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(54) **GAMING SYSTEM, GAMING DEVICE AND GAMING METHOD PROVIDING PLAYER PHYSICAL ACTIVATION OF THE SYMBOL GENERATOR**

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(57) **ABSTRACT**

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A gaming device and method which includes a symbol generator which includes a plurality of symbols. The gaming device enables the player to actuate or to physically move the symbol generator. After the symbol generator is moving, the gaming device randomly determines a symbol to indicate on the symbol generator. The gaming device then continues the movement of the symbol generator to indicate the determined symbol and provides any awards associated with the indicated symbol to the player.

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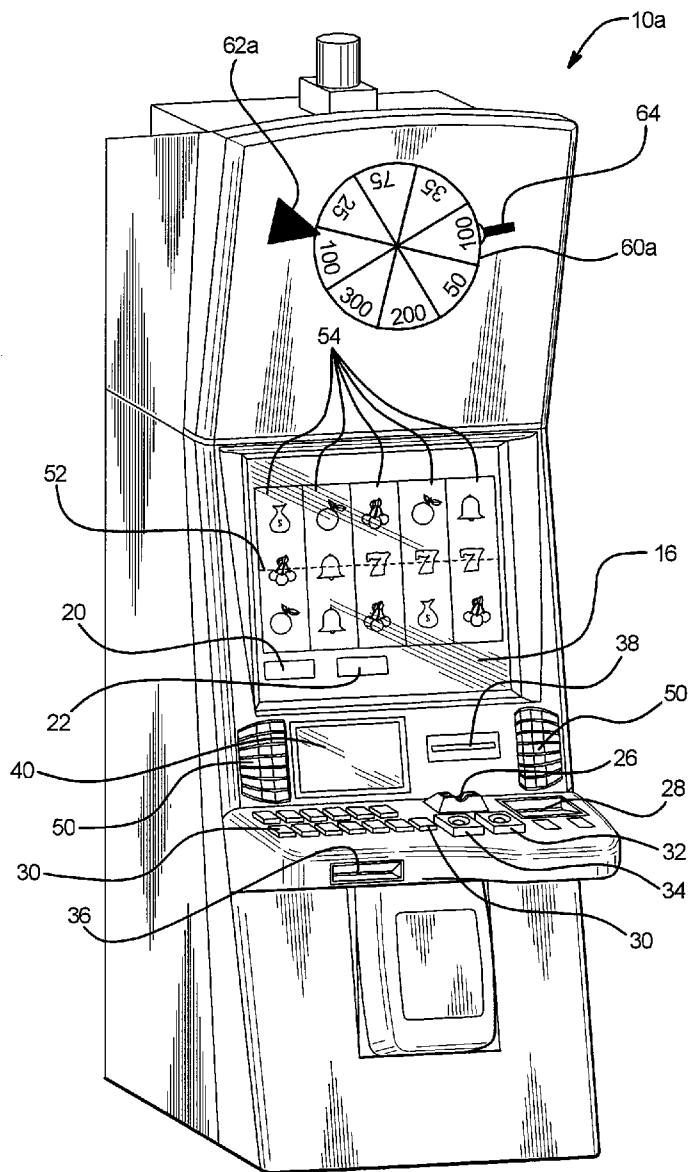


FIG. 1A

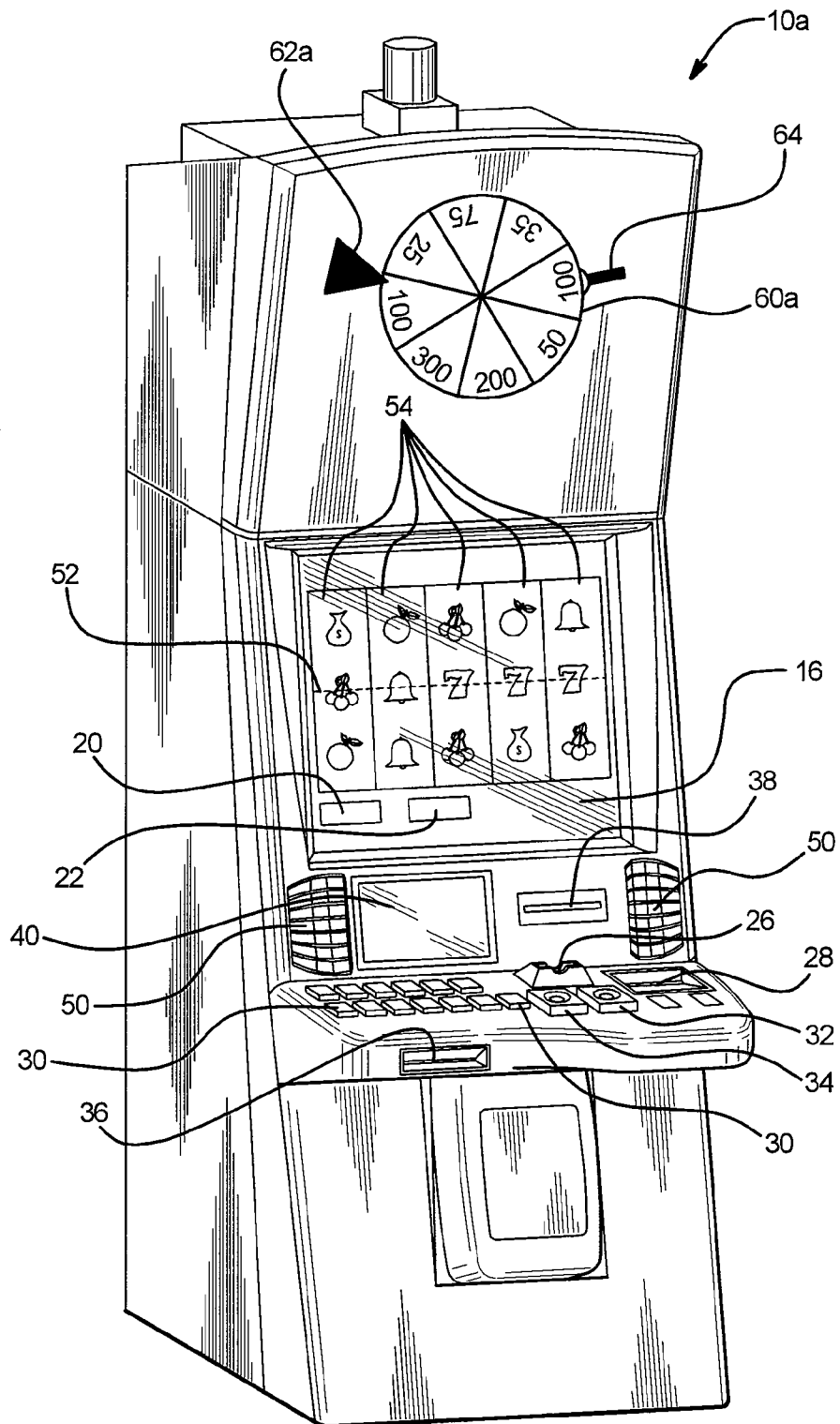


FIG. 1B

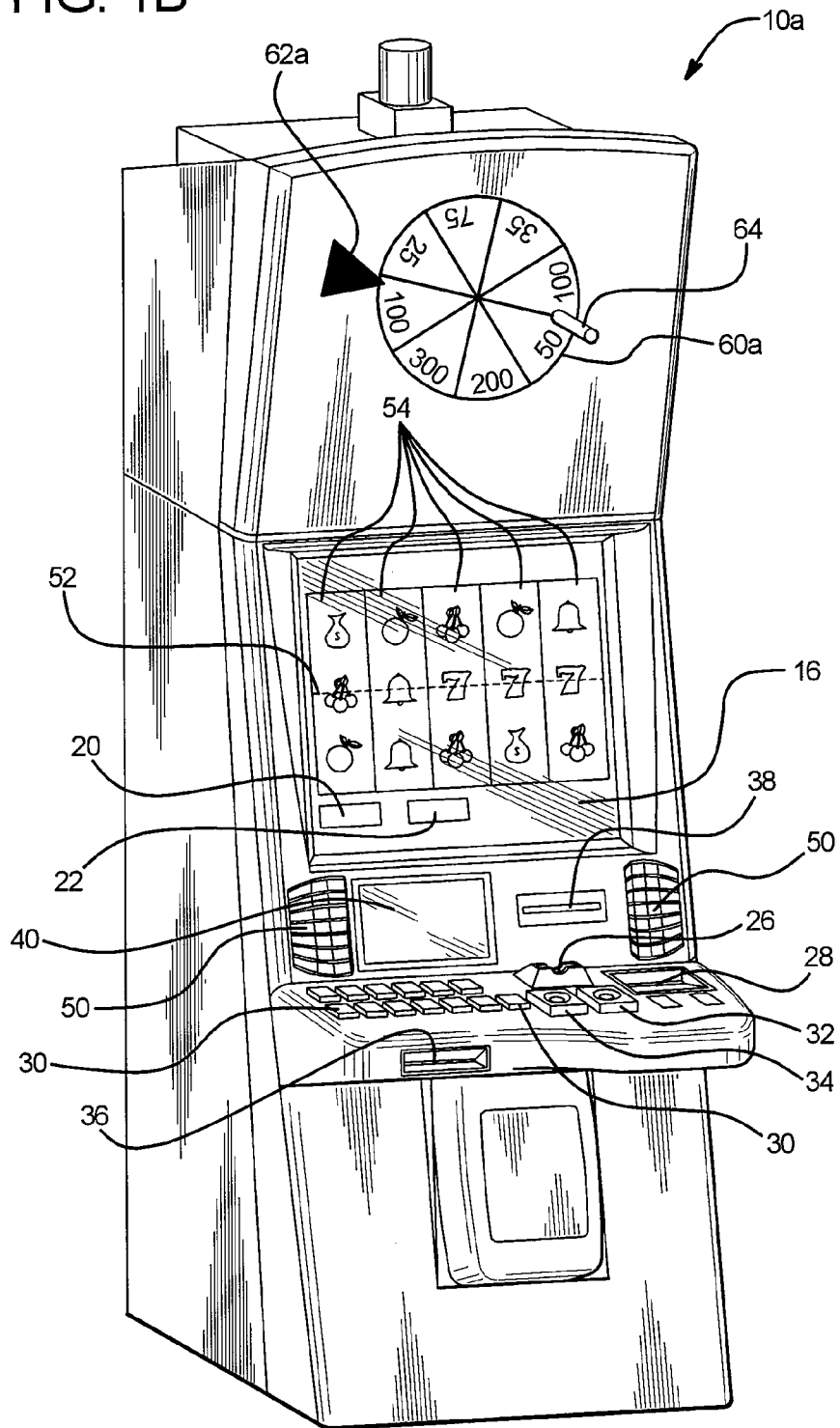


FIG. 1C

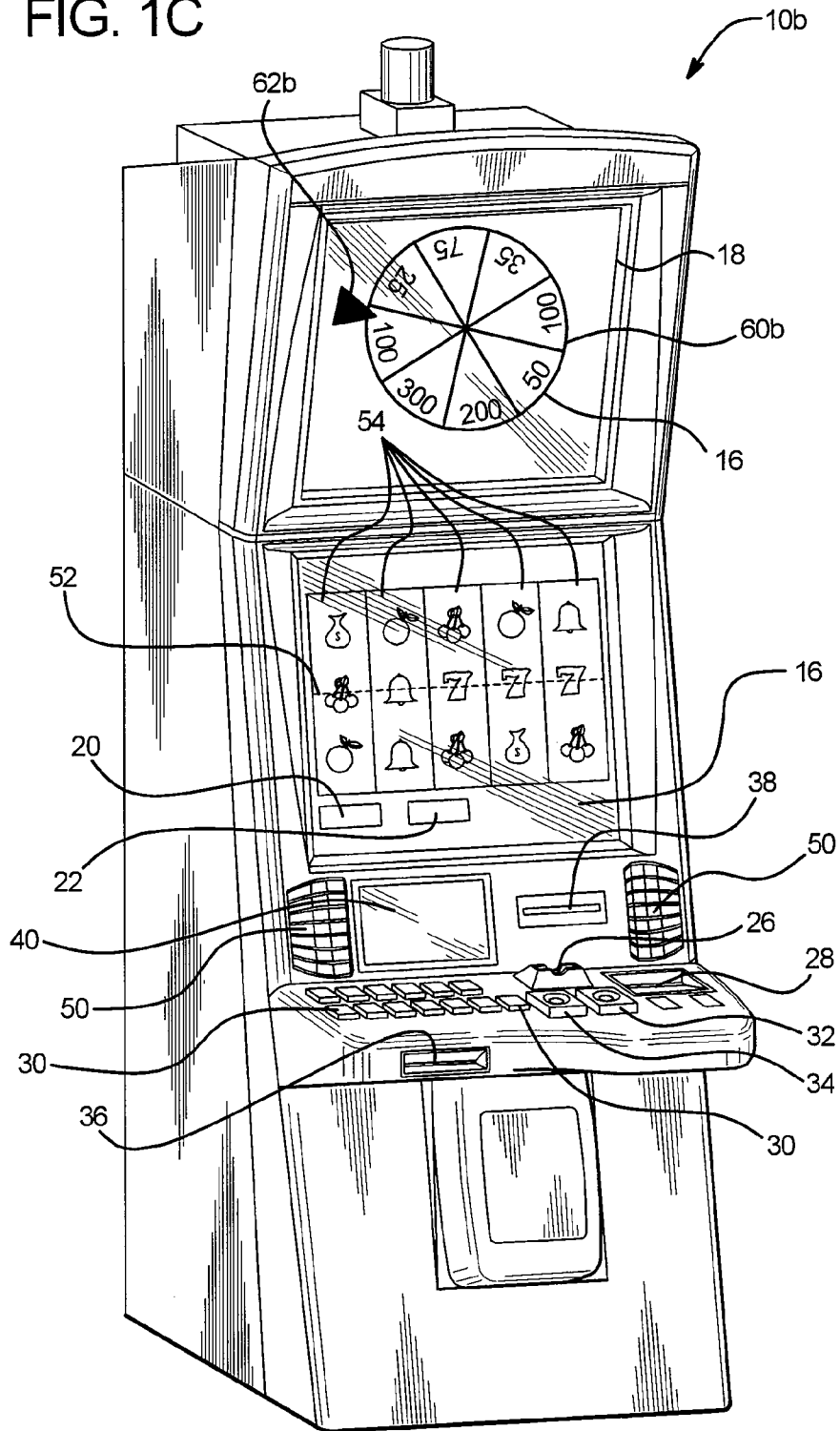


FIG. 2A

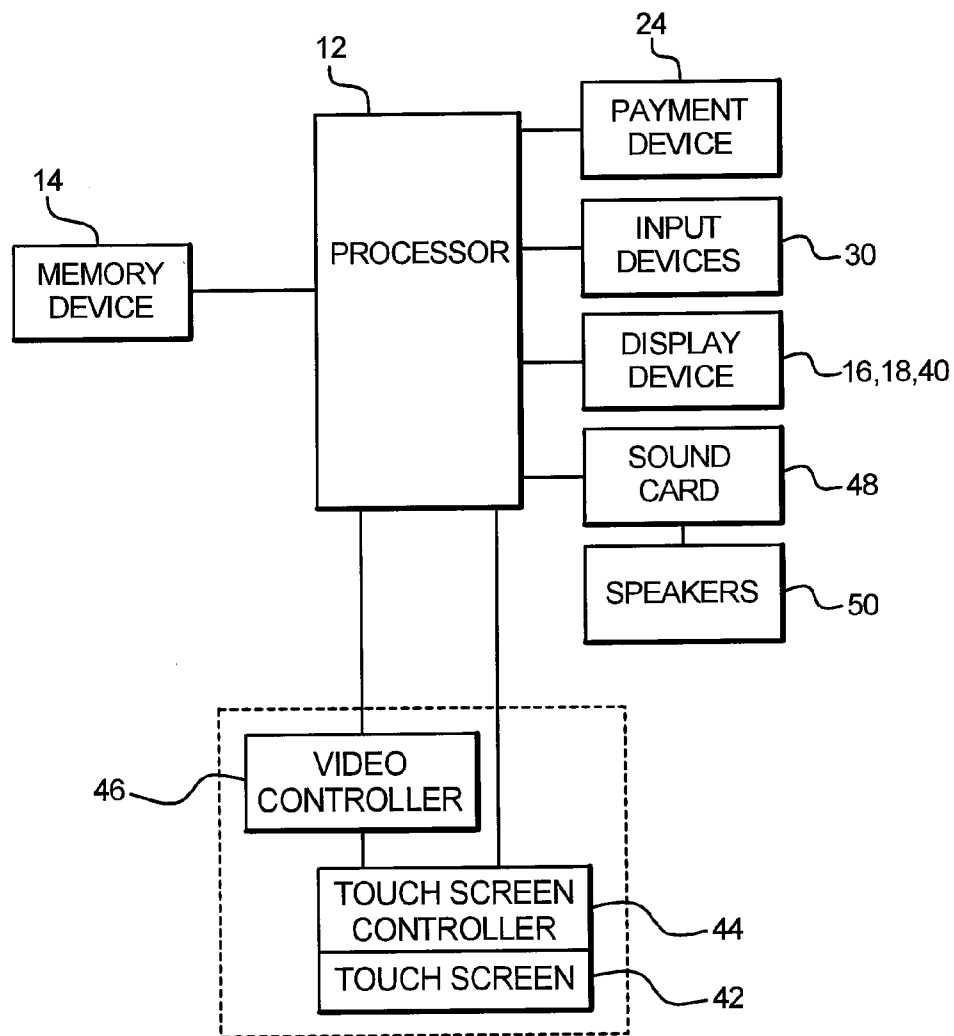


FIG. 2B

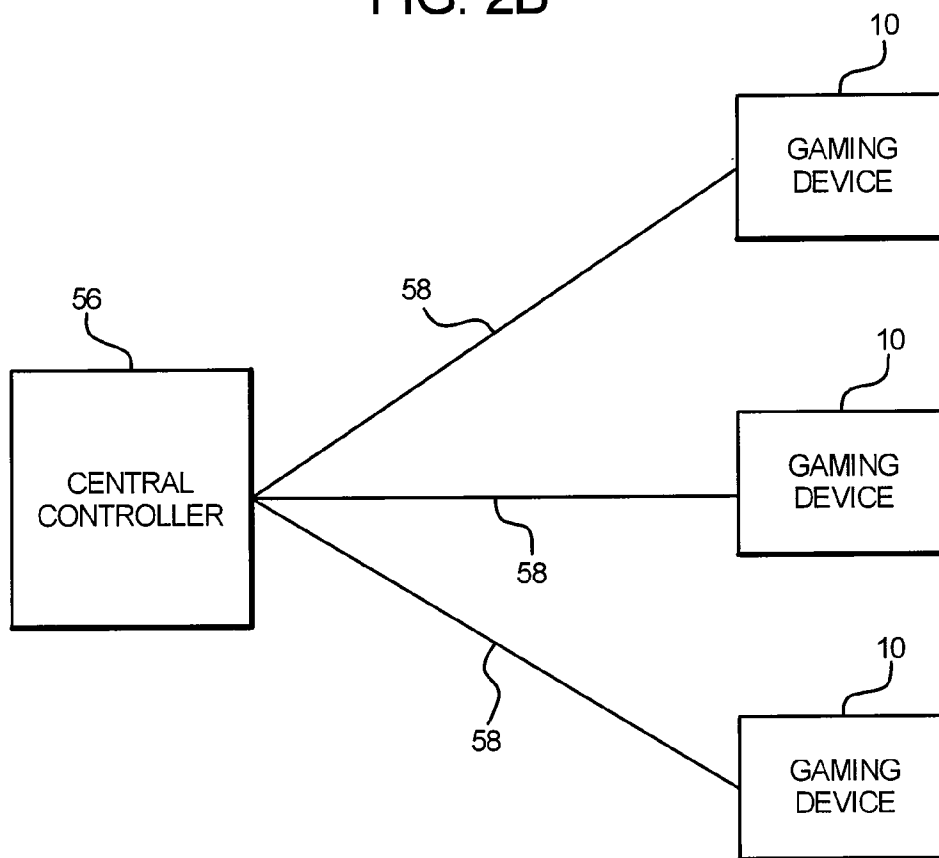


FIG. 3

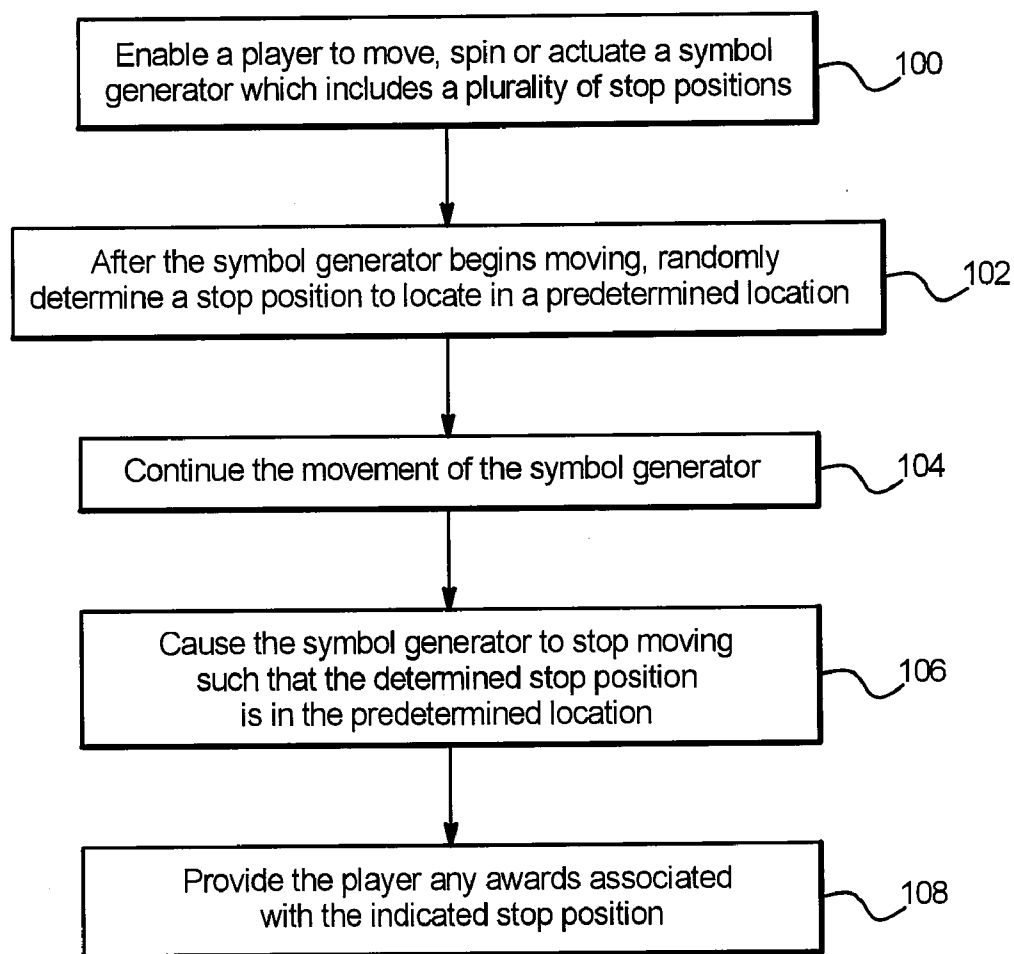


FIG. 4A

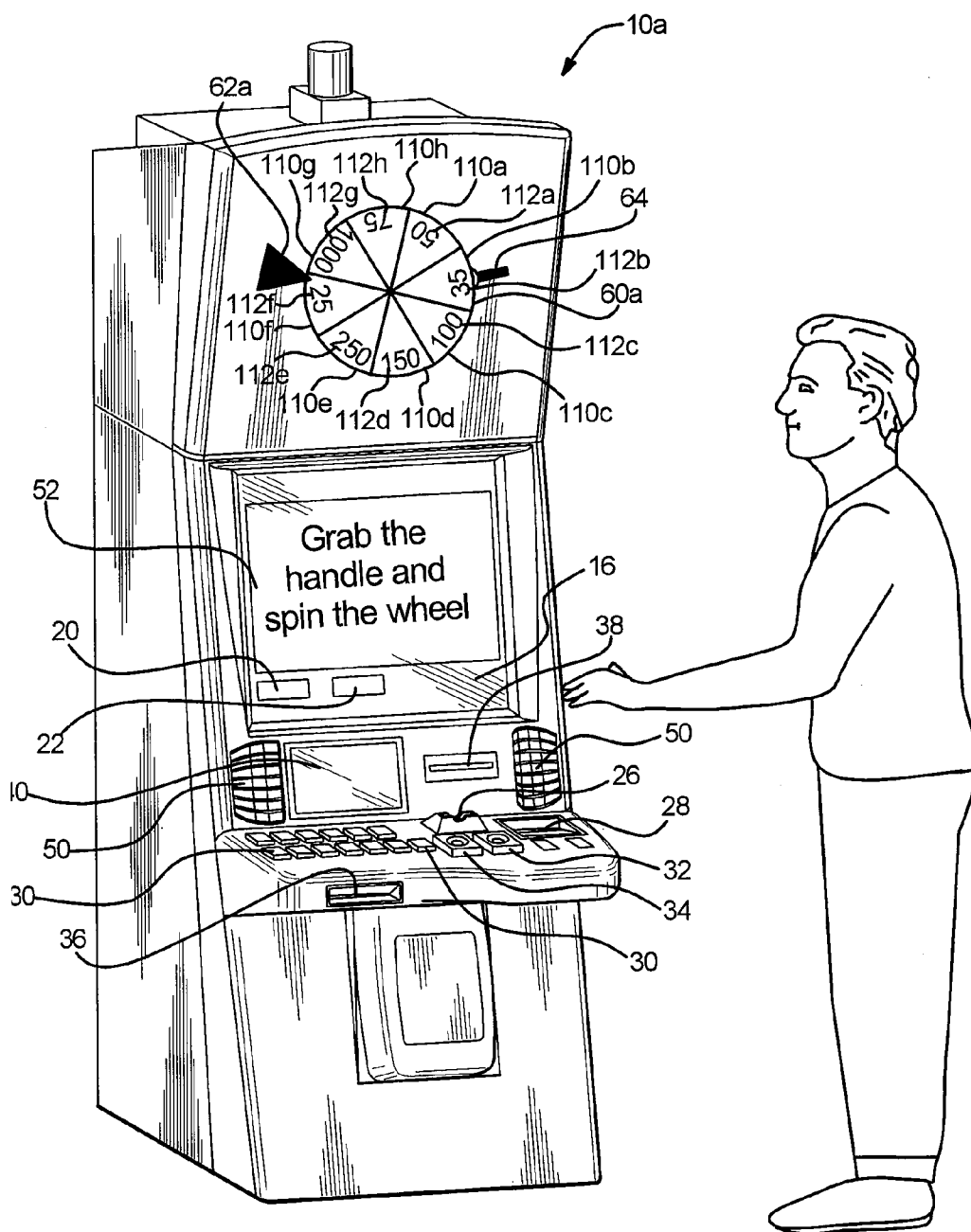


FIG. 4B

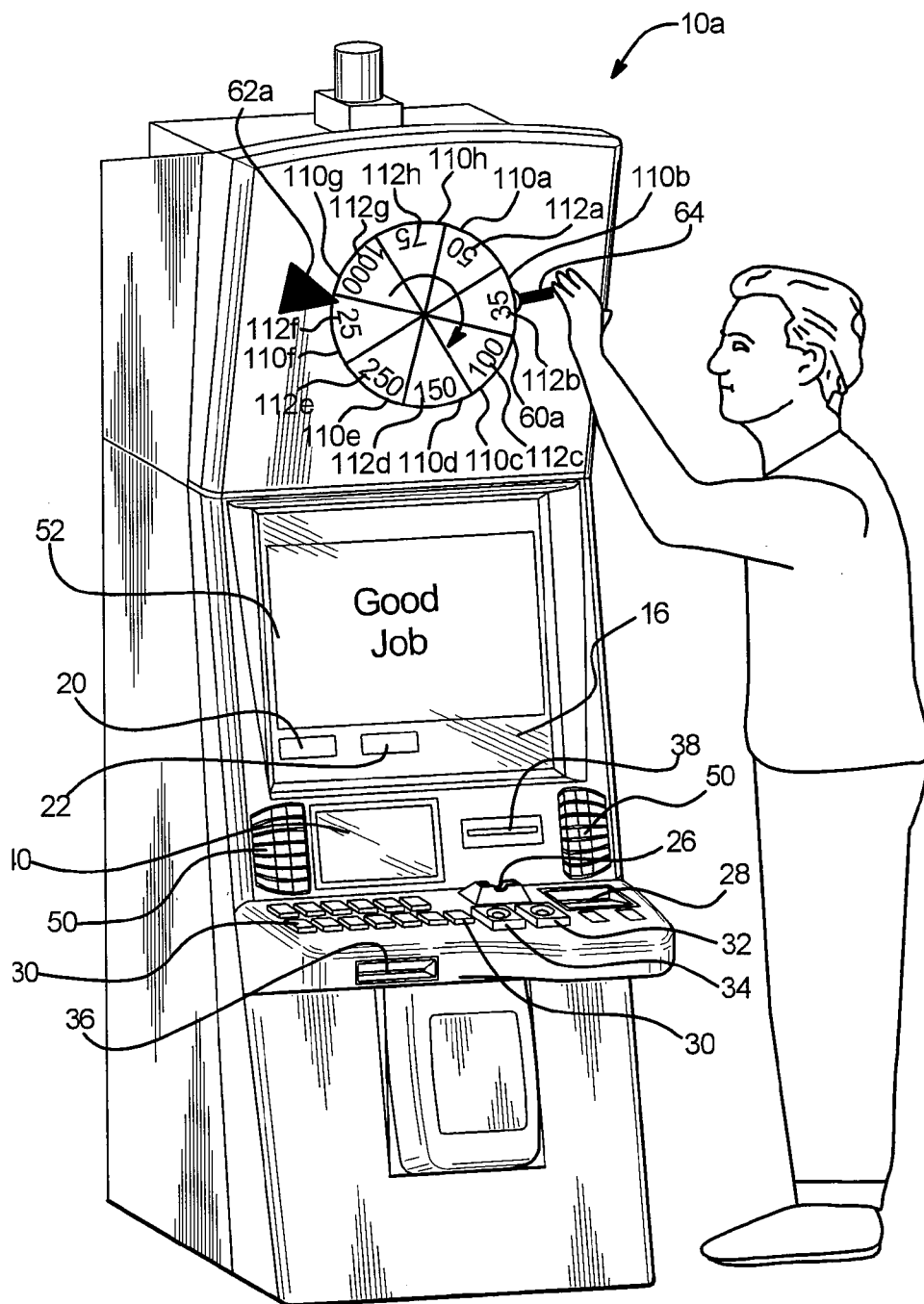


FIG. 4C

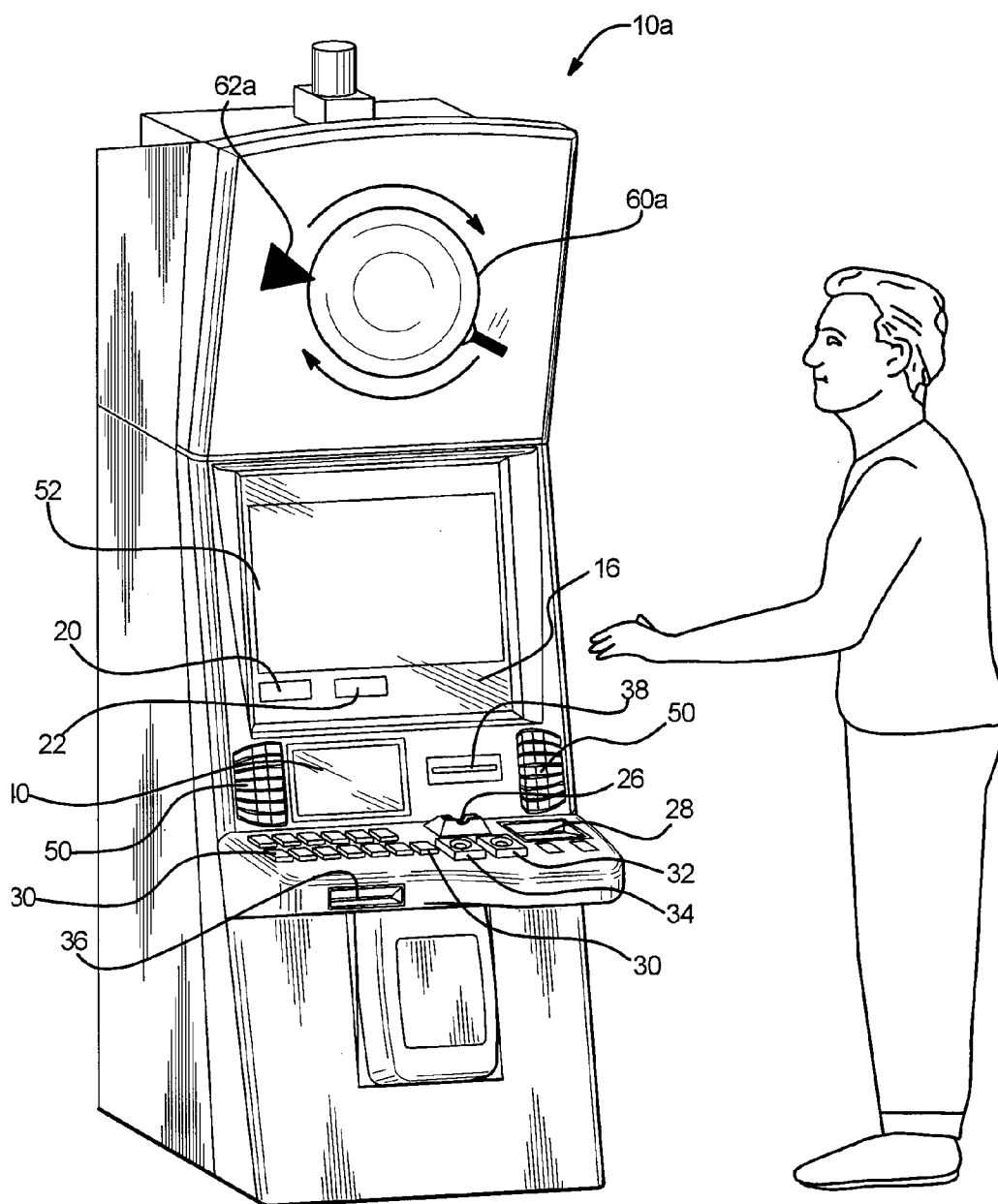


FIG. 4D

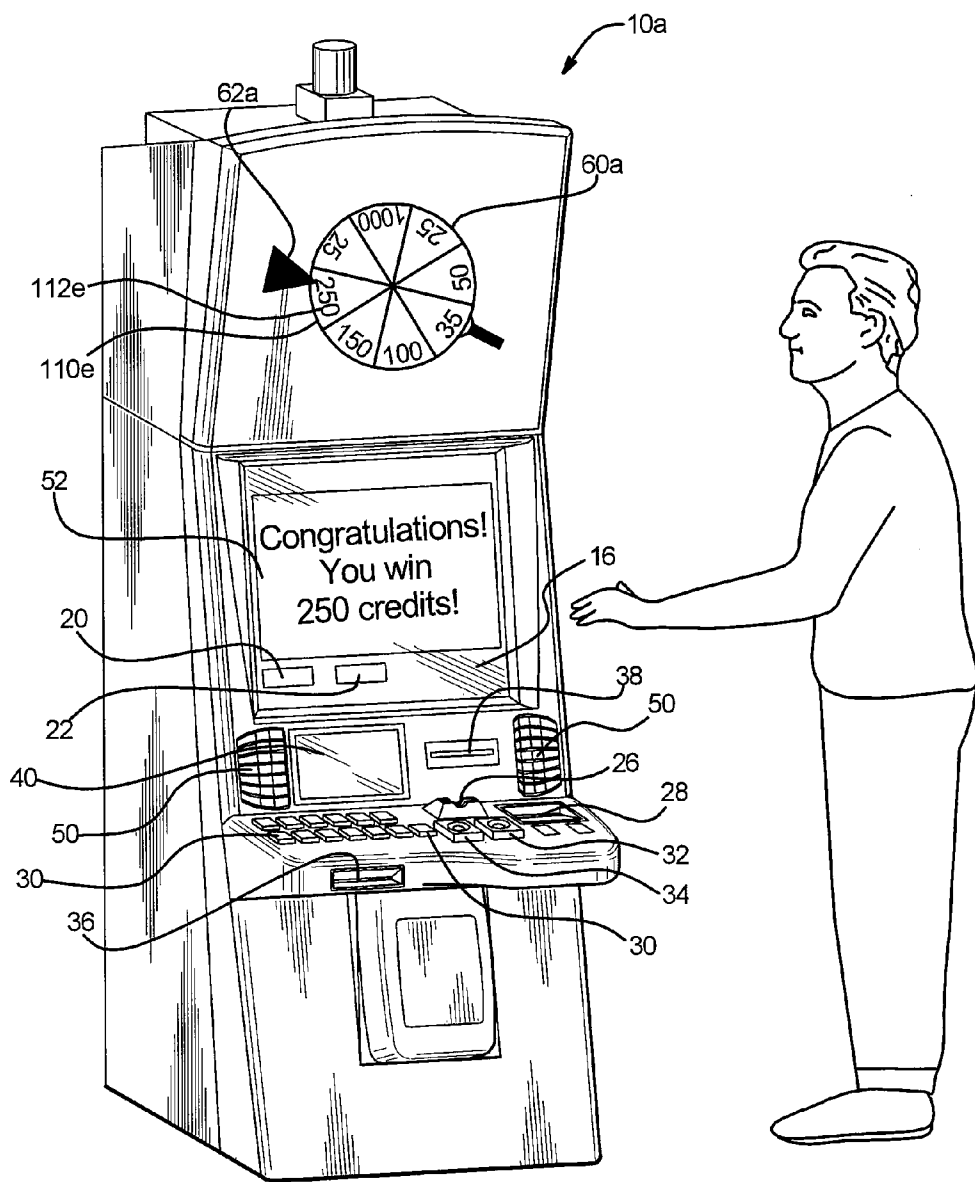
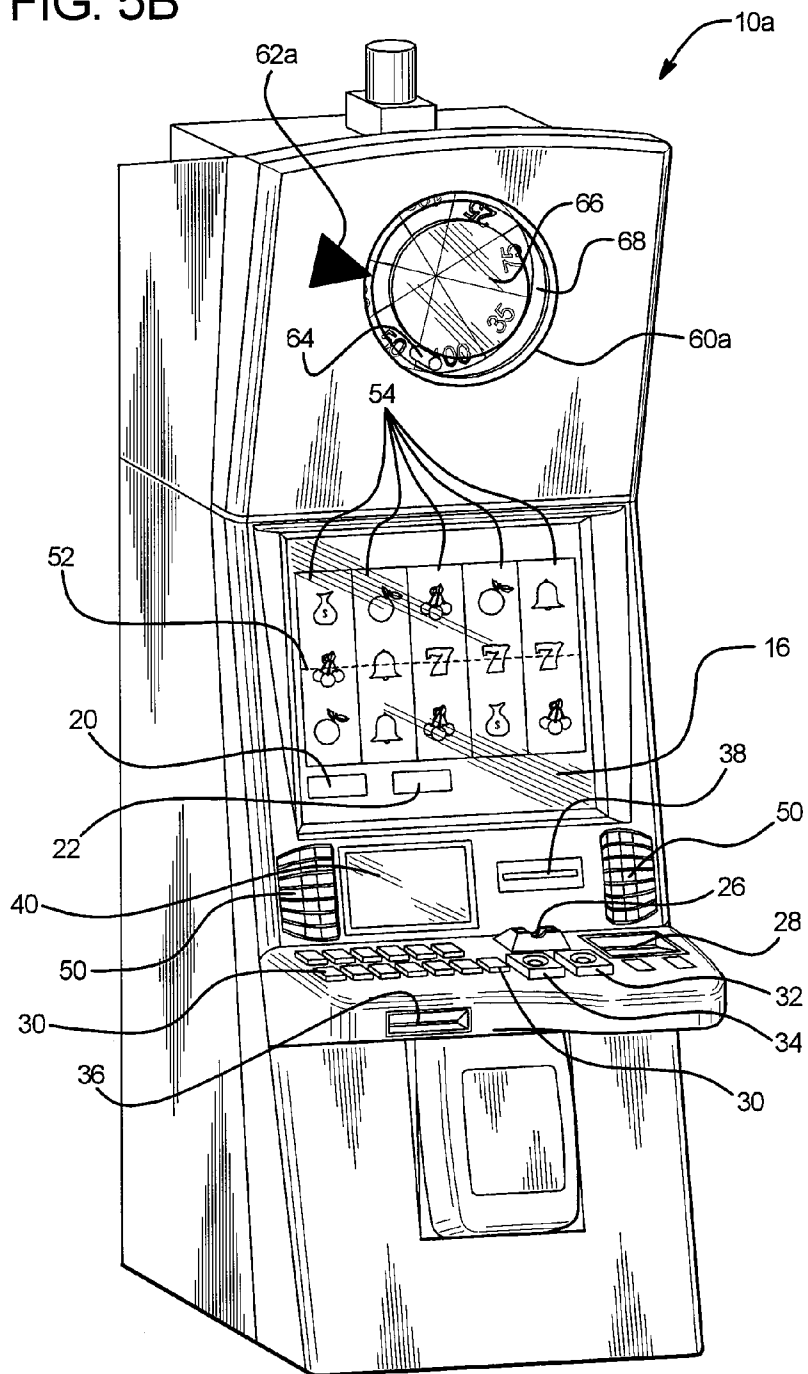


FIG. 5B



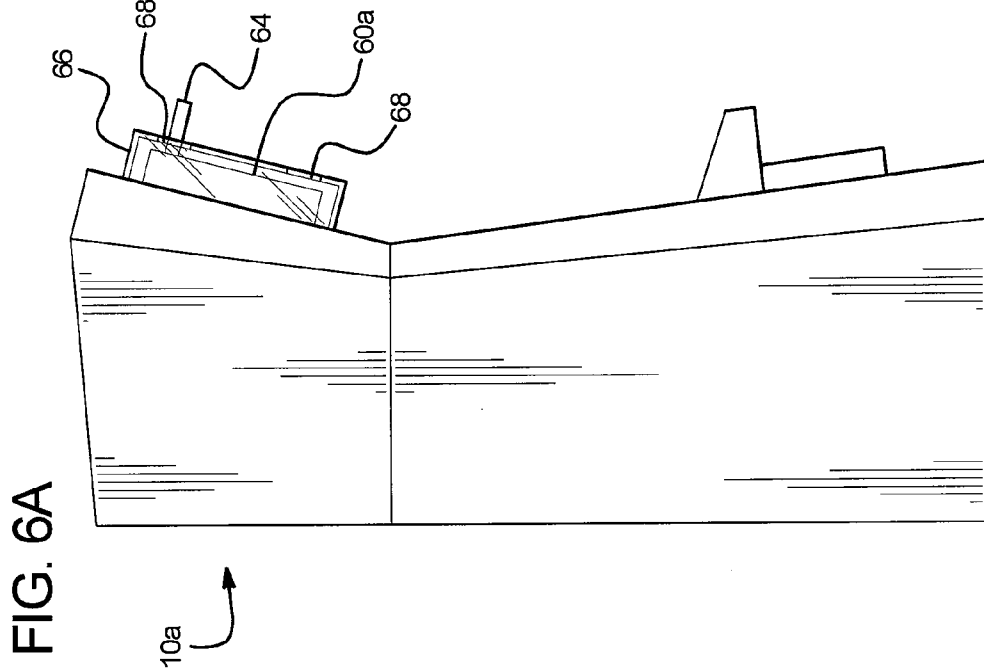
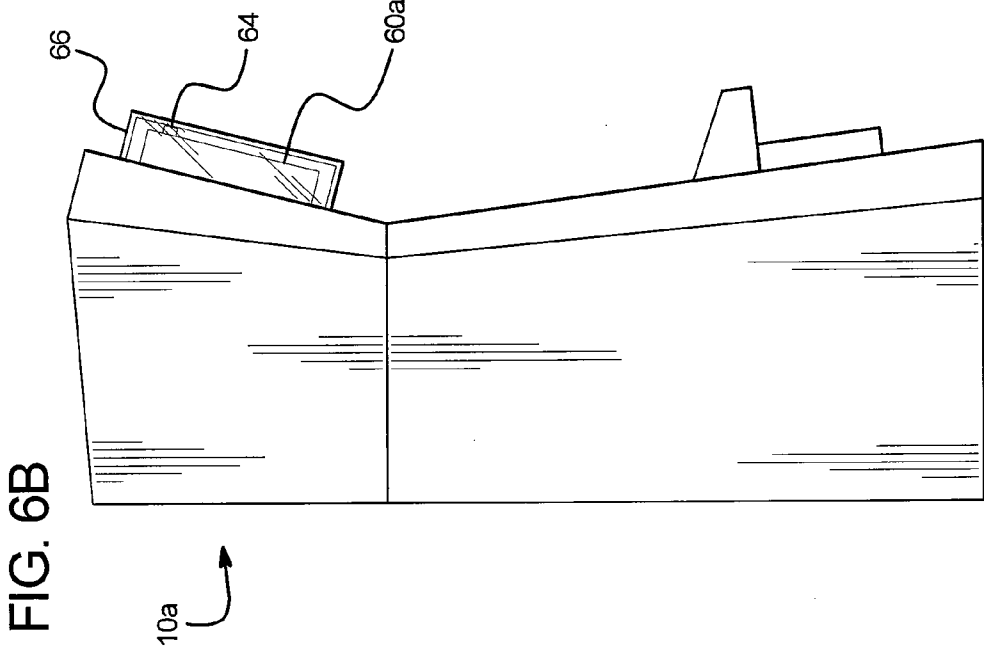


FIG. 7A

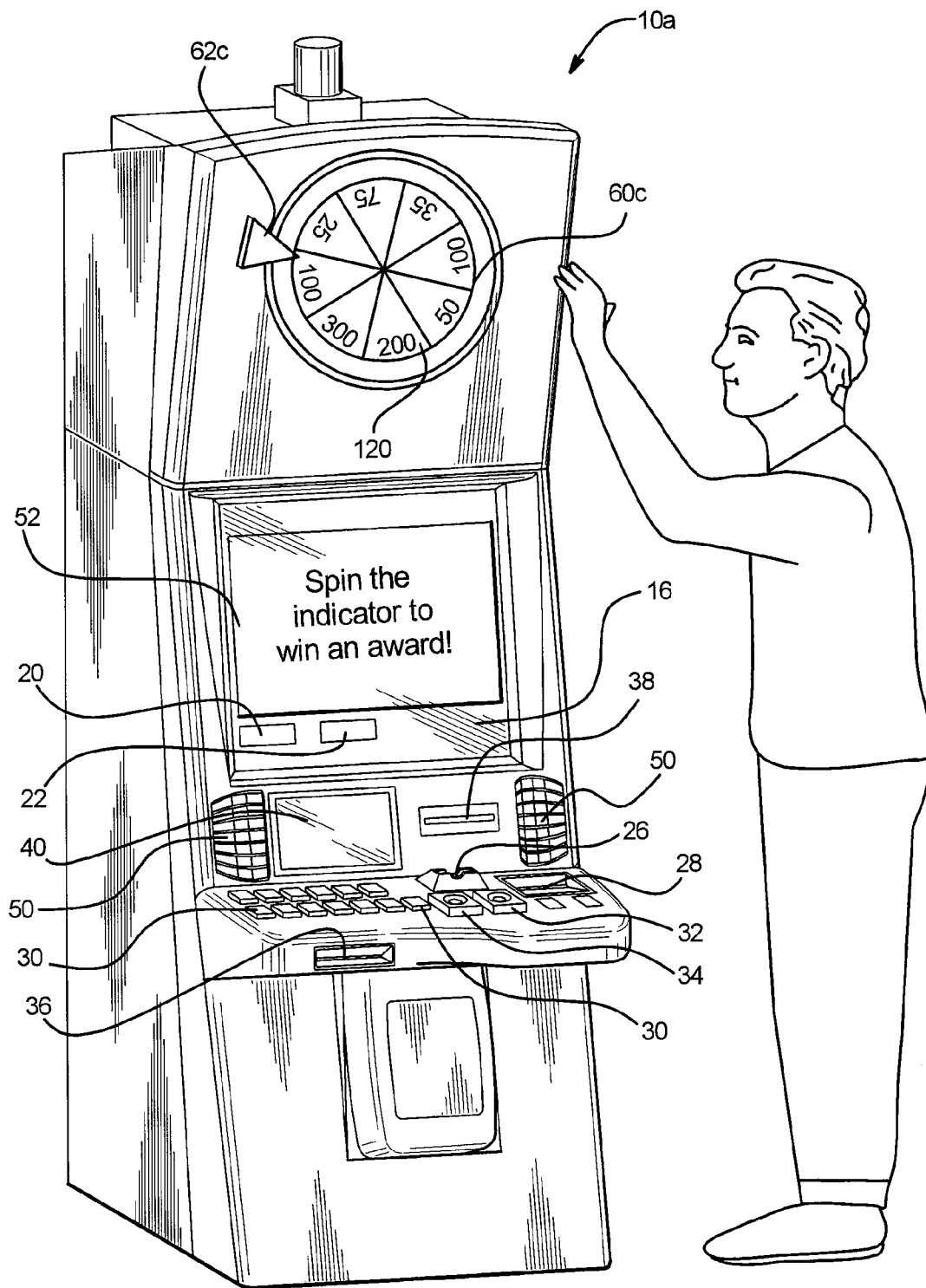


FIG. 7B

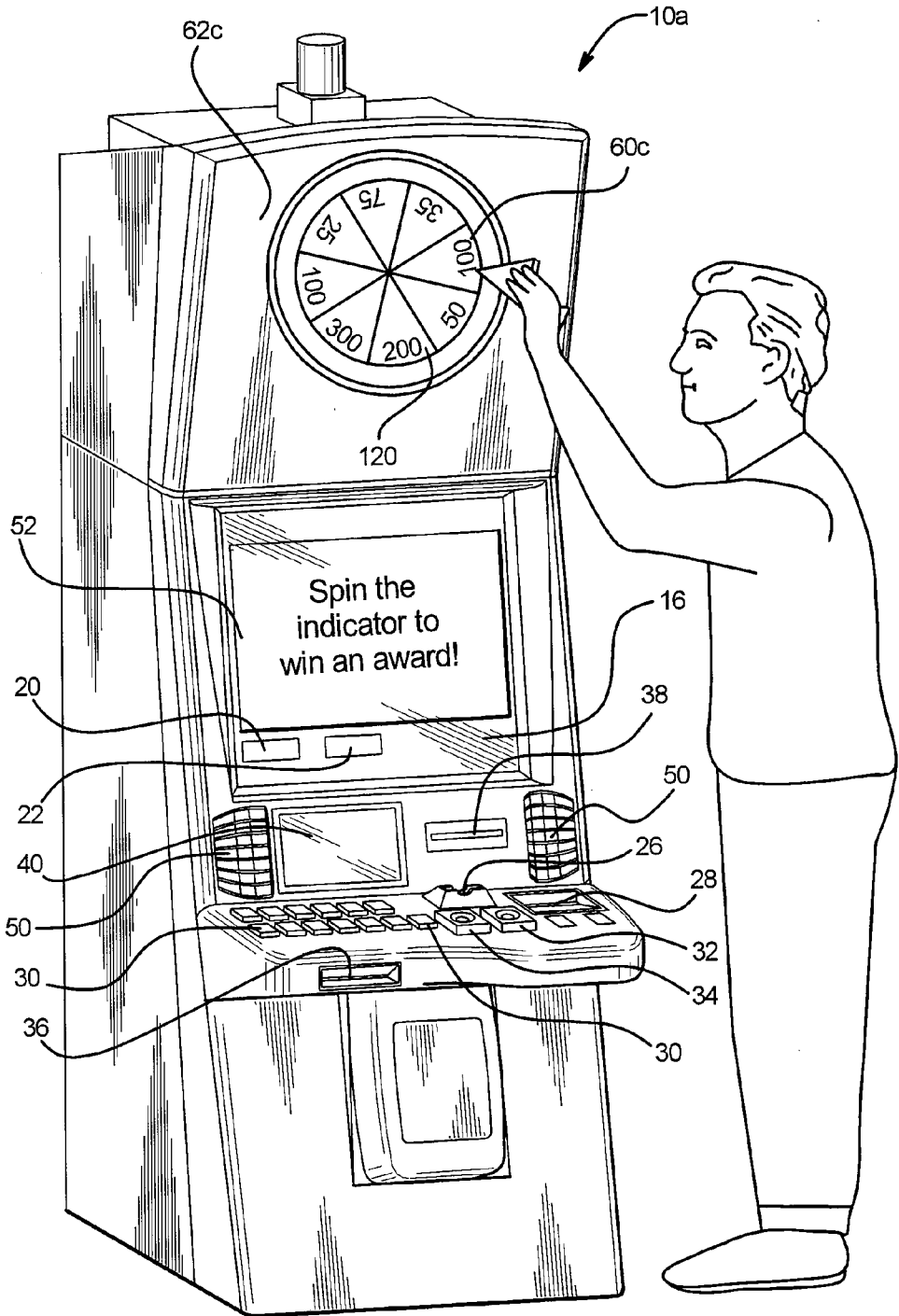


FIG. 7C

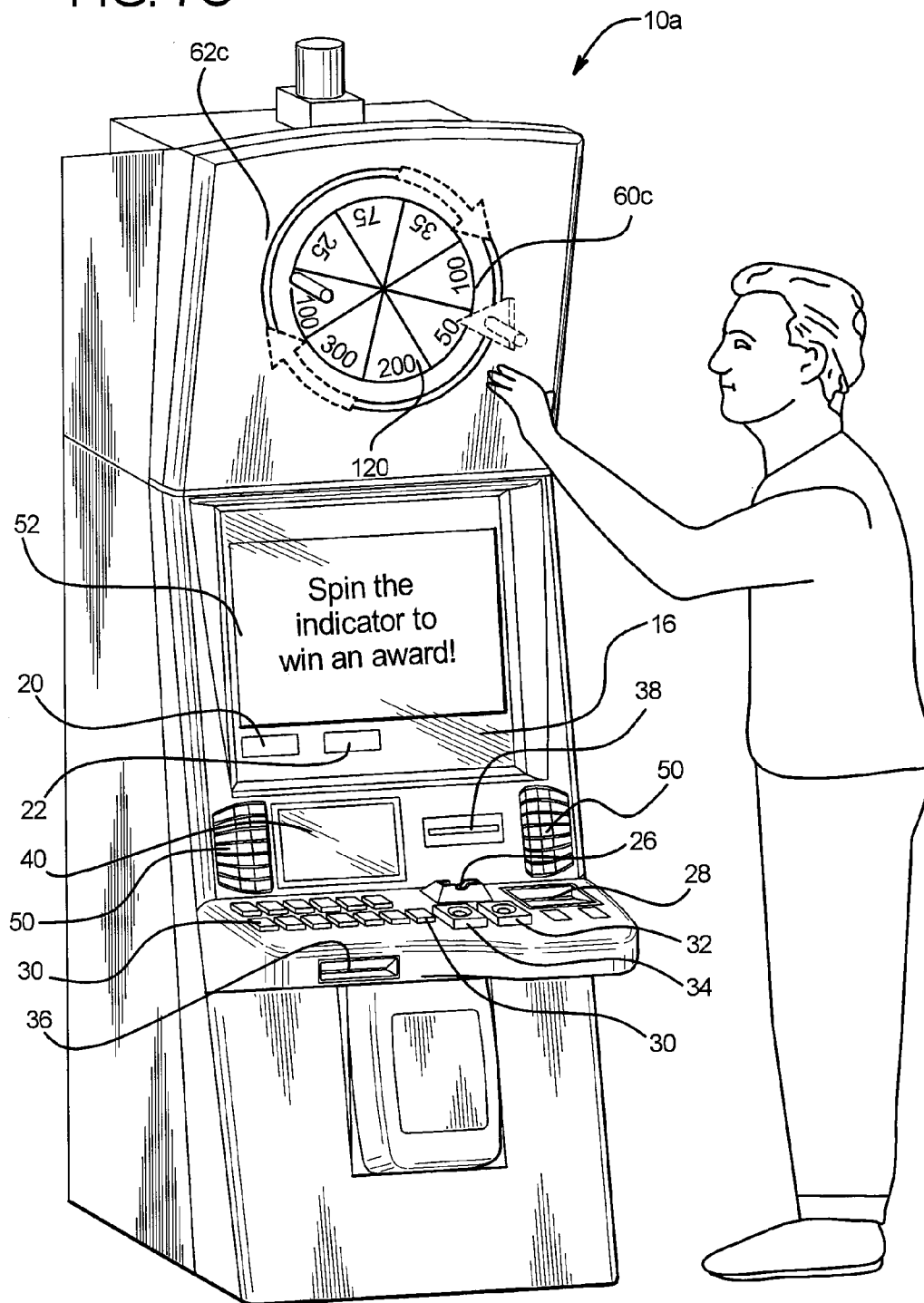


FIG. 7D

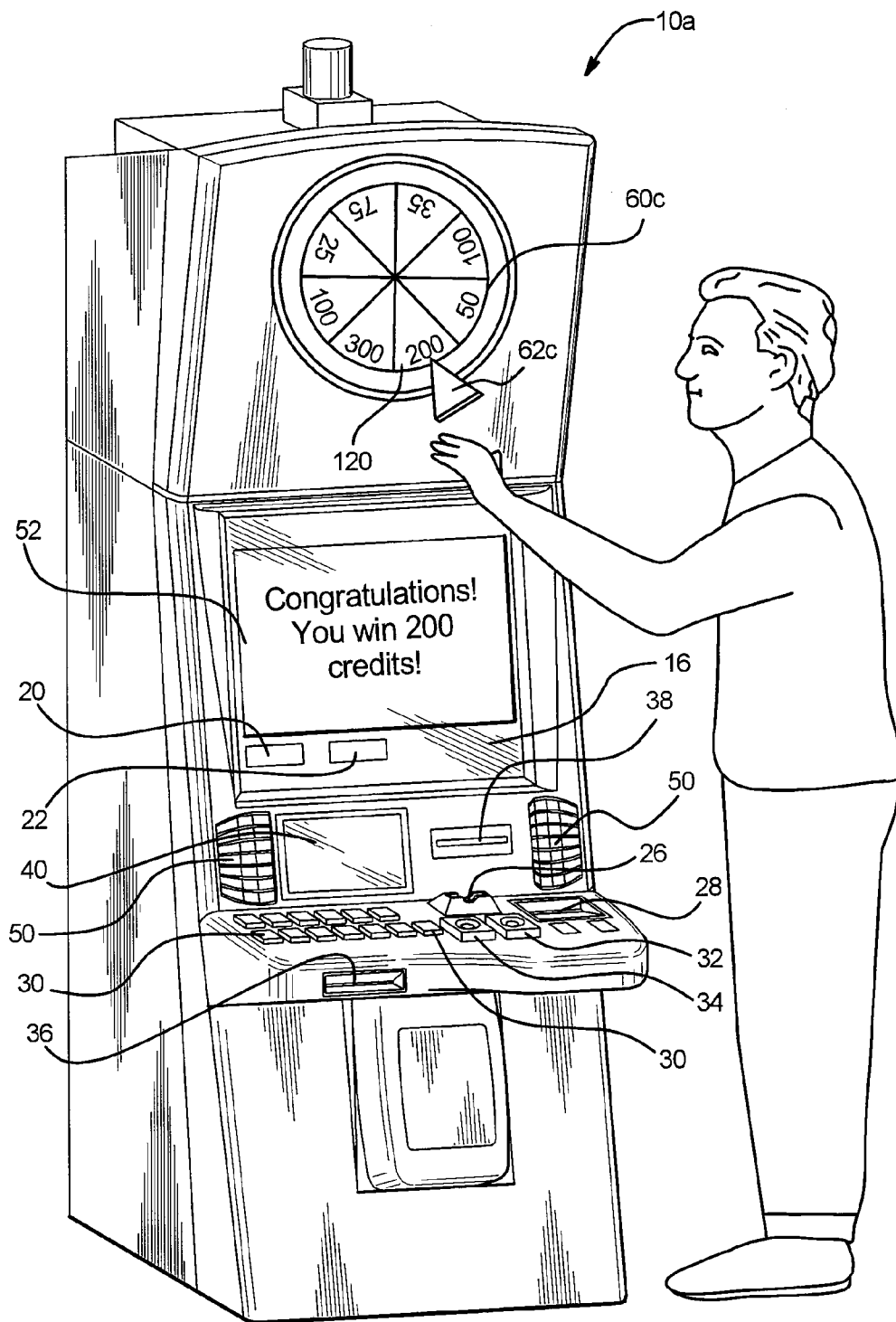


FIG. 8A

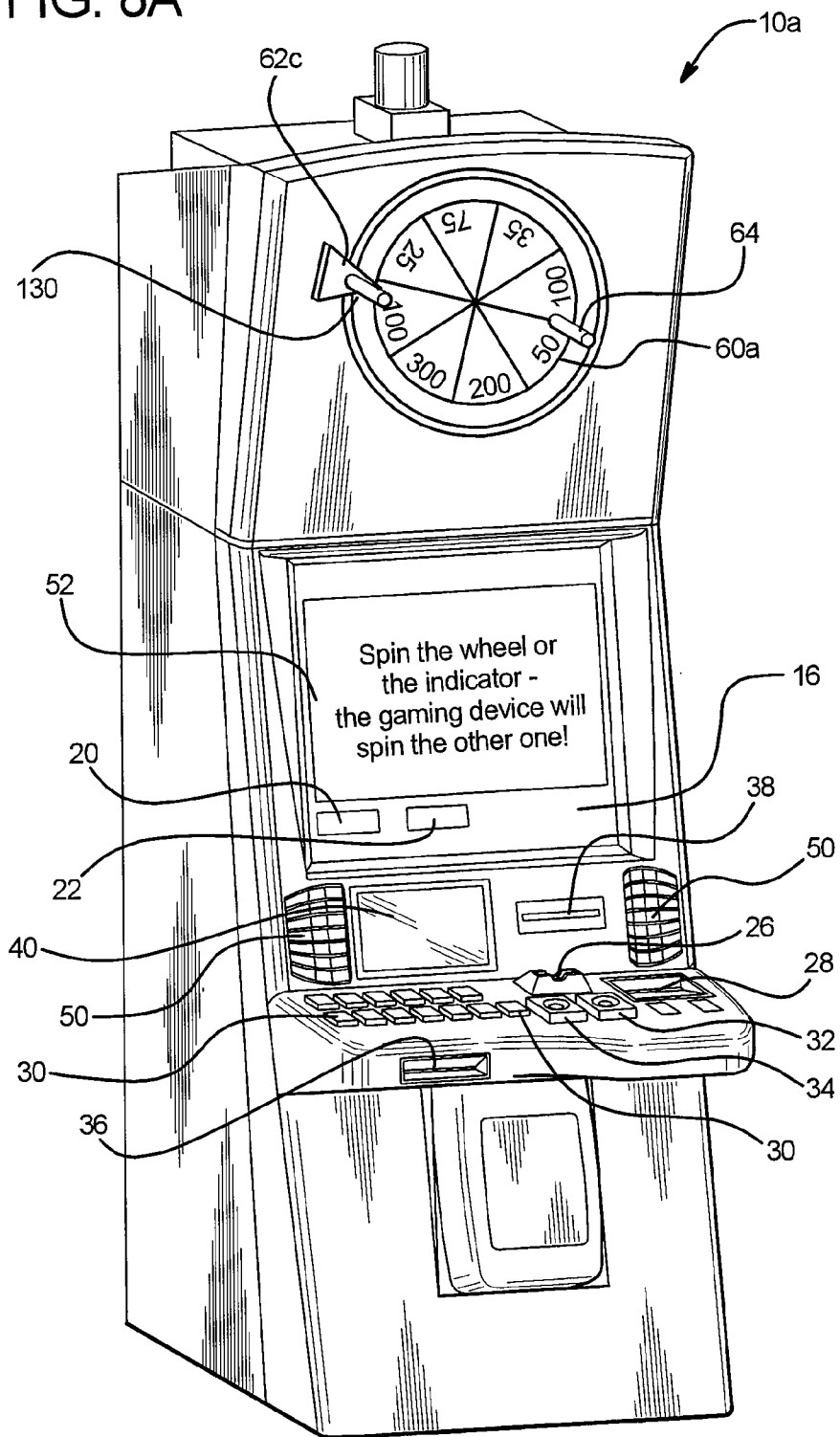


FIG. 8B

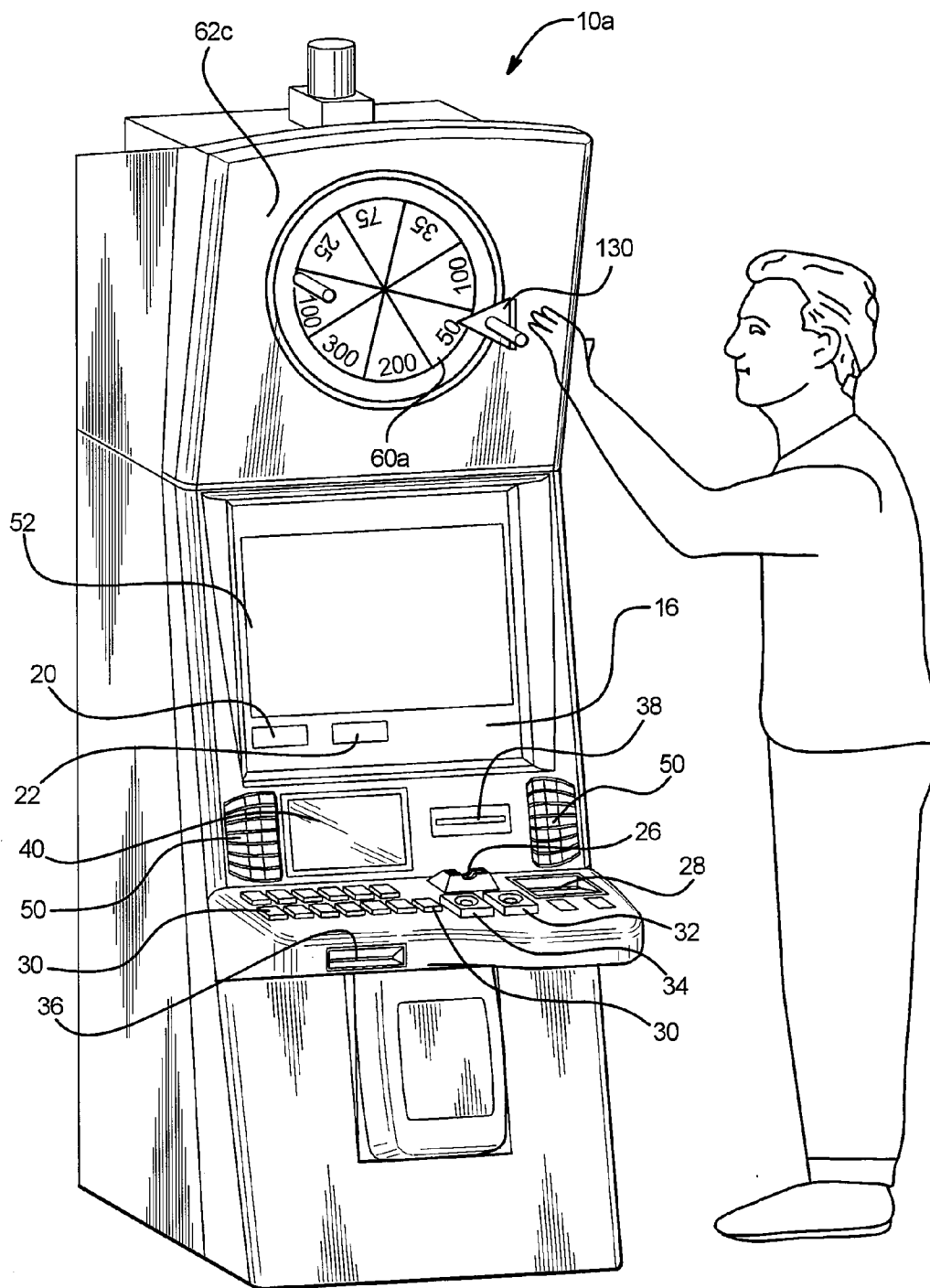


FIG. 8C

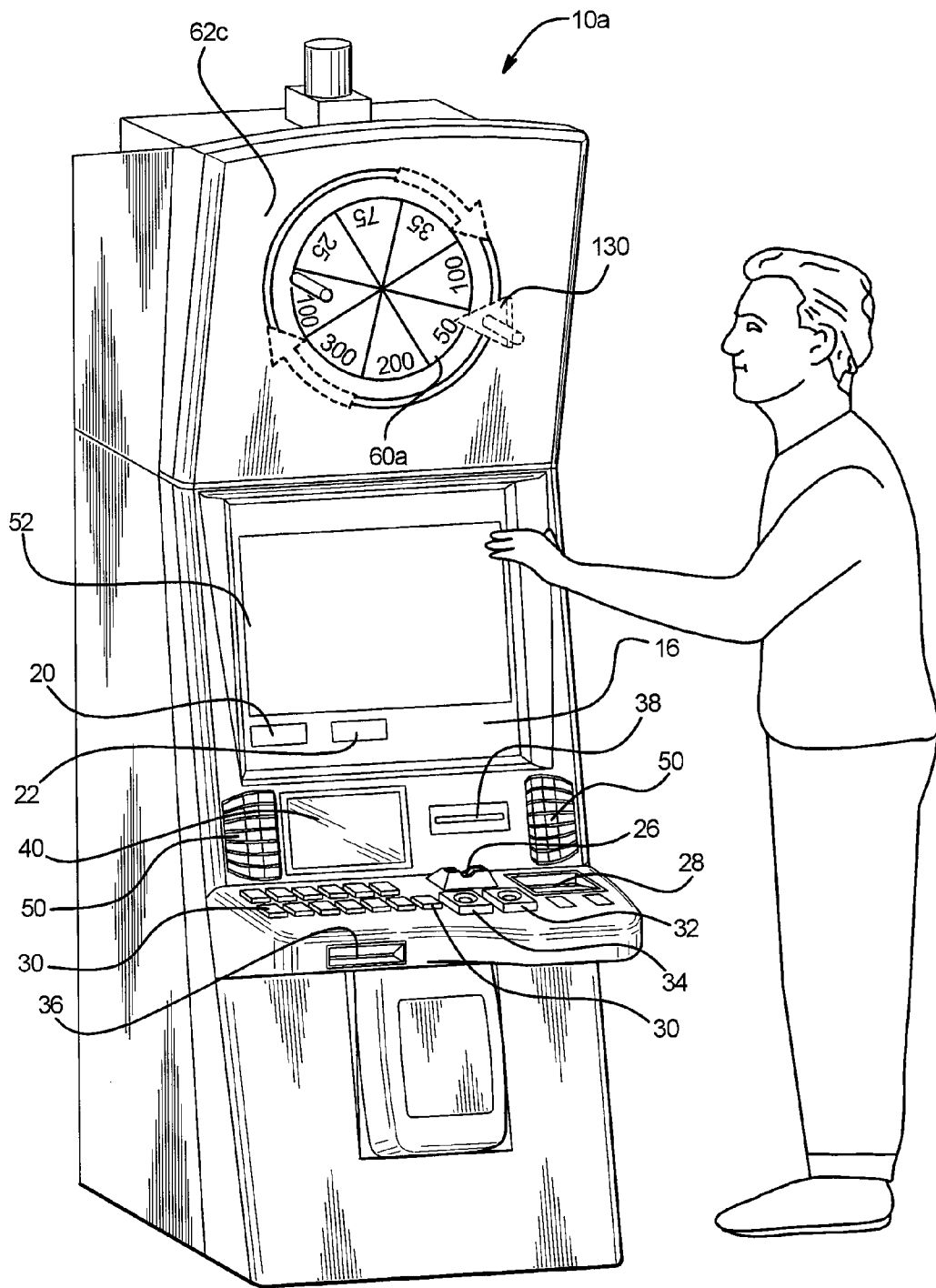


FIG. 8D

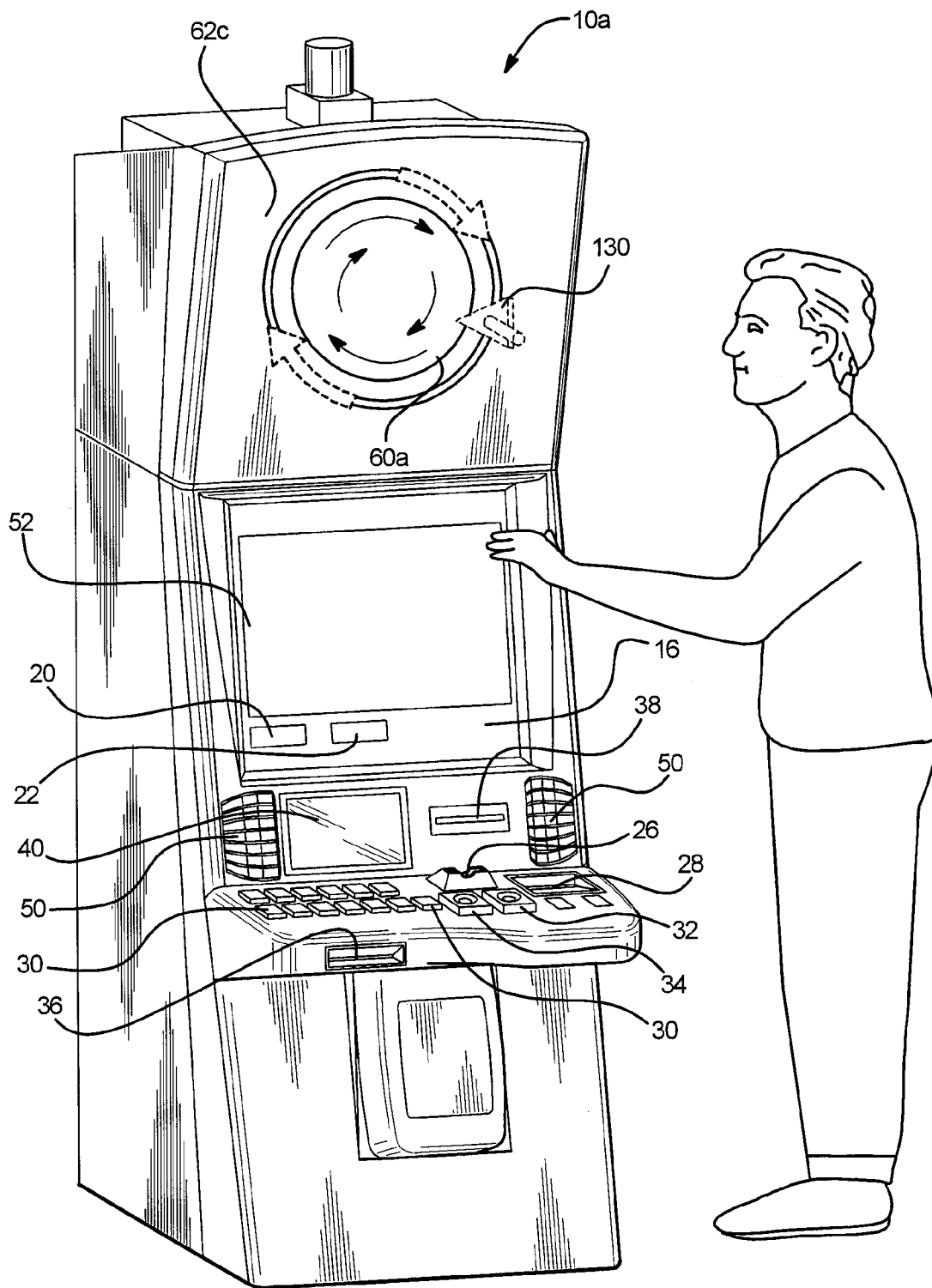
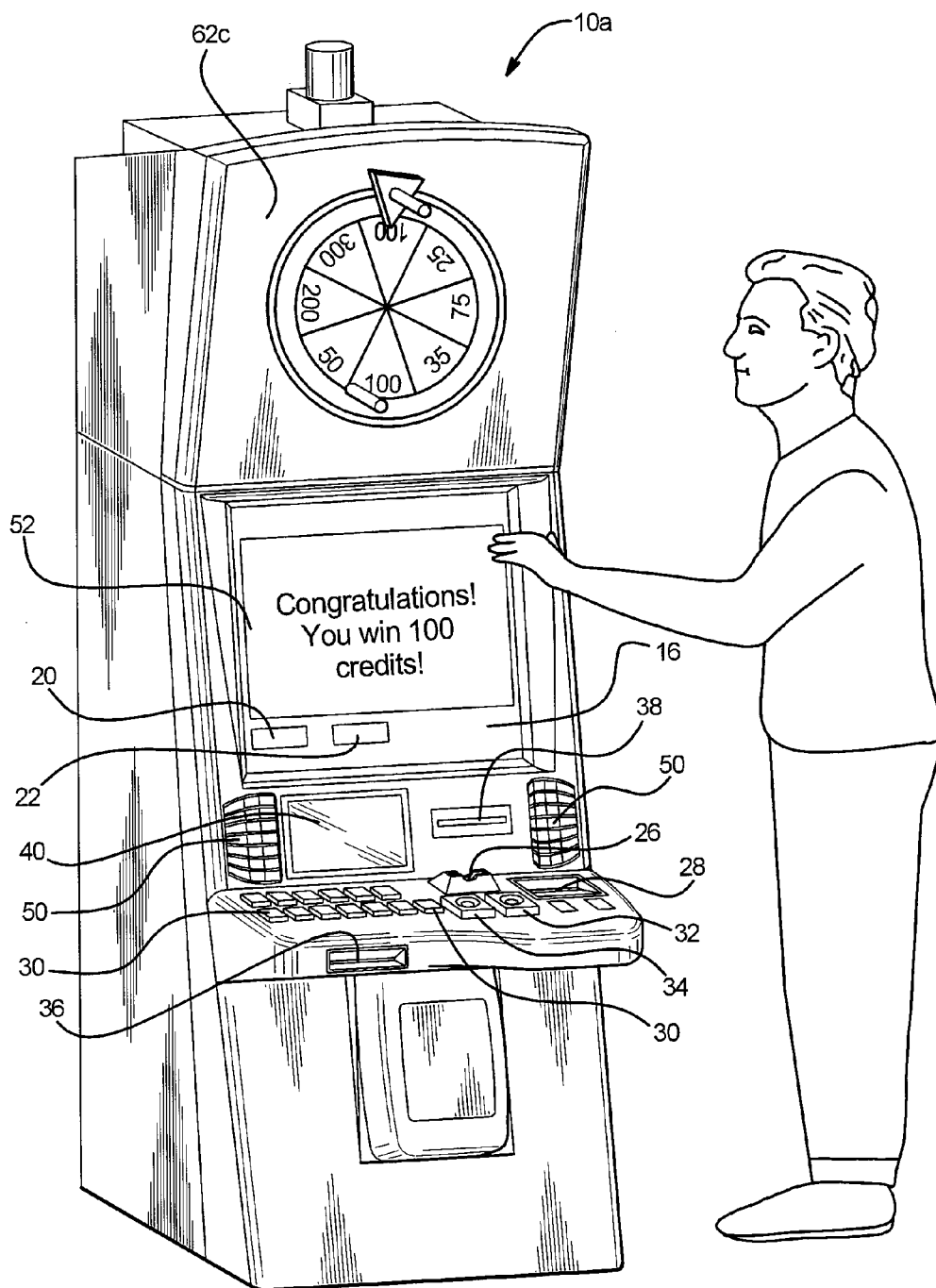


FIG. 8E



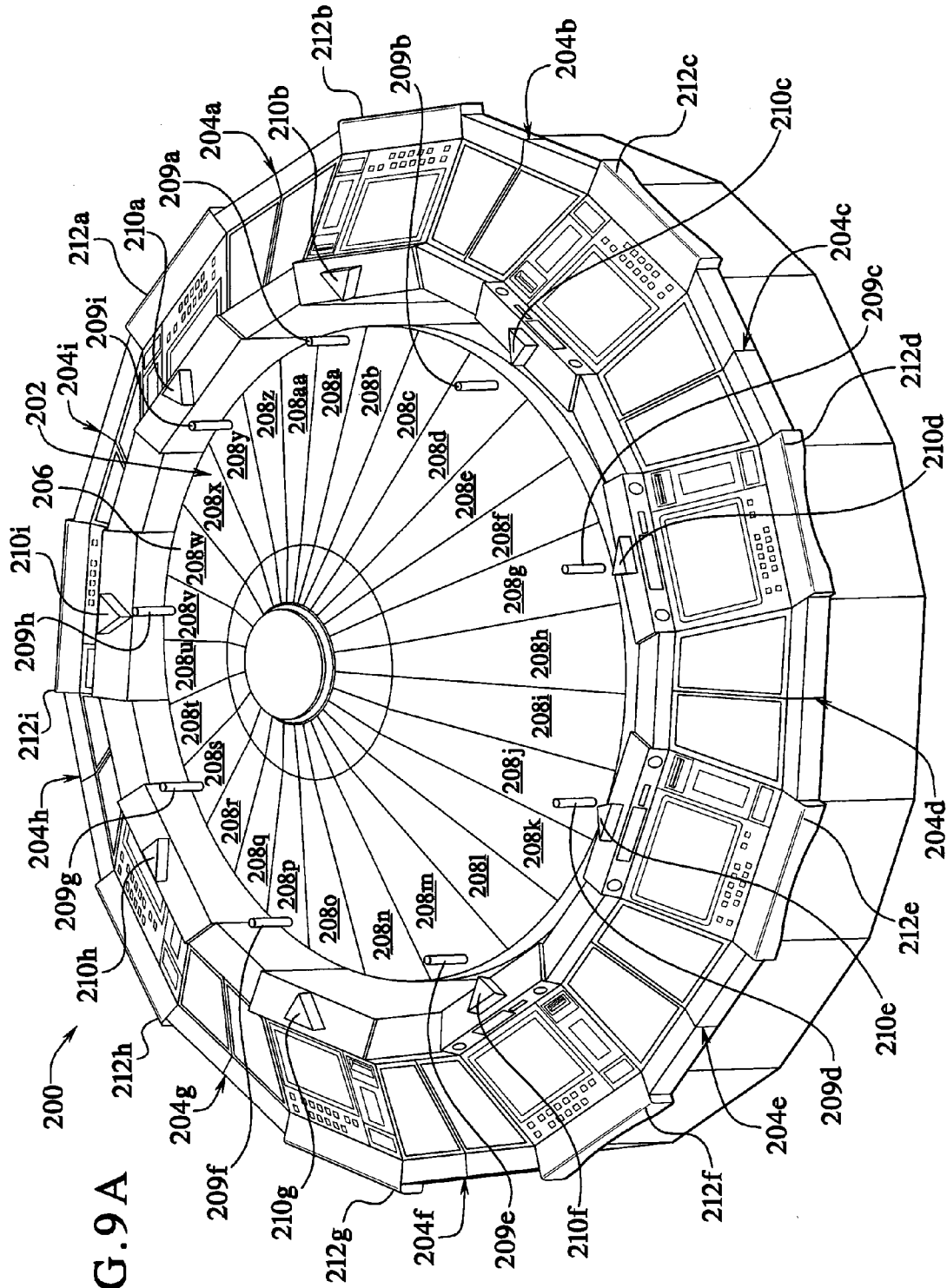
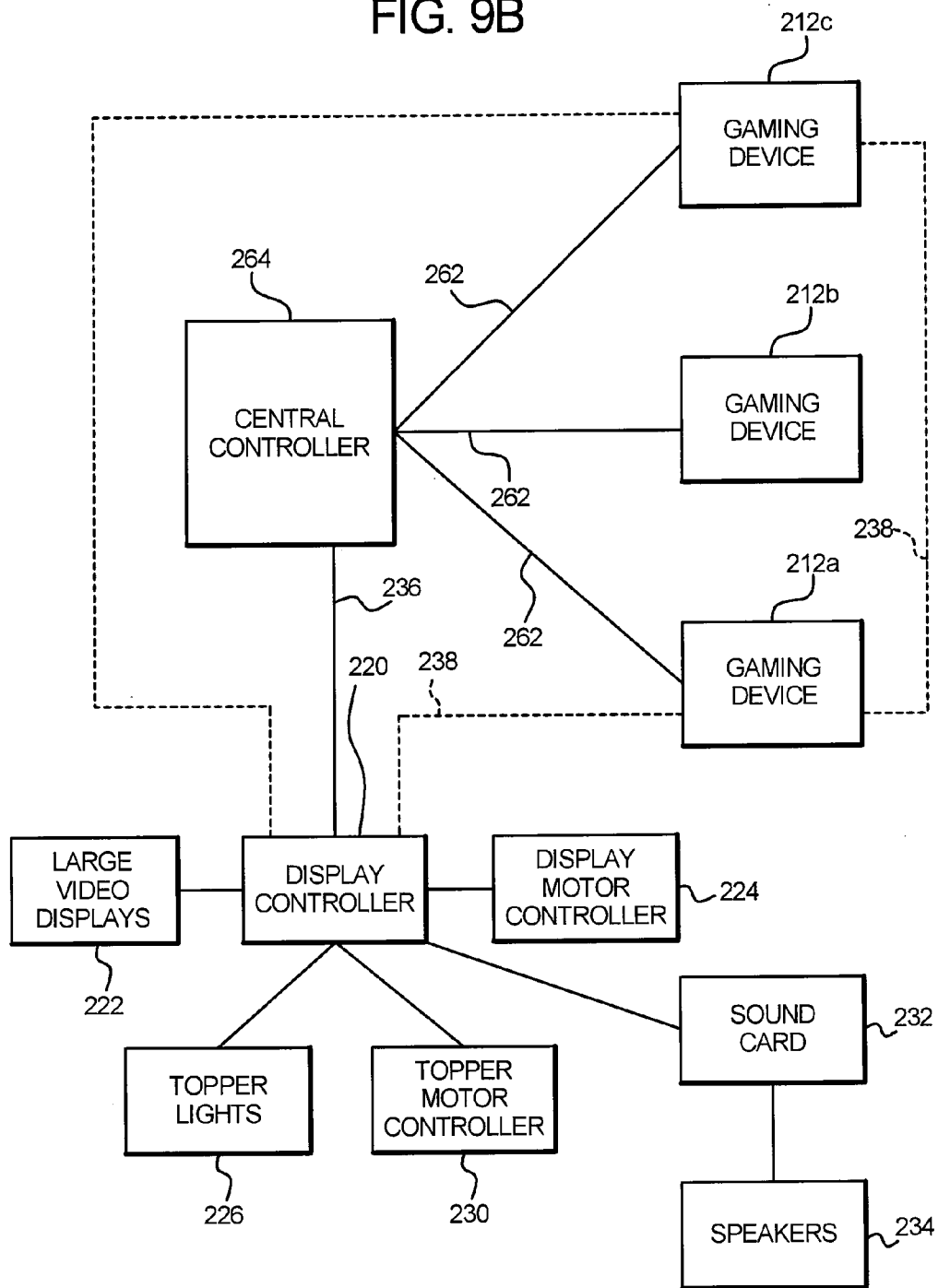
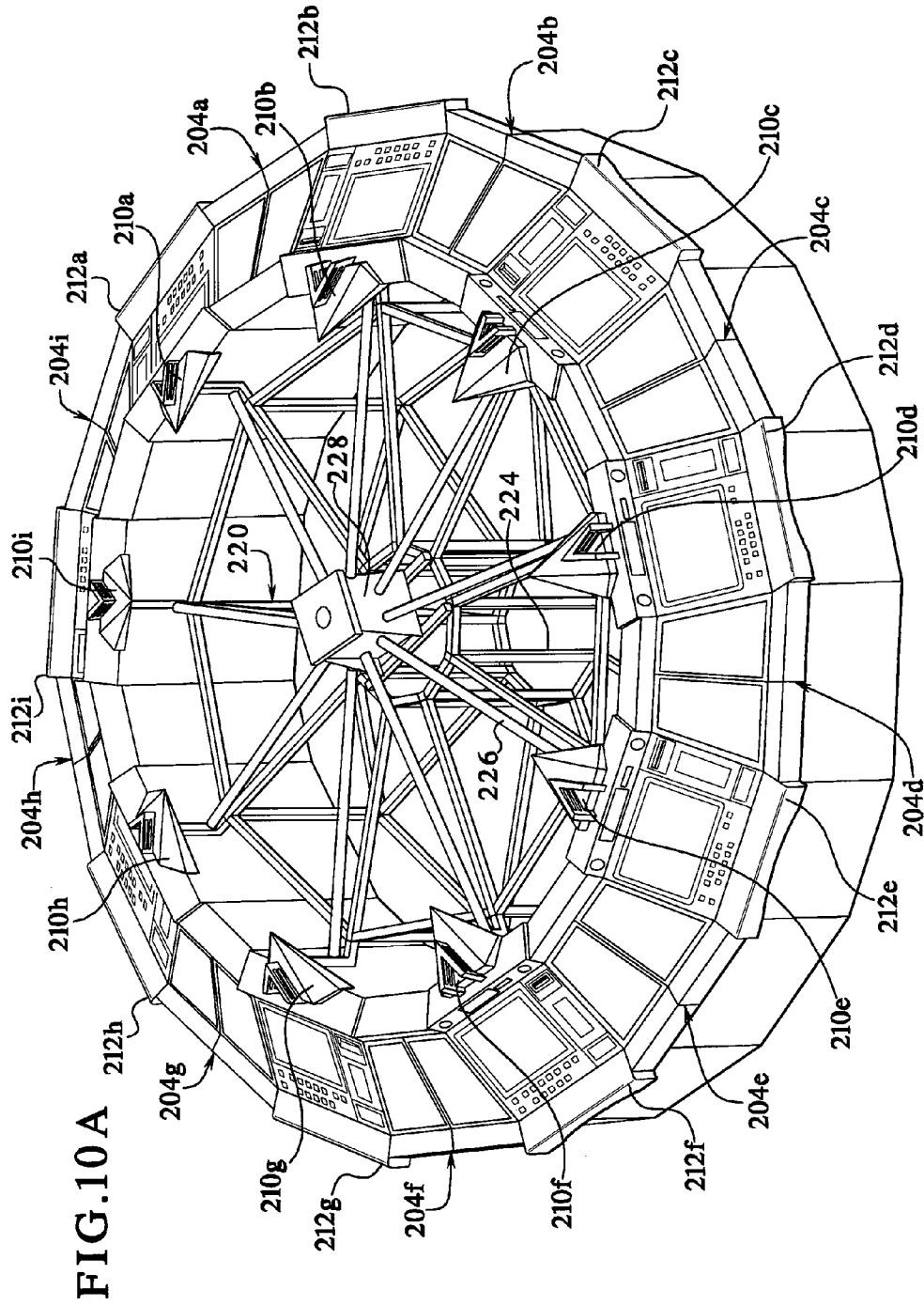


FIG. 9A

FIG. 9B





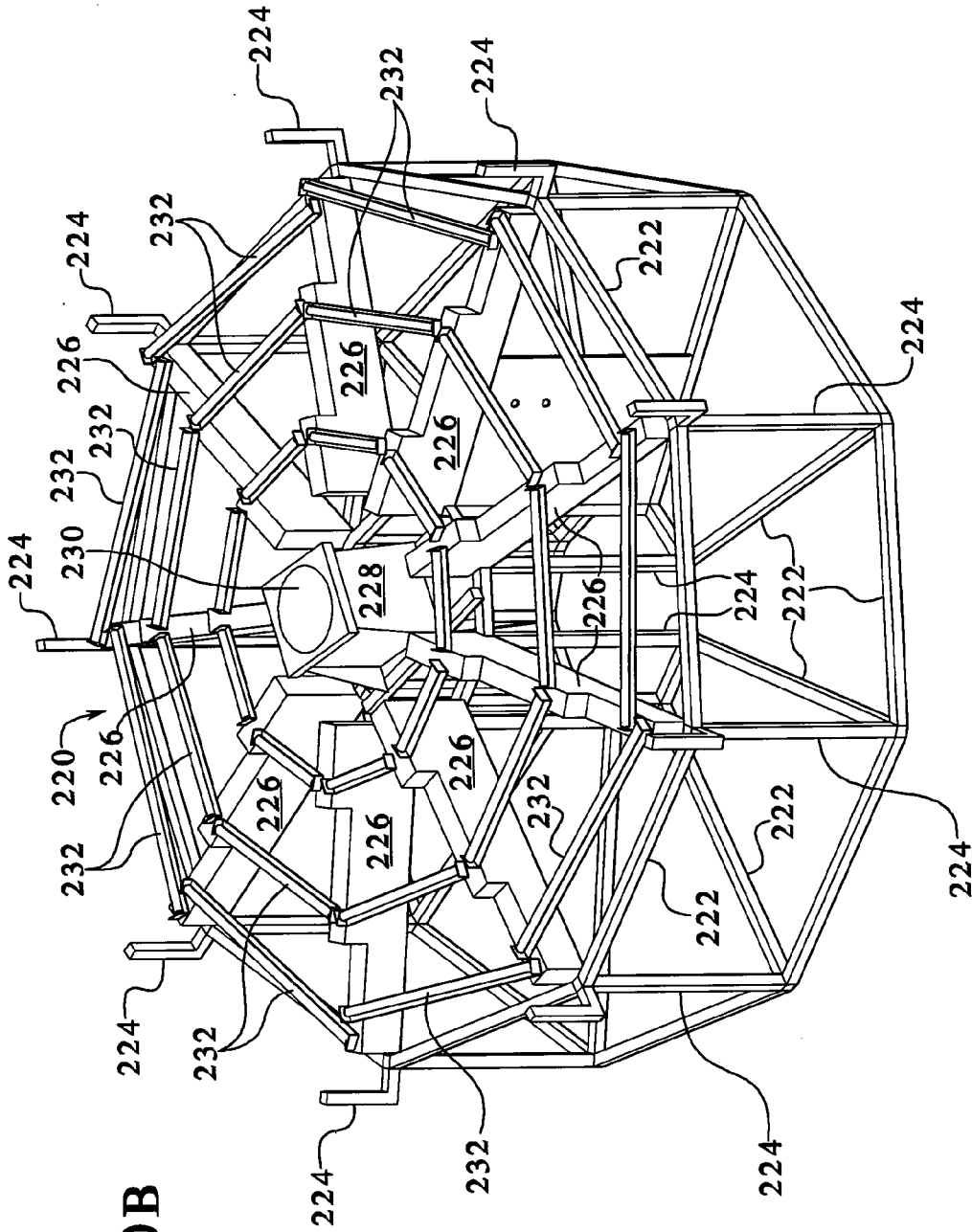
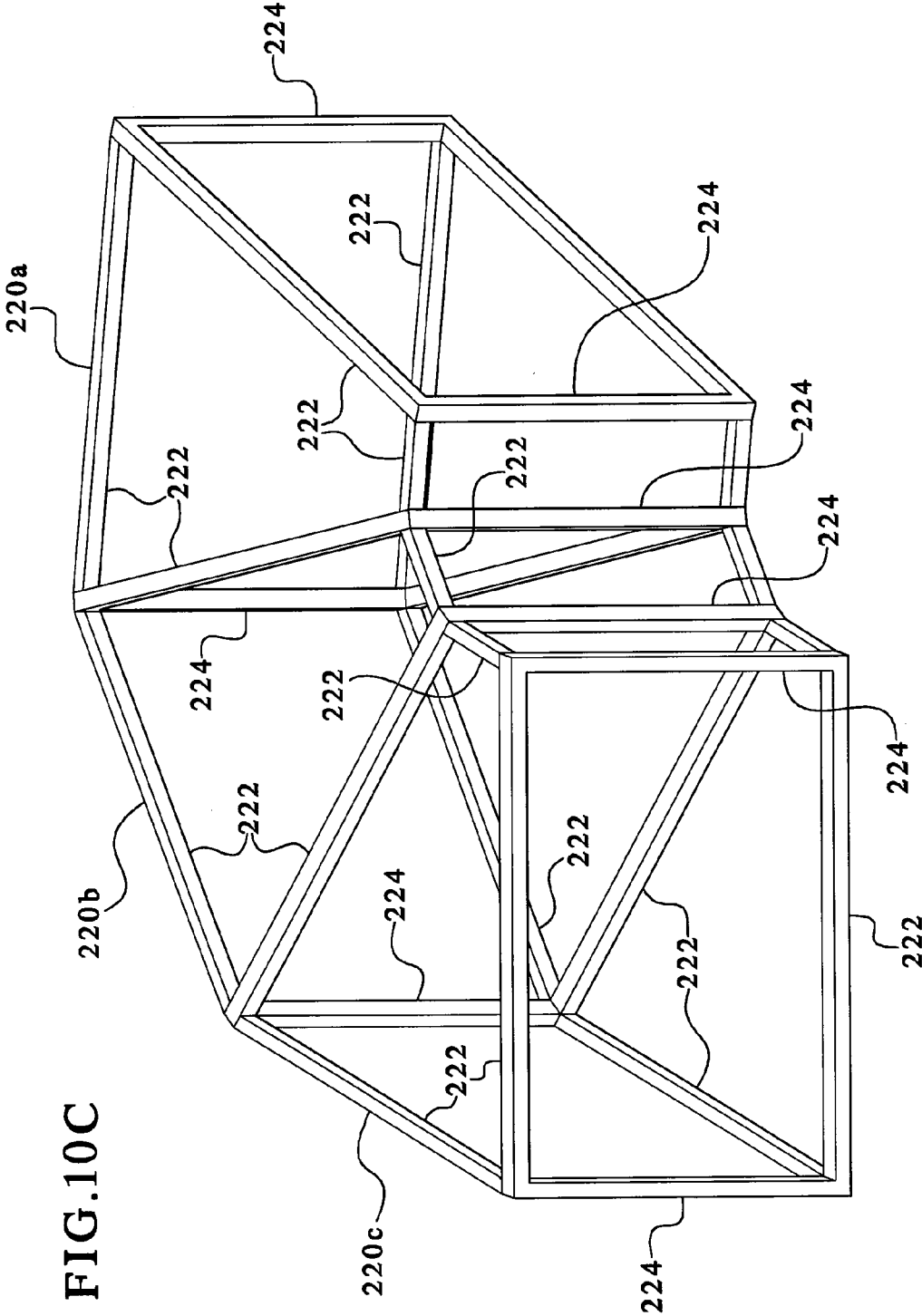


FIG. 10B



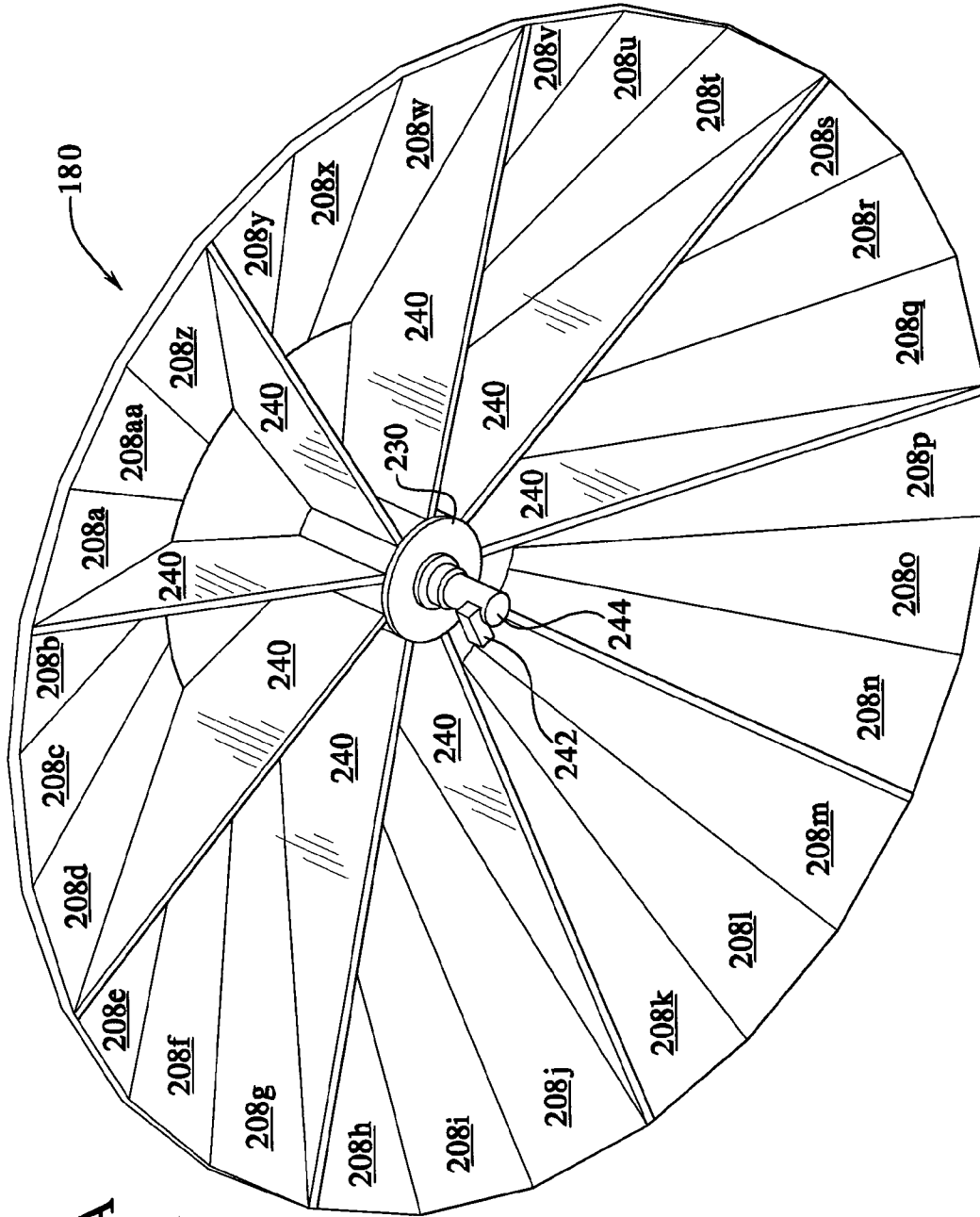
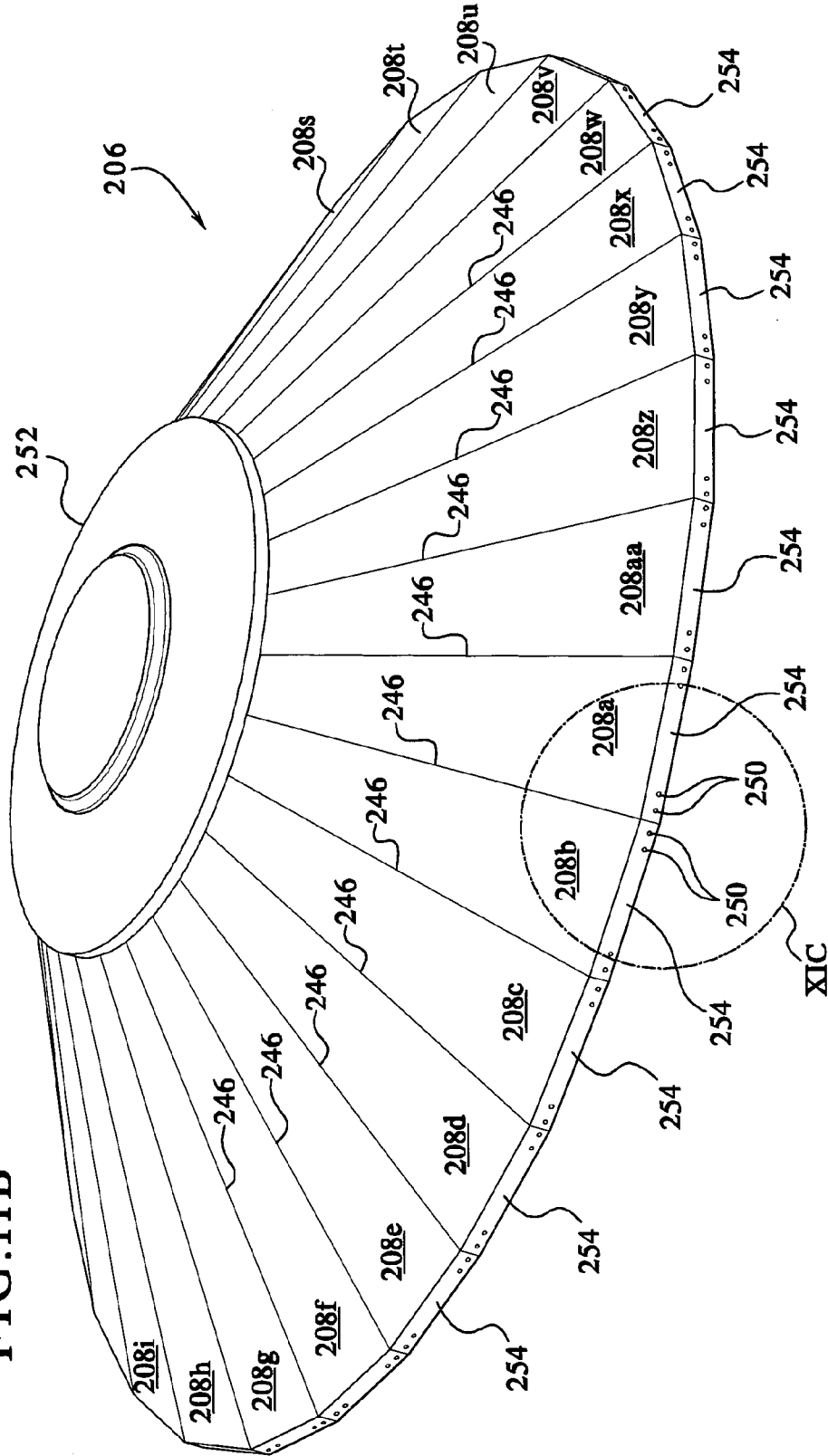
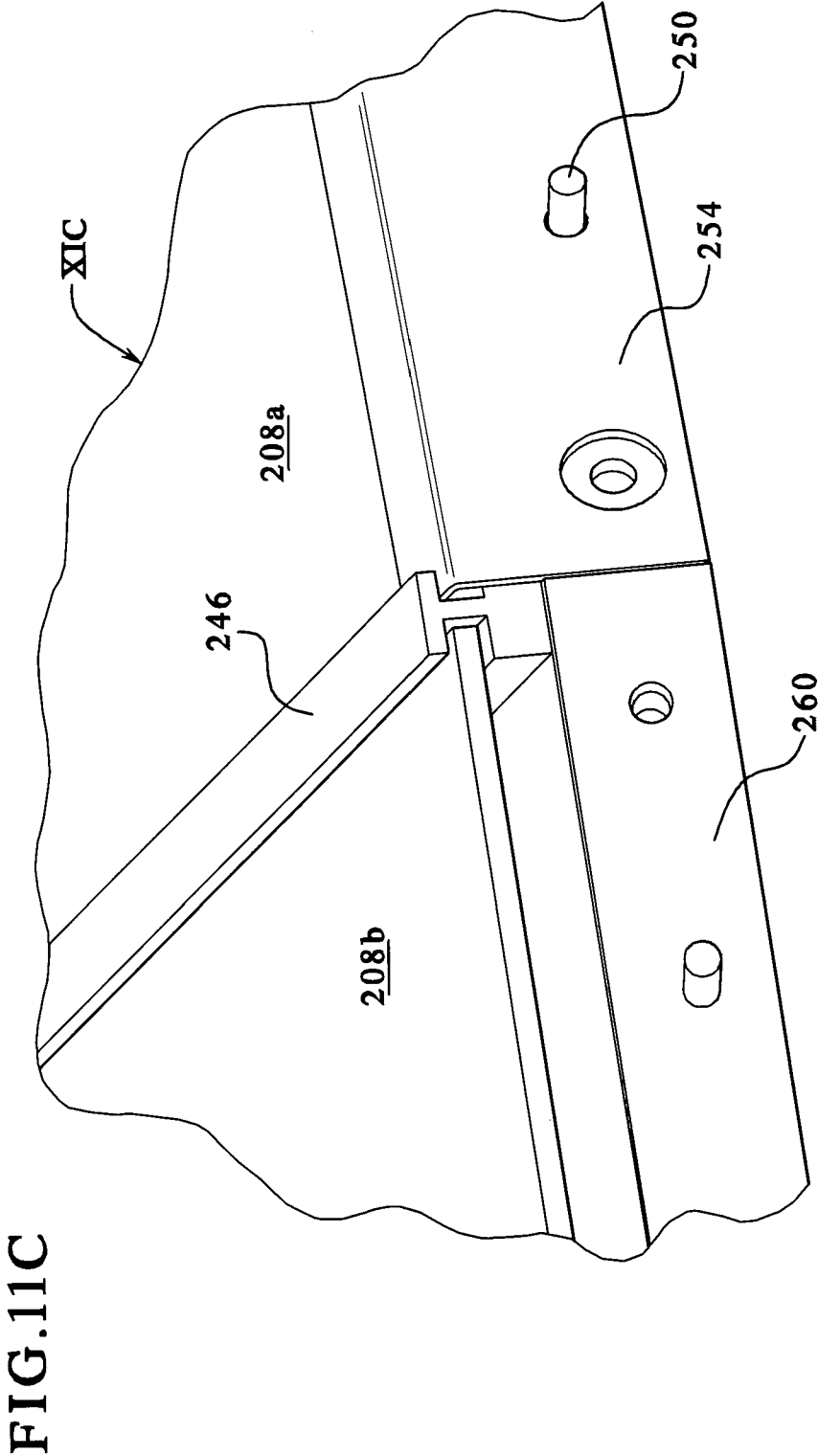


FIG. 11A

FIG. 11B





**GAMING SYSTEM, GAMING DEVICE AND
GAMING METHOD PROVIDING PLAYER
PHYSICAL ACTIVATION OF THE SYMBOL
GENERATOR**

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BACKGROUND

[0002] Gaming device manufacturers strive to make gaming devices that provide as much enjoyment, entertainment and excitement as possible. Providing interesting and exciting primary games and secondary games in which a player has an opportunity to win potentially large awards or credits is one way to enhance player enjoyment and excitement.

[0003] Certain known gaming devices use mechanical devices such as mechanical reels, mechanical wheels and mechanical dice to enhance player attraction of these gaming machines and also to enhance the player's game playing experience. Such mechanical devices enable a player to see physical movements of the mechanical device displaying a game, a portion of a game, symbols of a game or a functional game event or element which increases the player's enjoyment of the game. However, the player is not allowed to physically touch the mechanical device (such as a reel, a wheel or a dice) to actuate or activate the mechanical device. The gaming devices typically require the player to touch or activate a button or touch screen to actuate or activate the mechanical device. These gaming machines typically make a random determination of a game outcome and cause the mechanical device to indicate the game outcome or part of the game outcome.

[0004] To increase player enjoyment and excitement and provide increased player interaction with gaming devices, it is desirable to provide new and different display devices for gaming devices and systems.

SUMMARY

[0005] The present disclosure is directed towards a gaming system, gaming device and method which includes a mechanical symbol generator which displays a plurality of symbols. The gaming system or device enables the player to initiate the movement of the mechanical symbol generator by physically touching the symbol generator to start or cause the movement of the symbol generator. In one embodiment, after the mechanical symbol generator is moving, the gaming system or device determines a symbol to indicate on the symbol generator. The gaming system or device controls the movement of the symbol generator to indicate the determined symbol and provides any awards associated with the indicated symbol to the player.

[0006] More specifically, in one embodiment, the gaming device includes a mechanical wheel which includes a plurality of sections, each section including a symbol or an outcome. Upon game initiation, the gaming device enables the player to physically actuate or initiate the movement of the mechanical wheel. That is, the gaming device enables the

player to grasp the wheel or a handle or other attachment of the wheel to spin the wheel. After the player initiates the movement of the wheel, the gaming device randomly determines one of the sections or symbols to indicate on the wheel. In other embodiments, the gaming device randomly determines one of the sections or symbols to indicate on the wheel before the player initiates movement of the wheel or while the player is initiating movement of the wheel. The gaming device stops the movement of the wheel to indicate the determined symbol or section. That is, the gaming device then determines the symbol or section to indicate and terminates movement of the wheel to stop. The gaming device indicates the determined symbol or section. The gaming device provides any awards associated with the indicated symbol or section to the player. Enabling the player to physically actuate the mechanical wheel and determine the speed of the movement of the wheel provides players with a sense of control over the game results. However, after the player physically initiates the movement of the wheel, the gaming device randomly determines the game result which in one embodiment is independent of the player input. In an alternative embodiment, the gaming device at least partially bases the game result on the player movement of the mechanical devices.

[0007] In one embodiment, the symbol generator is a mechanical symbol generator that includes one or more position sensors, such as an optical sensor, and a drive motor. The gaming device monitors each sensor using a suitable algorithm. Upon initiation of the symbol generator by the player, the gaming device determines if a predetermined amount of movement is made by the symbol generator. For example, the symbol generator must complete three full rotations. After the predetermined amount of movement is made, the gaming device determines a stop position or a section or an outcome to indicate. In one embodiment, the gaming device uses the drive motor to continue the movement of the symbol generator. In one embodiment, the gaming device monitors the movement of the symbol generator using one or more position sensors. In one embodiment, the gaming device uses a suitable brake which is coupled to the symbol generator to stop the movement of the symbol generator at the determined stop position, section or outcome.

[0008] In one embodiment, if upon initiation of the symbol generator by the player, the gaming device determines that a predetermined amount of movement is not made by the symbol generator, the gaming device instructs the player to move or spin the symbol generator again. For example, the gaming device instructs the player to re-spin the symbol generator and to use more force when spinning the symbol generator. It should be appreciated that the player may be required to cause any suitable amount of movement to continue the game including the symbol generator.

[0009] In one embodiment, the gaming device enables the player to initiate movement of an indicator or a symbol generator. The gaming device initiates movement of the other of the devices. For example, a player initiates movement of the symbol generator. The gaming device then initiates movement of the indicator. The gaming device determines one of the symbols or sections to indicate before, during or after at least one of the indicator or the symbol generator moves. In one embodiment, the gaming device stops or slows the movement of at least one of the indicator or the symbol generator to indicate the determined symbol or section. The gaming device then provides the player any award associated with that symbol or section.

[0010] In one embodiment, the symbol generator is a shared symbol generator or community award generator associated with a plurality of gaming devices. In this embodiment, upon a triggering event at one of the gaming devices, the gaming system enables one of the players to physically move or spin the shared symbol generator. In one embodiment, while the shared symbol generator is moving as a result of the player, the gaming system determines one of the symbols or sections to indicate when the shared symbol generator stops spinning. The gaming system continues to move or rotate the shared symbol generator and stops the movement of the shared symbol generator to indicate the determined symbol or section. The gaming system provides at least the player that spins the shared symbol generator an award.

[0011] It should be appreciated that the symbol generator may be any suitable mechanical symbol generator, including but not limited to, a wheel, a cone, a sphere, a reel, a ring, a disk and a die. It should also be appreciated that the symbol generator may be any suitable shape including but not limited to a cone, a circle, a semi-circle, an oval, a rectangle, a triangle, a hexagon, an octagon, a pentagon, a diamond, a linear configuration, an indented oval, and a curved configuration.

[0012] It should be appreciated that the symbol generator may be employed in a primary game and/or a secondary game.

[0013] Additional features and advantages are described herein, and will be apparent from, the following Detailed Description and the figures.

BRIEF DESCRIPTION OF THE FIGURES

[0014] FIGS. 1A, 1B and 1C are diagrammatic front perspective views of alternative embodiments of gaming devices disclosed herein.

[0015] FIG. 2A is a schematic block diagram of the electronic configuration of one embodiment of a gaming device disclosed herein.

[0016] 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.

[0017] FIG. 3 is a flow chart illustrating one method of one embodiment of a play of the game enabling the player to initiate movement of a symbol generator, determining a stop position for the symbol generator and then continuing movement of the symbol generator to the determined stop position.

[0018] FIGS. 4A, 4B, 4C, and 4D are diagrammatic front perspective views of one embodiment of the present disclosure which includes a mechanical symbol generator having a handle that enables the player to physically spin the symbol generator.

[0019] FIGS. 5A and 5B are diagrammatic front perspective views of one embodiment of a gaming device of the present disclosure that enables the player to physically move the symbol generator and then moves the symbol generator backwards to protect the symbol generator from a player further actuating the symbol generator.

[0020] FIGS. 6A and 6B are side diagrammatic views one embodiment of a gaming device of the present disclosure that enables the player to physically move the symbol generator and then retracts the handle and closes the protective cover to protect the symbol generator from a player further actuating the symbol generator.

[0021] FIGS. 7A, 7B, 7C and 7D are diagrammatic front perspective views of one embodiment of a gaming device of the present disclosure that enables the player to physically move the indicator.

[0022] FIGS. 8A, 8B, 8C, 8D and 8E are diagrammatic front perspective views of one embodiment of a gaming device of the present disclosure that enables the player to physically move the indicator or the symbol generator, and where the gaming device initiates movement of the non-initiated indicator or symbol generator.

[0023] FIG. 9A is a diagrammatic top perspective view of one embodiment of a shared display and associated system of the present disclosure.

[0024] FIG. 9B is a schematic block diagram of another embodiment of the electronic configuration for a shared display system.

[0025] FIGS. 10A, 10B and 10C are diagrammatic perspective views of one embodiment of the shared display with a top portion of the display removed to show a supporting frame, and portions thereof, respectively.

[0026] FIGS. 11A and 11B are bottom and top perspective views of one embodiment of an award or outcome displaying part of the shared display having replaceable award or outcome display panels.

[0027] FIG. 11C is a fragmentary perspective view of the award or outcome display panels attached to the frame of the shared display.

DETAILED DESCRIPTION

[0028] 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 where 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 when 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.

[0029] In one embodiment, one or more gaming devices in a gaming system may be thin client gaming devices 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.

[0030] Referring now to the drawings, three example alternative embodiments of the gaming device of the disclosed herein are illustrated in FIGS. 1A, 1B and 1C, as gaming device 10a and gaming device 10c, respectively. Gaming device 10a and/or gaming device 10b and/or gaming device 10c are generally referred to herein as gaming device 10.

[0031] In the embodiments illustrated in FIGS. 1A, 1B and 1C, 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 may 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, 1B and 1C, the gaming device may have varying cabinet and display configurations.

[0032] 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 pseudo-random 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.

[0033] 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.

[0034] 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."

[0035] 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.

[0036] 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.

[0037] 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.

[0038] 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 to the cabinet of the gaming device. The embodiment shown in FIGS. 1A and 1B 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. 1C 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, 1B and 1C, 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 described in more detail below, the gaming device includes a player tracking display 40 which displays information regarding a player's playing tracking status.

[0039] 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.

[0040] 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 (LED), 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 described 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.

[0041] 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, dynamic lighting, video images, images of people, characters, places, things and faces of cards, and the like.

[0042] In one embodiment, the symbols, images and indicia displayed on or of the display device are in mechanical form **210a** as illustrated in FIGS. **1A** and **1B**. 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, outcomes or indicia.

[0043] In one embodiment, the mechanical symbol generator is coupled to a motor controlled by a controller or processor. In one embodiment, the motor is a stepper motor or other servo-type motor that can with a brake accurately position the symbol generator to indicate the randomly determined outcomes for the symbol generator. In another embodiment, the gaming system does not include a brake. For example, in one embodiment, the symbol generator includes pegs and the gaming system includes one or more devices that slows the movement of the symbol generator by creating resistance to the pegs. A stepper or servo motor is controllable to set one or more accelerations and/or decelerations, one or more velocities, a number of spins or distance traveled, and a number of directional changes. The symbol generator can perform a complex sequence of stops, starts and direction changes, or simply spin at different rates of speed and, for example, ramp up and ramp down from and to a zero angular velocity, according to a desired linear or bell-type velocity curve. In another embodiment, the motor is a gear drive motor that runs until a signal tells a controller of the motor to stop.

[0044] In one embodiment, the symbol generator includes dividers between each of the sections that can provide pulses or signals when sensed by a positioning device that is situated in a fixed relationship to the symbol generator. In one embodiment, one or more of dividers passing by the sensor can be sensed to determine an actual position and/or number of rotations of the symbol generator. The actual positional feedback can be used alone or in combination to determine when and where to stop the movement of the symbol generator. For example, the positional feedback can be used to tell the controller of the gear drive motor to stop the motor. In an alternative embodiment, the pulses generated from the sensing of one of the dividers are used to compare against a number of step pulses or other electronic signals sent to the motor driv-

ing shaft and the symbol generator. Control of the symbol generators of the present disclosure can be open loop, closed loop and/or a combination of both.

[0045] In one embodiment, an optical wheel is connected directly or indirectly to and spins with an output shaft of the motor. An optical sensor is fixed to a structural area around the motor and is used in combination with the optical wheel to send a signal to a controller. The signal can be analog or digital and is indicative of the position of the symbol generator with respect to a home position. In one embodiment, the optical wheel that includes a circumferential series of notches of differing widths and frequencies, which create unique patterns of light detected by the optical sensor for various positions of the symbol generator with respect to the optical sensor and/or the home position. The optical wheel and the optical sensor in one embodiment form an absolute or incremental encoder as known to those of skill in the art.

[0046] The signal is used in one embodiment in combination with a brake or clutch-brake assembly to stop the motor and the symbol generator at the desired and randomly determined position, symbol or section. The brake or clutch brake assembly may be any suitable device operable to stop or slow the movement of the symbol generator.

[0047] 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 or a magnetic strip coded with a player's identification, credit totals (or related data) and 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 described above.

[0048] 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.

[0049] 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.

[0050] 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 may be implemented in accordance with the gaming device disclosed herein.

[0051] In one embodiment, as mentioned above and 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 places. One such input device is a conventional touch-screen button panel.

[0052] 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, an SCSI port or a key pad.

[0053] 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 playing music for the primary and/or secondary game or 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 for or to provide any appropriate information.

[0054] 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 con-

figured to selectively acquire still or moving (e.g., video) images and may be configured to acquire the images in either an analog, digital or other suitable format. The display devices may be configured to display the image acquired by the camera as well as 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.

[0055] Gaming device 10 can incorporate any suitable wagering 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.

[0056] 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 described above, display 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.

[0057] 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 described 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 with 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.

[0058] 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 \times 3 symbols on the second reel \times 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 \times 3 symbols on the second reel \times 3 symbols on the third reel \times 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 \times 3 symbols on the second reel \times 3 symbols on the third reel \times 3 symbols on the fourth reel \times 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.

[0059] 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 or each 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.

[0060] 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 described above, the gaming device provides the player three ways to win (i.e., 3 symbols on the first reel \times 1 symbol on the second reel \times 1 symbol on the third reel \times 1 symbol on the fourth reel \times 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 described above, the gaming device provides the player twenty-seven ways to win (i.e., 3 symbols on the first reel \times 3 symbols on the second reel \times 3 symbols on the third reel \times 1 symbol on the fourth reel \times 1 symbol on the fifth reel).

[0061] 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.

[0062] 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.

[0063] 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 cherry symbols as complete.

[0064] 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 described 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.

[0065] 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.

[0066] 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 being based on how many paylines that would have passed through each of the strings of related symbols in active symbol positions).

[0067] 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 card deck. Cards may be dealt as in a traditional game of cards or in the case of the gaming device, may also include that the cards are 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 device, such as 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 credits the player wagered.

[0068] 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 and awards are provided to the player.

[0069] 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 or a plurality of the selectable indicia or numbers via an input device such as the touch screen. The gaming device then displays a series of drawn numbers to 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.

[0070] 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 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.

[0071] 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 may be by 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.

[0072] In another embodiment, the gaming device processor 12 or central server 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 reasons 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.

[0073] 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.

[0074] In one embodiment, no separate entry fee or buy in for a bonus game need be employed. That is, a player may not purchase an 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.

[0075] 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 server, central controller or remote host **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 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.

[0076] 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.

[0077] 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.

[0078] 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.

[0079] 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 win-loss volatility and the like.

[0080] 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.

[0081] 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.

[0082] In operation of these embodiments, upon providing or associating a different bingo card to 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.

[0083] 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 described 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.

[0084] 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 described 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 if the enrolled gaming device's provided bingo card wins or does not win the bingo game as described above.

[0085] 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.

[0086] 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 players 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.

[0087] 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 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.

[0088] 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 each other.

[0089] In another embodiment, the data network is an internet or intranet. In this embodiment, the operation of the gam-

ing 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 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.

[0090] As mentioned above, in one embodiment, the present disclosure may be employed in a server based gaming system. In one such embodiment, as described 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.

[0091] 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.

[0092] 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, 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.

[0093] 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.

[0094] 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.

[0095] 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 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.

[0096] 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.

[0097] 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 described above as well as any side-bets or side-wagers placed.

[0098] 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.

[0099] 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 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 players 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.

[0100] Player Physical Activation of Mechanical Symbol Generator

[0101] FIG. 3 illustrates one embodiment of a method of randomly indicating an award of a symbol generator where the player initiates the movement of the symbol generator. As illustrated in FIG. 3, in one embodiment, the gaming system enables a player to physically move, spin or actuate a mechanical symbol generator which includes a plurality of stop positions as illustrated in block 100. In one embodiment, a plurality or all of the stop positions are associated with symbols and/or sections of the symbol generator. In one embodiment, after the player physically moves the symbol generator the gaming system determines whether the symbol generator has moved a required amount, a required number of rotations or at a required speed. After the symbol generator begins moving, the gaming system randomly determines a stop position as illustrated in block 102. That is, after the player physically initiates movement of the symbol generator, the gaming system randomly determines a stop position of the

symbol generator to be located in a predetermined location once the symbol generator stops moving. The gaming system continues movement of the symbol generator by moving the symbol generator as illustrated in block 104. The gaming system inhibits and stops the movement of the symbol generator such that the stop position is located in a predetermined location as illustrated in block 106. In one embodiment, the predetermined location is associated with an indicator. For example, the gaming system stops the symbol generator from moving such that the stop position is aligned with the indicator. In another embodiment, the gaming system stops the symbol generator from moving such that the stop position is in a position separate from an indicator but the indicator indicates a symbol or section of the symbol generator. It should be appreciated that the stop positions may be associated with the symbols or outcomes of the symbol generator. In one embodiment, the stop positions are each associated with a single section or a single symbol of the symbol generator.

[0102] As illustrated in FIGS. 4A, 4B, 4C, and 4D, in one embodiment, the mechanical symbol generator 60a includes a plurality of sections 110a, 110b, 110c, 110d, 110e, 110f, 110g, and 110h which each include or are associated with a symbol 112a, 112b, 112c, 112d, 112e, 112f, 112g and 112h. The symbol generator is associated with an indicator 62a and includes a handle 64. Though the handle in the illustrated embodiment is parallel to the wheel it should be appreciated that the handle may be connected to the wheel in any suitable manner and may be positioned in any suitable way to the wheel. A drive motor is coupled to the wheel and a position sensor is coupled to the drive motor or the wheel. As illustrated in FIG. 4A, the gaming device instructs the player to spin the wheel. As illustrated in FIG. 4B, the player grasps the handle of the wheel with his or her hand and spins the wheel. As illustrated in FIG. 4C, the wheel begins spinning. In one embodiment, the wheel must spin a certain number of rotations and/or at a certain speed for the game to occur. In this embodiment, the gaming device determines if the certain speed or certain number of rotations has been met. If the certain speed or certain number of rotations has not been met, the gaming device instructs the player to spin again. If the certain speed or certain number of rotations has been met, as the wheel spins, the gaming device determines one of the symbols or sections to indicate. In the illustrated embodiment, the gaming device determines to indicate the 250 symbol 112e or section 110e. The gaming device continues movement of the wheel. That is, the drive motor of the wheel continues movement of the wheel and either gradually decays movement of the wheel or a brake slows or stops movement of the wheel such that the 250 symbol 112e or section 110 is indicated by the indicator 62a as illustrated in FIG. 4D. The gaming device then provides the player an award based on the indicated section and/or symbol of the wheel. For example, in the illustrated embodiment, the gaming device provides the player an award of 250 credits.

[0103] In one embodiment, the gaming device includes a plurality of symbol generators. In one embodiment, the gaming device enables the player to actuate a plurality of the symbol generators. For example, in one such embodiment, the gaming device enables the player to actuate the first symbol generator. In one embodiment, each of the symbol generators must spin a certain number of rotations and/or at a certain speed for the game to occur. In this embodiment, the gaming device determines if the certain speed or certain number of rotations has been met. If the certain speed or certain

number of rotations has not been met, the gaming device instructs the player to spin again. If the certain speed or certain number of rotations has been met, as the symbol generator spins, the gaming device determines one of the symbols or sections to indicate. After the symbol generator stops moving and the gaming device indicates the symbol or section, the gaming device enables the player to spin the next symbol generator. This process continues until a player actuates a designated number or all of the symbol generators.

[0104] In another embodiment, the gaming device includes a plurality of symbol generators. In one such embodiment, the gaming device enables the player to actuate less than all of the symbol generators. In one such embodiment, the player initiates the spinning of one of the symbol generators and then the gaming machine initiates the spinning of the other symbol generators, determines a symbol to indicate for each of the symbol generators and causes each symbol generator to indicate the determined symbol. In another embodiment, the gaming device enables the player to actuate less than all of the symbol generators. In one such embodiment, the player spins the symbol generator and then the gaming machine initiates the spinning of some but not all of the other symbol generators, determines a symbol to indicate for each of the spinning symbol generators and causes each spinning symbol generator to indicate the determined symbol. In one embodiment, the gaming device uses the player's movement of the first symbol generator to determine a function of the movement of the other gaming device initiated symbol generators. For example, the gaming device causes one of the gaming device initiated symbol generators to spin in the same direction as the player initiated symbol generator. In another example, the gaming device causes the gaming device initiated symbol generator to reach a same maximum speed as the speed reached by the player movement of the player initiated symbol generator. The gaming device may initiate movement of the symbol generators in any suitable manner and may base the movement on any suitable factor.

[0105] In certain embodiments, the gaming device includes one or more securing devices or mechanisms which prevent the player from interfering with the movement of the symbol generator after it begins moving. That is, the gaming device prevents the player from touching, stopping, further spinning or further actuating the symbol generator while the symbol generator is moving. As illustrated in FIGS. 5A and 5B, in one embodiment, the symbol actuator is located on cabinet of the gaming device behind a protective cover 66 such as a plastic cover. The protective cover 66 defines one or more openings 68 that enable the player to actuate the symbol generator. As illustrated in FIG. 5A, in one embodiment, the handle 64 extends from the symbol generator 60a through the opening in the protective cover such that the gaming device enables the player to actuate the symbol generator using the handle. As illustrated in FIG. 5B, in one embodiment, the gaming device retracts or moves the symbol generator such that the handle of the symbol generator is behind the protective cover and unreachable. In one such embodiment, the symbol generator moves back or retracts such that the player cannot touch the symbol generator at all.

[0106] As illustrated in FIGS. 6A and 6B, in one embodiment, the gaming device includes a protective cover defining an opening 68. After the player initiates movement of the symbol generator, the gaming device closes the opening so that a player may not interfere with or influence the movement of the symbol generator. As illustrated in FIG. 6A, the

protective cover 66 defines an opening 68 for the handle 64 to extend through the symbol generator. As illustrated in FIG. 6B, in one embodiment, after the player initiates spinning of the symbol generator, the gaming device retracts the handle behind the protective cover and closes the opening 68 of the protective cover such that the player may not touch the symbol generator 60a or the handle 64 of the symbol generator.

[0107] It should be appreciated that the gaming device may include any suitable securing mechanism, cover or device to ensure that a player may not affect the movement of the stopping of the symbol generator once the symbol generator starts moving. For example, the gaming device may raise the height of the symbol generator such that most people would not be able to reach the symbol generator. In one embodiment, the gaming device includes a locking mechanism so that a player may not move the symbol generator once the symbol generator begins moving. In another embodiment, after the player initiates movement of the symbol generator, the gaming device surrounds the symbol generator with a protective cover.

[0108] In another embodiment, the gaming device or system includes at least one mechanical movable indicator or pointer. In one such embodiment, the gaming device or system enables the player to physically move the indicator. In one embodiment, the indicator includes a handle. The gaming device or system enables the player to move the handle of the indicator to physically and directly move the indicator.

[0109] FIGS. 7A and 7B illustrate an embodiment where the gaming device enables a player to physically move an indicator. In one such embodiment, the symbol generator does not move. As illustrated in FIG. 7A, the gaming device enables the player to physically spin the indicator. As illustrated in FIG. 7B, the player spins the indicator 62c. In one embodiment, the indicator must spin a certain number of rotations and/or at a certain speed for the game to occur. In this embodiment, the gaming device determines if the certain speed or certain number of rotations has been met. If the certain speed or certain number of rotations has not been met, the gaming device instructs the player to spin the indicator again. If the certain speed or certain number of rotations has been met, as the indicator spins, in one embodiment the gaming device determines one of the symbols or sections to indicate. In the illustrated embodiment, the gaming device determines to indicate the 200 symbol or section 120.

[0110] As illustrated in FIG. 7C, the indicator spins around the wheel. As illustrated in FIG. 7D, the indicator stops to indicate the section 120 associated with the 200 symbol. The gaming device informs the player that the player wins 200 credits.

[0111] As illustrated in FIGS. 8A, 8B, 8C, 8D and 8E in one embodiment, the gaming device enables the player to spin the indicator or the symbol generator. The gaming device then spins whichever of the indicator or the symbol generator is not spun by the player. That is, the gaming device initiates the spinning or moving of the symbol generator or the stationary indicator, whichever is stationary. The gaming device may cause or enable the symbol generator or the indicator to be spun simultaneously or sequentially. The gaming device determines a section or symbol to indicate before, during or after the player physically initiates the movement of the symbol generator or the indicator.

[0112] As illustrated in FIG. 8A, the gaming system instructs the player to physically spin the wheel or the indicator and that the gaming device will spin the other or non-

spun device. As illustrated in FIG. 8B, the player uses a handle 130 attached to the indicator 62c to spin the indicator. It should be appreciated that the indicator may or may not include or be attached to a handle and may include or be attached to any suitable device which enables the player to more easily spin the wheel. As illustrated in FIG. 8C, the indicator spins. In one embodiment, the gaming device determines a stop position for the indicator and causes the indicator to stop at the determined stop position. In another embodiment, the gaming device enables the indicator to stop moving on its own. In the illustrated embodiment, the gaming device determines to indicate an award of 100.

[0113] As illustrated in FIG. 8D, the gaming device causes the wheel to spin. In the illustrated embodiment, the gaming device causes the wheel to spin as the indicator is spinning. In one embodiment, the gaming device spins the other or unspun device at the speed of the player initiated spun device. That is, if the player spins the indicator at a high speed, the gaming device spins the wheel at a high speed.

[0114] As illustrated in FIG. 8E, the indicator and the wheel stop spinning to indicate an award of 100. The indicator and the wheel may stop spinning or moving simultaneously or sequentially. The indicator and the wheel may spin in the same or different directions.

[0115] It should be appreciated that the gaming device may spin the wheel and one or more indicators in any suitable manner and in any suitable directions. The gaming device may cause the indicator and/or the symbol generator to stop at a certain position. In one embodiment, the gaming device designates one of the indicator or the symbol generator for the player to spin. In another embodiment, the gaming device enables the player to move or spin both the indicator and the symbol generator. The gaming device causes the indication of a determined symbol or section by stopping one or both of the indicator and symbol generator such that the determined symbol or section is indicated. In one embodiment, the gaming device causes or enables one of the indicator or symbol generator to stop before initiating the movement of the unspun device. In another embodiment, the gaming device initiates movement of one of the indicator or symbol generator before enabling the player to move the other of the indicator or symbol generator. In one embodiment, the gaming device includes one or more devices to slow the movement of one of the spun devices. It should be appreciated that the gaming device may determine which symbol or section to indicate at any suitable time.

[0116] It should be appreciated that the indicator may be any suitable size and shape. It should also be appreciated that the gaming device and/or system may include any suitable number of indicators. The gaming system may enable the player to move one or a plurality of indicators.

[0117] It should be appreciated that the gaming system or device may indicate one or more symbols, outcomes or sections of one or more symbol generators to a player in any suitable manner. In one embodiment, the symbol generator is associated with multiple indicators. In one such embodiment, the gaming device or system indicates multiple outcomes or symbols. In one embodiment, the gaming device bases an award on all of the indicated symbols. In another embodiment, the gaming device then further indicates one of the symbols and bases an award for the player on that indicated symbol. In one embodiment, the gaming device or system includes multiple pointers or indicators for simultaneously indicating different sections or symbols. In another embodi-

ment, the symbol generator is associated with a single indicator. In one embodiment, the gaming device indicates a symbol or a section through illumination of the section or a symbol or an indicator associated with one of the sections or symbols.

[0118] It should be appreciated that the symbol generator may move or spin in any direction and for any suitable length of time.

[0119] It should be appreciated that the symbol generator may be positioned in any suitable manner relative to one or more gaming devices. In one embodiment, a symbol generator is horizontally disposed and parallel to the ground. In another embodiment, a symbol generator is vertically disposed and parallel to the walls. It should be appreciated that one or more symbol generators may be associated with one or more gaming devices in any suitable manner.

[0120] As illustrated in FIG. 9A, in one embodiment, the gaming system includes an electromechanical shared symbol generator or display that is positioned adjacent to each of a plurality of associated gaming devices, such as the symbol generator described in U.S. Published Patent Application No. 2006/0046821, entitled "GAMING SYSTEM HAVING MULTIPLE GAMING DEVICES THAT SHARE A MULTI-OUTCOME DISPLAY."

[0121] As illustrated in FIG. 9A, one embodiment of the gaming system 200 employs a shared multi-outcome symbol display or shared symbol generator 202. The primary components of multi-player gaming system 200 include a plurality of individual gaming devices 212a to 212i. In one embodiment, the gaming devices 212a through 212i are spaced apart about shared display 202 via spacer assemblies 204a to 204i (referred to herein collectively as spacer assemblies 204 or generally as spacer assembly 204). In one embodiment, shared display 202 includes a display top 206, which is viewable by each of the players playing gaming devices 212. Display top 206 is divided into a plurality of award, outcome or symbol panels 208a to 208aa (referred to herein collectively as panels 208 or generally as panel 208).

[0122] A plurality or each of the panels 208 displays one or more symbols representing an outcome such as an award, which any player of gaming devices 212 may win via bonus play. In the illustrated embodiment, the panels 208 and thus the values displayed thereon are fixed spatially with respect to one another. Thus, while two or more players may share in a same bonus event, each player playing the bonus is provided an individual outcome or award from a separate panel 208. It should also be appreciated from FIG. 9A that even if a player playing one of the gaming devices 212 is not participating in a particular bonus, the shared display 202 will still generate an outcome in association with the non-participating gaming device 212, increasing fun and excitement for players who have not even triggered the bonus. In the illustrated embodiment, each time the shared display is activated it generates an individual outcome for each gaming device in the system.

[0123] FIG. 9A also illustrates that in one embodiment, the gaming devices each have an indicator (i.e., indicators 210a to 210i-referred to herein collectively as indicators 210 or generally as indicator 210). Indicators 210 respectively reside on the top of each gaming device 212 and point to or indicate one of the awards or outcomes on top 206 of shared display 202 when the shared display stops spinning to reveal randomly or otherwise generated results or outcomes. In different embodiments, indicators 210 are illuminated differently at different times or states for the gaming device 212. The

illumination of the indicator in one embodiment depends upon whether the gaming device **210** is playing the base game, is in a state in which the player is eligible to play the shared display bonus, is in a state in which the player has committed to play the shared display bonus or is in a state in which the player has declined to play a particular upcoming shared display bonus, as well as other states discussed below.

[0124] It should thus be appreciated thus be appreciated that in the illustrated embodiment, the shared display or the symbol generator is a relatively large, substantially horizontally disposed wheel having a plurality of individual sections and symbols which represent the individual outcomes in the form of values displayed on each section. In one such embodiment, the gaming devices are positioned and spaced apart substantially equally about the perimeter of the wheel. The individual outcome or values on the wheel are fixed relative to each other.

[0125] In one embodiment, after at least one of the gaming devices achieves a certain outcome, such as a bonus trigger, in its respective base game, the gaming system enables one of the players (i.e., the player of the triggering gaming machine), to physically spin the shared symbol generator. It should be appreciated that the shared symbol generator includes a suitable mechanism or device to enable each of the players to spin the shared symbol generator. In one such embodiment, a plurality of handles such as pegs **209a** to **209i** enable the player to physically move the shared symbol generator. The gaming system then determines one of the outcomes or sections of the shared symbol generator to indicate. The gaming system continues the spinning of the shared symbol generator and stops the spinning of the shared symbol generator such that the determined symbol or section is indicated and simultaneously generates a separate or individual outcome associated with each of the gaming devices.

[0126] More specifically, in one such embodiment, each gaming device **212** includes a processor. As illustrated in FIG. 9B, the processor in each gaming device **212** is then linked to a server computer or central controller **264** via a communication link **262**. In one embodiment, the central controller **264** in turn controls a shared multi-outcome symbol display controller **220**. The display controller controls such things as the one or more large video displays **222** and one or more motors or motion producing devices driving shared display **202**.

[0127] In one embodiment, the display controller also controls the topper lights **226** and a separate topper motor controller **230**, for example, when the game recognition portion of the topper rotates independent from the display motor controller **230**. The display controller can include an onboard sound chip or alternatively communicate with a separate sound card **232**. In either case, each of the game-linking systems have in one embodiment a separate set of speakers **234** from the speakers of the gaming devices to produce separate audio. In one embodiment, the display controller communicates via link **236** with central controller **264** through any of the modes described above for link **262**. As seen, the display controller is an additional spoke along with gaming devices **212a** to **212c** from central hub or controller **264**.

[0128] In an alternative embodiment illustrated by the dashed serial link **238**, display controller is linked serially or in a daisy chain with gaming devices **212a**, **212b**, **212c**, etc. Here, the gaming devices communicate with each other and display controller via the serial link **238**, in which each gaming device **212** as well as display controller has a separate and

distinct address along loop **238**. It should be appreciated that links **88** and **96** can be any type of local area link, wide area link, T-1 line, microwave link, radio frequency link, a fiber-optic link, cable linkage, digital satellite link, internet link and any suitable combination thereof.

[0129] It should be appreciated that any of the shared displays can be controlled and operated from a remote location, the results of which are displayed at one or more desired places within one or more casinos or gaming establishments. For example, a central controller can generate the outcome or outcomes and distribute a display of those outcomes to multiple banks of gaming devices, wherein those banks can include an intermediate central controller, such as controller **264**, which then downloads the information (i) to the display devices of individual gaming devices **212**, (ii) to one of the electromechanical outcome displays **202**, or (iii) to a large display **222** associated with a bank of gaming devices.

[0130] The outcomes can be the same for two or more of the gaming devices or can be different for two or more or each of the gaming devices. In one embodiment, the shared symbol generator generates and associates an individual outcome with each associated gaming device.

[0131] In one embodiment, the associated gaming devices or gaming machines are each provided with a bonus indicator, such as one or more lights, an alarm or siren, which visually and/or audibly informs the players to watch for an upcoming outcome generation of the shared symbol generator. When multiple gaming devices are eligible to participate in the outcome generation, multiple lights, alarms or sirens are activated, indicating that the next generation will provide outcomes to multiple eligible gaming devices or that the shared display will be activated multiple times. In one embodiment, the gaming system only enables the triggering player to physically move or spin the shared symbol generator. It should be appreciated that the gaming system may enable any eligible player to spin or move the shared symbol generator in accordance with any suitable criteria. It should be appreciated that the gaming system may determine which player of a plurality of players spins the shared symbol generator in accordance with any suitable criteria, including but not limited to: (a) wagers placed; (b) player tracking statistics; (c) an order of triggering the bonus event; (d) a primary game event; (e) a primary game outcome; (f) total amount wagered by the players; and (g) any suitable combination thereof.

[0132] Referring now to FIGS. **10A** to **11C**, embodiments for the mechanical and structural support, wheel top, the protective cover and the indicators **210a** to **210i** of the shared displays **202** and associated systems of one embodiment are illustrated. The structural elements are shown for a shared display and system having nine gaming devices, **212a** to **212i**, as seen in FIG. **10A** and twenty-seven symbol panels or value areas **208a** to **208aa**, as seen in FIGS. **11A** and **11B**. FIG. **10A** has differently configured indicators illustrating that the indicators, which may be shaped as desired. The indicators may be configured or shaped in any suitable manner. The apparatuses can be adapted however for any suitable amount of gaming devices **212** and display panels **208**.

[0133] FIGS. **10A** to **10C** illustrate a structural framework **220** or part thereof, which is seen in FIG. **10A** when a display top **206** (shown in FIGS. **11A** and **11B**) is removed. Structural framework **220** includes a plurality of substantially horizontally disposed members **222**, a plurality of substantially vertically disposed members **224** and a plurality of stepped supports **226** that are disposed on an angle with respect to

members 222 and members 224. Members 222 and 224 and stepped supports 226 can be any suitable structural material, such as metal, plastic, wood or any combination thereof. The material in one preferred embodiment is strong, e.g., steel or aluminum. For reference, FIG. 10B also illustrates an optical wheel 230, which in one embodiment is located between a motor 244 the top 206 of shared display 202. Optical wheel 230 provides positional feedback information as discussed below.

[0134] As seen in FIGS. 10A and 10B, framework 220 in general includes an inner polygonal shell and an outer polygonal shell of the horizontal members 222 and vertical members 224. In one embodiment, the inner and outer polygonal shells are fastened together via additional horizontal members 222. Stepped supports 226 extend from the outer polygonal shell to the inner polygonal shell. Motor mount 228 can be coupled to the vertical members 224 and/or horizontal members 222 that make up the inner polygonal shell of frame 220. Motor mount 228 receives a motor 244 extending downwardly from display top 206 shown in FIGS. 11A and 11B and supports motor 244 and display top.

[0135] FIG. 10C illustrates one embodiment for constructing framework 220. Here, framework 220 is made in three sections 220a to 220c. FIG. 10C illustrates one section 220a, which is substantially one third of the overall framework 220. Section 220a includes a section or third of the inner polygonal shell and a section or third of the outer polygonal shell described above. Section 220a is easier to ship and transport through the casino than is full framework 220. Section 220a is likely to better withstand the rigors of shipping than is full framework 220.

[0136] Sections 220a to 220c are transported to the gaming establishment and bolted or welded together at the point of use to form framework 220. In one embodiment, protective cover 238 is also assembled from three pieces. The gaming devices 212, spacer assemblies 204, topper 134, protective cover 238, large displays and other components of shared display 202 or the gaming system can also be modular or at least partly assembled at the point of use in one embodiment. Any other suitable modifications can be made to the system to make shipping and transporting system 200 (referring collectively to gaming systems 200a to 200f) as easy, safe and efficient as possible.

[0137] FIG. 10B also illustrates a plurality of elongated lights 232, which can be fluorescent lights, a series of light emitting diodes ("LED's"), or other suitable type of lighting. Lights 232 can be white or colored and be the same color or different colors. Lights 232 can be illuminated continuously, semi-continuously or intermittently as desired. In the illustrated embodiment, lights 232 are positioned generally circumferentially at various radial lengths from the center of framework 220, which supports lights 232 (contrast with FIG. 10A where the lights extend radially from center of framework 220). In this manner, lights 232 run generally perpendicular to the longer dimension of panels 208. Positioning lights 232 in such a manner produces less shadowing and more even lighting beneath top 206 of shared display 202 than if lights 232 are positioned radially with respect to framework 220. This advantage is also evident when top 206 of display 202 is spinning.

[0138] FIGS. 11A to 11C illustrate the top 206, motor 244 and other related apparatus. Motor mount 228 of framework 220 (FIG. 10B) holds and supports motor 244 and any suitable mechanical and electrical equipment operating with

motor 244, such as a motor drive, a gearbox, and the like. The motor drive can alternatively be housed inside one of the spacer assemblies 204 wherein the output of the motor is linked mechanically to top 206.

[0139] In one embodiment, motor 244 is a large stepper motor or other servo-type motor controlled by controller 224 that can accurately position top 206 to show outcomes generated randomly for the shared display. Stepper or servo motor 244 is controllable to set one or more accelerations and/or decelerations, one or more velocities, a number of spins or distance traveled, a number of directional changes, and the like. Top 206 can perform a complex sequence of stops, starts and direction changes, or simply spin at different rates of speed and, for example, ramp up and ramp down from and to a zero angular velocity, according to a desired linear or bell-type velocity curve. In another embodiment, motor 244 is a gear drive motor that runs until a signal tells a controller of the motor to stop. Controller generates such signal in one embodiment.

[0140] Shared display 202 also includes, in one embodiment, real or generated sounds, such as ticking sounds, which accompany the spinning of top 206. The ticking sounds become more and less frequent as the top 206 accelerates or decelerates, respectively, so that the player can audibly and visually discern when top 206 is speeding up or slowing down.

[0141] FIG. 11A shows that top 206 includes nine dividers 240 dispersed radially equally beneath display areas 208a to 208aa. Dividers 240 serve both structural and strengthening purposes and can aid in providing feedback information to a controller of the system.

[0142] Dividers 240 can provide pulses or signals when sensed by a positioning device that is situated in a fixed relationship to top 206. One or more of dividers 240 passing by the sensor can be sensed to determine an actual position and/or number of rotations of top 206. The actual positional feedback can be used alone or in combination to determine when and where to stop a generation of outcomes on top 206, for example, to tell the controller of the gear drive motor to stop the motor. In an alternative embodiment, the pulses generated from the sensing of one of the dividers 240 is used to compare against a number of step pulses or other electronic signals sent to the motor driving shaft 244 and top 206. Control of the shared displays of the can be open loop, closed loop and/or a combination of both.

[0143] In one embodiment, an optical wheel 230 is connected directly or indirectly to and spins with the output shaft of motor 244. An optical sensor 242 is fixed to motor mount 228 of framework 220 is used in combination with optical wheel 230 to send a signal indicating to control server. The signal can be analog or digital and is indicative of the position of top 206 with respect to a home position. Optical wheel 230, in one embodiment, includes a circumferential series of notches of differing widths and frequencies, which create unique patterns of light detected by sensor 242 for various positions of top 206 with respect to the sensor 242 and/or the home position. Optical wheel 230 sensor 242 in one embodiment form an absolute or incremental encoder as known to those of skill in the art.

[0144] After the player spins the shared display, the signal is used in one embodiment in combination with a brake or clutch-brake assembly to stop motor 244 and top 206 at the desired and generated position. The brake and optical wheel 230 can also be used in combination with the gear drive motor

or the stepper motor if needed. In one embodiment, the brake is a fail safe brake that holds top 206 frictionally in place if power is removed from the brake or upon a power down situation.

[0145] FIG. 11B illustrates a fully assembled top 206 from the topside or reverse side shown in FIG. 11A. FIG. 11B illustrates that panels 208a to 208aa are each separated from one another by an extruded brace 246. Also, a cover plate 254 is fitted at the end of each panel 208 to hold panels within braces 246. Panels 208a to 208aa are colored translucent or a light transparent resistant thermoplastic in one embodiment and allow light from lights 232 (FIG. 10B) to illuminate the panels, selectively, continuously or semi-continuously.

[0146] Although not illustrated, panels 208a to 208aa display numbers or symbols corresponding to awards or outcomes that may be provided to a player. The symbols can represent any suitable type of outcome, such as a vacation giveaway, merchandise, cash, monetary units, credits and the like. The replaceable nature of the panels enables the award pool to be readily updated so that the bonus game can periodically present a fresh and variable set of awards. If panels 208 are updated, the paytables of gaming devices 212 are updated accordingly. As discussed below, gaming system 200 provides a mechanism by which the new paytables can be registered with bonus server 230.

[0147] FIG. 11B illustrates a cap 252, which covers the top and center of top 206. Cap 252, in one embodiment, is a formed plated piece, which is at least substantially opaque. Alternatively, cap 252 allows light from lights 232 to illuminate the cap. Cap 252 hides the ends of panels 208 and provides an aesthetically pleasing finish to top 206, which is a visual centerpiece of the shared display 202 of gaming system 200.

[0148] FIG. 11C illustrates section XIC taken from FIG. 11B. Panels 208a and 208b, extruded brace 246 and cover plate 254 are shown in more detail. Extruded brace 246 defines grooves that accept panels 208a and 208b. The wedge shaped panels 208 can slide in and out when an associated cover plate 254 is removed from an outer mounting ring 252. Outer mounting ring 252 is fixed to the spoke-like braces 246. Outer mounting ring 252 extends around the entire periphery of top 206 and includes holes (where separate fasteners 250 are used) or studs 250 that mate with aligned holes of cover plate 254. A finishing or acorn nut threads onto studs or fasteners 250 to complete the fixing of plate 254 to outer mounting ring 252, which in turn locks a panel 208 in place. Cover plates 254 are sized to fit between two extruded braces 246. Sectioning cover plates 254 enables the operator to remove only a desired one or more cover plate 254 to remove and/or replace a desired one or more panel 208.

[0149] It should be appreciated that a shared symbol generator may be but is not limited to a wheel, a cone, a sphere, a reel, a ring, a disk, a sphere containing a plurality of balls and a die. The shared symbol generator may have any suitable shape including but not limited to a cone, a circle, a semi-circle, an oval, a rectangle, a triangle, a hexagon, an octagon, a pentagon, a diamond, a linear configuration, an indented oval, and a curved configuration. In one embodiment, the shared display is a roulette wheel. In another embodiment, the shared display is a bingo ball based number generator.

[0150] In another embodiment, the shared display includes a large sphere or dome surrounded by a bank of gaming machines. Each gaming machine has an individual bonus game trigger which enables the player to play a slotto type

bonus game. After triggering the bonus game, as soon as a player presses an activation button, a plurality of balls in the sphere start moving around inside the sphere. A blower appears to move the balls. The moving balls are for aesthetic purposes only and do not determine which outcome a player will receive. In one embodiment, each gaming machine has a slotto type apparatus with a predetermined set of balls. After a designated amount of time of the balls moving around inside the dome, one of the balls from the predetermined set of balls is selected by the gaming device or by a central controller and upon a player input, is indicated to the player via a vertically extending tube positioned under the dome and in front of that gaming machine. The player is provided the award associated with the ball indicated in the tube and the bonus game ends. The player may physically activate the blower or one or more of the balls in various embodiments.

[0151] It should be appreciated that the game including the symbol generator may be a base game or a secondary game. A secondary game may be triggered based on an occurrence of any suitable triggering event.

[0152] It should be appreciated that the symbol generator may display any suitable symbols. In one embodiment, the symbol generator displays numbers or symbols corresponding to awards or outcomes that the gaming device or system may provide to the player. In one embodiment, certain areas or sections of the symbol generator are blank and do not display symbols. The symbols can represent any suitable type of outcome, such as free games, multipliers, vacation giveaways, merchandise, cash, monetary units, credits and the like.

[0153] 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.

The invention is claimed as follows:

1. A gaming system comprising:

- at least one display device;
- at least one input device;
- at least one processor;
- a wheel having a plurality of sections, a plurality of the sections each including at least one of a plurality of symbols; 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, the at least one input device and the wheel to:
 - (a) display a play of a primary game upon a wager by a player;
 - (b) upon an occurrence of a triggering event, enable the player to directly physically engage the wheel to cause the wheel to move;
 - (c) randomly determine one of said sections of the wheel to indicate;
 - (d) cause the wheel to slow down and stop the movement the wheel to cause an indication of the determined section based on the player's movement of the wheel and the determined section; and
 - (e) provide the player a game outcome based on said symbol of said determined section.

2. The gaming system of claim 1, wherein said at least one processor is operable with said wheel and a handle attached to the wheel to enable the player to move the wheel after the occurrence of a triggering event in the primary game.

3. The gaming system of claim 1, wherein the wheel is configured to rotate around a substantially vertical axis.

4. The gaming system of claim 1, wherein the wheel is configured to rotate around a substantially horizontal axis.

5. The gaming system of claim 1, which includes a protective cover that at least partially covers the wheel.

6. The gaming system of claim 1, wherein when the instructions are executed by the at least one processor, the instructions cause the at least one processor to, after the wheel starts moving, randomly determine one of said sections of the wheel to indicate.

7. The gaming system of claim 1, which includes a handle attached to and extending from the wheel.

8. A multi-player gaming system comprising:

a plurality of individual gaming devices, each individual gaming device including at least one display device configured to display a primary game operable upon a wager by a player, each primary game including a triggering event;

a symbol generator shared by the plurality of gaming devices, said shared symbol generator including a plurality of symbols;

at least one processor configured to operate with said gaming devices and said shared symbol generator to:

- (a) after an occurrence of one of the triggering events, enable a player of one of the gaming devices to physically move the shared symbol generator;
- (b) randomly determine one of said symbols to indicate;
- (c) cause the shared symbol generator to continue moving to and then cause the shared symbol generator to stop moving to indicate said determined symbol based on the player's movement of the wheel and the determined section; and
- (d) provide said player a bonus game outcome based on said determined symbol.

9. The multi-player gaming system of claim 8, wherein the shared symbol generator is configured to rotate around a substantially vertical axis.

10. The multi-player gaming system of claim 8, wherein the shared symbol generator is configured to rotate around a substantially horizontal axis.

11. The multi-player gaming system of claim 8, wherein when the instructions are executed by the at least one processor, the instructions cause the at least one processor to after said shared symbol generator starts moving randomly determine one of said sections of the shared symbol generator to indicate.

12. The multi-player gaming system of claim 8, which includes at least one handle attached to and extending from said shared symbol generator.

13. The gaming device of claim 8, wherein the shared symbol generator is selected from the group consisting of a wheel, a cone, a sphere, a reel, a ring, a disk and a die.

14. A gaming system comprising:

at least one input device;

at least one display device;

at least one processor;

a wheel including a plurality of sections, a plurality of the sections each including at least one of a plurality of symbols;

an indicator; 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, the at least one input device, the wheel and the indicator to:

- (a) display a play of a primary game upon a wager by a player;
- (b) upon an occurrence of a triggering event, enable the player to:
 - (i) physically engage the wheel to cause the wheel to move, or
 - (ii) to physically engage the indicator to cause the indicator to move;
- (c) if the player physically engages the wheel, cause the indicator to move;
- (d) if the player physically engages the indicator, cause the wheel to move;
- (e) randomly determine one of said sections of the wheel to indicate;
- (f) cause at least one of the wheel and the indicator to keep moving and stop any movement of the wheel and the indicator to cause an indication of the determined section based on the determined section and the movement of one of the indicator and wheel by the player; and
- (g) provide the player a game outcome based on said symbol of said determined section.

15. The gaming system of claim 14, wherein when the plurality of instructions are executed by the at least one processor, cause the at least one processor to, while at least one of the indicator or the wheel is moving, randomly determine one of said sections of the wheel to indicate.

16. The gaming system of claim 14, wherein when the plurality of instructions are executed by the at least one processor, cause the at least one processor to operate with the wheel and the indicator to stop the movement of the wheel or the indicator while the other of the wheel or indicator is moving.

17. The gaming system of claim 14, wherein when the plurality of instructions are executed by the at least one processor, cause the at least one processor to operate with the wheel and the indicator if the player physically engages the wheel, to stop the movement of the indicator.

18. The gaming system of claim 14, wherein when the plurality of instructions are executed by the at least one processor, cause the at least one processor to operate with the wheel and the indicator if the player physically engages the indicator, to stop the movement of the wheel.

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