



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**04.07.2012 Bulletin 2012/27**

(51) Int Cl.:  
**G07F 17/34 (2006.01) G07F 17/32 (2006.01)**

(21) Application number: **11180548.7**

(22) Date of filing: **08.09.2011**

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**  
Designated Extension States:  
**BA ME**

(30) Priority: **29.12.2010 US 980965**

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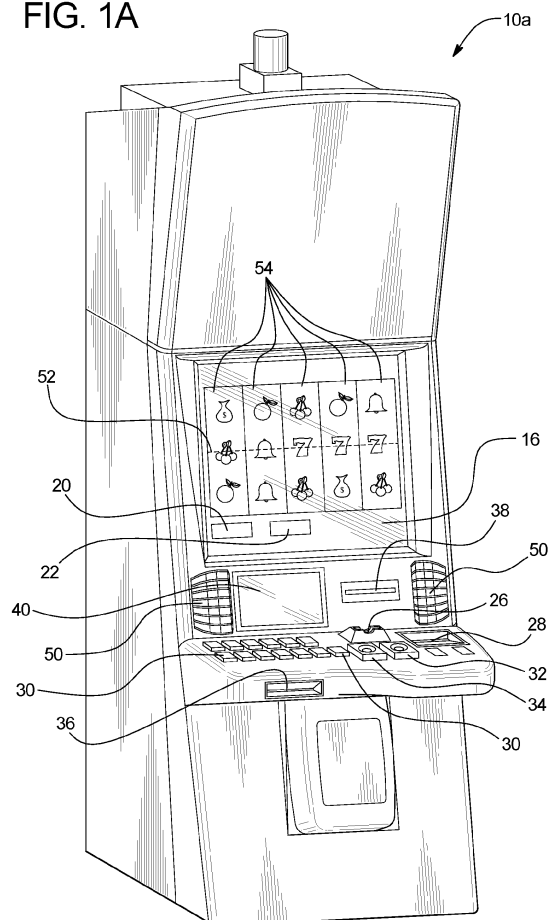
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(54) **Gaming system, gaming device and method providing symbol upgrades**

(57) In various embodiments, the gaming system, gaming device, and gaming method disclosed herein provides a slot or reel game which includes one or more reel upgrade triggers. When the reel upgrade trigger occurs in or for a play of a game, one or more of the reels are changed for that play of the game. For each changed reel, the reel upgrade trigger cause that reel to be changed such that the player is more likely to obtain one of the winning symbol combinations in the play of the game, and/or such that a higher award is associated with one of the symbols on that reel in the play of the game. In one embodiment, the reel upgrade trigger causes each of the reels which have not displayed any symbol yet for the play of the game (i.e., reels that are still spinning) to change to a better reel strip for the play of the game. In another embodiment, the reel upgrade trigger causes one or more of the reels which have displayed a symbol for the play of the game to change to a better reel strip for the play of the game.

**FIG. 1A**



## Description

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### BACKGROUND

**[0002]** Gaming devices which provide players awards in primary or base games are well known. Gaming devices generally require the player to place or make a wager to activate the primary or base game. In many of these gaming devices, the award is based on the player obtaining a winning symbol or winning symbol combination and on the amount of the wager (e.g., the higher the wager, the higher the award). Symbols or symbol combinations which are less likely to occur usually provide higher awards.

**[0003]** In such known gaming devices, the amount of the wager made on the primary game by the player may vary. For instance, the gaming device may enable the player to wager a minimum number of credits, such as one credit (e.g., one penny, nickel, dime, quarter or dollar) up to a maximum number of credits, such as five credits. This wager may be made by the player a single time or multiple times in a single play of the primary game. For instance, a slot game may have one or more paylines and the slot game may enable the player to make a wager on each payline in a single play of the primary game. Thus, it is known that a gaming device, such as a slot game, may enable players to make wagers of substantially different amounts on each play of the primary or base game ranging, for example, from 1 credit up to 125 credits (e.g., 5 credits on each of 25 separate paylines). Accordingly, it should be appreciated that different players play at substantially different wagering amounts or levels and at substantially different rates of play.

**[0004]** Gaming machines with slot games including multiple reels and multiple paylines associated with the reels are well known. In certain of these known gaming machines, the reels are dependent reels and in other of these known gaming machines, the reels are independent reels. Additionally, certain known gaming machines include what is generally referred to in the industry as "ways to win" or "multi-way" symbol evaluation instead of a payline symbol evaluation. Further, certain known gaming machines include both payline and ways to win symbol evaluations. For example, one known gaming machine with a slot game includes a set of 20 independent reels arranged in a 4X5 matrix. In this gaming machine, the same symbol could potentially appear on all

20 of the independent reels. This known gaming machine combines the 40 payline evaluation with the 1024 ways to win evaluation. Many players enjoy the high hit frequency and volatility this independent slot game provides. There exists a need to create innovative new features for such gaming machines in both land-based casino and online casino formats.

### SUMMARY

**[0005]** In various embodiments, the gaming system, gaming device, and method of the present disclosure provides a slot or reel game which includes one or more reel upgrade triggers. When a reel upgrade trigger occurs in or for a play of a game, one or more of the reels are changed for that play of the game. The reel upgrade trigger causes changes to the reels such that the player is more likely to obtain one of the winning symbol combinations in the play of the game, and/or the reel upgrade trigger causes a change to the reels such that a higher award is associated with one or more of the symbols on the reels in or for the play of the game.

**[0006]** In one embodiment, the reel upgrade trigger causes each of the reels which have not displayed any symbol yet for the play of the game to change to a better reel or have a better reel strip. More specifically, in one embodiment, the gaming system includes an independent reel slot game where one or more of the reels each includes one or more upgrade symbols, which when generated causes one or more of the reels strips of the other reels which are still spinning to change prior to determining which symbol will be displayed by that still spinning changed reel. In one embodiment, the upgrade symbol causes the reel strips of the still spinning reels to be upgraded to a better reel strip for the play of the game, and in particular, the upgraded reel strip has increased odds of generating higher value symbols on that reel for that play of the game. In the play of the game, the upgrading of a reel strip can occur one or more times, and thus it should be appreciated that in a play of a game, one or more of the reels strips can be upgraded multiple times.

**[0007]** It should be appreciated that a reel strip can be upgraded in any one of a plurality of suitable different ways. In one embodiment, the gaming system changes the reel strip by changing a probability associated with generating two or more symbols, such that a higher value symbol has a higher likelihood of occurring. In another embodiment, one or more additional higher value symbols are added to the reel strip to increase the probability of that symbol occurring in the play of the game. It should be appreciated that in either embodiment, that for at one or more of the other symbols on the reel strip, the likelihood of generating that symbol is lowered.

**[0008]** In another embodiment, the reel upgrade trigger causes one or more of the reels which have displayed a symbol for the play of the game to change to a better reel strip. More specifically, in another embodiment, the gaming system provides an independent reel game

where one or a plurality of the reels includes one or more upgrade symbols, which when generated causes one or more of the reels strips of the reels to change. In one embodiment, the upgrade symbol causes the reel strips to be upgraded to a better reel strip for the play of the game, and in particular, the upgraded reel strip assigns or associates a greater value to or with one of the displayed symbols on that reel strip for that play of the game. In the play of the game, the upgrading of a reel strip can occur one or more times, and thus it should be appreciated that in a play of a game, one or more of the reels strips can be upgraded multiple times.

**[0009]** It should be appreciated that these upgrade features can also be employed for dependent reel games. It should also be appreciated that these upgrade features can be employed with slot reel games which have payline symbol evaluations, ways to win symbol evaluations, or both payline symbol evaluations and ways to win symbol evaluations. It should also be appreciated that these upgrade features can be employed with base or primary wagering slot reel games or with bonus or secondary slot reel games. It should further be appreciated that both of these separate upgrade features can be employed together for a play of a game.

**[0010]** Additional features and advantages are described herein, and will be apparent from the following Detailed Description and the figures.

#### BRIEF DESCRIPTION OF THE FIGURES

**[0011]** Figs. 1A and 1B are front perspective views of alternative embodiments of gaming devices disclosed herein.

**[0012]** Fig. 2A is a schematic block diagram of the electronic configuration of one embodiment of a gaming device disclosed herein.

**[0013]** Fig. 2B is a schematic diagram of the central server in communication with a plurality of gaming devices in accordance with one embodiment of the gaming system disclosed herein.

**[0014]** Fig. 3 is diagrammatic illustration of a default reel strip for each of a plurality of independent reels of a gaming system of one example embodiment of the present disclosure, and illustrating the symbols on the default reel strip.

**[0015]** Fig. 4 is diagrammatic illustration of a changed reel strip for each of a plurality of independent reels of a gaming system of one example embodiment of the present disclosure, wherein the reel strip has been changed or upgraded one time.

**[0016]** Fig. 5 is diagrammatic illustration of a further changed reel strip for each of a plurality of independent reels of a gaming system of one example embodiment of the present disclosure, wherein the reel strip has been changed or upgraded two times.

**[0017]** Fig. 6 is diagrammatic illustration of a further changed reel strip for each of a plurality of independent reels of a gaming system of one example embodiment

of the present disclosure, wherein the reel strip has been changed or upgraded three times.

**[0018]** Fig. 7 is diagrammatic illustration of a further changed reel strip for each of a plurality of independent reels of a gaming system of one example embodiment of the present disclosure, wherein the reel strip has been changed or upgraded four times.

**[0019]** Figs. 8, 9, 10, 11, 12, 13, 14, 15, and 16 are illustrations of the display screens for an example play of a slot game of one embodiment of the present disclosure, which uses the reel strips of Figs. 3, 4, 5, 6, and 7.

**[0020]** Fig. 17 is chart illustrating different sets of reel strips which include combinations of changes to multiple symbols on a default reel strip of another embodiment of the present disclosure.

**[0021]** Figs. 18, 19, 20, 21, 22, 23, 24, 25, and 26 are illustrations of the display screens for another example play of a slot game of another embodiment of the present disclosure.

**[0022]** Fig. 27 is diagrammatic illustration of the symbols on a reel strip for each of a plurality of independent reels of a gaming system of another example embodiment of the present disclosure.

#### DETAILED DESCRIPTION

**[0023]** The present disclosure may be implemented in various configurations for gaming machines, gaming devices, or gaming systems, including but not limited to: (1) a dedicated gaming machine, gaming device, or gaming system wherein the computerized instructions for controlling any games (which are provided by the gaming machine or gaming device) are provided with the gaming machine or gaming device prior to delivery to a gaming establishment; and (2) a changeable gaming machine, gaming device, or gaming system wherein the computerized instructions for controlling any games (which are provided by the gaming machine or gaming device) are downloadable to the gaming machine or gaming device through a data network after the gaming machine or gaming device is in a gaming establishment. In one embodiment, the computerized instructions for controlling any games are executed by at least one central server, central controller, or remote host. In such a "thin client" embodiment, the central server remotely controls any games (or other suitable interfaces) and the gaming device is utilized to display such games (or suitable interfaces) and receive one or more inputs or commands from a player. In another embodiment, the computerized instructions for controlling any games are communicated from the central server, central controller, or remote host to a gaming device local processor and memory devices. In such a "thick client" embodiment, the gaming device local processor executes the communicated computerized instructions to control any games (or other suitable interfaces) provided to a player.

**[0024]** In one embodiment, one or more gaming devices in a gaming system may be thin client gaming de-

vices and one or more gaming devices in the gaming system may be thick client gaming devices. In another embodiment, certain functions of the gaming device are implemented in a thin client environment and certain other functions of the gaming device are implemented in a thick client environment. In one such embodiment, computerized instructions for controlling any primary games are communicated from the central server to the gaming device in a thick client configuration and computerized instructions for controlling any secondary games or bonus functions are executed by a central server in a thin client configuration.

**[0025]** Referring now to the drawings, two example alternative embodiments of a gaming device disclosed herein 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.

**[0026]** In the embodiments illustrated in Figs. 1A and 1B, gaming device 10 has a support structure, housing, or cabinet which provides support for a plurality of displays, inputs, controls, and other features of a conventional gaming machine. It is configured so that a player can operate it while standing or sitting. The gaming device can be positioned on a base or stand or can be configured as a pub-style table-top game (not shown) which a player can operate preferably while sitting. As illustrated by the different configurations shown in Figs. 1A and 1B, the gaming device may have varying cabinet and display configurations.

**[0027]** In one embodiment, as illustrated in Fig. 2A, the gaming device preferably includes at least one processor 12, such as a microprocessor, a microcontroller-based platform, a suitable integrated circuit or one or more application-specific integrated circuits (ASIC's). The processor is in communication with or operable to access or to exchange signals with at least one data storage or memory device 14. In one embodiment, the processor and the memory device reside within the cabinet of the gaming device. The memory device stores program code and instructions, executable by the processor, to control the gaming device. The memory device also stores other data such as image data, event data, player input data, random or pseudorandom number generators, pay-table data or information, and applicable game rules that relate to the play of the gaming device. In one embodiment, the memory device includes random access memory (RAM), which can include non-volatile RAM (NVRAM), magnetic RAM (MRAM), ferroelectric RAM (FeRAM), and other forms as commonly understood in the gaming industry. In one embodiment, the memory device includes read only memory (ROM). In one embodiment, the memory device includes flash memory and/or EEPROM (electrically erasable programmable read only memory). Any other suitable magnetic, optical, and/or semiconductor memory may operate in conjunction with the gaming device disclosed herein.

**[0028]** In one embodiment, part or all of the program

code and/or operating data described above can be stored in a detachable or removable memory device, including, but not limited to, a suitable cartridge, disk, CD ROM, DVD, or USB memory device. In other embodiments, part or all of the program code and/or operating data described above can be downloaded to the memory device through a suitable network.

**[0029]** In one embodiment, an operator or a player can use such a removable memory device in a desktop computer, a laptop computer, a personal digital assistant (PDA), a portable computing device, or another computerized platform to implement the present disclosure. In one embodiment, the gaming device or gaming machine disclosed herein is operable over a wireless network, for example part of a wireless gaming system. In this embodiment, the gaming machine may be a hand-held device, a mobile device, or any other suitable wireless device that enables a player to play any suitable game at a variety of different locations. It should be appreciated that a gaming device or gaming machine as disclosed herein may be a device that has obtained approval from a regulatory gaming commission or a device that has not obtained approval from a regulatory gaming commission. It should be appreciated that the processor and memory device may be collectively referred to herein as a "computer" or "controller."

**[0030]** In one embodiment, as discussed in more detail below, the gaming device randomly generates awards and/or other game outcomes based on probability data. In one such embodiment, this random determination is provided through utilization of a random number generator (RNG), such as a true random number generator, a pseudo random number generator, or other suitable randomization process. In one embodiment, each award or other game outcome is associated with a probability and the gaming device generates the award or other game outcome to be provided to the player based on the associated probabilities. In this embodiment, since the gaming device generates outcomes randomly or based upon one or more probability calculations, there is no certainty that the gaming device will ever provide the player with any specific award or other game outcome.

**[0031]** In another embodiment, as discussed in more detail below, the gaming device employs a predetermined or finite set or pool of awards or other game outcomes. In this embodiment, as each award or other game outcome is provided to the player, the gaming device flags or removes the provided award or other game outcome from the predetermined set or pool. Once flagged or removed from the set or pool, the specific provided award or other game outcome from that specific pool cannot be provided to the player again. This type of gaming device provides players with all of the available awards or other game outcomes over the course of the play cycle and guarantees the amount of actual wins and losses.

**[0032]** In another embodiment, as discussed below, upon a player initiating game play at the gaming device,

the gaming device enrolls in a bingo game. In this embodiment, a bingo server calls the bingo balls that result in a specific bingo game outcome. The resultant game outcome is communicated to the individual gaming device to be provided to a player. In one embodiment, this bingo outcome is displayed to the player as a bingo game and/or in any form in accordance with the present disclosure.

**[0033]** In one embodiment, as illustrated in Fig. 2A, the gaming device includes one or more display devices controlled by the processor. The display devices are preferably connected to or mounted on the cabinet of the gaming device. The embodiment shown in Fig. 1A includes a central display device 16 which displays a primary game. This display device may also display any suitable secondary game associated with the primary game as well as information relating to the primary or secondary game. The alternative embodiment shown in Fig. 1B includes a central display device 16 and an upper display device 18. The upper display device may display the primary game, any suitable secondary game associated or not associated with the primary game and/or information relating to the primary or secondary game. These display devices may also serve as digital glass operable to advertise games or other aspects of the gaming establishment. As seen in Figs. 1A and 1B, in one embodiment, the gaming device includes a credit display 20 which displays a player's current number of credits, cash, account balance, or the equivalent. In one embodiment, the gaming device includes a bet display 22 which displays a player's amount wagered. In one embodiment, as discussed in more detail below, the gaming device includes a player tracking display 40 which displays information regarding a player's play tracking status.

**[0034]** In another embodiment, at least one display device may be a mobile display device, such as a PDA or tablet PC, that enables play of at least a portion of the primary or secondary game at a location remote from the gaming device.

**[0035]** The display devices may include, without limitation, a monitor, a television display, a plasma display, a liquid crystal display (LCD) a display based on light emitting diodes (LEDs), a display based on a plurality of organic light-emitting diodes (OLEDs), a display based on polymer light-emitting diodes (PLEDs), a display based on a plurality of surface-conduction electron-emitters (SEDs), a display including a projected and/or reflected image, or any other suitable electronic device or display mechanism. In one embodiment, as discussed in more detail below, the display device includes a touch-screen with an associated touch-screen controller. The display devices may be of any suitable size and configuration, such as a square, a rectangle or an elongated rectangle.

**[0036]** The display devices of the gaming device are configured to display at least one and preferably a plurality of game or other suitable images, symbols and indicia such as any visual representation or exhibition of

the movement of objects such as mechanical, virtual, or video reels and wheels, dynamic lighting, video images, images of people, characters, places, things, faces of cards, and the like.

**[0037]** In one alternative embodiment, the symbols, images and indicia displayed on or of the display device may be in mechanical form. That is, the display device may include any electromechanical device, such as one or more mechanical objects, such as one or more rotatable wheels, reels, or dice, configured to display at least one or a plurality of game or other suitable images, symbols or indicia.

**[0038]** As illustrated in Fig. 2A, in one embodiment, the gaming device includes at least one payment device 24 in communication with the processor. As seen in Figs. 1A and 1B, a payment device such as a payment acceptor includes a note, ticket or bill acceptor 28 wherein the player inserts paper money, a ticket, or voucher and a coin slot 26 where the player inserts money, coins, or tokens. In other embodiments, payment devices such as readers or validators for credit cards, debit cards or credit slips may accept payment. In one embodiment, a player may insert an identification card into a card reader of the gaming device. In one embodiment, the identification card is a smart card having a programmed microchip, a coded magnetic strip or coded rewritable magnetic strip, wherein the programmed microchip or magnetic strips are coded with a player's identification, credit totals (or related data), and/or other relevant information. In another embodiment, a player may carry a portable device, such as a cell phone, a radio frequency identification tag, or any other suitable wireless device, which communicates a player's identification, credit totals (or related data), and other relevant information to the gaming device. In one embodiment, money may be transferred to a gaming device through electronic funds transfer. When a player funds the gaming device, the processor determines the amount of funds entered and displays the corresponding amount on the credit or other suitable display as discussed above.

**[0039]** As seen in Figs. 1A, 1B, and 2A, in one embodiment the gaming device includes at least one and preferably a plurality of input devices 30 in communication with the processor. The input devices can include any suitable device which enables the player to produce an input signal which is received by the processor. In one embodiment, after appropriate funding of the gaming device, the input device is a game activation device, such as a play button 32 or a pull arm (not shown) which is used by the player to start any primary game or sequence of events in the gaming device. The play button can be any suitable play activator such as a bet one button, a max bet button, or a repeat the bet button. In one embodiment, upon appropriate funding, the gaming device begins the game play automatically. In another embodiment, upon the player engaging one of the play buttons, the gaming device automatically activates game play.

**[0040]** In one embodiment, one input device is a bet

one button. The player places a bet by pushing the bet one button. The player can increase the bet by one credit each time the player pushes the bet one button. When the player pushes the bet one button, the number of credits shown in the credit display preferably decreases by one, and the number of credits shown in the bet display preferably increases by one. In another embodiment, one input device is a bet max button (not shown) which enables the player to bet the maximum wager permitted for a game of the gaming device.

**[0041]** In one embodiment, one input device is a cash out button 34. The player may push the cash out button and cash out to receive a cash payment or other suitable form of payment corresponding to the number of remaining credits. In one embodiment, when the player cashes out, a payment device, such as a ticket, payment, or note generator 36 prints or otherwise generates a ticket or credit slip to provide to the player. The player receives the ticket or credit slip and may redeem the value associated with the ticket or credit slip via a cashier (or other suitable redemption system). In another embodiment, when the player cashes out, the player receives the coins or tokens in a coin payout tray. It should be appreciated that any suitable payout mechanisms, such as funding to the player's electronically recordable identification card or smart card, may be implemented in accordance with the gaming device disclosed herein.

**[0042]** In one embodiment, as mentioned above and as seen in Fig. 2A, one input device is a touch-screen 42 coupled with a touch-screen controller 44 or some other touch-sensitive display overlay to allow for player interaction with the images on the display. The touch-screen and the touch-screen controller are connected to a video controller 46. A player can make decisions and input signals into the gaming device by touching the touch-screen at the appropriate locations. One such input device is a conventional touch-screen button panel.

**[0043]** The gaming device may further include a plurality of communication ports for enabling communication of the processor with external peripherals, such as external video sources, expansion buses, game or other displays, a SCSI port, or a keypad.

**[0044]** In one embodiment, as seen in Fig. 2A, the gaming device includes a sound generating device controlled by one or more sounds cards 48 which function in conjunction with the processor. In one embodiment, the sound generating device includes at least one and preferably a plurality of speakers 50 or other sound generating hardware and/or software for generating sounds, such as by playing music for the primary and/or secondary game or by playing music for other modes of the gaming device, such as an attract mode. In one embodiment, the gaming device provides dynamic sounds coupled with attractive multimedia images displayed on one or more of the display devices to provide an audio-visual representation or to otherwise display full-motion video with sound to attract players to the gaming device. During idle periods, the gaming device may display a sequence

of audio and/or visual attraction messages to attract potential players to the gaming device. The videos may also be customized to provide any appropriate information.

**[0045]** In one embodiment, the gaming machine may include a sensor, such as a camera, in communication with the processor (and possibly controlled by the processor), that is selectively positioned to acquire an image of a player actively using the gaming device and/or the surrounding area of the gaming device. In one embodiment, the camera may be configured to selectively acquire still or moving (e.g., video) images and may be configured to acquire the images in an analog, digital, or other suitable format. The display devices may be configured to display the image acquired by the camera as well as to display the visible manifestation of the game in split screen or picture-in-picture fashion. For example, the camera may acquire an image of the player and the processor may incorporate that image into the primary and/or secondary game as a game image, symbol or indicia.

**[0046]** Gaming device 10 can incorporate any suitable wagering game as the primary or base game. The gaming machine or device may include some or all of the features of conventional gaming machines or devices. The primary or base game may comprise any suitable reel-type game, card game, cascading or falling symbol game, number game, or other game of chance susceptible to representation in an electronic or electromechanical form, which in one embodiment produces a random outcome based on probability data at the time of or after placement of a wager. That is, different primary wagering games, such as video poker games, video blackjack games, video keno, video bingo or any other suitable primary or base game may be implemented.

**[0047]** In one embodiment, as illustrated in Figs. 1A and 1B, a base or primary game may be a slot game with one or more paylines 52. The paylines may be horizontal, vertical, circular, diagonal, angled or any combination thereof. In this embodiment, the gaming device includes at least one and preferably a plurality of reels 54, such as three to five reels 54, in either electromechanical form with mechanical rotating reels or video form with simulated reels and movement thereof. In one embodiment, an electromechanical slot machine includes a plurality of adjacent, rotatable reels which may be combined and operably coupled with an electronic display of any suitable type. In another embodiment, if the reels 54 are in video form, one or more of the display devices, as discussed above, displays the plurality of simulated video reels 54. Each reel 54 displays a plurality of indicia or symbols, such as bells, hearts, fruits, numbers, letters, bars, or other images which preferably correspond to a theme associated with the gaming device. In another embodiment, one or more of the reels are independent reels or unisymbol reels. In this embodiment, each independent or unisymbol reel generates and displays one symbol to the player. In one embodiment, the gaming device awards prizes after the reels of the primary game stop

spinning if specified types and/or configurations of indicia or symbols occur on an active payline or otherwise occur in a winning pattern, occur on the requisite number of adjacent reels and/or occur in a scatter pay arrangement.

**[0048]** In an alternative embodiment, rather than determining any outcome to provide to the player by analyzing the symbols generated on any wagered upon paylines as discussed above, the gaming device determines any outcome to provide to the player based on the number of associated symbols which are generated in active symbol positions on the requisite number of adjacent reels (i.e., not on paylines passing through any displayed winning symbol combinations). In this embodiment, if a winning symbol combination is generated on the reels, the gaming device provides the player one award for that occurrence of the generated winning symbol combination. For example, if one winning symbol combination is generated on the reels, the gaming device will provide a single award to the player for that winning symbol combination (i.e., not based on the number of paylines that would have passed through that winning symbol combination). It should be appreciated that because a gaming device that enables wagering on ways to win provides the player one award for a single occurrence of a winning symbol combination and a gaming device with paylines may provide the player more than one award for the same occurrence of a single winning symbol combination (i.e., if a plurality of paylines each pass through the same winning symbol combination), it is possible to provide a player at a ways to win gaming device with more ways to win for an equivalent bet or wager on a traditional slot gaming device with paylines.

**[0049]** In one embodiment, the total number of ways to win is determined by multiplying the number of symbols generated in active symbol positions on a first reel by the number of symbols generated in active symbol positions on a second reel by the number of symbols generated in active symbol positions on a third reel and so on for each reel of the gaming device with at least one symbol generated in an active symbol position. For example, a three reel gaming device with three symbols generated in active symbol positions on each reel includes 27 ways to win (i.e., 3 symbols on the first reel x 3 symbols on the second reel x 3 symbols on the third reel). A four reel gaming device with three symbols generated in active symbol positions on each reel includes 81 ways to win (i.e., 3 symbols on the first reel x 3 symbols on the second reel x 3 symbols on the third reel x 3 symbols on the fourth reel). A five reel gaming device with three symbols generated in active symbol positions on each reel includes 243 ways to win (i.e., 3 symbols on the first reel x 3 symbols on the second reel x 3 symbols on the third reel x 3 symbols on the fourth reel x 3 symbols on the fifth reel). It should be appreciated that modifying the number of generated symbols by either modifying the number of reels or modifying the number of symbols generated in active symbol positions by one or more of the reels modifies the number of ways to win.

**[0050]** In another embodiment, the gaming device enables a player to wager on and thus activate symbol positions. In one such embodiment, the symbol positions are on the reels. In this embodiment, if based on the player's wager, a reel is activated, then each of the symbol positions of that reel will be activated and each of the active symbol positions will be part of one or more of the ways to win. In one embodiment, if based on the player's wager, a reel is not activated, then a designated number of default symbol positions, such as a single symbol position of the middle row of the reel, will be activated and the default symbol position(s) will be part of one or more of the ways to win. This type of gaming machine enables a player to wager on one, more than one or all of the reels and the processor of the gaming device uses the number of wagered on reels to determine the active symbol positions and the number of possible ways to win. In alternative embodiments, (1) no symbols are displayed as generated at any of the inactive symbol positions, or (2) any symbols generated at any inactive symbol positions may be displayed to the player but suitably shaded or otherwise designated as inactive.

**[0051]** In one embodiment wherein a player wagers on one or more reels, a player's wager of one credit may activate each of the three symbol positions on a first reel, wherein one default symbol position is activated on each of the remaining four reels. In this example, as discussed above, the gaming device provides the player three ways to win (i.e., 3 symbols on the first reel x 1 symbol on the second reel x 1 symbol on the third reel x 1 symbol on the fourth reel x 1 symbol on the fifth reel). In another example, a player's wager of nine credits may activate each of the three symbol positions on a first reel, each of the three symbol positions on a second reel and each of the three symbol positions on a third reel wherein one default symbol position is activated on each of the remaining two reels. In this example, as discussed above, the gaming device provides the player twenty-seven ways to win (i.e., 3 symbols on the first reel x 3 symbols on the second reel x 3 symbols on the third reel x 1 symbol on the fourth reel x 1 symbol on the fifth reel).

**[0052]** In one embodiment, to determine any award(s) to provide to the player based on the generated symbols, the gaming device individually determines if a symbol generated in an active symbol position on a first reel forms part of a winning symbol combination with or is otherwise suitably related to a symbol generated in an active symbol position on a second reel. In this embodiment, the gaming device classifies each pair of symbols which form part of a winning symbol combination (i.e., each pair of related symbols) as a string of related symbols. For example, if active symbol positions include a first cherry symbol generated in the top row of a first reel and a second cherry symbol generated in the bottom row of a second reel, the gaming device classifies the two cherry symbols as a string of related symbols because the two cherry symbols form part of a winning symbol combination.

**[0053]** After determining if any strings of related symbols are formed between the symbols on the first reel and the symbols on the second reel, the gaming device determines if any of the symbols from the next adjacent reel should be added to any of the formed strings of related symbols. In this embodiment, for a first of the classified strings of related symbols, the gaming device determines if any of the symbols generated by the next adjacent reel form part of a winning symbol combination or are otherwise related to the symbols of the first string of related symbols. If the gaming device determines that a symbol generated on the next adjacent reel is related to the symbols of the first string of related symbols, that symbol is subsequently added to the first string of related symbols. For example, if the first string of related symbols is the string of related cherry symbols and a related cherry symbol is generated in the middle row of the third reel, the gaming device adds the related cherry symbol generated on the third reel to the previously classified string of cherry symbols.

**[0054]** On the other hand, if the gaming device determines that no symbols generated on the next adjacent reel are related to the symbols of the first string of related symbols, the gaming device marks or flags such string of related symbols as complete. For example, if the first string of related symbols is the string of related cherry symbols and none of the symbols of the third reel are related to the cherry symbols of the previously classified string of cherry symbols, the gaming device marks or flags the string of two cherry symbols as complete.

**[0055]** After either adding a related symbol to the first string of related symbols or marking the first string of related symbols as complete, the gaming device proceeds as discussed above for each of the remaining classified strings of related symbols which were previously classified or formed from related symbols on the first and second reels.

**[0056]** After analyzing each of the remaining strings of related symbols, the gaming device determines, for each remaining pending or incomplete string of related symbols, if any of the symbols from the next adjacent reel, if any, should be added to any of the previously classified strings of related symbols. This process continues until either each string of related symbols is complete or there are no more adjacent reels of symbols to analyze. In this embodiment, where there are no more adjacent reels of symbols to analyze, the gaming device marks each of the remaining pending strings of related symbols as complete.

**[0057]** When each of the strings of related symbols is marked complete, the gaming device compares each of the strings of related symbols to an appropriate paytable and provides the player any award associated with each of the completed strings of symbols. It should be appreciated that the player is provided one award, if any, for each string of related symbols generated in active symbol positions (i.e., as opposed to a quantity of awards being based on how many paylines that would have passed

through each of the strings of related symbols in active symbol positions).

**[0058]** In one embodiment, a base or primary game may be a poker game wherein the gaming device enables the player to play a conventional game of video draw poker and initially deals five cards all face up from a virtual deck of fifty-two cards. Cards may be dealt as in a traditional game of cards or in the case of the gaming device, the cards may be randomly selected from a predetermined number of cards. If the player wishes to draw, the player selects the cards to hold via one or more input devices, such as by pressing related hold buttons or via the touch screen. The player then presses the deal button and the unwanted or discarded cards are removed from the display and the gaming machine deals the replacement cards from the remaining cards in the deck. This results in a final five-card hand. The gaming device compares the final five-card hand to a payout table which utilizes conventional poker hand rankings to determine the winning hands. The gaming device provides the player with an award based on a winning hand and the number of credits the player wagered.

**[0059]** In another embodiment, the base or primary game may be a multi-hand version of video poker. In this embodiment, the gaming device deals the player at least two hands of cards. In one such embodiment, the cards are the same cards. In one embodiment each hand of cards is associated with its own deck of cards. The player chooses the cards to hold in a primary hand. The held cards in the primary hand are also held in the other hands of cards. The remaining non-held cards are removed from each hand displayed and for each hand replacement cards are randomly dealt into that hand. Since the replacement cards are randomly dealt independently for each hand, the replacement cards for each hand will usually be different. The poker hand rankings are then determined hand by hand against a payout table and awards are provided to the player.

**[0060]** In one embodiment, a base or primary game may be a keno game wherein the gaming device displays a plurality of selectable indicia or numbers on at least one of the display devices. In this embodiment, the player selects at least one bit potentially a plurality of the selectable indicia or numbers via an input device such as a touch screen. The gaming device then displays a series of drawn numbers and determine an amount of matches, if any, between the player's selected numbers and the gaming device's drawn numbers. The player is provided an award based on the amount of matches, if any, based on the amount of determined matches and the number of numbers drawn.

**[0061]** In one embodiment, in addition to winning credits or other awards in a base or primary game, the gaming device may also give players the opportunity to win credits in a bonus or secondary game or in a bonus or secondary round. The bonus or secondary game enables the player to obtain a prize or payout in addition to the prize or payout, if any, obtained from the base or primary



game. In general, a bonus or secondary game produces a significantly higher level of player excitement than the base or primary game because it provides a greater expectation of winning than the base or primary game, and is accompanied with more attractive or unusual features than the base or primary game. In one embodiment, the bonus or secondary game may be any type of suitable game, either similar to or completely different from the base or primary game.

**[0062]** In one embodiment, the triggering event or qualifying condition may be a selected outcome in the primary game or a particular arrangement of one or more indicia on a display device in the primary game, such as the number seven appearing on three adjacent reels along a payline in the primary slot game embodiment seen in Figs. 1A and 1B. In other embodiments, the triggering event or qualifying condition occurs based on exceeding a certain amount of game play (such as number of games, number of credits, amount of time), or reaching a specified number of points earned during game play.

**[0063]** In another embodiment, the gaming device processor 12 or central controller 56 randomly provides the player one or more plays of one or more secondary games. In one such embodiment, the gaming device does not provide any apparent reason to the player for qualifying to play a secondary or bonus game. In this embodiment, qualifying for a bonus game is not triggered by an event in or based specifically on any of the plays of any primary game. That is, the gaming device may simply qualify a player to play a secondary game without any explanation or alternatively with simple explanations. In another embodiment, the gaming device (or central server) qualifies a player for a secondary game at least partially based on a game triggered or symbol triggered event, such as at least partially based on the play of a primary game.

**[0064]** In one embodiment, the gaming device includes a program which will automatically begin a bonus round after the player has achieved a triggering event or qualifying condition in the base or primary game. In another embodiment, after a player has qualified for a bonus game, the player may subsequently enhance his/her bonus game participation through continued play on the base or primary game. Thus, for each bonus qualifying event, such as a bonus symbol, that the player obtains, a given number of bonus game wagering points or credits may be accumulated in a "bonus meter" programmed to accrue the bonus wagering credits or entries toward eventual participation in a bonus game. The occurrence of multiple such bonus qualifying events in the primary game may result in an arithmetic or exponential increase in the number of bonus wagering credits awarded. In one embodiment, the player may redeem extra bonus wagering credits during the bonus game to extend play of the bonus game.

**[0065]** In one embodiment, no separate entry fee or buy-in for a bonus game is needed. That is, a player may not purchase entry into a bonus game; rather they must

win or earn entry through play of the primary game, thus encouraging play of the primary game. In another embodiment, qualification of the bonus or secondary game is accomplished through a simple "buy-in" by the player—for example, if the player has been unsuccessful at qualifying through other specified activities. In another embodiment, the player must make a separate side-wager on the bonus game or wager a designated amount in the primary game to qualify for the secondary game. In this embodiment, the secondary game triggering event must occur and the side-wager (or designated primary game wager amount) must have been placed to trigger the secondary game.

**[0066]** In one embodiment, as illustrated in Fig. 2B, one or more of the gaming devices 10 are in communication with each other and/or at least one central controller 56 through a data network or remote communication link 58. In this embodiment, the central server, central controller or remote host is any suitable server or computing device which includes at least one processor and at least one memory or storage device. In different such embodiments, the central server is a progressive controller or a processor of one of the gaming devices in the gaming system. In these embodiments, the processor of each gaming device is designed to transmit and receive events, messages, commands, or any other suitable data or signal between the individual gaming device and the central server. The gaming device processor is operable to execute such communicated events, messages, or commands in conjunction with the operation of the gaming device. Moreover, the processor of the central server is designed to transmit and receive events, messages, commands, or any other suitable data or signal between the central server and each of the individual gaming devices. The central server processor is operable to execute such communicated events, messages, or commands in conjunction with the operation of the central server. It should be appreciated that one, more or each of the functions of the central controller, central server or remote host as disclosed herein may be performed by one or more gaming device processors. It should be further appreciated that one, more or each of the functions of one or more gaming device processors as disclosed herein may be performed by the central controller, central server or remote host.

**[0067]** In one embodiment, the game outcome provided to the player is determined by a central server or controller and provided to the player at the gaming device. In this embodiment, each of a plurality of such gaming devices are in communication with the central server or controller. Upon a player initiating game play at one of the gaming devices, the initiated gaming device communicates a game outcome request to the central server or controller.

**[0068]** In one embodiment, the central server or controller receives the game outcome request and randomly generates a game outcome for the primary game based on probability data. In another embodiment, the central

server or controller randomly generates a game outcome for the secondary game based on probability data. In another embodiment, the central server or controller randomly generates a game outcome for both the primary game and the secondary game based on probability data. In this embodiment, the central server or controller is capable of storing and utilizing program code or other data similar to the processor and memory device of the gaming device.

**[0069]** In an alternative embodiment, the central server or controller maintains one or more predetermined pools or sets of predetermined game outcomes. In this embodiment, the central server or controller receives the game outcome request and independently selects a predetermined game outcome from a set or pool of game outcomes. The central server or controller flags or marks the selected game outcome as used. Once a game outcome is flagged as used, it is prevented from further selection from the set or pool and cannot be selected by the central controller or server upon another wager. The provided game outcome can include a primary game outcome, a secondary game outcome, primary and secondary game outcomes, or a series of game outcomes such as free games.

**[0070]** The central server or controller communicates the generated or selected game outcome to the initiated gaming device. The gaming device receives the generated or selected game outcome and provides the game outcome to the player. In an alternative embodiment, how the generated or selected game outcome is to be presented or displayed to the player, such as a reel symbol combination of a slot machine or a hand of cards dealt in a card game, is also determined by the central server or controller and communicated to the initiated gaming device to be presented or displayed to the player. Central production or control can assist a gaming establishment or other entity in maintaining appropriate records, controlling gaming, reducing and preventing cheating or electronic or other errors, reducing or eliminating winloss volatility, and the like.

**[0071]** In another embodiment, a predetermined game outcome value is determined for each of a plurality of linked or networked gaming devices based on the results of a bingo, keno, or lottery game. In this embodiment, each individual gaming device utilizes one or more bingo, keno, or lottery games to determine the predetermined game outcome value provided to the player for the interactive game played at that gaming device. In one embodiment, the bingo, keno, or lottery game is displayed to the player. In another embodiment, the bingo, keno or lottery game is not displayed to the player, but the results of the bingo, keno, or lottery game determine the predetermined game outcome value for the primary or secondary game.

**[0072]** In the various bingo embodiments, as each gaming device is enrolled in the bingo game, such as upon an appropriate wager or engaging an input device, the enrolled gaming device is provided or associated with

a different bingo card. Each bingo card consists of a matrix or array of elements, wherein each element is designated with a separate indicia, such as a number. It should be appreciated that each different bingo card includes a different combination of elements. For example, if four bingo cards are provided to four enrolled gaming devices, the same element may be present on all four of the bingo cards while another element may solely be present on one of the bingo cards.

**[0073]** In operation of these embodiments, upon providing or associating a different bingo card with each of a plurality of enrolled gaming devices, the central controller randomly selects or draws, one at a time, a plurality of the elements. As each element is selected, a determination is made for each gaming device as to whether the selected element is present on the bingo card provided to that enrolled gaming device. This determination can be made by the central controller, the gaming device, a combination of the two, or in any other suitable manner. If the selected element is present on the bingo card provided to that enrolled gaming device, that selected element on the provided bingo card is marked or flagged. This process of selecting elements and marking any selected elements on the provided bingo cards continues until one or more predetermined patterns are marked on one or more of the provided bingo cards. It should be appreciated that in one embodiment, the gaming device requires the player to engage a daub button (not shown) to initiate the process of the gaming device marking or flagging any selected elements.

**[0074]** After one or more predetermined patterns are marked on one or more of the provided bingo cards, a game outcome is determined for each of the enrolled gaming devices based, at least in part, on the selected elements on the provided bingo cards. As discussed above, the game outcome determined for each gaming device enrolled in the bingo game is utilized by that gaming device to determine the predetermined game outcome provided to the player. For example, a first gaming device to have selected elements marked in a predetermined pattern is provided a first outcome of win \$10 which will be provided to a first player regardless of how the first player plays in a first game, and a second gaming device to have selected elements marked in a different predetermined pattern is provided a second outcome of win \$2 which will be provided to a second player regardless of how the second player plays a second game. It should be appreciated that as the process of marking selected elements continues until one or more predetermined patterns are marked, this embodiment ensures that at least one bingo card will win the bingo game and thus at least one enrolled gaming device will provide a predetermined winning game outcome to a player. It should be appreciated that other suitable methods for selecting or determining one or more predetermined game outcomes may be employed.

**[0075]** In one example of the above-described embodiment, the predetermined game outcome may be based

on a supplemental award in addition to any award provided for winning the bingo game as discussed above. In this embodiment, if one or more elements are marked in supplemental patterns within a designated number of drawn elements, a supplemental or intermittent award or value associated with the marked supplemental pattern is provided to the player as part of the predetermined game outcome. For example, if the four corners of a bingo card are marked within the first twenty selected elements, a supplemental award of \$10 is provided to the player as part of the predetermined game outcome. It should be appreciated that in this embodiment, the player of a gaming device may be provided a supplemental or intermittent award regardless of whether the enrolled gaming device's provided bingo card wins or does not win the bingo game as discussed above.

**[0076]** In another embodiment, one or more of the gaming devices are in communication with a central server or controller for monitoring purposes only. That is, each individual gaming device randomly generates the game outcomes to be provided to the player and the central server or controller monitors the activities and events occurring on the plurality of gaming devices. In one embodiment, the gaming network includes a real-time or on-line accounting and gaming information system operably coupled to the central server or controller. The accounting and gaming information system of this embodiment includes a player database for storing player profiles, a player tracking module for tracking players and a credit system for providing automated casino transactions.

**[0077]** In one embodiment, the gaming device disclosed herein is associated with or otherwise integrated with one or more player tracking systems. Player tracking systems enable gaming establishments to recognize the value of customer loyalty through identifying frequent customers and rewarding them for their patronage. In one embodiment, the gaming device and/or player tracking system tracks any player's gaming activity at the gaming device. In one such embodiment, the gaming device includes at least one card reader 38 in communication with the processor. In this embodiment, a player is issued a player identification card which has an encoded player identification number that uniquely identifies the player. When a player inserts their playing tracking card into the card reader to begin a gaming session, the card reader reads the player identification number off the player tracking card to identify the player. The gaming device and/or associated player tracking system timely tracks any suitable information or data relating to the identified player's gaming session. Directly or via the central controller, the gaming device processor communicates such information to the player tracking system. The gaming device and/or associated player tracking system also timely tracks when a player removes their player tracking card when concluding play for that gaming session. In another embodiment, rather than requiring a player to insert a player tracking card, the gaming device utilizes one or more portable devices carried by a player, such as a cell

phone, a radio frequency identification tag or any other suitable wireless device to track when a player begins and ends a gaming session. In another embodiment, the gaming device utilizes any suitable biometric technology or ticket technology to track when a player begins and ends a gaming session.

**[0078]** During one or more gaming sessions, the gaming device and/or player tracking system tracks any suitable information or data, such as any amounts wagered, average wager amounts, and/or the time at which these wagers are placed. In different embodiments, for one or more players, the player tracking system includes the player's account number, the player's card number, the player's first name, the player's surname, the player's preferred name, the player's player tracking ranking, any promotion status associated with the player's player tracking card, the player's address, the player's birthday, the player's anniversary, the player's recent gaming sessions, or any other suitable data. In one embodiment, such tracked information and/or any suitable feature associated with the player tracking system is displayed on a player tracking display 40. In another embodiment, such tracked information and/or any suitable feature associated with the player tracking system is displayed via one or more service windows (not shown) which are displayed on the central display device and/or the upper display device.

**[0079]** In one embodiment, a plurality of the gaming devices are capable of being connected together through a data network. In one embodiment, the data network is a local area network (LAN), in which one or more of the gaming devices are substantially proximate to each other and an on-site central server or controller as in, for example, a gaming establishment or a portion of a gaming establishment. In another embodiment, the data network is a wide area network (WAN) in which one or more of the gaming devices are in communication with at least one off-site central server or controller. In this embodiment, the plurality of gaming devices may be located in a different part of the gaming establishment or within a different gaming establishment than the off-site central server or controller. Thus, the WAN may include an off-site central server or controller and an off-site gaming device located within gaming establishments in the same geographic area, such as a city or state. The WAN gaming system may be substantially identical to the LAN gaming system described above, although the number of gaming devices in each system may vary relative to one another.

**[0080]** In another embodiment, the data network is an internet or intranet. In this embodiment, the operation of the gaming device can be viewed at the gaming device with at least one internet browser. In this embodiment, operation of the gaming device and accumulation of credits may be accomplished with only a connection to the central server or controller (the internet/intranet server) through a conventional phone or other data transmission line, digital subscriber line (DSL), T-1 line, coaxial cable,

fiber optic cable, or other suitable connection. In this embodiment, players may access an internet game page from any location where an internet connection and computer or other internet facilitator is available. The expansion in the number of computers and number and speed of internet connections in recent years increases opportunities for players to play from an ever-increasing number of remote sites. It should be appreciated that the enhanced bandwidth of digital wireless communications may render such technology suitable for some or all communications, particularly if such communications are encrypted. Higher data transmission speeds may be useful for enhancing the sophistication and response of the display and interaction with the player.

**[0081]** As mentioned above, in one embodiment, the present disclosure may be employed in a server-based gaming system. In one such embodiment, as discussed above, one or more gaming devices are in communication with a central server or controller. The central server or controller may be any suitable server or computing device which includes at least one processor and a memory or storage device. In alternative embodiments, the central server is a progressive controller or another gaming machine in the gaming system. In one embodiment, the memory device of the central server stores different game programs and instructions, executable by a gaming device processor, to control the gaming device. Each executable game program represents a different game or type of game which may be played on one or more of the gaming devices in the gaming system. Such different games may include the same or substantially the same game play with different pay tables. In different embodiments, the executable game program is for a primary game, a secondary game or both. In another embodiment, the game program may be executable as a secondary game to be played simultaneous with the play of a primary game (which may be downloaded to or fixed on the gaming device) or vice versa.

**[0082]** In this embodiment, each gaming device at least includes one or more display devices and/or one or more input devices for interaction with a player. A local processor, such as the above-described gaming device processor or a processor of a local server, is operable with the display device(s) and/or the input device(s) of one or more of the gaming devices.

**[0083]** In operation, the central controller is operable to communicate one or more of the stored game programs to at least one local processor. In different embodiments, the stored game programs are communicated or delivered by embedding the communicated game program in a device or a component (e.g., a microchip to be inserted in a gaming device), writing the game program on a disc or other media, or downloading or streaming the game program over a dedicated data network, internet, or a telephone line. After the stored game programs are communicated from the central server, the local processor executes the communicated program to facilitate play of the communicated program by a player

through the display device(s) and/or input device(s) of the gaming device. That is, when a game program is communicated to a local processor, the local processor changes the game or type of game played at the gaming device.

**[0084]** In another embodiment, a plurality of gaming devices at one or more gaming sites may be networked to the central server in a progressive configuration, as known in the art, wherein a portion of each wager to initiate a base or primary game may be allocated to one or more progressive awards. In one embodiment, a progressive gaming system host site computer is coupled to a plurality of the central servers at a variety of mutually remote gaming sites for providing a multi-site linked progressive automated gaming system. In one embodiment, a progressive gaming system host site computer may serve gaming devices distributed throughout a number of properties at different geographical locations including, for example, different locations within a city or different cities within a state.

**[0085]** In one embodiment, the progressive gaming system host site computer is maintained for the overall operation and control of the progressive gaming system. In this embodiment, a progressive gaming system host site computer oversees the entire progressive gaming system and is the master for computing all progressive jackpots. All participating gaming sites report to, and receive information from, the progressive gaming system host site computer. Each central server computer is responsible for all data communication between the gaming device hardware and software and the progressive gaming system host site computer. In one embodiment, an individual gaming machine may trigger a progressive award win. In another embodiment, a central server (or the progressive gaming system host site computer) determines when a progressive award win is triggered. In another embodiment, an individual gaming machine and a central controller (or progressive gaming system host site computer) work in conjunction with each other to determine when a progressive win is triggered, for example through an individual gaming machine meeting a predetermined requirement established by the central controller.

**[0086]** In one embodiment, a progressive award win is triggered based on one or more game play events, such as a symbol-driven trigger. In other embodiments, the progressive award triggering event or qualifying condition may be achieved by exceeding a certain amount of game play (such as number of games, number of credits, or amount of time), or reaching a specified number of points earned during game play. In another embodiment, a gaming device is randomly or apparently randomly selected to provide a player of that gaming device one or more progressive awards. In one such embodiment, the gaming device does not provide any apparent reasons to the player for winning a progressive award, wherein winning the progressive award is not triggered by an event in or based specifically on any of the plays

of any primary game. That is, a player is provided a progressive award without any explanation or alternatively with simple explanations. In another embodiment, a player is provided a progressive award at least partially based on a game triggered or symbol triggered event, such as at least partially based on the play of a primary game.

**[0087]** In one embodiment, one or more of the progressive awards are each funded via a side bet or side wager. In this embodiment, a player must place or wager a side bet to be eligible to win the progressive award associated with the side bet. In one embodiment, the player must place the maximum bet and the side bet to be eligible to win one of the progressive awards. In another embodiment, if the player places or wagers the required side bet, the player may wager at any credit amount during the primary game (i.e., the player need not place the maximum bet and the side bet to be eligible to win one of the progressive awards). In one such embodiment, the greater the player's wager (in addition to the placed side bet), the greater the odds or probability that the player will win one of the progressive awards. It should be appreciated that one or more of the progressive awards may each be funded, at least in part, based on the wagers placed on the primary games of the gaming machines in the gaming system, via a gaming establishment or via any suitable manner.

**[0088]** In another embodiment, one or more of the progressive awards are partially funded via a side-bet or side-wager which the player may make (and which may be tracked via a side-bet meter). In one embodiment, one or more of the progressive awards are funded with only side-bets or side-wagers placed. In another embodiment, one or more of the progressive awards are funded based on player's wagers as discussed above as well as any side-bets or side-wagers placed.

**[0089]** In one alternative embodiment, a minimum wager level is required for a gaming device to qualify to be selected to obtain one of the progressive awards. In one embodiment, this minimum wager level is the maximum wager level for the primary game in the gaming machine. In another embodiment, no minimum wager level is required for a gaming machine to qualify to be selected to obtain one of the progressive awards.

**[0090]** In another embodiment, a plurality of players at a plurality of linked gaming devices in a gaming system participate in a group gaming environment. In one embodiment, a plurality of players at a plurality of linked gaming devices work in conjunction with one another, such as by playing together as a team or group, to win one or more awards. In one such embodiment, any award won by the group is shared, either equally or based on any suitable criteria, amongst the different players of the group. In another embodiment, a plurality of players at a plurality of linked gaming devices compete against one another for one or more awards. In one such embodiment, a plurality of players at a plurality of linked gaming devices participate in a gaming tournament for one or more awards. In another embodiment, a plurality of play-

ers at a plurality of linked gaming devices play for one or more awards wherein an outcome generated by one gaming device affects the outcomes generated by one or more linked gaming devices.

#### Reel Upgrade Example Embodiments

**[0091]** In various example embodiments, the gaming system, gaming device, and method of the present disclosure provide a slot or reel game which includes one or more reel upgrade triggers. In the example embodiments discussed below, the reel upgrade triggers are designated symbols or combinations of symbols which are on the reels and can be generated and displayed on the reels during the play of the game. It should be appreciated that in alternative embodiments, one or more of these reel upgrade triggers do not need to be symbols which occur on the reels in the play of the game. For example, the reel upgrade can be based on one or more random determinations which are separate and distinct from the random determinations employed to determine the symbols which are generated and displayed by the reels. In one such example embodiment, the reel upgrade is based on the outcome of one or more spins of one or more separate reels. In another example embodiment, the reel upgrade is based on the outcome of one or more spins of one or more wheels. These reels or wheels can be video or mechanical. In another example embodiment, the reel upgrade can be based on a mystery trigger such as an event randomly preformed for the player without a display to the player. It should also be appreciated that present disclosure is not limited to these example embodiments, and that these example embodiments are given as examples of employing random determinations which are not symbols on the reels. In the first group of example embodiments discussed below, the occurrence of reel upgrade trigger causes the still activated or spinning reels to change such that the player is more likely to obtain one of the winning symbol combinations in the play of the game, and particularly one of the higher values winning symbol combinations in the play of the game. In the second group of example embodiments discussed below, the occurrence of reel upgrade trigger causes the reels to change such a higher value award is associated with one of the displayed symbols on the reels in the play of the game.

**[0092]** More specifically, referring now to Figs. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16, the reel strips and displays of one example embodiment of the gaming system of the present disclosure which includes a plurality of independent reels arranged in rows and columns are generally illustrated. In this illustrated example embodiment, the display device 16 includes or displays twenty-five independent reels labeled 101 to 125. These reels labeled 101 to 125 are arranged in rows 130, 132, 134, 136, and 138, and columns 140, 142, 144, 146, and 148. It should be appreciated that the reels may be arranged in other suitable patterns or positions, and that

the number of reels may vary in different embodiments. Each independent reel initially has a default reel strip with a plurality of different symbols thereon. In this example embodiment, each independent reel has an identical default or starting reel strip 150 as generally illustrated in Fig. 3; however, it should be appreciated that in alternative embodiments, two or more of the default or starting reel strips of the reels can be different. In another embodiment, the starting reel strip for a given reel is based on which column it is in. For example, all reels in the first column would share the same starting reel strip A, and all reels in the second column would share the same starting reel strip B, and so on. In that case, each column of reels would have their own set of upgraded reel strips.

**[0093]** Figs. 4, 5, 6, and 7 illustrate example upgraded reel strips 154, 156, 158, and 160. Default or starting reel strip 152 includes a plurality of symbols including an upgrade symbol which in this illustrated embodiment is the Wild symbol 160. It should be appreciated that any suitable symbol may be an upgrade symbol. In certain preferred embodiments, higher value symbols are the upgrade symbols. Default or starting reel strip 152 also includes a plurality of non-upgrade symbols which in this embodiment are: (a) the Helen symbol 162, (b) the Agamemnon symbol 164, (c) the first Soldier symbol 166, (d) the second Soldier symbol 168, (e) the first Sword symbol 170, (f) the second Sword symbol 172, (g) the first Helmet symbol 174, (h) the second Helmet symbol 176, (i) the first Ace symbol 178, (j) the second Ace symbol 180, (k) the first King symbol 182, (l) the second King symbol 184, (m) the third King symbol 186, (n) the first Queen symbol 188, (o) the second Queen symbol 190, (p) the third Queen symbol 192, (q) the first Jack symbol 194, (r) the second Jack symbol 196, (s) the third Jack symbol 198, (t) the fourth Jack symbol 200, (u) the first Ten symbol 202, (v) the second Ten symbol 204, (w) the third Ten symbol 206, and (x) the fourth Ten symbol 208.

**[0094]** In this example embodiment, Fig. 4 illustrates reel strip 154 which has been upgraded from reel strip 152 one time, and includes: (a) the first Wild symbol 160, (b) symbols 162 to 208, and (c) a second Wild symbol 210.

**[0095]** In this example embodiment, Fig. 5 illustrates reel strip 156 which has been upgraded from reel strip 152 two times, and includes: (a) the first Wild symbol 160, (b) symbols 162 to 208, (c) a second Wild symbol 210, (d) a third wild symbol 212, and (e) a forth Wild symbol 214.

**[0096]** In this example embodiment, Fig. 6 illustrates reel strip 158 which has been upgraded from reel strip 152 three times, and includes: (a) the first Wild symbol 160, (b) symbols 162 to 208, (c) a second Wild symbol 210, (d) a third wild symbol 212, (e) a forth Wild symbol 214, (f) a fifth Wild symbol 216, (g) a sixth wild symbol 218, (h) a seventh Wild symbol 220, and (i) an eight Wild symbol 222.

**[0097]** In this example embodiment, Fig. 7 illustrates reel strip 160 which has been upgraded from reel strip

152 four times, and includes: (a) the first Wild symbol 160, (b) symbols 162 to 208, (c) a second Wild symbol 210, (d) a third wild symbol 212, (e) a forth Wild symbol 214, (f) a fifth Wild symbol 216, (g) a sixth wild symbol 218, (h) a seventh Wild symbol 220, (i) an eight Wild symbol 222, (j) a ninth Wild symbol 224, (k) a tenth Wild symbol 226, (l) an eleventh wild symbol 228, (m) a twelfth Wild symbol 230, (n) a thirteenth Wild symbol 232, (o) a fourteenth wild symbol 234, (p) a fifteenth Wild symbol 236, and (q) a sixteenth Wild symbol 238.

**[0098]** In this illustrated example embodiment, the reel strips are upgraded by adding symbols and particularly high value symbols such as the Wild symbols to the reels for each upgrade and thus reducing the likelihood of occurrence of one or more of the other symbols. In this example embodiment, the gaming system changes each reel strip by adding one or more symbols which each have a probability of occurrence which is greater than zero and less than one hundred percent, and by also changing the probability of occurrence associated with each of one or more of the other symbols on the reels. It should also be appreciated that in this example embodiment, the added symbols are also the upgrade symbols, such that it is also more likely that additional upgrades will be generated as the play of the game continues. In this way, the player experiences an acceleration of benefits from the present disclosure. It should further be appreciated that in alternative embodiments, the added symbols do not need to be upgrade symbols.

**[0099]** It should further be appreciated that the additional symbols can be located on the reel strips in any suitable locations. It should also be appreciated that in certain embodiments, two or more of the reel strips are upgraded in different ways such as with different higher value symbols. It should also be appreciated that how a reel strip is upgraded can depend on various different triggering events or other factors. It should further be appreciated that while the upgrade symbols function as the reel upgrade triggers for the play of the game, the reel upgrade triggers may be other suitable triggers. It should also be appreciated that the additional symbols added to the reel strips do not need to be placed on the reel strips adjacent to each other as shown in Figs. 4, 5, 6, and 7.

**[0100]** It should additionally be appreciated that the reel strips can be upgraded in alternative manners in accordance with the present disclosure as discussed further below. For example, in another embodiment, the probability of one or more symbols occurring is increased without adding symbols to the reel strip. It should be appreciated that in this embodiment, the likelihood of generating one or more of the other symbols on reel strip is lowered.

**[0101]** Turing back to the figures, and particularly to Figs. 8, 9, 10, 11, 12, 13, 14, 15, and 16, an example play of the primary wagering game of this example embodiment is generally illustrated by the display device 16. Fig. 8 illustrates the 5x5 matrix of independent reels 101

to 125 with all of the reels 101 to 125 spinning after a wager on the play of the game has been made by a player. In this example, the display device 16 informs that player: "YOU HAVE MADE A WAGER ON A PLAY OF THE GAME AND ALL OF THE REELS ARE ACTIVATED. GOOD LUCK!" At this point in this example play of this game, each independent reel starts with or has the default or starting reel strip shown in Fig. 3. It should be appreciated that in alternative embodiments, one or more of the reels strips may start at different reels strips and one or more of the reel strips may be an upgraded reel strip at this point in time. In certain embodiments, one or more of the reel strips are started as upgraded reels strips based on one or more suitable criteria. For example, whether one or more of the reel strips are started as upgraded reels strips can be predetermined, randomly determined, determined based on a player's status (such as determined through a player tracking system), determined based on a previously generated symbol or symbol combination in a previous play of a game, determined based on a random determination by the central controller, determined based on a random determination at the gaming device, determined based on one or more side wagers placed, determined based on the player's primary game wager, or determined based on time (such as the time of day).

**[0102]** Fig. 9 illustrates that the first column 140 of independent reels 101, 102, 103, 104, and 105 have stopped spinning and each of these independent reel 101, 102, 103, 104, and 105 displays one of the symbols of reel strip 152. In this example, the upgrade symbol or the first Wild symbol 160 has occurred and is displayed on reel 102. In this illustrated embodiment, the gaming system provides an indication of the occurrence of this upgrade symbol by causing the display device to display to the player: "THE FIRST COLUMN OF REELS HAS STOPPED SPINNING AND ONE UPGRADE SYMBOL HAS BEEN GENERATED." This upgrade symbol causes the gaming system to change the reel strips on each of the other reels that are still spinning (and particularly reels 106 to 125 respectively in columns 142, 144, 146, and 148) to each be upgraded to be the reel strip 154 of Fig. 4 while these reels are still spinning. In other words, each of these reel strips for each of these reels are upgraded from reel strip 152 of Fig. 3 to the reel strip 154 of Fig. 4. In this illustrated embodiment, the gaming system provides an indication of this upgrade to the player while the reels are spinning. As illustrated in Fig. 10, in this example, the gaming system changes the cross-hatching, color or shading associated with the reels 106 to 125 in columns 142, 144, 146, and 148 and also provides an explanation to the player: "CONGRATULATIONS. EACH OF THE SPINNING REELS HAVE BEEN UPGRADED AND YOU HAVE A BETTER CHANCE OF WINNING. GOOD LUCK!" It should be appreciated that while the indications given to the player in the example embodiments disclosed herein are visual for ease of illustration, suitable audio or audio visual indications may

also or alternatively be provided the player. It should also be appreciated that any suitable information or indications can be provided to the player. It should further be appreciated that limited or no such indications may be provided to the player.

**[0103]** Additionally, it should be appreciated that in this embodiment, the gaming system determines, for each reel, the outcome for that reel after all of the determinations of whether to upgrade that reel strip are made. In other words, in this embodiment, the symbol to be generated and displayed by each reel is not determined until all possible upgrades for the reel strip of that reel have been determined, so that the appropriate default or upgraded reel strip can be used for that determination. It should be appreciated that the gaming system will preferably automatically and instantly upgrade the appropriate reel strips when an upgrade symbol has occurred to keep the speed of the game at a suitable pace.

**[0104]** Fig. 11 illustrates that the second column 142 of independent reels 106, 107, 108, 109, and 110 (in addition to the first column 140 of independent reels 101, 102, 103, 104, and 105) have stopped spinning and each of these independent reel 106, 107, 108, 109, and 110 displays one of the symbols of reel strip 154. In this example, the upgrade symbol or the first Wild symbol 160 has also been generated and is displayed on reel 109. In this illustrated embodiment, the gaming system provides an indication of the occurrence of this upgrade symbol by causing the display device to display to the player: "THE SECOND COLUMN OF REELS HAS STOPPED SPINNING AND ANOTHER UPGRADE SYMBOL HAS BEEN GENERATED." The upgrade symbol causes the gaming system to change the reel strips on each of the other reels that are still spinning (and particularly reels 111 to 125 respectively in columns 144, 146, and 148) to each be upgraded to be the reel strip 156 of Fig. 5 while they are still spinning. In other words, each of these reel strips for each of these reels is upgraded from reel strip 154 of Fig. 4 to the reel strip 156 of Fig. 5. In this illustrated embodiment, the gaming system provides an indication of this upgrade to the player while the reels are spinning. As illustrated in Fig. 12, in this example, the gaming system changes the cross-hatching, color or shading associated with the reels 111 to 125 in columns 144, 146, and 148 and also provides an explanation to the player: "CONGRATULATIONS. EACH OF THE REMAINING SPINNING REELS HAVE BEEN UPGRADED A SECOND TIME AND YOU HAVE AN EVEN BETTER CHANCE OF WINNING. GOOD LUCK!"

**[0105]** Fig. 13 illustrates that the third column 144 of independent reels 111, 112, 113, 114, and 115 (in addition to the first column 140 of independent reels 101, 102, 103, 104, and 105 and in addition to the second column 142 of independent reels 106, 107, 108, 109, and 110) have stopped spinning and each of these independent reels 111, 112, 113, 114, and 115 displays one of the symbols of reel strip 156. In this example, the upgrade symbol or the first generated Wild symbol 160 has been

generated and is displayed on reel 111 and on reel 112.

**[0106]** In this illustrated embodiment, the gaming system provides an indication of the occurrence of this upgrade symbol by causing the display device to display to the player: "THE THIRD COLUMN OF REELS HAS STOPPED SPINNING AND ANOTHER UPGRADE SYMBOL HAS BEEN GENERATED." The upgrade symbol causes the gaming system to cause the reel strips on each of the other reels that are still spinning (and particularly reels 116 to 125 respectively in columns 146 and 148) to each be upgraded to be the reel strip 158 of Fig. 6 while they are still spinning. In other words, each of these reel strips for each of these reels is upgraded from reel strip 156 of Fig. 5 to the reel strip 158 of Fig. 6. In this illustrated embodiment, the gaming system provides an indication of this upgrade to the player while the reels are spinning. As illustrated in Fig. 14, in this example, the gaming system changes the cross-hatching, color or shading associated with the reels 116 to 125 in columns 146 and 148 and also provides an explanation to the player: "CONGRATULATIONS. EACH OF THE REMAINING SPINNING REELS HAVE BEEN UPGRADED A THIRD TIME AND YOU HAVE AN EVEN BETTER CHANCE OF WINNING. GOOD LUCK!"

**[0107]** In this example play of the game, two upgrade symbols have occurred in column 144. In this illustrated embodiment, after the first occurrence of the first upgrade symbol, the additional upgrade symbol which occurred has no additional upgrading effect. In alternative embodiments, such additional occurrences of the upgrade symbols can cause additional upgrades. It should further be appreciated that while in this illustrated embodiment, only four reel strip upgrades are possible, in other embodiments, additional reel strip upgrades are possible.

**[0108]** Fig. 15 illustrates that the fourth column 146 of independent reels 116, 117, 118, 119, and 120 (in addition to the first column 140 of independent reels 101, 102, 103, 104, and 105, the second column 142 of independent reels 106, 107, 108, 109, and 110, and the third column 144 of independent reels 111, 112, 113, 114, and 115) have stopped spinning and each of these independent reels 116, 117, 118, 119, and 120 displays one of the symbols of reel strip 158. In this example, no additional upgrade symbols or Wild symbols have occurred. The gaming system provides an indication that no additional upgrade symbols have occurred by causing the display device to display to the player: "THE FOURTH COLUMN OF REELS HAS STOPPED SPINNING AND NO FURTHER UPGRADE SYMBOLS HAVE BEEN GENERATED." Accordingly, no reel strips of the reels that are still spinning (and particularly reels 121 to 125 in column 148) are further upgraded to be the reel strip 160. In other words, none of the reel strips for reels 121 to 125 are upgraded from reel strip 158 of Fig. 5 to the reel strip 160 of Fig. 7; but rather they remain the reel strip 158.

**[0109]** Fig. 16 illustrates that the fifth column 148 of independent reels 121, 122, 123, 124, and 125 (in addition to the first column 140 of independent reels 101, 102,

103, 104, and 105, the second column 142 of independent reels 106, 107, 108, 109, and 110, the third column 144 of independent reels 111, 112, 113, 114, and 115, and the fourth column 146 of independent reels 116, 117, 118, 119, and 120) have stopped spinning and each of these independent reels 121, 122, 123, 124, and 125 displays one of the symbols of reel strip 158. The gaming system provides an indication that no additional upgrade symbols have occurred by causing the display device to display to the player: "THE FIFTH COLUMN OF REELS HAS STOPPED SPINNING AND NO FURTHER UPGRADE SYMBOLS HAVE BEEN GENERATED." At this point, the gaming system evaluates the displayed symbols on the reels for winning symbol combinations.

**[0110]** In various embodiments of the present disclosure, the gaming system can perform any suitable evaluation to determine if winning symbol combinations have been generated on the reels. For example, if the gaming system includes paylines associated with the reels, the gaming system will perform a payline evaluation structure to determine any awards. Alternatively, if the gaming system includes a way to win or multi-way symbols evaluation structure associated with the reels, the gaming system will perform a way to win or multi-way evaluation. Alternatively, if the gaming system includes both a payline and a ways to win or multi-way evaluation structure associated with the reels, the gaming system will perform both a payline and a ways to win or multi-way evaluation. It should be appreciated that the gaming system can include any suitable symbol evaluation method. It should also be appreciated that alternative symbols generators besides reels may be employed in accordance with the present disclosure. It should also be appreciated that the gaming system can include any suitable wagering or betting method or structure for a primary wagering game.

**[0111]** It should be appreciated that the present disclosure can be implemented on any suitable independent reel game. In one such embodiment, the present disclosure is implemented on the independent reel game disclosed in U.S. Patent No. 7,309,282. It should further be appreciated that the present disclosure can be implemented on any suitable dependent reel game. For instance, the reel upgrade feature can be employed in a dependent reel game with a conventional 3x5 slot game with 5 reels. In that embodiment, the appearance of one or more particular symbols on a reel causes the latter reels still spinning to upgrade to different reel strips. These upgraded reel strips may include Stacked Wilds, or additional sets of Stacked Wilds, or more Bonus symbols, or stacks of Bonus symbols, or any other suitable enrichment that makes the upgraded reel strips more valuable for the player.

**[0112]** In the above illustrated embodiments, when an reel upgrade symbol such as the Wild symbol occurs in one of the columns, the reel upgrade symbol causes all of the reel strips on reels that are still spinning to change. It should be appreciated that the number of upgraded reel strips could vary in accordance with the present dis-



closure. In one example embodiment, for each upgrade, only the reels in the next column are upgraded instead of the reels in all of the remaining spinning columns. In another example embodiment, for each upgrade, only a designated quantity of reels (such as one) in each of the columns are upgraded instead of all of the reels in all of the remaining spinning columns. In another embodiment, the quantity of upgrades may be a limited quantity such as three upgrades. In one such embodiment, when the reels have upgraded the limited number of times, they cannot be upgraded any further even if additional upgrade symbols occur on the reels during the play of the game. In alternative embodiments, the quantity of upgrades can be limited, but with a relatively high or extensive limitation, such that that a player would rarely be in a situation where the reels aren't upgraded if an additional upgrade symbols occurs.

**[0113]** It should be appreciated that any suitable symbols can be designated as the upgrade symbols. It should further be appreciated that the present disclosure contemplates more than one reel upgrade symbols that cause the upgrades to occur. For example, in the above example embodiment, in addition to the Wild symbol being a reel upgrade symbol, one or more other symbols such as a bonus symbol (i.e., "Agamemnon") or a top award symbol (i.e., "Helen") can be the reel upgrade symbol.

**[0114]** In one embodiment, to implement multiple upgrade symbols, the gaming system employs a multiple dimension matrix of possible different upgrade reel strips. Based on the quantity of occurrences of each of the different upgrade symbols, the gaming system selects which reel strip to use for each reel that is still spinning. One such embodiment is generally illustrated in the table of Fig. 17. In this table, the reel strip for Reel Set 7 has an increased quantity of both Wild symbols and Top Award symbols which both function as reel upgrade symbols. It should be appreciated that while these symbols cause different types of upgrades to the reels, these symbols could alternatively cause the same type of upgrade to the reels.

**[0115]** It should further be appreciated that while the illustrated example embodiments described herein are primary wagering games, the upgrade features can be employed in secondary games including but not limited to free activation or free spin secondary games. In one embodiment, if the upgrade feature is employed in a free activation or spin secondary game or round, after each free spin is completed, each of the reels return to the default reel strip for the next free activation or spin. In other embodiments, one or more of the reels may remain in an upgraded state for one or more subsequent free activations or spins. In this way, the benefit of individual reels upgrading to upgraded reel strips can be enjoyed by the player for additional activations or spins, and the player would have a chance to reach even further upgraded reel strips that might have been otherwise unreachable.

**[0116]** It should also be appreciated that the present disclosure contemplates that one or more upgrades can remain for sets of primary wagering games. For example, the gaming system can enable the player to make a side or additional wager to maintain an upgrade reel set. In certain embodiments, this additional wager would be dynamic based on the position and value of the reel upgrades. For example, the additional wager to maintain a reel upgraded thrice would be higher than to maintain a reel upgraded once. Likewise, the additional wager to maintain a reel upgraded in the first column would be higher than to maintain a reel upgraded in the fifth column. In more advanced embodiments, the gaming system enables the player to choose which reels the player wants to remain upgraded. In still further embodiments, the gaming system enables the player to buy a reel upgrade for one or more reels before the reels spin. In certain embodiments, the gaming system requires a player to pay a dynamic price for reel upgrades based on which reels are upgraded and by how much. In other embodiments, the gaming system requires the player to pay a set price for a random reel upgrade somewhere on the reels. In this embodiment, the player may not know which reel will be upgraded, but the player is guaranteed to get at least one reel upgrade. If the player wants more action, the gaming system can enable the player to buy a certain number of random reel upgrades before the reels spin. For example, if the player buys two random reel upgrades, the player may get two random reels upgraded or one random reel upgraded twice. It should be appreciated that any suitable criteria can be employed to determine whether to maintain an upgraded reel set for subsequent plays of the game.

**[0117]** As mentioned above, it should also be appreciated that in the above described example embodiment, the upgrades occur when an upgrade symbol occurs on the reels. It should be appreciated that in other embodiments, one or more upgrades can occur based on other upgrade events or triggering conditions besides upgrade symbols occurring on the reels.

**[0118]** It should also be appreciated that in the above illustrated example embodiment, the determination or evaluation of whether any upgrade symbols have been generated and displayed, occurs after an entire column (i.e., group or set) of reels has spun and stopped. In alternative embodiments, the determination or evaluation of whether any upgrade symbols have been generated and displayed does not need to wait until after an entire column of reels has spun and stopped. For example, in one alternative embodiment, this determination or evaluation of whether any upgrade symbols have been generated and displayed occur after each reel stops spinning. Additionally, in such embodiments, the reels in the same column as the upgrade symbols can be upgraded also. For example, if the first reel 101 in column 140 displays the upgrade symbol, the gaming system could upgrade each of the reel strips for the rest of the reels 102, 103, 104, and 105 in column 140 which are still spinning

as well as the reels still spinning in the other columns.

**[0119]** In various embodiments, the upgrade feature is provided to the player with no extra or additional wager required to be made by the player. In alternative embodiments, the gaming system requires the player to make an additional wager to activate or employ the upgrade feature. For example, in one embodiment, the gaming system can offer 40 paylines for a main primary game wager of 40 credits, and then the upgrade feature for an additional wager of 40 credits more. It should also be appreciated that in other embodiments, the upgrades can be scaled such that more upgrades are available as the player wagers more additional credits. Any suitable ratio may be employed in these embodiments. Additionally, such as scale may be employed in association with the main primary game wager such that the greater the wager, the greater the available number of reel upgrades.

**[0120]** In another embodiment, the gaming system, gaming device, and method of the present disclosure provides a slot or reel game which includes one or more reel upgrade triggers. When the reel upgrade trigger occurs in a play of a game, one or more of the reels are changed for that play of the game. The reel upgrade trigger changes the reel such that a higher award is associated with or assigned to one of the symbols on that reel in the play of the game.

**[0121]** More specifically, referring now to Figs. 18, 19, 20, 21, 22, 23, 24, 25, and 26, the gaming system of one example alternative embodiment of the present disclosure includes a plurality of independent reels arranged in rows and columns. It should be appreciated that the reels may be arranged in other suitable patterns or positions, and that the number of reels may vary in different embodiments. In this illustrated example embodiment, the gaming system includes twenty independent reels 301 to 320 arranged in rows 330, 332, 334, 336, and 338 and columns 340, 342, 344, 346, and 348. Each independent reel initially has a default reel strip. In one embodiment, each independent reel has an identical default reel strip; however, it should be appreciated that in alternative embodiments, two or more of the default reel strips of the reels can be different. In this embodiment, if the upgrade symbol occurs a second time in a designated group of independent reels such as a column of the independent reels, the second occurrence of the upgrade symbol in the group such as the column is upgraded to a better symbol for the player. Further, in this embodiment, if the upgrade symbol occurs a third time in a designated group of independent reels such as in a column of the independent reels, the third occurrence of the upgrade symbol in the group such as the column is upgraded to an even better symbol for the player. It should thus be appreciated that in this example embodiment, the symbols are upgraded based on the multiple occurrences of the same designated upgrade symbol in the same group such as the same column of reels. In one alternative embodiment, the symbol upgrade feature is based on the occurrence of upgrade symbols within a row in-

stead of a column. In another alternative embodiment, the symbol upgrade feature is based on the occurrence of upgrade symbols within either a column or a row. In another alternative embodiment, the symbol upgrade feature is based on the occurrence of upgrade symbols within both a column and a row. It should thus be appreciated that the column is a set of reels and that in alternative embodiments, any suitable set of reels can be used to determine the multiple occurrences of the same designated upgrade symbol in that set of reels.

**[0122]** More specifically, Fig. 18 illustrates the matrix of independent reels 301 to 320 after a wager on the play of the game has been made by a player, and all of the reels 301 to 320 have started to spin. In this example, the display device 16 informs that player: "YOU HAVE MADE A WAGER ON A PLAY OF THE GAME, ALL OF THE REELS ARE ACTIVATED. GOOD LUCK!" At this point in the play of game, each independent reel has a default reel strip. It should be appreciated that in alternative embodiments, one or more of the reels strips may be different or may start at or be an upgraded reel strip at this point in time. In certain embodiments, one or more of the reel strips are started as upgraded reels strips based on one or more criteria.

**[0123]** Fig. 19 illustrates that the first column 340 of independent reels 301, 302, 303, and 304, have stopped spinning and each of these independent reels 301, 302, 303, and 304, displays one of the symbols. In this example, the upgrade symbol which is the first Helen symbol has occurred and is displayed on reel 302, and another first Helen symbol occurs on and is displayed on reel 303. In this illustrated embodiment, the gaming system provides an indication of the occurrence of this upgrade symbol by causing the display device to display to the player: "THE FIRST COLUMN OF REELS HAS STOPPED SPINNING AND TWO UPGRADE SYMBOLS HAVE BEEN GENERATED."

**[0124]** As illustrated in Fig. 20, the gaming system turns the second occurrence of the upgrade symbol or Helen symbol into a Helen 2X. If any winning symbol combination includes this Helen 2X, the award associated with that winning symbol combination will be multiplied by 2 and then provided to the player. As illustrated in Fig. 20, in this example, the gaming system changes the cross-hatching, color or shading associated with the reel 304 in column 340 and also provides an explanation to the player: "CONGRATULATIONS! ONE REEL HAS BEEN UPGRADED AND YOU HAVE AN CHANCE OF WINNING A HIGHER VALUE AWARD. GOOD LUCK!"

In other embodiments, the second displayed Helen symbol could be turned into a Wild symbol, an expanding Wild Symbol, a Bonus symbol, or any other valuable symbol. It should also be appreciated that alternatively the first Helen symbol could be upgraded, or that both Helen symbols could be upgraded.

**[0125]** Fig. 21 shows only the first reel in the second column stopped solely for explanation purposes and not as an example of how the game plays or when the gaming

system would upgrade the symbols. In Fig. 21, the reel 305 in column 342 has stopped spinning and displays another Helen symbol. In this embodiment, this occurrence of the Helen symbol is considered the first occurrence of the Helen symbol for this column and thus, no reel strip or symbol transformation on the other reels occurs at this point in time. It should be appreciated that in other embodiments, the symbol transformation for a designated upgrade symbol is based on the cumulative number of that symbol which occurs on all previously stopped reels.

**[0126]** Turning now to Figs. 22 and 23, reels 306, 307, and 308 in column 342 have also stop spinning and each displays another upgrade symbol or the Queen symbol. The gaming system turns the second occurrence of the upgrade symbol or Queen symbol into a Queen 2X. If any winning symbol combination includes this Queen 2X, the award associated with that winning symbol combination will be multiplied by 2 and then provided to the player. The gaming system also turns the third occurrence of the upgrade symbol or Queen symbol into a Queen 3X. If any winning symbol combination includes this Queen 3X, the award associated with that winning symbol combination will be multiplied by 3 and then provided to the player. As illustrated in Fig. 23, in this example, the gaming system provides an indication of the occurrence of these upgrade symbol by causing the display device to display to the player: "THE SECOND COLUMN OF REELS HAS STOPPED SPINNING AND THREE UPGRADE SYMBOLS HAVE BEEN GENERATED." As illustrated in Fig. 23, in this example, the gaming system changes the cross-hatching, color or shading associated with reel 307 and with reel 308 in column 342 and also provides an explanation to the player: "CONGRATULATIONS. TWO REELS HAVE BEEN UPGRADED AND YOU HAVE A CHANCE OF WINNING A HIGHER VALUE AWARD. GOOD LUCK!"

**[0127]** Turning now to Figs. 24 and 25, reels 309, 310, 311, and 312 in column 344 have stop spinning. Reels 309 and 311 each display another upgrade symbol or the Agamen symbol. The gaming system turns the second occurrence of the upgrade symbol or Agamen symbol into an Agamen 2X. If any winning symbol combination includes this Agamen 2X, the award associated with that winning symbol combination will be multiplied by 2 and then provided to the player. Reels 310 and 312 each display the second upgrade symbol or the Queen symbol. The gaming system turns the second occurrence of the second upgrade symbol or Queen symbol into a Queen 2X. If any winning symbol combination includes this Queen 2X, the award associated with that winning symbol combination will be multiplied by 2 and then provided to the player. As illustrated in Fig. 24, in this example, the gaming system provides an indication of the occurrence of these upgrade symbol by causing the display device to display to the player: "THE THIRD COLUMN OF REELS HAS STOPPED SPINNING AND TWO PAIRS OF UPGRADE SYMBOLS HAVE BEEN GEN-

ERATED." As illustrated in Fig. 25, in this example, the gaming system changes the cross-hatching, color or shading associated with reel 311 and with reel 312 in column 344 and also provides an explanation to the player: "CONGRATULATIONS! TWO MORE REELS HAVE BEEN UPGRADED AND YOU HAVE A CHANCE OF WINNING A HIGHER VALUE AWARD. GOOD LUCK!"

**[0128]** Turning now to Fig. 26, reels 313, 314, 315, and 316 in column 346, and reels 317, 318, 319, and 320 and stop spinning. These reels do not display any upgrade symbols. At this point, the gaming system evaluates the displayed symbols to determine whether to provide any awards to the player. As illustrated in Fig. 26, in this example, the gaming system provides an explanation to the player: "ALL OF THE REELS HAVE STOPPED SPINNING AND NO MORE SYMBOL UPGRADES HAVE BEEN GENERATED." For example, row 338 includes the Queen, Queen 3X, Queen 2X, Queen, and Queen symbol combination. The gaming system will determine the award associated with the symbol combination of five Queens and then apply the multipliers in the designated manner.

**[0129]** It should be appreciated that the present disclosure contemplates multiple different manners to evaluate situations in which a winning combination contains several symbols with multipliers. In one embodiment, the award associated with the winning combination is multiplied by the highest multiplier among all of the symbols which make up the winning symbol combination. For example, in Fig. 26, the 5-Queen award involving Queen, Queen 3X, Queen 2X, Queen, Queen is be multiplied by 3X (i.e., the highest multiplier) to determine the award. In another embodiment, the award associated with the winning combination is multiplied by the sum of all multipliers among all of the symbols which make up the winning symbol combination. For example, in Fig. 26, the 5-Queen award involving Queen, Queen 3X, Queen 2X, Queen, Queen is be multiplied by 5X (i.e., sum of the multipliers) to determine the award. In another embodiment, the award associated with the winning symbol combination is multiplied by the product of all multipliers among the symbols which make up the winning symbol combination. For example, in Fig. 26, the 5-Queen award involving Queen, Queen 3X, Queen 2X, Queen, Queen is be multiplied by 6X (i.e., the product of the multipliers) to determine the award.

**[0130]** It should be appreciated, as with the above example in Figs. 3 to 16, the gaming system can perform any suitable evaluation to determine if winning symbol combinations have been generated on the reels. For example, if the gaming system includes paylines associated with the reels, the gaming system will perform a payline evaluation structure to determine any awards. Alternatively, if the gaming system includes a way to win or multi-way evaluation structure associated with the reels, the gaming system will perform a way to win or multi-way evaluation. Alternatively, if the gaming system includes both a payline and a ways to win or multi-way evaluation

structure associated with the reels, the gaming system will perform both a payline and a ways to win or multi-way evaluation. It should be appreciated that the gaming system can include any suitable symbol evaluation method.

**[0131]** It should be appreciated that the upgrade feature of the present disclosure increases volatility and variety in pays or payouts. It should also be appreciated that the symbol upgrades is an exciting event in itself even if the player does not eventually win with or using the upgrades. In such instances, certain players may feel like they are winning just by getting symbol upgrades even if no wins result.

**[0132]** As described above with the above embodiments, it should be appreciated that this embodiment of the symbol upgrade feature can be employed in a base or primary wagering game or a bonus or secondary game or round such as a free activation or free spin game or round.

**[0133]** In various embodiments, the symbol upgrade feature is part of the base game math model. In other various embodiment, the symbol upgrade feature is activated when the player make a wager which is above a certain level for a play of the game (such as a maximum wager). In other various embodiment, the symbol upgrade feature is activated when the player make an additional bet to specifically activate the upgrade feature.

**[0134]** It should also be appreciated that a symbol can be upgraded in different manner such as by associating a modifier such as a multiplier to the symbols (as in the above example embodiment), or making the symbol wild, or making the symbol into an expanding wild, or turning the symbol into a bonus symbol. Additionally, in one embodiment, the symbol could be upgraded from a single symbol to a double symbol. In one example embodiment, a symbol upgraded three times could go from a top award symbol, to a 2X multiplier top award symbol, to a 2X Wild symbol, to a 2X expanding Wild symbol. In another example embodiment, a symbol upgraded three times could go from a top award symbol, to a 2X multiplier top award symbol, to a 2X Wild symbol, to a 2X expanding Wild symbol.

**[0135]** In various embodiments, the type of symbol upgrade can be pre-determined or randomly determined. For example, one example embodiment includes two or three possible upgrades and the player does not know which one will occur. In other embodiments, the nature of the symbol upgrades is symbol-dependent. It should be appreciated that different symbol types could upgrade in different ways. For example, a Wild symbol may always upgrade into an expanding Wild symbol, while a top award symbol may always upgrade into a 2X top award symbol.

**[0136]** In one embodiment, the appearance of a wild symbol counts toward the symbol upgrade feature. For example, if a wild symbol appears in the topmost position on a reel column, all subsequent symbols in the column would be upgraded. In another embodiment, the appear-

ance of a wild symbol does not count toward the symbol upgrade feature. In that embodiment, the player must get exactly the same symbol in order for the symbol upgrade to occur.

**[0137]** In one embodiment, multiple occurrences of a Wild symbol in a reel column are upgraded. For example, the second Wild in a reel column might become a 2X Wild. In another embodiment, Wild symbols never upgrade other Wild symbols. For example, getting a second Wild symbol in a column does not upgrade either Wild symbol. However, if the appearance of a Wild symbol counts toward the symbol upgrade feature for all non-Wild symbols in a given reel column, then the appearance of two Wild symbols in a column would cause the other non-Wild symbols to be upgraded twice.

**[0138]** As mentioned above, certain symbol upgrades may occur based on the occurrence of symbols across all reels, not just one reel column or one reel row. In that situation, a symbol may be upgraded only a portion of the time. In one embodiment, every other appearance of a symbol may be upgraded. For example, the first Queen symbol is not upgraded, the second Queen symbol is upgraded to be a Queen 2X, the third Queen symbol is not upgraded, the fourth Queen symbol is upgraded to be a Queen 3X, and so on.

**[0139]** In another embodiment, multiple occurrences of the upgrade symbol in the same reel column (or row) triggers a random determination of whether the symbol upgrade will occur instead of the actual occurrence of the symbol upgrade. In this embodiment, the probability of occurrence can be set at any suitable level or percentage which is greater than zero and less than one hundred percent. It should also be appreciated that in this embodiment, the level or percentage may vary based on one or more factors.

**[0140]** In another embodiment, an upgrade causes more than one upgrades. For example, the second appearance of a Queen symbol causes another Queen symbol to be upgraded directly to a Queen 3X.

**[0141]** In one alternative embodiment, all of the symbols on the reel strip function as upgrade symbols. In other embodiments, all of the symbols on the reel strip function as upgrade symbols except for certain designated symbols. In one such example, a bonus symbol is excluded from being an upgrade symbol.

**[0142]** Turning now to Fig. 27, it should be further appreciated that the upgrade can be employed in a dependent reel game such as a standard 3x5 slot game. In one such embodiment, the second occurrence (or third occurrence) of a symbol could be upgraded. For example, the example reel strip in Fig. 27 includes groupings of two matching symbols adjacent to each other. Depending on how the reels land, it is possible for only one of the two matching symbols to be visible on for the given reel position or outcome. On other reel outcomes, both matching symbols would be visible, and in that case, the second matching symbol would be upgraded. For example, using the reel strip in Fig. 27 as an example, a Helen

2X only occurs when both Helen symbols are visible on a reel outcome.

**[0143]** It should be understood that various changes and modifications to the presently preferred embodiments described herein will be apparent to those skilled in the art. Such changes and modifications can be made without departing from the spirit and scope of the present subject matter and without diminishing its intended advantages. It is therefore intended that such changes and modifications be covered by the appended claims.

## Claims

### 1. A gaming system comprising:

at least one display device;  
at least one input device;  
at least one processor; and  
at least one memory device which stores a plurality of instructions, which when executed by the at least one processor, cause the at least one processor to operate with the at least one display device and the at least one input device, for a play of a game, to:

display a plurality of reels to a player, each reel having a default reel strip including a plurality of different symbols;  
determine if a reel upgrade trigger occurs during the play of a game, and if the reel upgrade trigger occurs during the play of the game, for each of at least one of the reels:

cause said reel to be upgraded for said play of the game from the default reel strip of said reel, said upgrade causing one of:

- (i) the player being more likely to obtain a winning symbol combination of said symbols in the play of the game,
- (ii) a higher award associated with one of the symbols on that reel in the play of the game, and
- (iii) one of the displayed symbols on the reel to be associated with a higher award in the play of the game;

determine any awards associated with the displayed symbols on the reels for the play of the game: and  
provide any determined awards to the player.

2. The gaming system of claim 1, wherein if the reel upgrade occurs during the play of a game while at least one of the reels is spinning during said upgrade, the plurality of instructions, when executed by the at least one processor, cause the player to be more likely to obtain a winning symbol combination of said symbols in the play of the game,

- (a) use said upgraded reel strip for determining one of the symbols on said reel to display for the play of the game, and
- (b) display said determined symbol for the play of the game.

3. The gaming system of Claim 1 or 2, wherein the reels are independent reels.

4. The gaming system of Claim 1 or 2, wherein the reels are dependent reels.

5. The gaming system of Claim 1 or 2, wherein the plurality of instructions, when executed by the at least one processor, cause the at least one processor to determine any awards associated with displayed outcome of the play of the game based on at least one of: (a) a payline evaluation; and (b) a ways to win evaluation.

6. The gaming system of Claim 1 or 2, wherein the reel upgrade trigger includes at least one upgrade symbol on the reels.

7. The gaming system of Claim 1, wherein the plurality of instructions, when executed by the at least one processor, cause for at least one of the reels, the upgrade of said reel to occur while one or more of the reels are spinning during the play of the game.

8. The gaming system of Claim 1, wherein the plurality of instructions, when executed by the at least one processor, cause for at least one of the reels, the upgrade of said reel to occur while said reel is spinning during the play of the game.

9. The gaming system of Claim 1, wherein the plurality of instructions, when executed by the at least one processor, cause for at least one of the reels, the upgrade of said reel to occur after said reel has stopped spinning during the play of the game.

10. The gaming system of Claim 1 or 2, wherein the reels have the same default reel strips.

11. The gaming system of Claim 2, wherein the plurality of instructions, when executed by the at least one processor, cause the at least one processor for each upgrade trigger which occurs during the play of a

game while at least one of the reels is spinning, for each of the reels which are spinning for said play of the game cause the upgrade of said reel to occur while said reel is still spinning.

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12. The gaming system of Claim 2, wherein, for at least one reel, the upgrade of said reel includes changing a probability associated with generating two or more of the symbols on the reel, such that a higher value symbol on the reel has a higher likelihood of occurring. 10
13. The gaming system of Claim 2, wherein, for at least one reel, the upgrade of the reel includes adding one or more additional higher value symbols to the reel strip to increase the probability of that symbol occurring in the play of the game. 15
14. The gaming system of Claim 2, wherein at least one of the reels can be upgraded multiple times in each play of the game. 20

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FIG. 1A

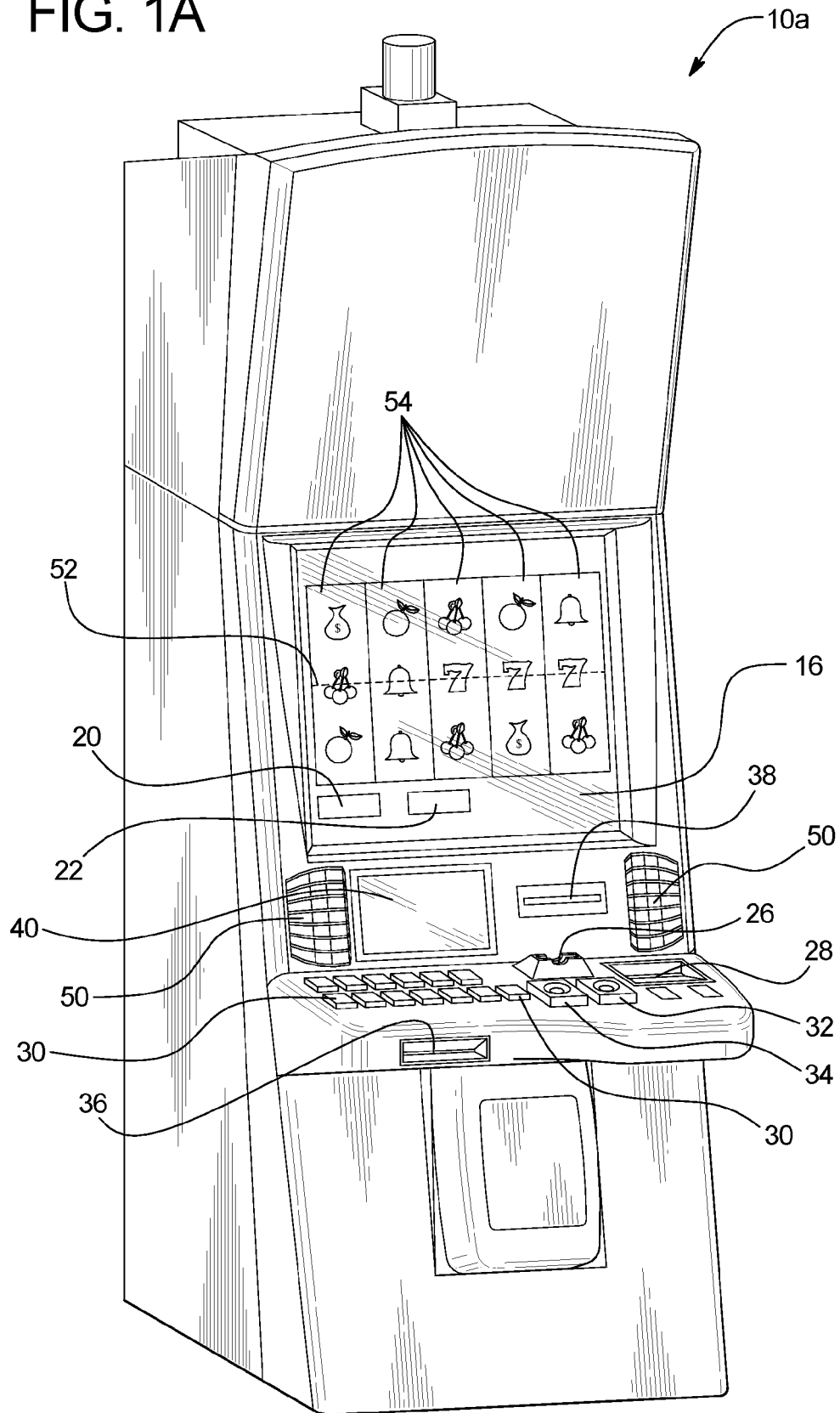


FIG. 1B

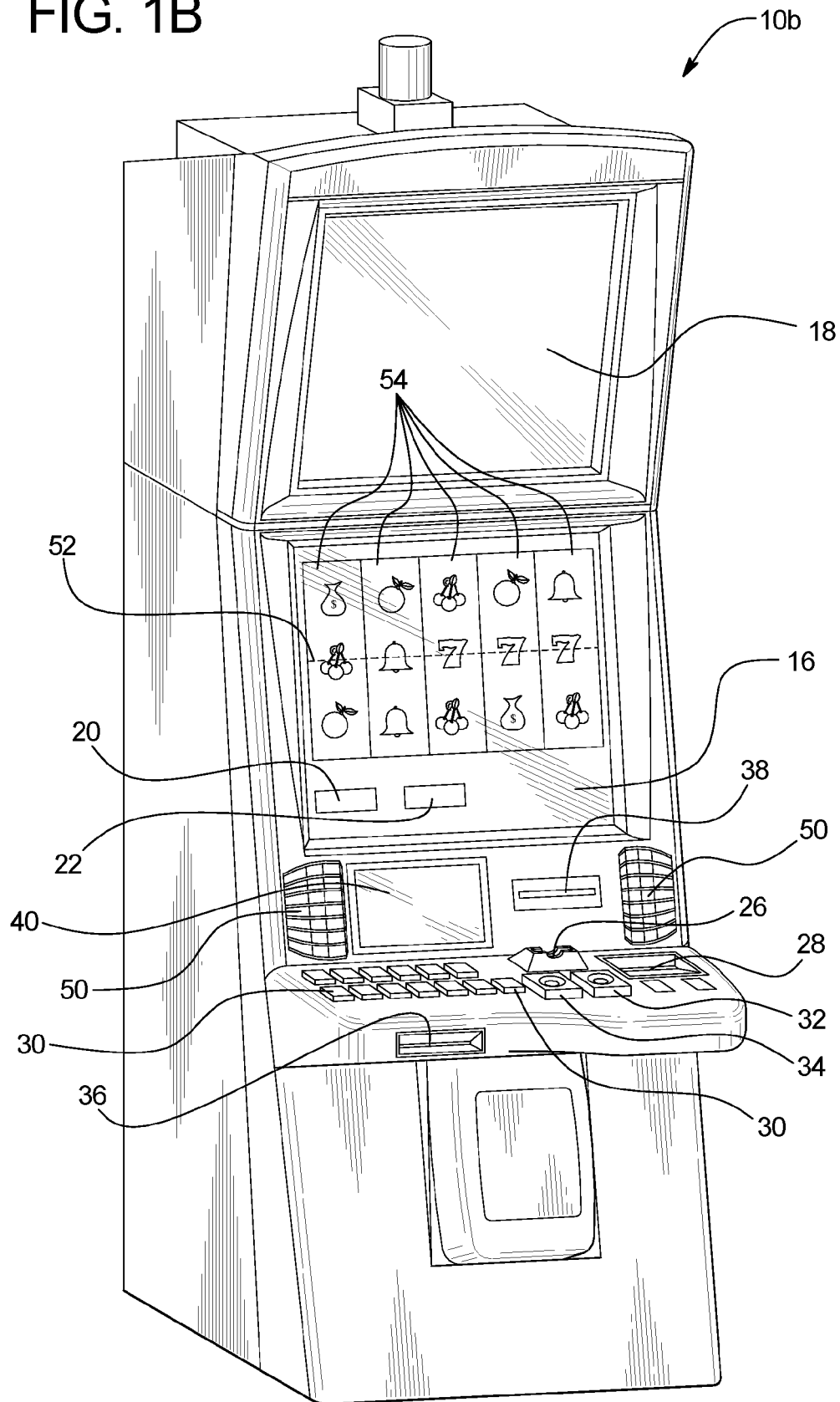




FIG. 2A

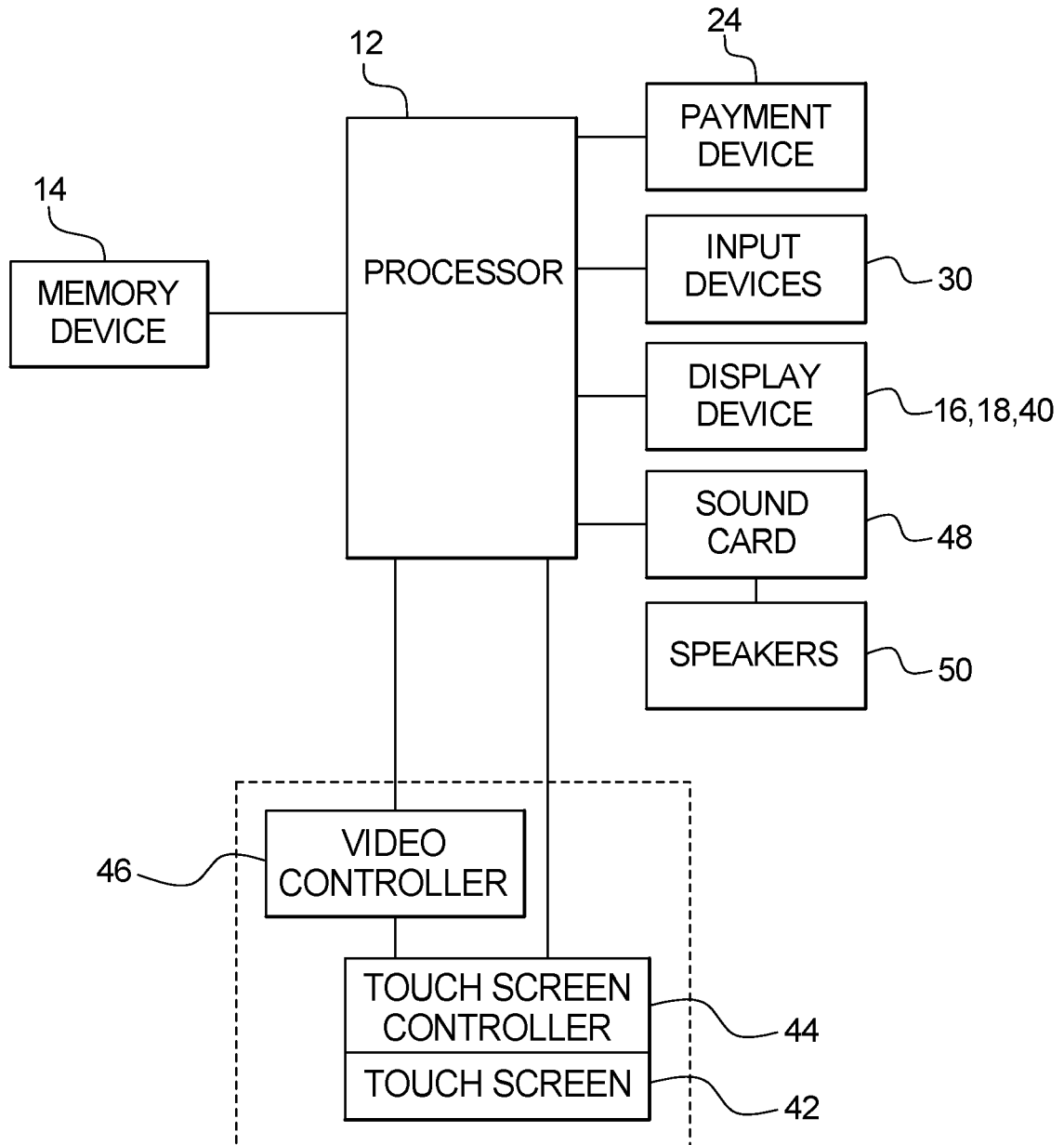
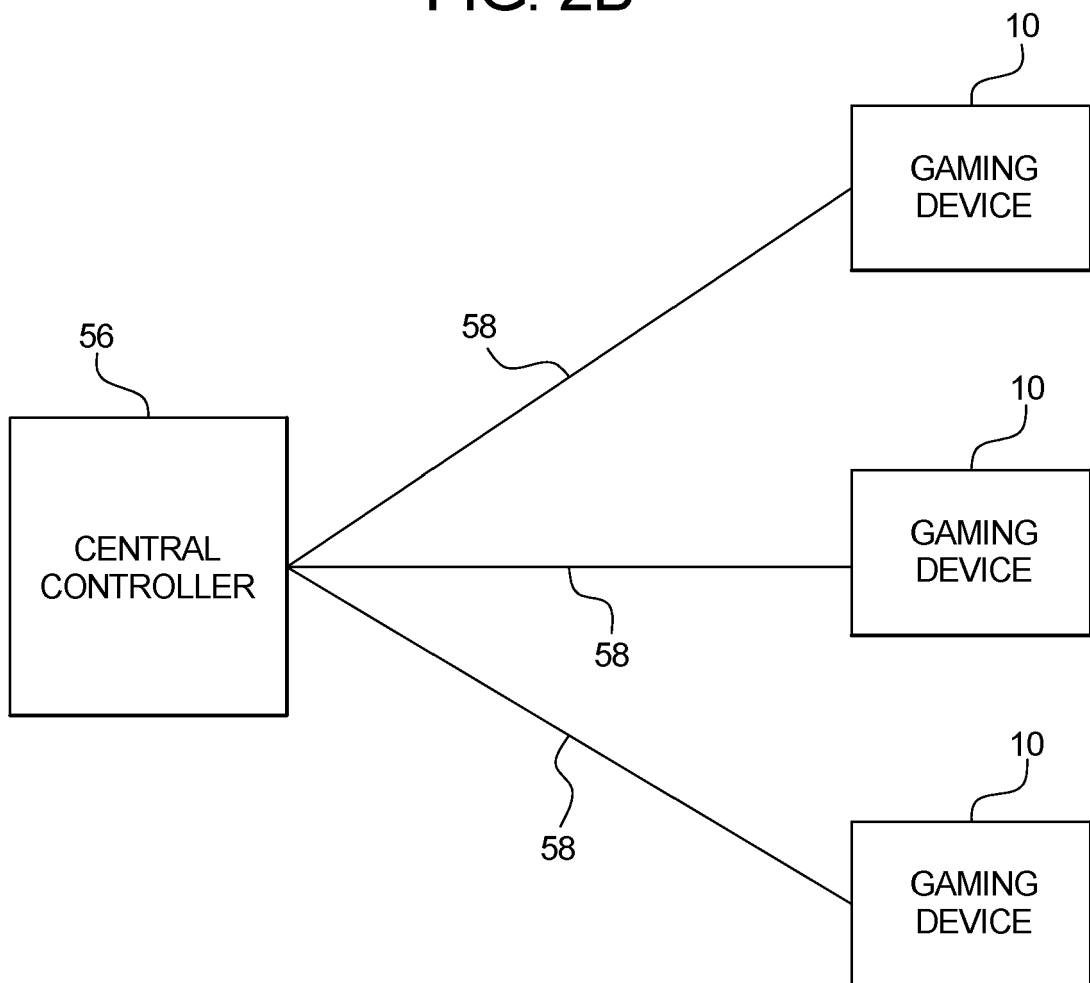
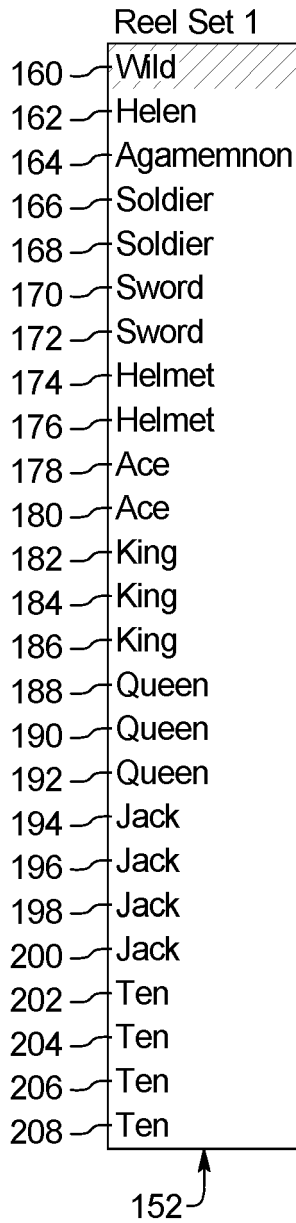


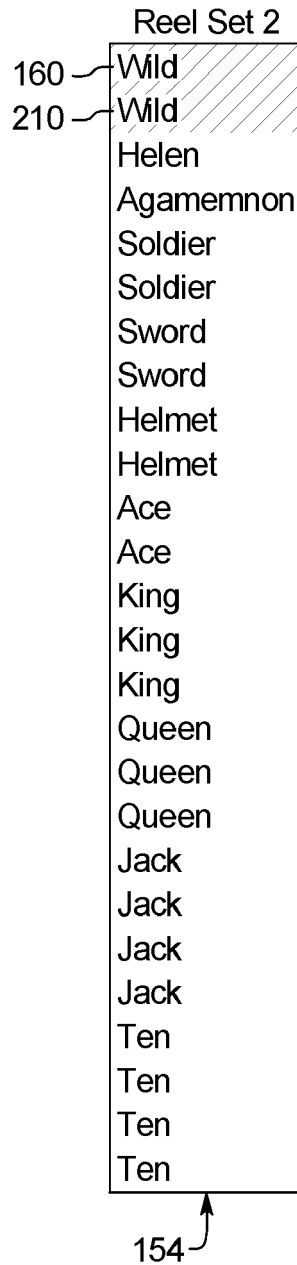
FIG. 2B



**FIG. 3**



**FIG. 4**



**FIG. 5**

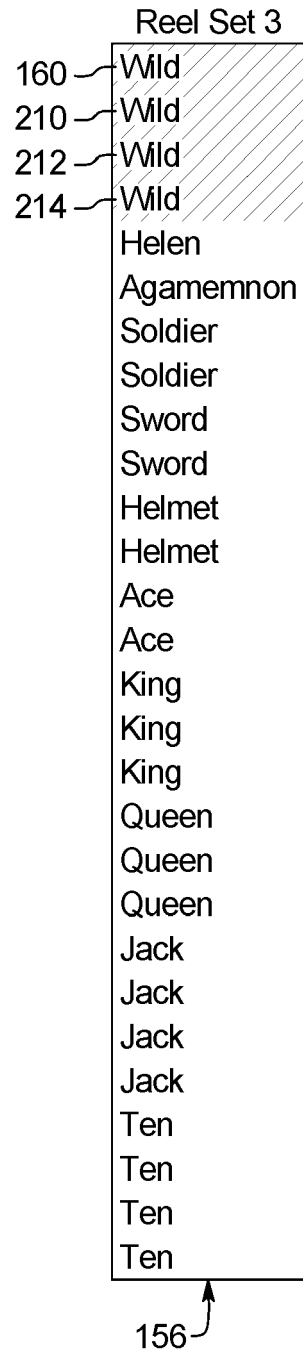


FIG. 6

Reel Set 4

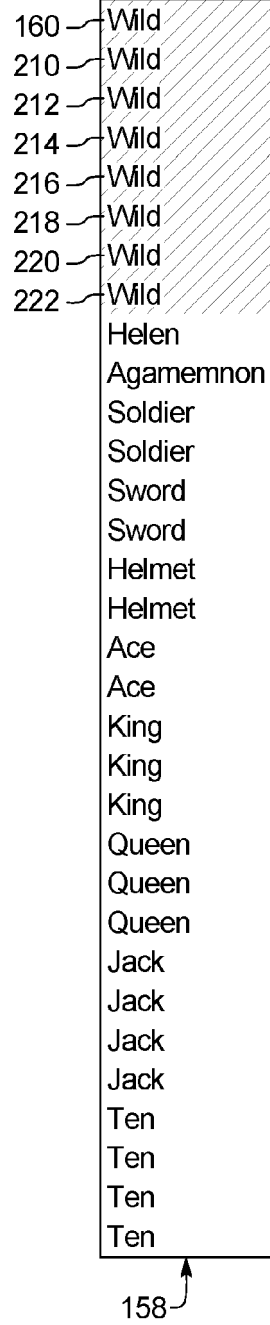


FIG. 7

Reel Set 5

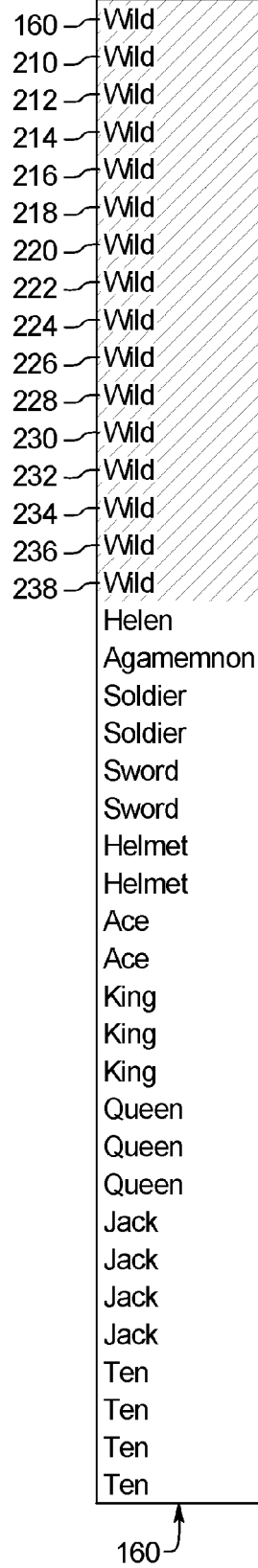


FIG. 8

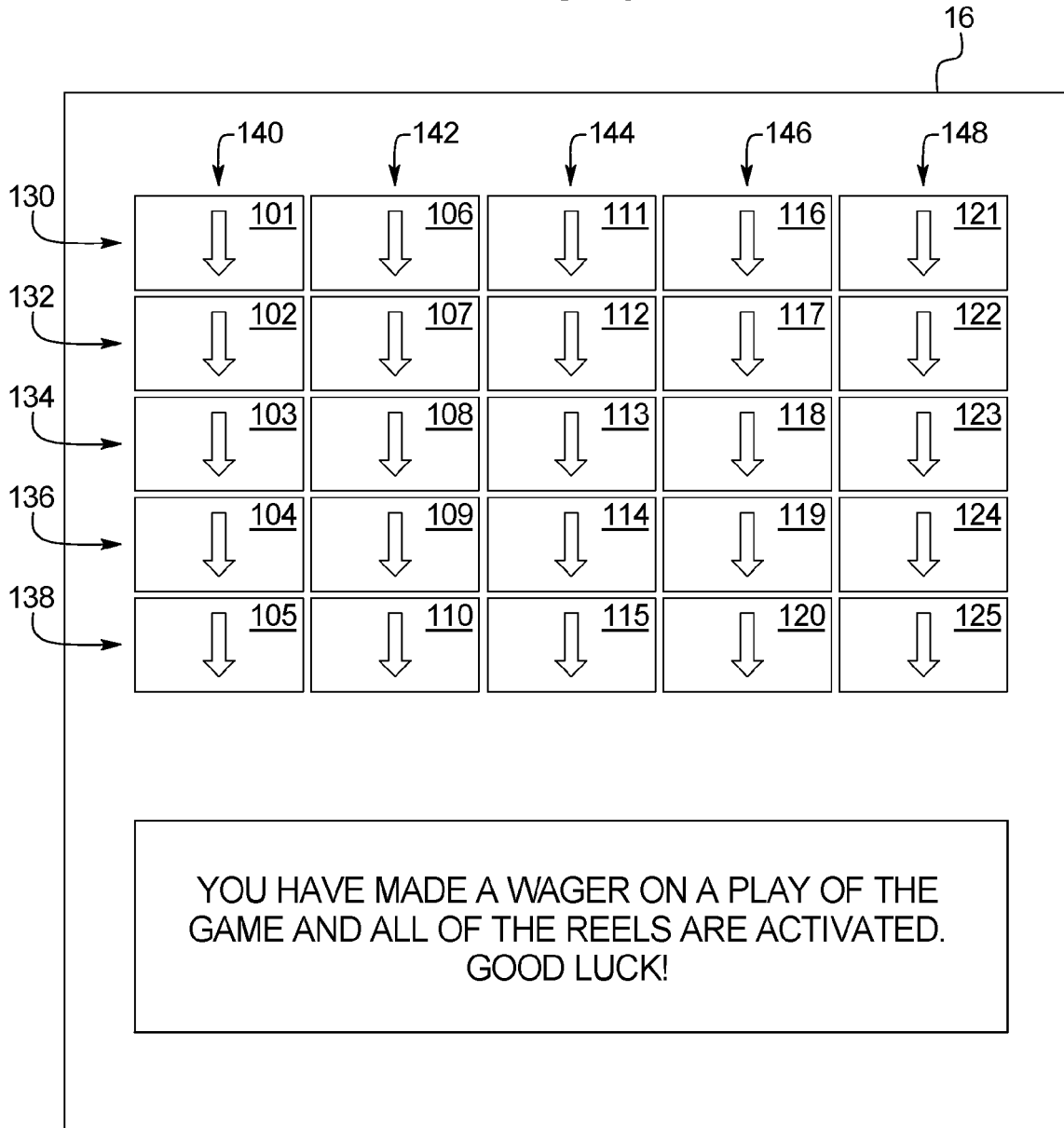


FIG. 9

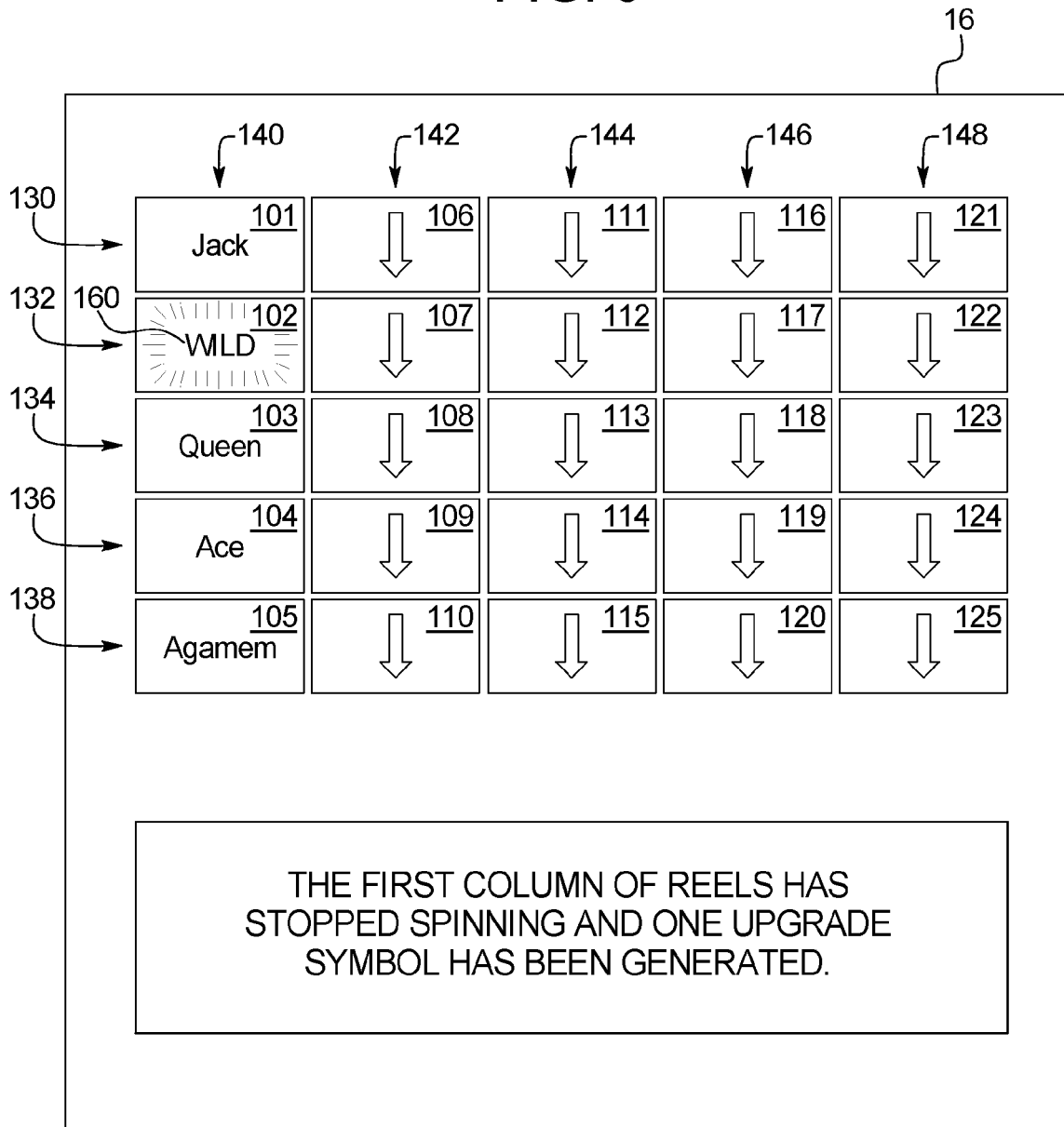


FIG. 10

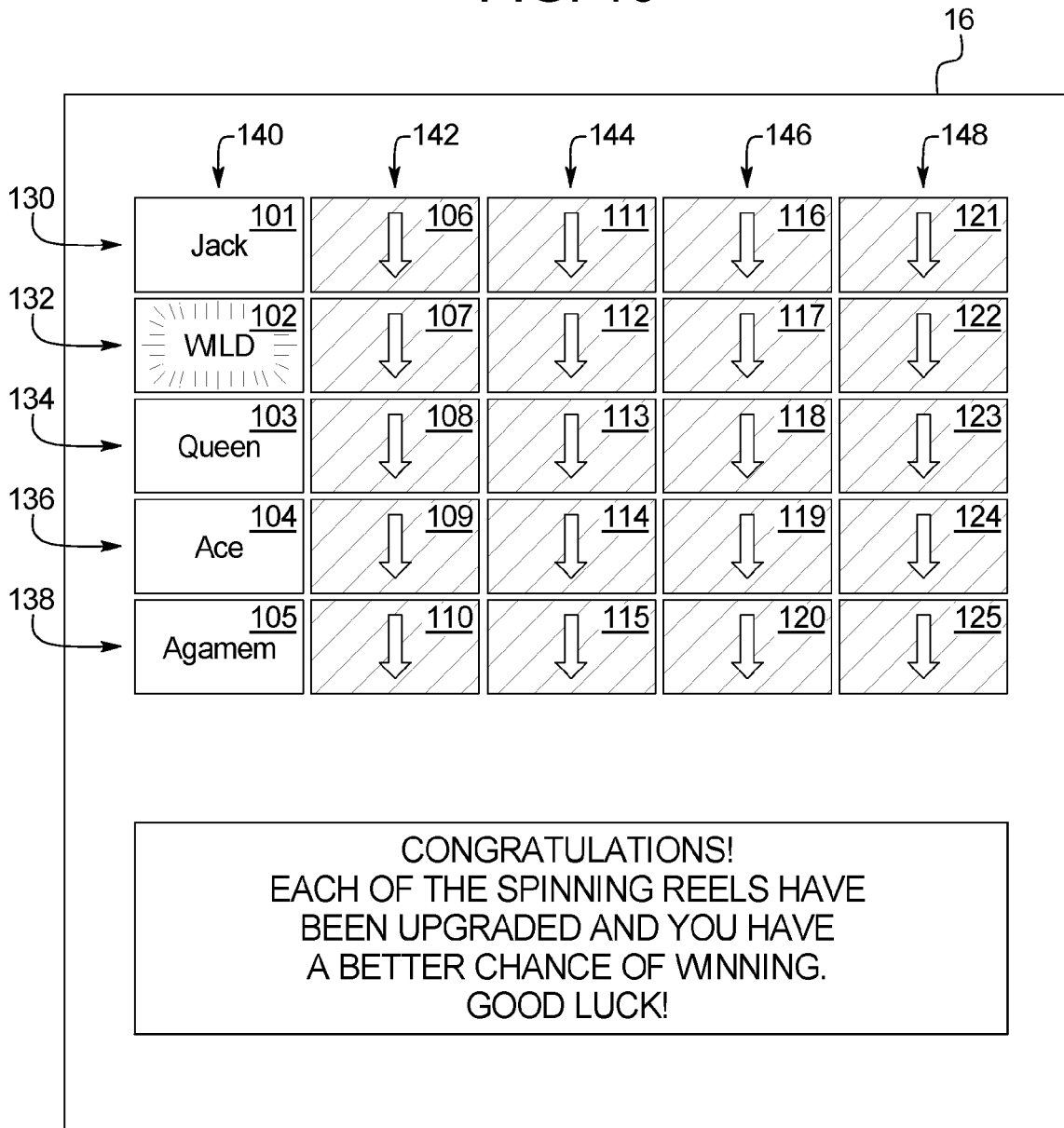


FIG. 11

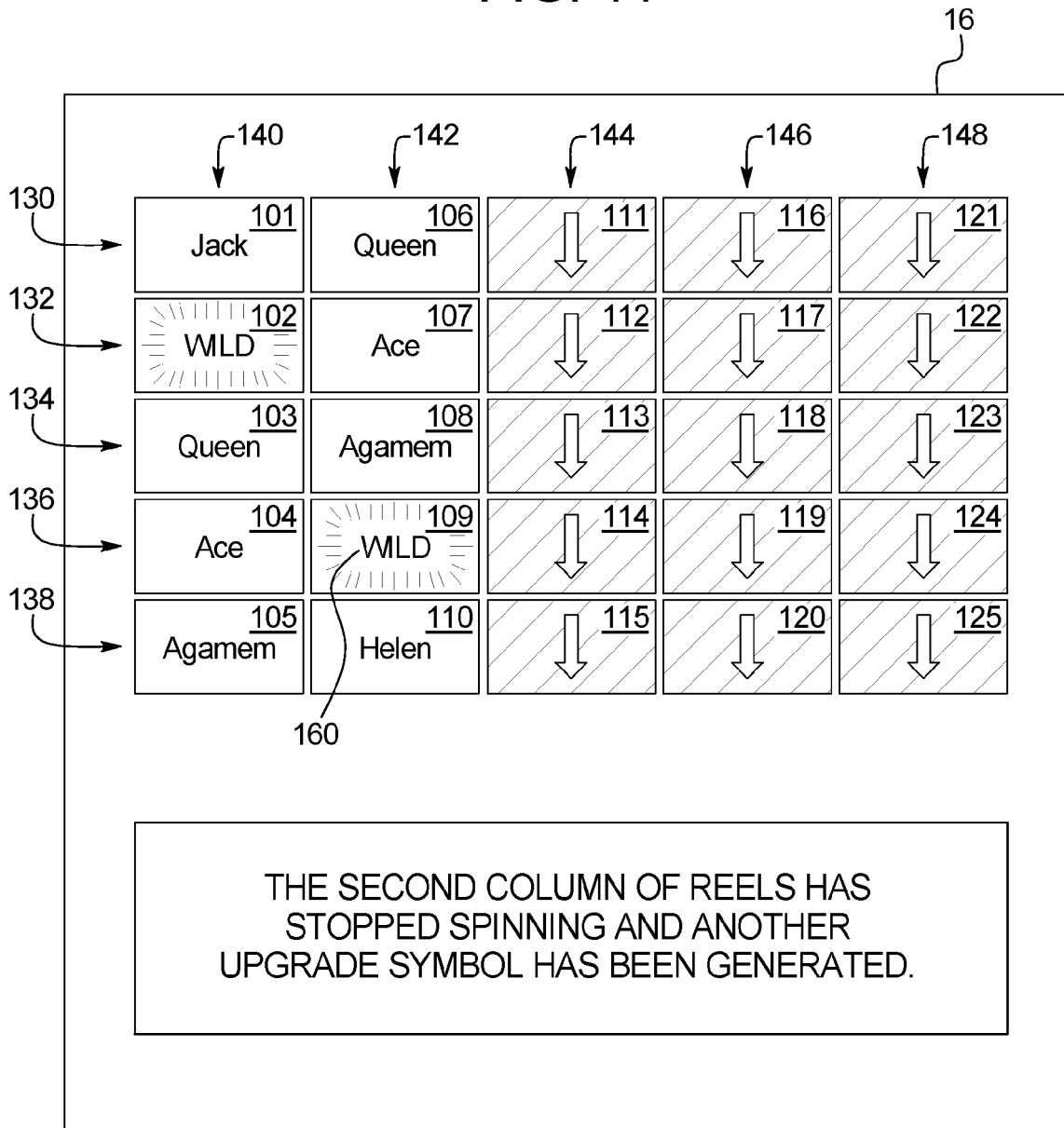




FIG. 12

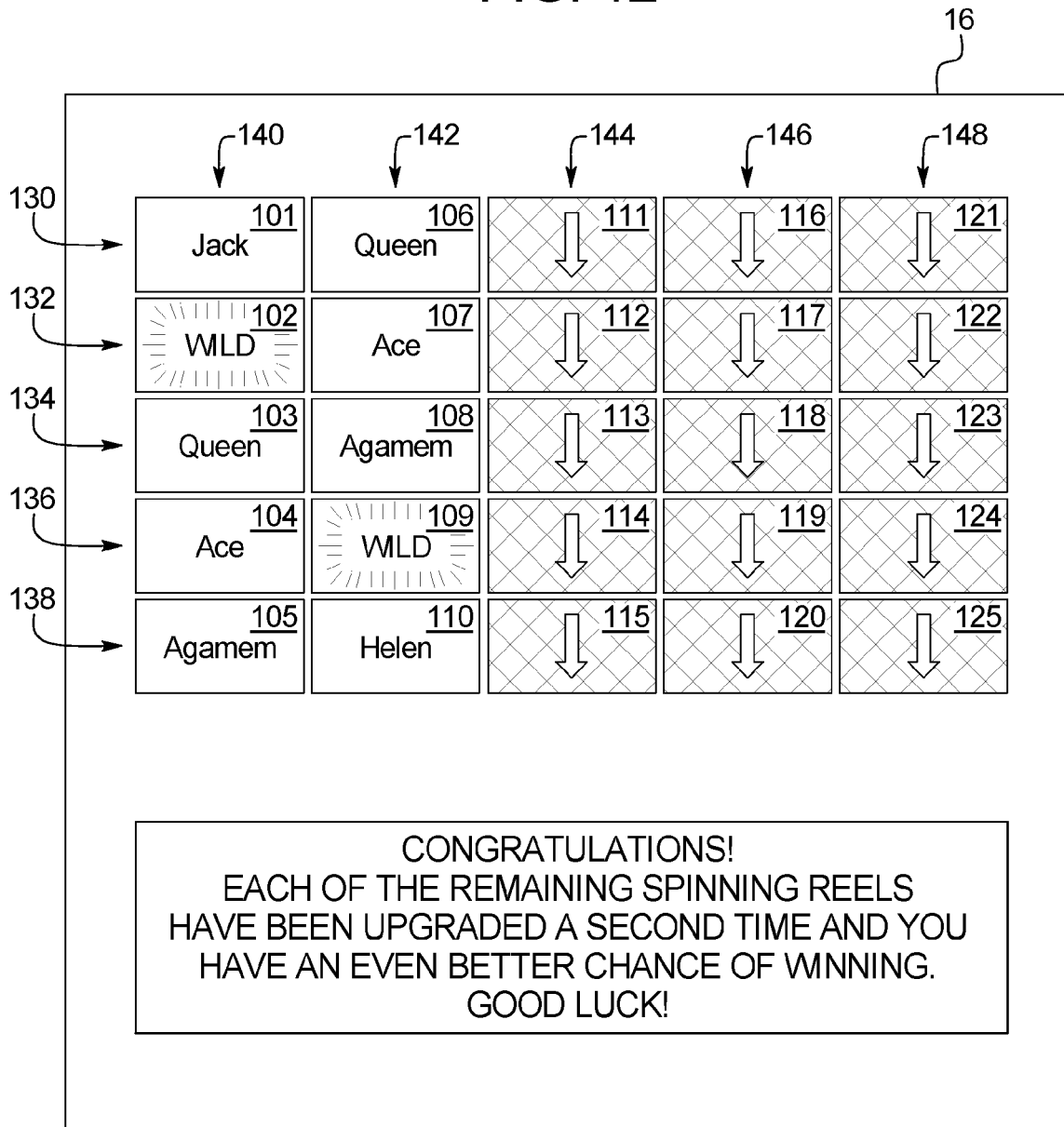


FIG. 13

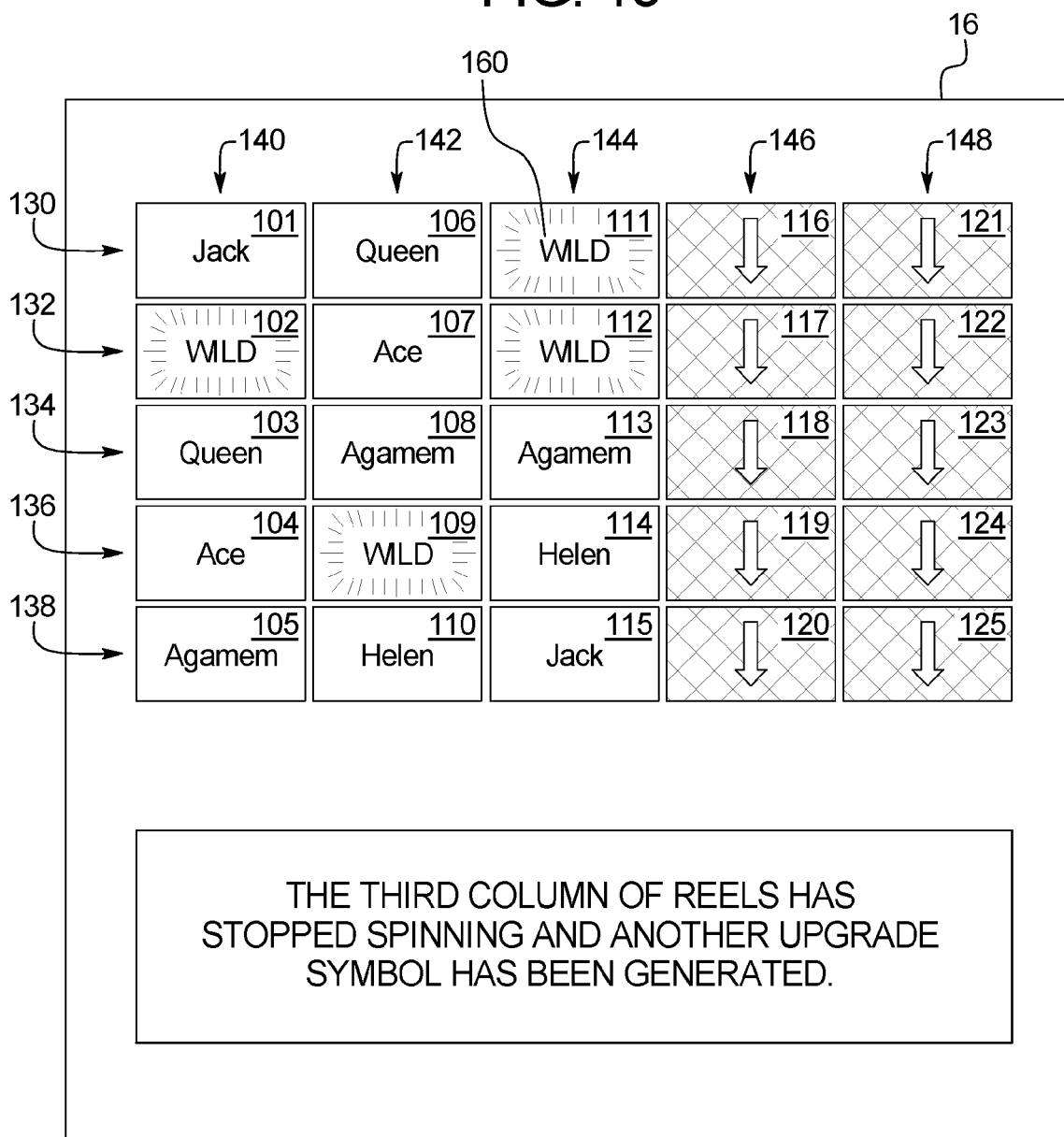


FIG. 14

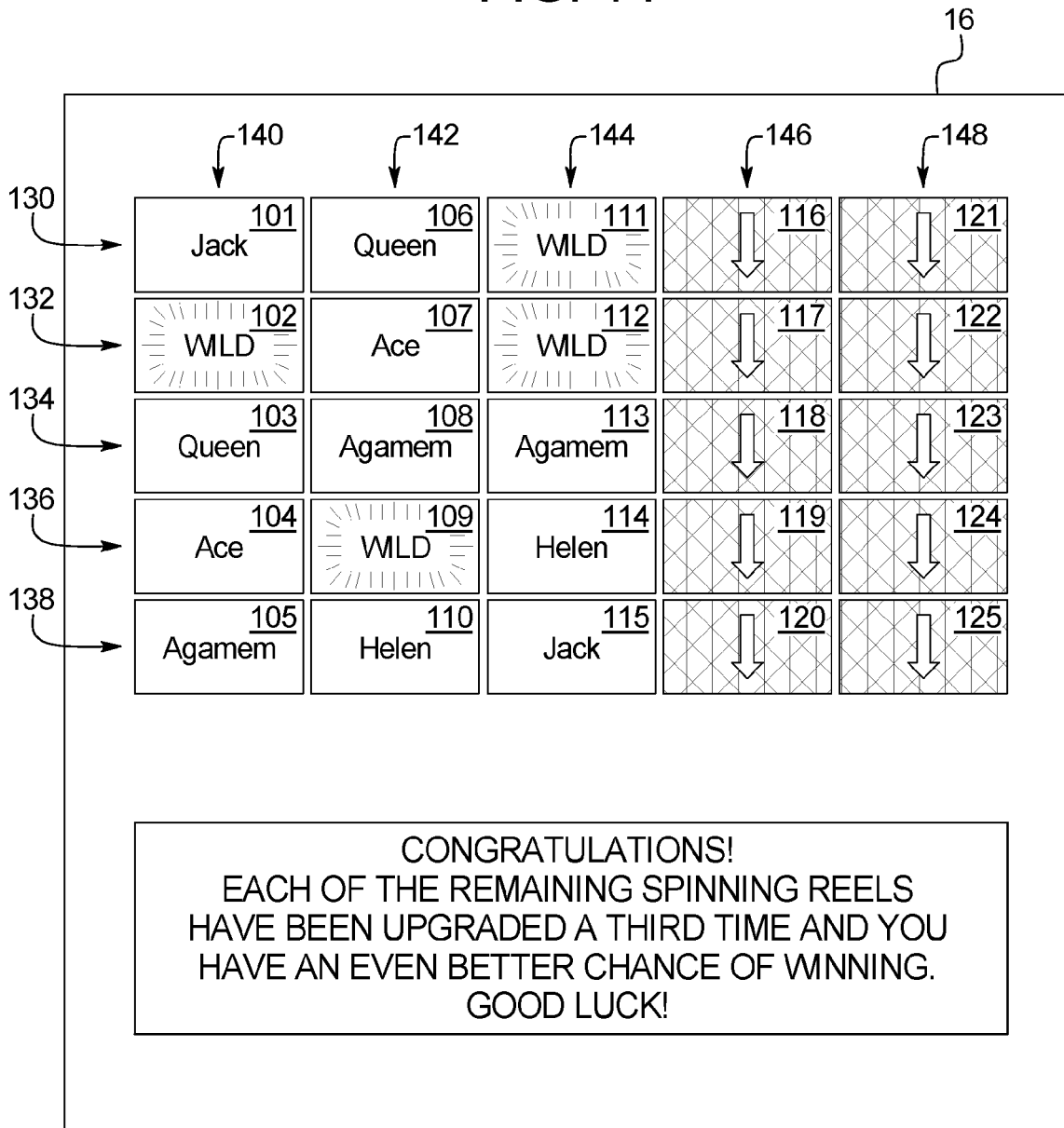


FIG. 15

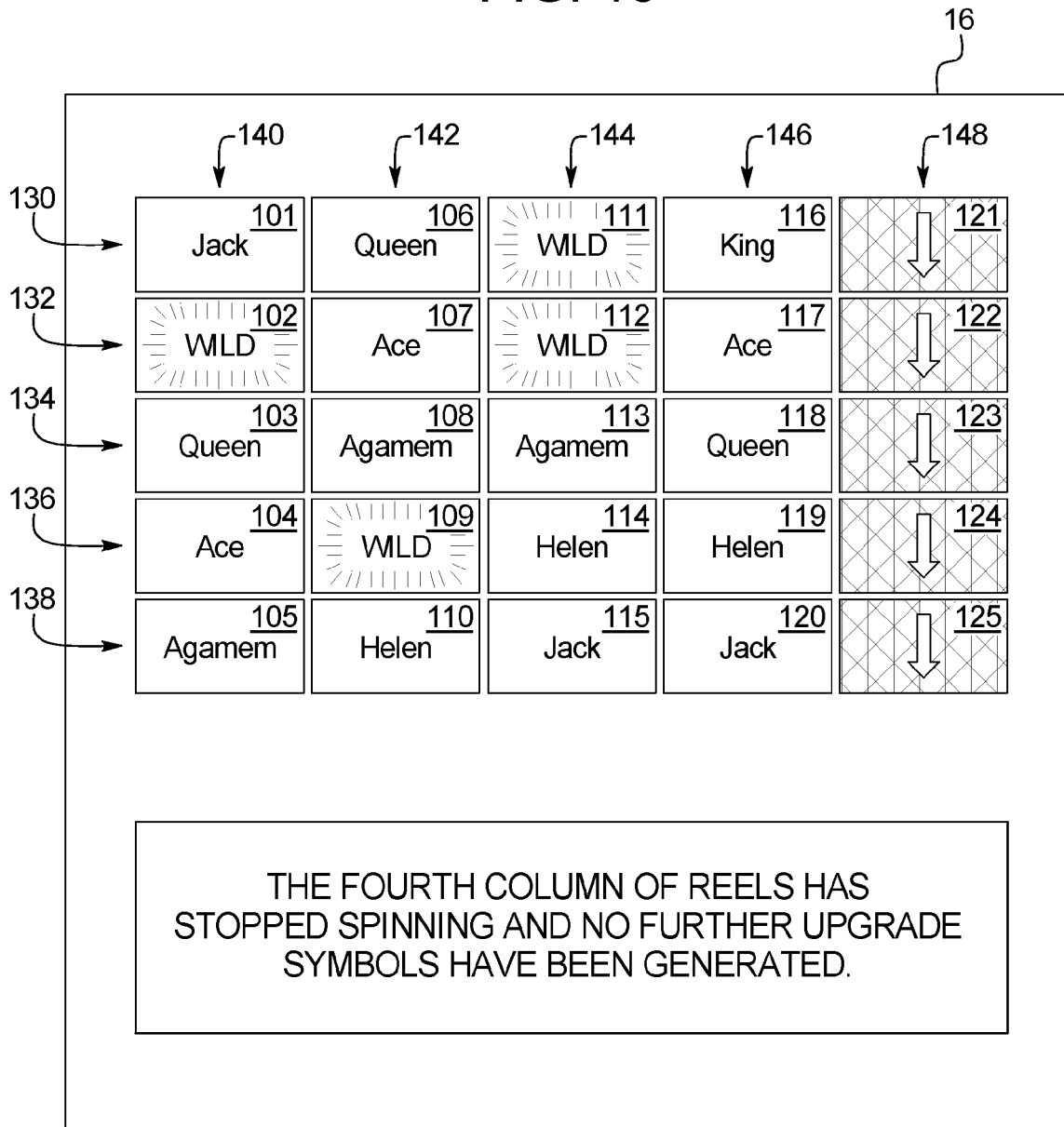


FIG. 16

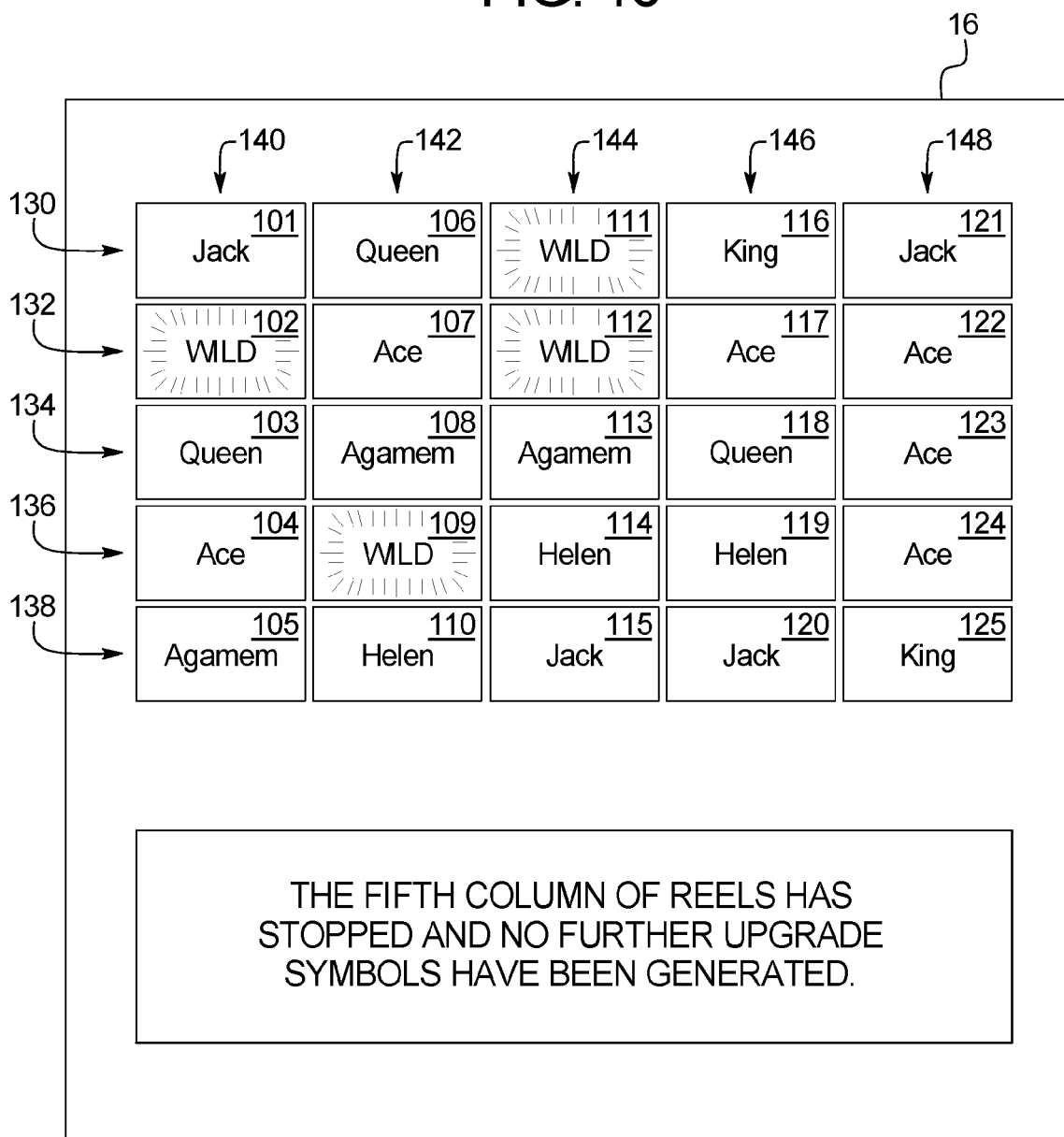


FIG. 17

		Number of Wild Symbols So Far				
Number of Top Award Symbols So Far		1	2	3	4	5
	1	Reel Set1	Reel Set2	Reel Set3	Reel Set4	Reel Set5
	2	Reel Set6	Reel Set7	Reel Set8	Reel Set9	Reel Set10
	3	Reel Set11	Reel Set12	Reel Set13	Reel Set14	Reel Set15
	4	Reel Set16	Reel Set17	Reel Set18	Reel Set19	Reel Set20
	5	Reel Set21	Reel Set22	Reel Set23	Reel Set24	Reel Set25

FIG. 18

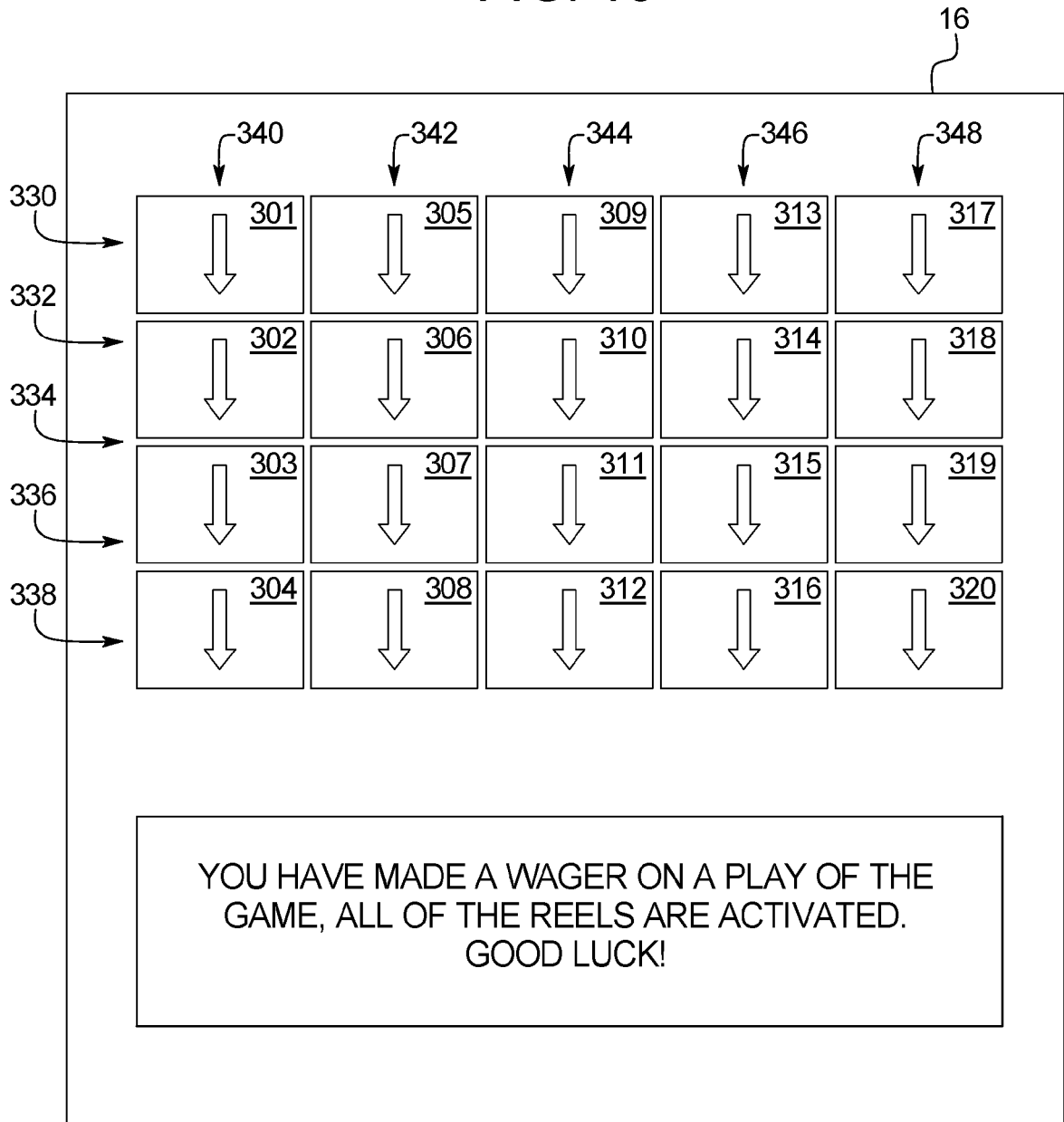


FIG. 19

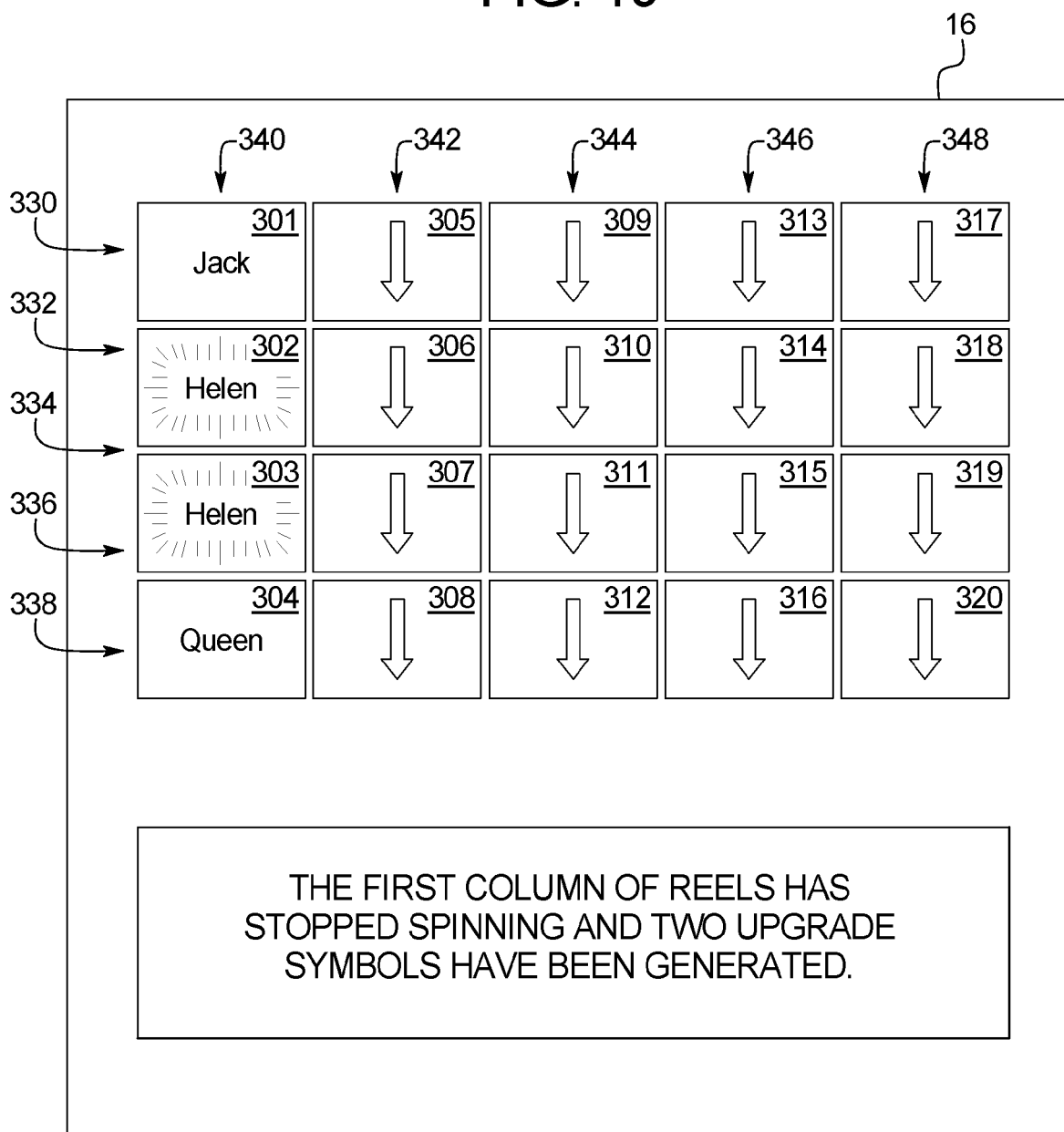




FIG. 20

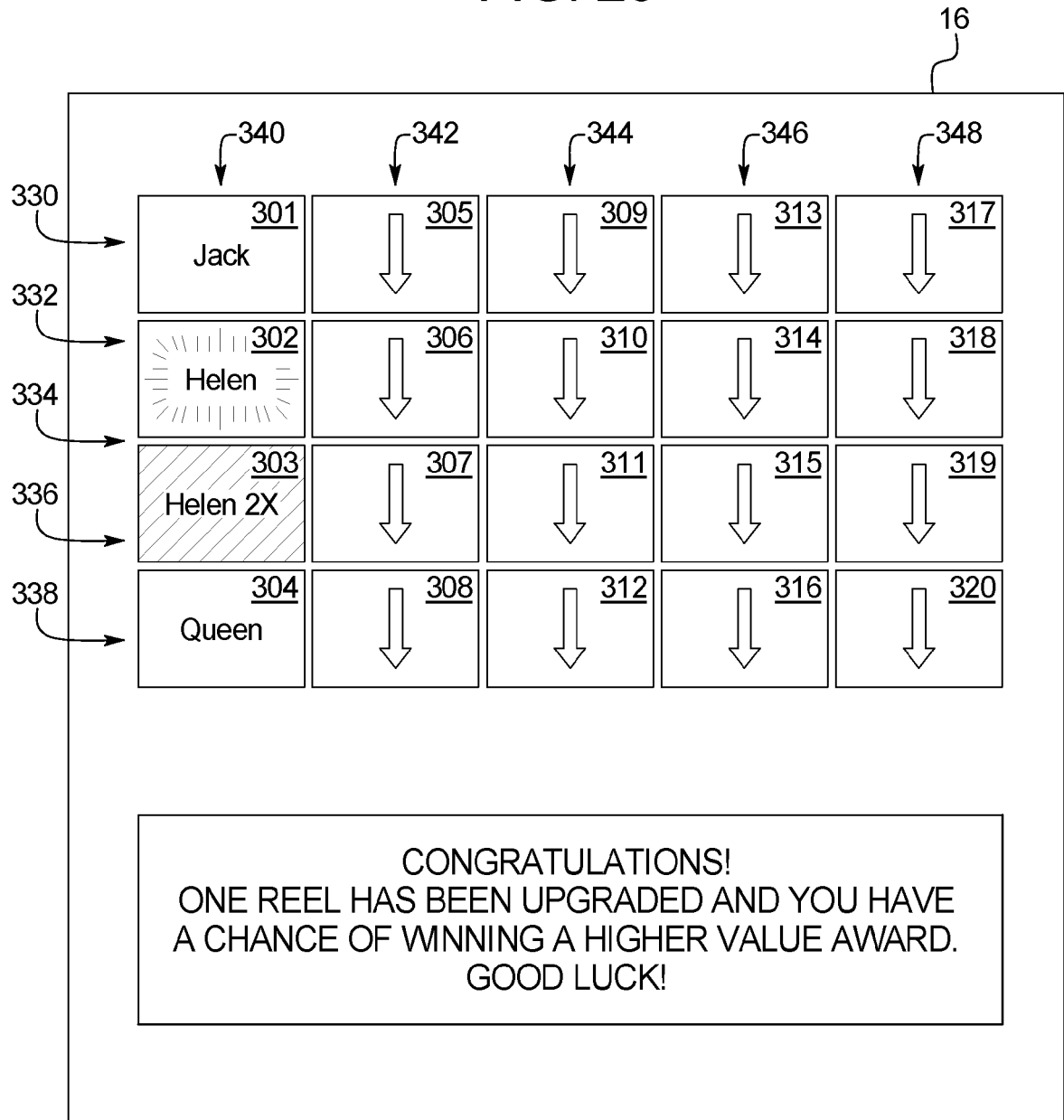


FIG. 21

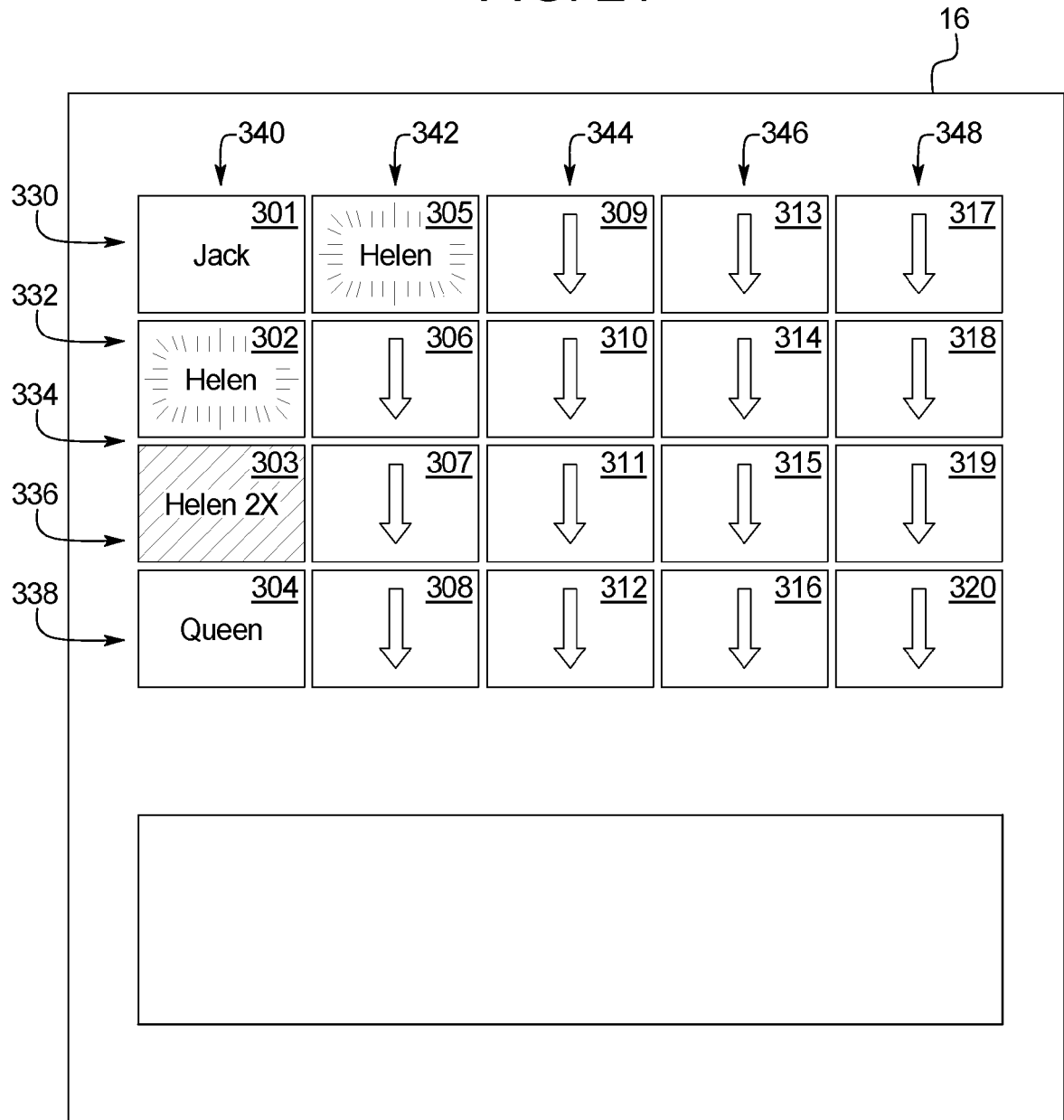


FIG. 22

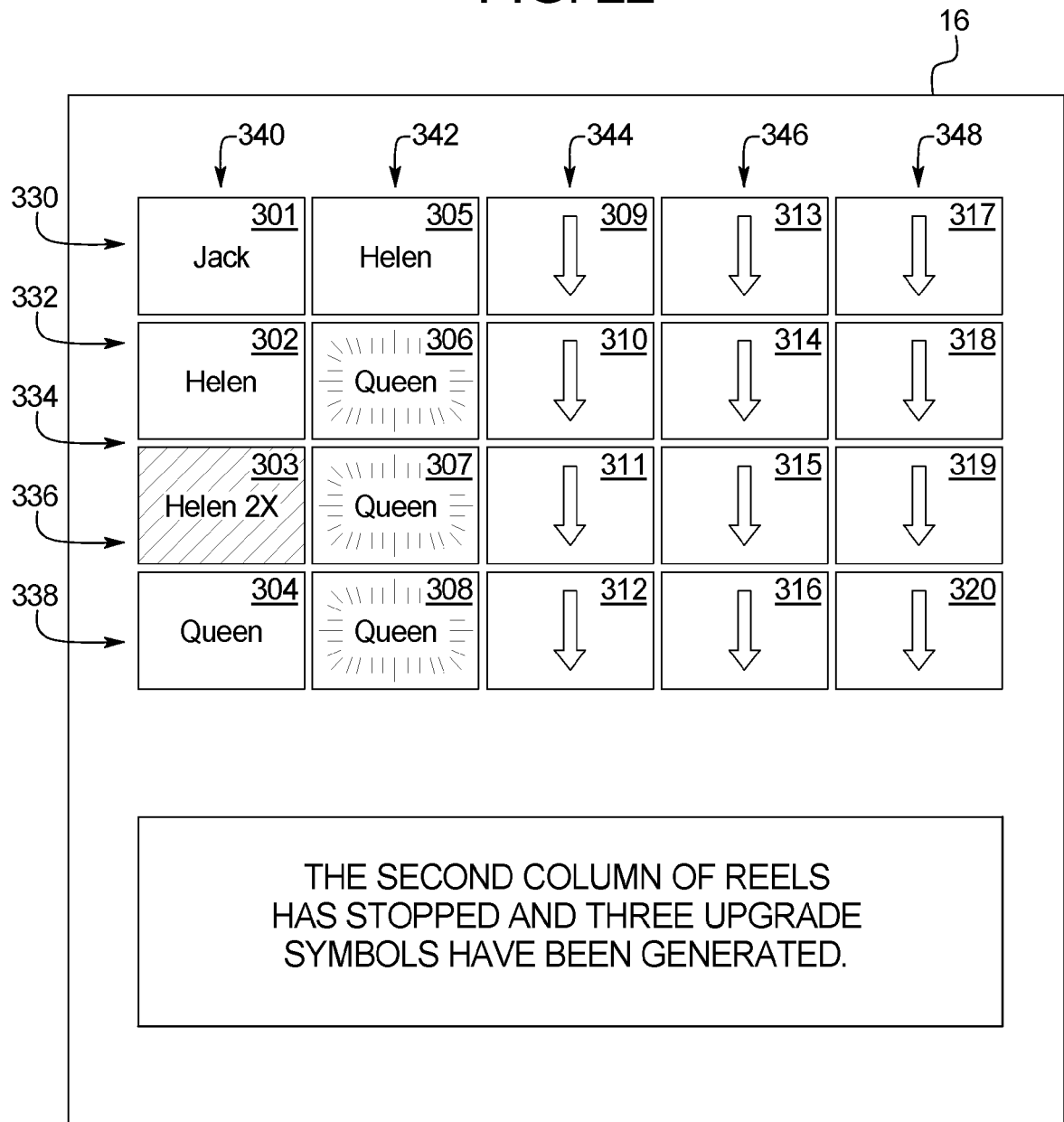


FIG. 23

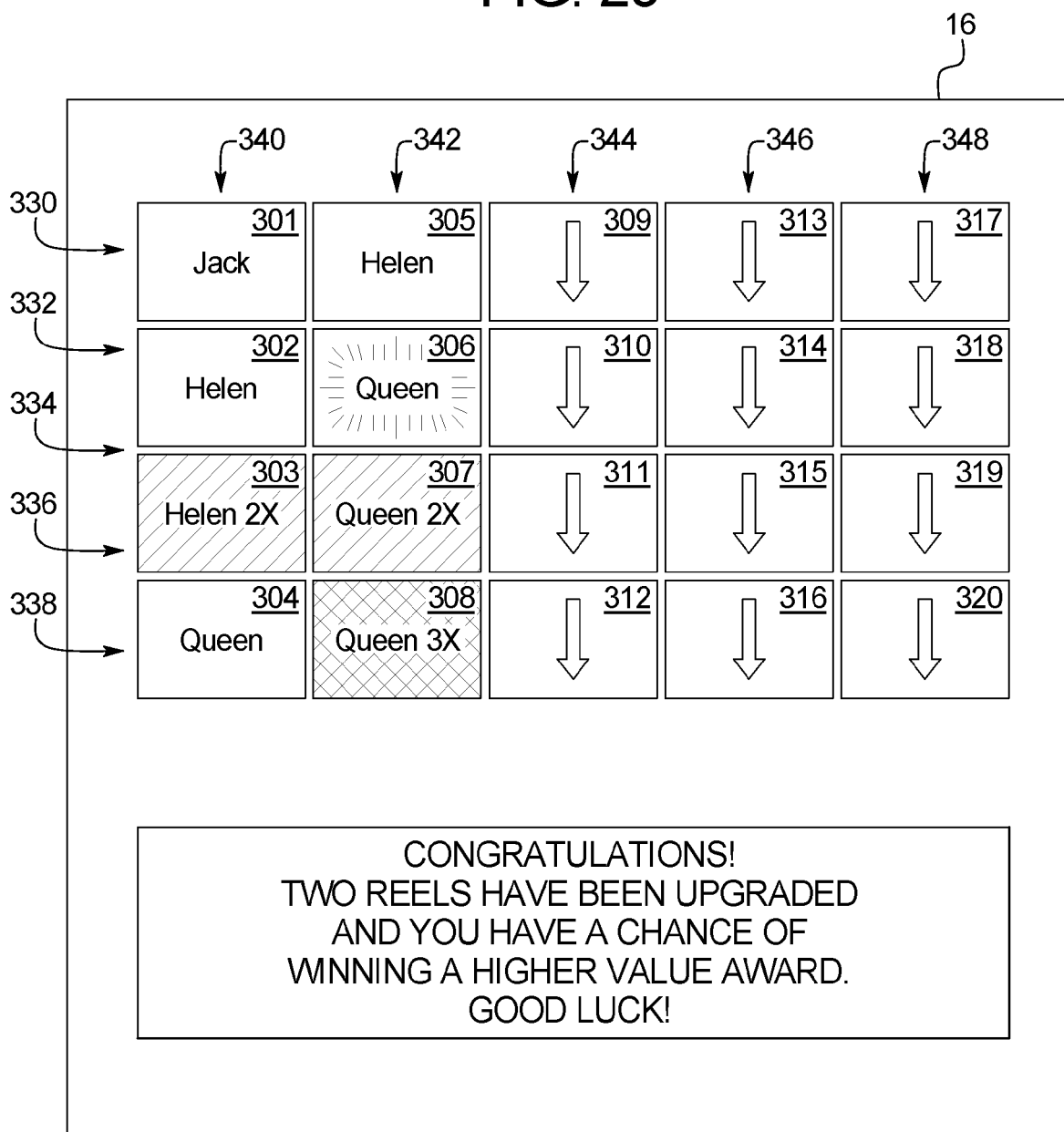


FIG. 24

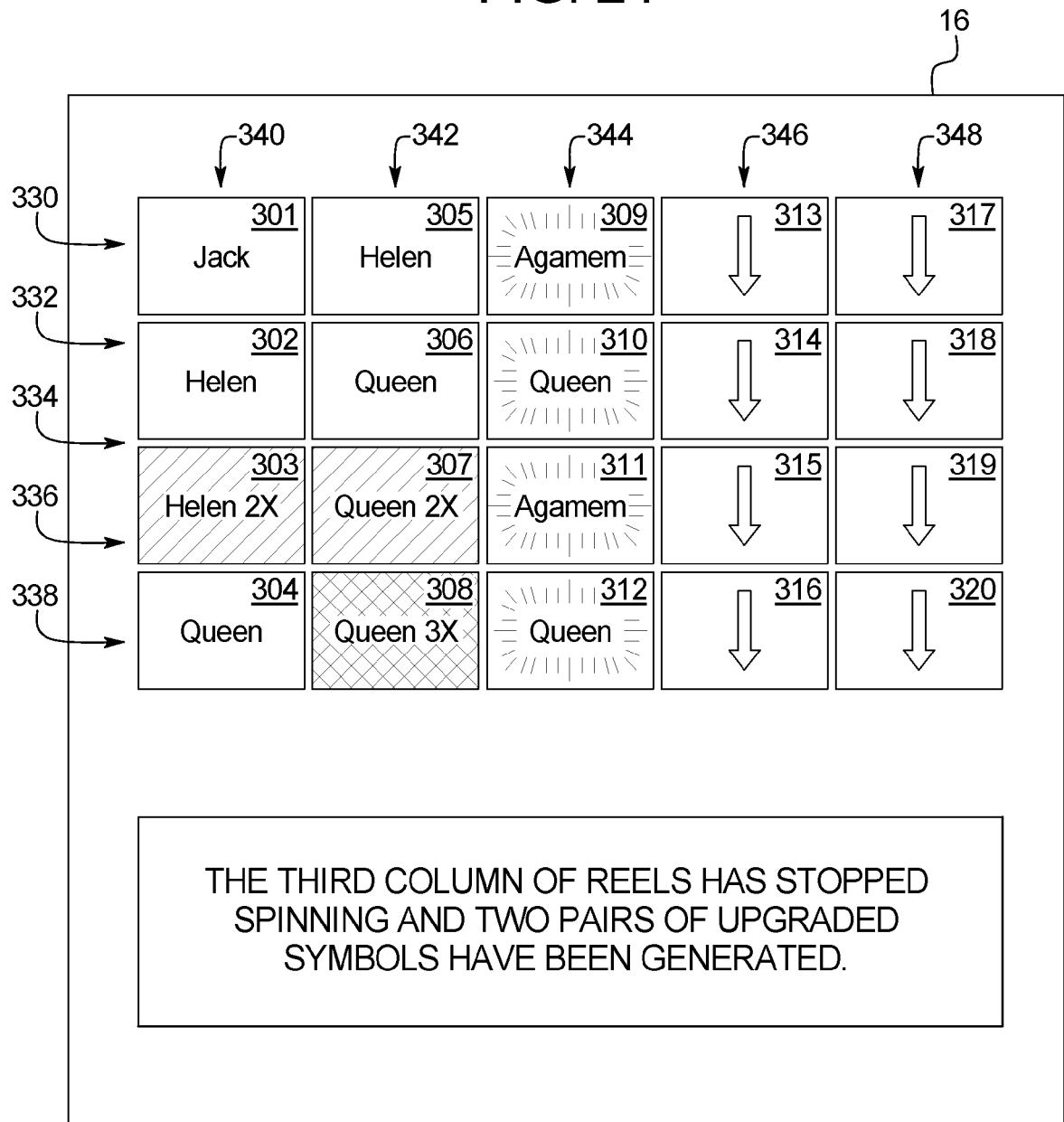


FIG. 25

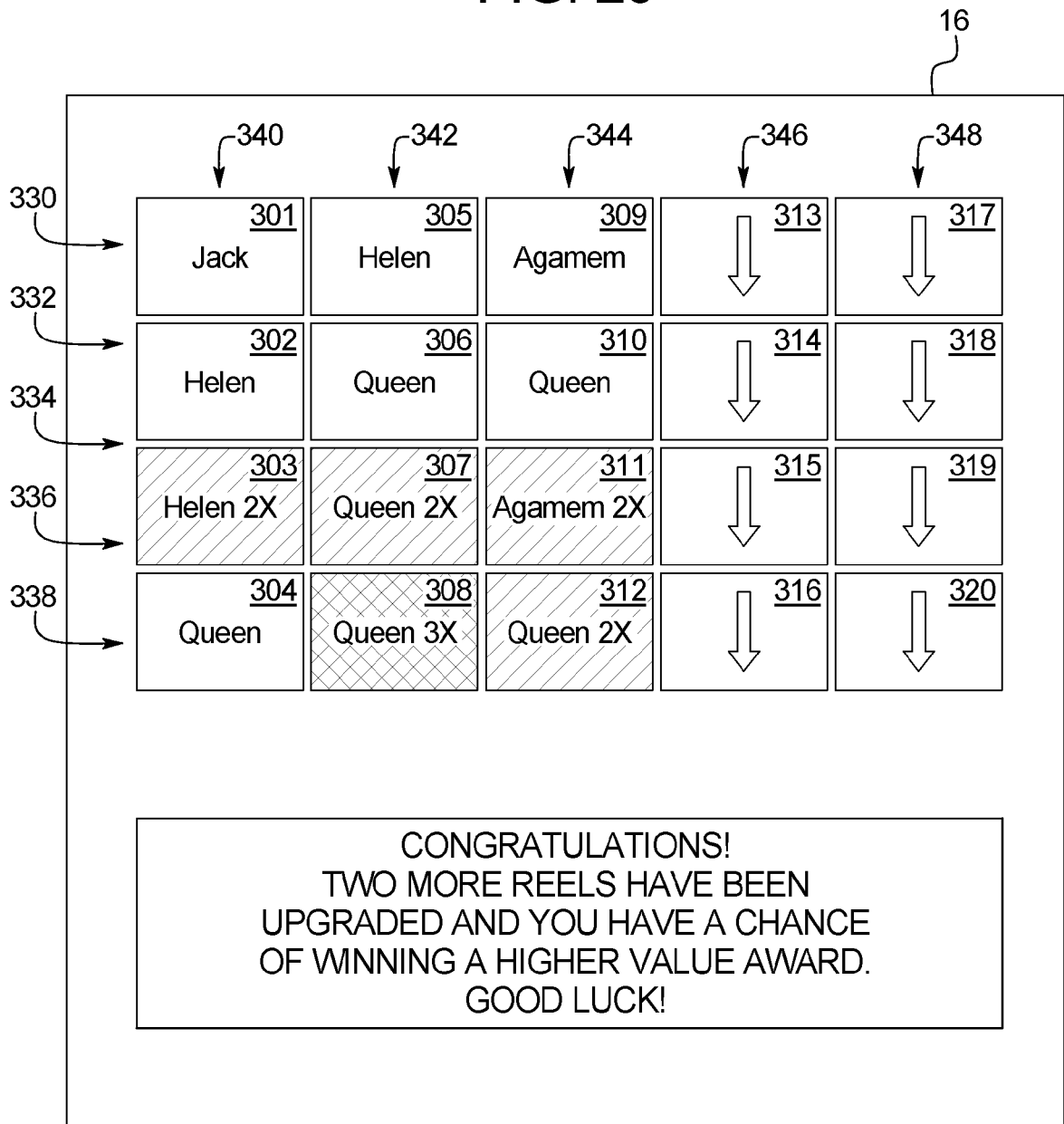
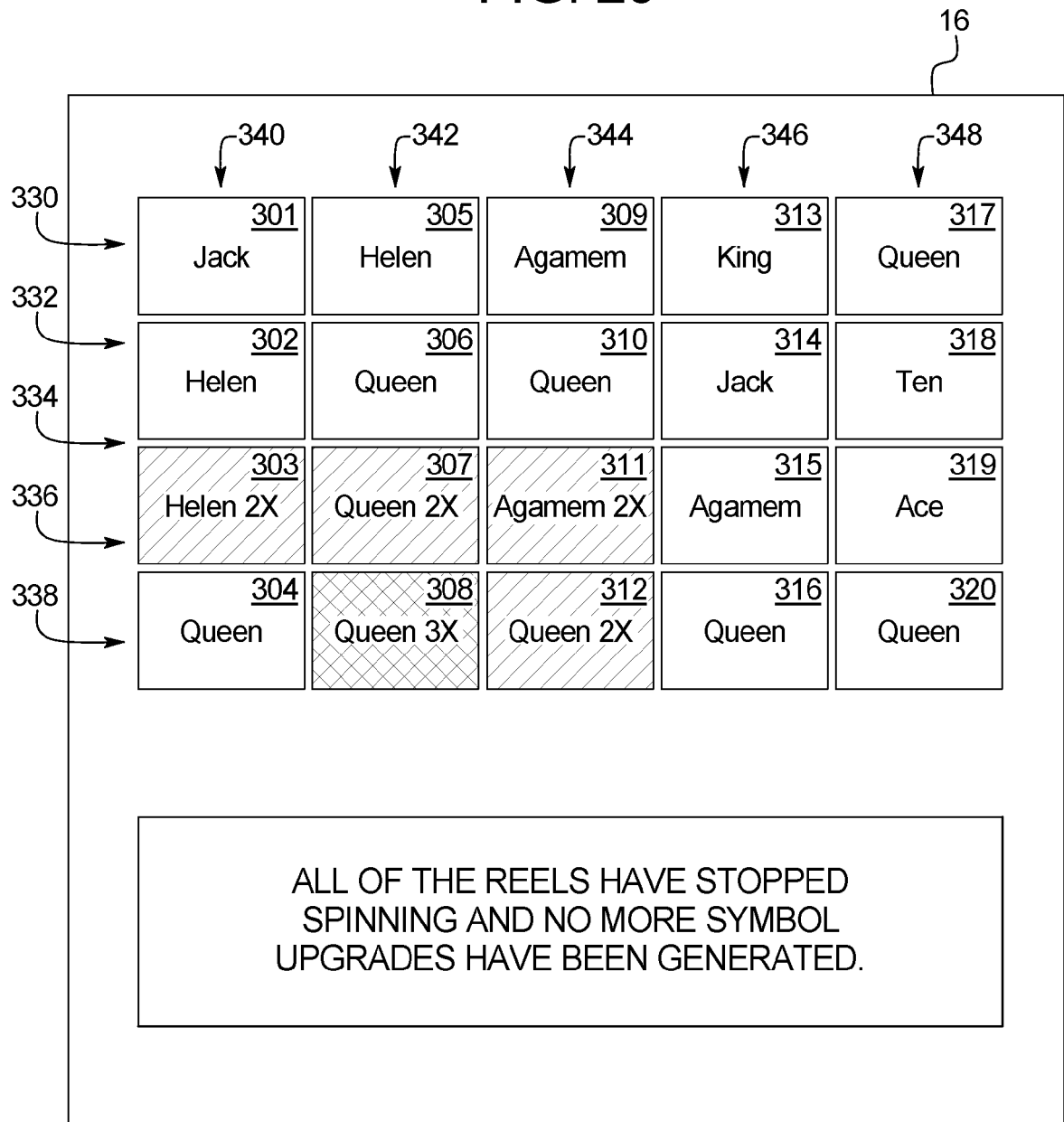


FIG. 26



## FIG. 27

### Reel Set

Jack
Helen
Helen
Queen
Ten
Wild
Ace
King
Agamemnon
Agamemnon
Queen
Ten
Jack
Helen
King
Bonus





## EUROPEAN SEARCH REPORT

Application Number  
EP 11 18 0548

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 785 957 A1 (STARGAMES CORP PTY LTD [AU]) 16 May 2007 (2007-05-16) * the whole document *	1-14	INV. G07F17/34 G07F17/32
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			TECHNICAL FIELDS SEARCHED (IPC)
			G07F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 22 March 2012	Examiner Van Dop, Erik
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>&amp; : member of the same patent family, corresponding document</p>			

1  
EPO FORM 1503 03.82 (P04C01)

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

EP 11 18 0548

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The members are as contained in the European Patent Office EDP file on  
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22-03-2012

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