34.** The gaming device of claim 30, wherein a probability is associated with each symbol on each panel and the independent random determination for each panel is based on the probabilities associated with the symbols on said panel.

**35.** The gaming device of claim 34, wherein different probabilities are associated with the symbols on one of said panels.

**36.** The gaming device of claim 34, wherein different probabilities are associated with the symbols on each of a plurality of the panels.

**37.** The gaming device of claim 34, wherein different probabilities are associated with the symbols on each of the panels.

**38.** A gaming device comprising:

a cabinet;

a plurality of symbols;

a plurality of independently movable panels supported by the cabinet, each panel including a plurality of sides wherein at least one of said sides displays one of the symbols, wherein the plurality of the panels are in arranged in rows and columns; and

a processor operable to independently cause each panel to move to display the symbol on said panel based on an independent random determination associated with said panel.

**39.** The gaming device of claim 38, wherein each panel has a horizontal dimension substantially greater than its vertical dimension.

**40.** The gaming device of claim 38, wherein an indicator supported by the cabinet is associated with each panel.

**41.** The gaming device of claim 38, wherein each panel has a horizontal dimension substantially greater than its vertical dimension.

**42.** The gaming device of claim 38, wherein a probability is associated with each symbol on each panel and the independent random determination for each panel is based on the probabilities associated with the symbols on said panel.

**43.** The gaming device of claim 42, wherein different probabilities are associated with the symbols on one of said panels.

**44.** The gaming device of claim 42, wherein different probabilities are associated with the symbols on each of a plurality of the panels.

**45.** The gaming device of claim 42, wherein different probabilities are associated with the symbols on each of the panels.

**46.** A gaming device comprising:

a cabinet;

a plurality of selections;

a plurality of symbols associated with the selections;

a plurality of independently movable panels supported by the cabinet, each panel including a plurality of sides wherein at least one of said sides displays one of the symbols and each said symbol is displayed by one of the sides of one of the panels, and wherein the plurality of panels are in arranged in vertical alignment; and

a processor operable to enable a player to select at least one of the selections, cause the panel that displays the symbol associated with said selection to move, if necessary, to display said symbol to the player.

**47.** The gaming device of claim 46, wherein at least one symbol is a terminator symbol.

**48.** The gaming device of claim 47, wherein the processor enables the player to pick selections until the player picks the selection which is a terminator, and causes the panel that displays the symbol associated with each said selection to move, if necessary, to display said symbol to the player.

**49.** The gaming device of claim 46, wherein the processor enables the player to pick a predetermined number of selections and causes the panel that displays the symbol associated with each said selection to move, if necessary, to display said symbol to the player.

**50.** The gaming device of claim 46, wherein the processor enables the player to pick a randomly determined number of selections and causes the panel that displays the symbol associated with each said selection to move, if necessary, to display said symbol to the player.

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