dealing, thereby increasing actual playing time. Such devices also add to the excitement of a game by reducing the amount of time the dealer or house has to spend in preparing to play the game.

However, the card output area or shoe used in conjunction with shufflers often places strain on dealers' hands and wrists by using card distribution interfaces to output cards that are oriented at a substantial acute angle relative to the table surface. To draw cards from these shoes, dealers often have to twist their wrists repeatedly at awkward and uncomfortable angles. Moreover, shoes often are not easily adjustable to meet a dealer's card drawing preference (*e.g.*, direction in which dealers prefer to draw a card relative to the table).

Card counting is also a significant problem, for example, when using automatic card shufflers or hand shuffling. Casinos often lose a house advantage when players are able to predict what cards remain to be dealt and the proximity of those cards to being dealt. It is desirable for casinos to reduce or eliminate the ability for players to count cards. Continuous shuffling machines assist in reducing the ability to count cards, but additional ways to eliminate card counting and improve ergonomics of card delivery may be desirable.

SUMMARY

In a first aspect, the present disclosure provides a card-handling device, comprising: a playing card-shuffling apparatus; and a card rotation device configured to rotate one or more playing cards about a minor axis of the one or more playing cards to alter an orientation of lateral width edges of the one or more playing cards, the minor axis of the one or more playing cards extending through a thickness of ~~the~~ one or more playing cards in a direction transverse to a longitudinal axis and a lateral axis of the one or more playing cards as at least one of the one or more playing cards enters the shuffling apparatus.

In a second aspect, the present disclosure provides a card-handling device, comprising: a card input configured to rotate at least one playing card from a group of playing cards about a minor axis of the at least one playing card to alter an orientation of longitudinal lateral width edges of the at least one playing card relative to at least one adjacent playing card of the group of playing cards, the minor axis of the at least one playing card extending through a thickness of the at least one playing card in a direction transverse to a longitudinal axis and lateral axis of the at least one playing card, wherein the card input is

configured to enable the at least one playing card to be provided to a card-shuffling apparatus for shuffling playing cards after the orientation of the longitudinal lateral wifth edges of the at least one playing card has been altered.

In a third aspect, the present disclosure provides a card-handling device configured to be mounted at or proximate a gaming surface, the card-handling device comprising: a card-shuffling apparatus for shuffling playing cards; and a card rotation device configured to receive the playing cards in a substantially flat orientation and to alter an orientation of a leading edge of at least some of the playing cards while maintaining the at least some of the playing cards in the substantially flat orientation.

~~In a fourth aspect, the present disclosure provides a card-handling device configured to be positioned at a gaming structure having a playing surface, comprising: a card-shuffling apparatus for shuffling playing cards; and a card output portion for receiving the playing cards from the card-shuffling apparatus, wherein the playing cards are positioned by the card-shuffling apparatus to be received into the card output portion where major faces of the playing cards are oriented in a plane substantially transverse to the playing surface when the card output portion is in a first position at least partially within the card-handling device, and where the card output portion is further configured to transport the playing cards to a second position where at least a portion of the card output portion is accessible from the playing surface.~~

In an ~~fifth~~ aspect, the present disclosure provides a method of shuffling cards, comprising: inputting cards into a card rotation device of a card-handling device; rotating the card rotation device from a first orientation to a second orientation about a minor axis of the cards to alter an orientation of lateral width edges of the cards, the minor axis of the cards extending through a thickness of the cards in a direction transverse to a longitudinal axis and a lateral axis of the cards to randomize an orientation of the lateral width edges of the cards; transporting the cards from the card rotation device into a card-shuffling apparatus; outputting at least one card from the card-shuffling apparatus into a card output area.

~~In a sixth aspect, the~~The present disclosure provides a method of shuffling cards: comprising inputting cards into a card-handling device in an orientation substantially parallel a horizontal plane; transporting the cards to a card-shuffling apparatus;

outputting the cards into a card output area in an orientation substantially perpendicular to the horizontal plane.

~~In a seventh aspect, the~~The present disclosure provides a card-handling device comprising: a card-shuffling apparatus comprising: a carousel; and at least one-hundred compartments each configured to hold between one and ten cards arranged radially about the carousel.

Some embodiments of the present disclosure may include a card-handling device including a card-shuffling apparatus. The card-shuffling apparatus may include a carousel having a number of compartments, for example, at least one-hundred compartments. The compartments may be arranged radially about the carousel and configured to hold between one and ten cards in each compartment.

~~In an eighth aspect, the~~The present disclosure provides a card-shuffling carousel comprising: compartments configured to hold at least one card arranged radially about the carousel, wherein the compartments comprise: an aperture defined by at least two arms; and a resilient material extending between a bottom retention and a top retention in at least one of the at least two arms, wherein the resilient material has a length greater than a distance between the bottom retention and the top retention and at least one of the bottom retention or the top retention comprises a movable connection.

~~In a nineth aspect, the~~ The present disclosure provides a card-handling device for use with a gaming surface comprising: a retractable card input portion configured to receive playing cards in an orientation substantially parallel to the gaming surface; a transportation device may be configured to transfer the playing cards from the retractable card input portion to a card-shuffling apparatus within the card-handling device; and a card outlet configured to receive the playing cards from the card-shuffling apparatus and to deliver the playing cards to a location proximate the gaming surface in an orientation substantially transverse to the gaming surface.

~~In a tenth aspect, the~~The present disclosure provides a card-handling device configured to be positioned at least partially below a gaming table upper surface and comprising: a card intake area; a card-shuffling apparatus, the card intake area configured to feed cards into the card-shuffling apparatus in an orientation substantially parallel to a surface of the gaming table; and an output area configured to receive the cards from the card-shuffling apparatus in an orientation substantially transverse to the surface of the gaming table in an area beneath the

CLAIMS

What is claimed is:

1. A card-handling device, comprising:

a playing card-shuffling apparatus; and

a card rotation device configured to rotate one or more playing cards about a minor axis of the one or more playing cards to randomly alter an orientation of lateral width edges of the one or more playing cards, the minor axis of the one or more playing cards extending through a thickness of the ~~at~~ one or more playing cards in a direction transverse to a longitudinal axis and a lateral axis of the one or more playing cards as at least one of the one or more playing card enters the card-shuffling apparatus.

2. The card-handling device of claim 1, wherein the card rotation device comprises a card input of the card-handling device.

3. The card-handling device of claim 1, wherein the card-handling device is configured to position the card rotation device in a first orientation with first lateral width edges of the one or more playing cards facing the card-shuffling apparatus and a second orientation with second lateral width edges of the one or more playing cards facing the card-shuffling apparatus, the first lateral width edges opposing the second lateral width edges.

4. The card-handling device of claim 3, wherein the first lateral width edges and the second lateral width edges extend along longitudinal axes of the one or more playing cards.

5. The card-handling device of claim 3, wherein the second orientation is approximately 180º of rotation different from the first orientation.

6. The card-handling device of claim 3, further comprising an actuation system associated with the card rotation device and a frame structure of the card-handling device, the actuation system configured to move the card rotation device between the first orientation and the second orientation.

7. The card-handling device of claim 6, wherein the actuation system is configured to automatically rotate the card rotation device approximately 180º between the second orientation and the first orientation.

8. The card-handling device of claim 1, further comprising a card output comprising a card output area configured to receive playing cards from the card-shuffling apparatus, wherein the card output is configured to present the playing cards in a horizontal orientation with major faces of the playing cards extending a direction transverse to a gaming surface on which the card-handling device is utilized.

9. The card-handling device of claim 8, wherein the card-shuffling apparatus comprises a carousel configured to receive and eject the playing cards from a number of compartments arranged radially about the carousel.

10. The card-handling device of claim 9, wherein the number of compartments comprise at least 100 compartments.

11. The card-handling device of claim 9, where the carousel comprises compartment modules each comprising at least two compartments, wherein each compartment module is configured to be individually removed from and positioned in the carousel, the compartment modules collectively comprising the number of compartments.

12. The card-handling device of claim 11, wherein the compartment modules each comprise at least four compartments and less than ten compartments.

13. The card-handling device of claim 11, wherein the carousel is configured to receive the playing cards from the card rotation device in a compartment at a first position and eject the playing cards from the compartment into the card output area at a second position, wherein the second position is approximately 90º of rotation from the first position.

14. The card-handling device of claim 13, wherein the playing cards are received into the card output area in an orientation substantially transverse to an orientation in which the playing cards are received into the card-handling device in a card input of the card-handling device.

15. A card-handling device, comprising:

a card input configured to rotate at least one playing card of a group of playing cards about a minor axis of the at least one playing card to alter an orientation of longitudinal lateral width edges of the at least one card relative to at least one adjacent playing card of the group of playing cards, the minor axis of the at least one playing card extending through a thickness of the at least one playing card in a direction transverse to a longitudinal axis and a lateral axis of the at least one playing card, wherein the card input is configured to enable the at least one playing card to be provided to a card-shuffling apparatus for shuffling playing cards after the orientation of the longitudinal lateral width edges of the at least one playing card has been altered.

16. A card-handling device configured to be mounted at or proximate a gaming surface, the card-handling device comprising:

a card-shuffling apparatus for shuffling playing cards; and

a card rotation device configured to receive the playing cards in a substantially flat orientation and to alter an orientation of a leading edge of at least some of the playing cards while maintaining the at least some of the playing cards in the substantially flat orientation.

17. The card-handling device of claim 16, wherein the card-handling device is configured to transfer the playing cards to the card-shuffling apparatus after the orientation of the leading edge of at least some of the cards have been altered by the card rotation device.

18. The card-handling device of claim 16, further comprising a card output area for receiving the playing cards from an output of the card-shuffling apparatus, wherein the card output area is configured to receive and store the playing cards in an orientation where major faces of the playing cards are substantially transverse to the gaming surface.

19. The card-handling device of claim 18, wherein the card output area is configured to hold between five-hundred and six-hundred playing cards in a single stack where the playing cards are substantially supported on sides of each of the playing cards.

20. The card-handling device of claim 16, wherein the card rotation device comprises:

a rotating elevator configured to receive the playing cards with major faces of the playing cards in a plane substantially parallel to the gaming surface and rotate the playing cards at least 90º in the plane substantially parallel to the gaming surface, and transport the playing cards from a first position above the card-handling device to a second position within the card-handling device;

a first card feed system for transporting the playing cards from the rotating elevator in an area below the gaming surface to the card-shuffling apparatus, the first card feed system comprising a first card pathway; and

an imaging system oriented along the first card pathway of the first card feed system configured to read at least one indicia of the playing cards being transported along the first card pathway of the first card feed system.

~~21. A card-handling device configured to be positioned at a gaming structure having a playing surface, comprising:~~

~~a card-shuffling apparatus for shuffling playing cards; and~~

~~a card output portion for receiving the playing cards from the card-shuffling apparatus, wherein the playing cards are positioned by the card-shuffling apparatus to be received into the card output portion where major faces of the playing cards are oriented in a plane substantially transverse to the playing surface when the card output portion is in a first position at least partially within the card-handling device, and where the card output portion is further configured to transport the playing cards to a second position where at least a portion of the card output portion is accessible from the playing surface.~~

~~22. The card-handling device of claim 21, wherein the card-handling device is configured to output the playing cards in a stack where a height of the stack of the playing cards is slanted to extend along a major length of the card output portion in a direction along the playing surface.~~

~~23. The card-handling device of claim 21, further comprising a rotating card input device, wherein the rotating card input device is configured to:~~
~~receive the playing cards in a plane substantially parallel to the playing surface,~~
~~rotate the playing cards within the plane substantially parallel to the playing surface, and~~
~~transport the playing cards as rotated to the card-shuffling apparatus.~~

~~24. The card-handling device of claim 21, wherein the card output portion enables an operator to slide a stack of the playing cards from the card output portion onto the playing surface when the card output portion is in the second position.~~

~~25. The card-handling device of claim 21, wherein the card output portion comprises:~~
~~a storage compartment configured to hold the playing cards in a plane substantially parallel to the playing surface; and~~
~~a movable guide configured to alter a volume of the storage compartment.~~

~~26. The card-handling device of claim 25, wherein the card output portion comprises a door on an end of the storage compartment configured to release a selected number of cards.~~

~~27. The card-handling device of claim 26, wherein the door comprises a magnetic securing device, and wherein the door is configured to displace to a position clear of a pathway upon which a stack of playing cards travels to exit the storage compartment of the card output portion.~~

21~~28~~. A method of shuffling cards, comprising:

inputting cards into a card rotation device of a card-handling device;

rotating the card rotation device from a first orientation to a second orientation about a minor axis of the cards to alter an orientation of lateral width edges of the cards, the minor axis of the cards extending through a thickness of the cards in a direction transverse to a longitudinal axis and a lateral axis of the cards to randomize an orientation of the lateral width edges of the cards;

transporting the cards from the card rotation device into a card-shuffling apparatus;

outputting at least one card from the card-shuffling apparatus into a card output area.

22~~29~~. The method of claim 21~~28~~, further comprising transporting at least one card from the card rotation device when the card rotation device is in the second orientation.

23~~30~~. The method of claim 21~~28~~, wherein rotating the card rotation device from the first orientation to the second orientation comprises rotating the card rotation device about 180º.

24~~31~~. The method of claim 21~~28~~, further comprising inputting the cards into the card rotation device in a first plane and outputting the at least one card into the card output area in a second plane where the second plane is substantially perpendicular to the first plane.

~~32. A method of shuffling cards comprising:~~

~~inputting cards into a card-handling device in an orientation substantially parallel a horizontal plane;~~

~~transporting the cards to a card-shuffling apparatus;~~

~~outputting the cards into a card output area in an orientation substantially perpendicular to the horizontal plane.~~

~~33. The method of claim 32, wherein transporting the cards comprises moving the cards from a location above a surface of a gaming structure to another location below the surface of the gaming structure, and outputting the cards comprises returning the cards to the surface of the gaming structure.~~

~~34. The method of claim 33, further comprising sliding cards out of the card output area to the surface of the gaming structure at one time.~~

~~35. The method of claim 32, wherein transporting the cards comprises rotating at least some of the cards about a minor axis of the cards to alter an orientation of lateral edges of the at least some of the cards, the minor axis of the cards extending through a thickness of the cards in a direction transverse to a longitudinal axis and a lateral axis of the cards.~~

~~36. A card-handling device comprising:~~

~~a card-shuffling apparatus comprising:~~

~~a carousel; and~~

~~at least one-hundred compartments each configured to hold between one and ten cards arranged radially about the carousel.~~

~~37. The card-handling device of claim 36, wherein the compartments comprise an aperture and a securing element.~~

~~38. The card-handling device of claim 37, wherein the securing element comprises:~~

~~an arm defining a top retention and a bottom retention; and~~

~~a leaf spring comprising a resilient material spanning between the bottom retention and the top retention wherein:~~

~~the leaf spring has a length greater than a distance between the top retention and the bottom retention;~~

~~the leaf spring forms an arc with an apex in a direction away from the arm; and~~

~~a connection of the leaf spring to at least one of the top retention or the bottom retention is a floating connection.~~

~~39. The card-handling device of claim 36, wherein the carousel comprises compartment modules, each module comprising at least two compartments configured to be individually removed from and positioned in the carousel, the compartment modules collectively comprising the at least one-hundred compartments.~~

~~40. The card-handling device of claim 36, wherein the at least one-hundred compartments comprise between one-hundred-twenty and one-hundred-forty compartments.~~

~~41. A card-shuffling carousel comprising:~~

~~compartments configured to hold at least one card arranged radially about the carousel, wherein the compartments comprise:~~

~~an aperture defined by at least two arms; and~~

~~a resilient material extending between a bottom retention and a top retention in at least one of the at least two arms, wherein the resilient material has a length greater than a distance between the bottom retention and the top retention and at least one of the bottom retention or the top retention comprises a movable connection.~~

~~42. The card-shuffling carousel of claim 41, wherein the resilient material is fixed to at least one of the top retention and the bottom retention.~~

~~43. A card-handling device for use with a gaming surface comprising:~~

~~a retractable card input portion configured to receive playing cards in an orientation substantially parallel to the gaming surface;~~

~~a transportation device configured to transfer the playing cards from the retractable card input portion to a card-shuffling apparatus within the card-handling device; and~~

~~a card outlet configured to receive the playing cards from the card-shuffling apparatus and to deliver the playing cards to a location proximate the gaming surface in an orientation substantially transverse to the gaming surface.~~

~~44. The card-handling device of claim 43, wherein the card outlet is configured to receive the playing cards from the card-shuffling apparatus at a location below the gaming surface.~~

~~45. The card-handling device of claim 44, wherein the card outlet is configured to elevate the playing cards above the gaming surface and maintain the playing cards in the orientation substantially transverse to the gaming surface.~~

~~46. A card-handling device configured to be positioned at least partially below a gaming table upper surface, and comprising:~~

~~a card intake area;~~

~~a card-shuffling apparatus, the card intake area configured to feed cards into the card-shuffling apparatus in an orientation substantially parallel to a surface of the gaming table; and~~

~~an output area configured to receive the cards from the card-shuffling apparatus in an orientation substantially transverse to the surface of the gaming table in an area beneath the surface of the gaming table and to transport the cards to an area at least partially above the surface of the gaming table.~~