ABSTRACT

A gaming device stand including a back plate partially supported by a ground engaging surface and a cabinet having lower, upper, left and right panels. The upper panel has a surface for supporting the underside of a gaming device. The lower panel is cantilevered from the back plate and forms a clearance with the a ground engaging surface. The clearance is configured to accommodate the lower portions, e.g. feet and lower legs, of an individual playing the gaming device.
GAMING DEVICE STAND

BACKGROUND OF THE INVENTION

1. Field of the Invention

One aspect of the present invention relates to a gaming device stand, and more specifically, a gaming device stand for a slot machine.

2. Background Art

Gaming devices, for example, slot machines or other video type gaming devices, are typically placed on and supported by stands. Each stand usually includes side panels, a back panel, a compartment, a door, and a support surface. The side and back panels provide support and stability to the stand. The compartment can be used to store coins dispensed from the gaming device and/or gaming device wiring. The door can be used to manage access to the contents of the compartment. The support surface can support the underside of the gaming device.

Gaming device stands are generally designed and constructed to support the weight of the gaming device and to facilitate access to a compartment that stores coins and electronic equipment. Unfortunately, current proposals fall short of addressing the design objective of easy and comfortable access to the gaming devices for all players. For example, players seated in a wheelchair, for example handicapped or limited mobility individuals may have difficulty situating themselves comfortably in front of the gaming device, because of the design of the stand. Often, the compartment and door obstructs placement of the wheelchair foot rest. The wheelchair occupant must back the wheelchair away from the gaming device, causing the occupant to reach an uncomfortable distance to manipulate the controls on the gaming device. In certain situations, the occupant may not be able to reach the controls at all.

In light of the foregoing, what is needed is a gaming device stand that provides comfortable access to players, including wheelchair occupants. What is also needed is a gaming device stand that securely supports the weight of the gaming device.

SUMMARY OF THE INVENTION

Therefore, one aspect of the present invention provides a gaming device stand that provides comfortable access to players, including wheelchair occupants. Another aspect of the invention is a gaming device that securely supports the weight of the gaming device.

According to one embodiment of the present invention, a gaming device stand is disclosed which includes a back plate partially supported by a ground engaging surface, and a cabinet having a lower, upper, left and right panels. The upper panel has a surface for supporting the underside of a gaming device. The lower panel is cantilevered from the back plate and forms a clearance with the ground engaging surface. The clearance can be configured to accommodate the lower portions, e.g., feet and lower legs, of an individual playing the gaming device.

According to another embodiment of the present invention, a door for a cabinet mounted on a gaming device stand is disclosed. The door includes a lower portion having a radiused surface and an intermediate surface. The door is removably and hingelessly connected to the cabinet at the lower portion.

These and other aspects of the present invention will be better understood in view of the attached drawings and following detailed description of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantages thereof, may best be understood with reference to the following description, taken in connection with the accompanying drawings which:

FIG. 1 is an exposed, perspective view of the core structure of a gaming device stand in accordance with one embodiment of the present invention;

FIG. 2 is a perspective view of the gaming device stand of FIG. 1 in an assembled state in accordance with one embodiment of the present invention;

FIG. 3 is a cut-away, cross-sectional, side view of a cabinet of the gaming device stand of FIGS. 1 and 2;

FIG. 4 is a fragmented, perspective view of the cabinet of the gaming device stand of FIGS. 1 and 2;

FIG. 5 is a cross-sectional, isolated side view of the cabinet door of the gaming device stand of FIGS. 1 and 2;

FIG. 6 is a cut-away, side view of the gaming device stand of FIGS. 1 and 2 depicting a slot machine placed on and supported by a gaming device stand and being utilized by a wheelchair occupant;

FIGS. 7a and 7b are schematics showing dimensions for accessible designs for those utilizing wheelchairs;

FIG. 8 is a cross-sectional view of a gaming device stand having two positions in accordance with one embodiment of the present invention;

FIG. 9 is a perspective view of a gaming device stand having three positions in accordance with another embodiment of the present invention;

FIG. 10 is a perspective view of a gaming device stand having four positions in accordance with another embodiment of the present invention; and

FIG. 11 is a perspective view of a gaming device stand having five positions in accordance with another embodiment of the present invention.

DETAILED DESCRIPTION

As required, detailed embodiments of the present invention are disclosed herein. However, it is to be understood that the disclosed embodiments are merely exemplary of an invention that may be embodied in various and alternative forms. Therefore, specific functional details disclosed herein are not to be interpreted as limiting, but merely as a representative basis for the claims and/or as a representative basis for teaching one skilled in the art to variously employ the present invention.
In certain embodiments, the present invention provides a stand for one or more gaming devices, for example, one or more slot machines or other types of gaming devices. For instance, the gaming device can vary based on method of payout, e.g. class I, II, and III, and/or video lottery terminals.

FIG. 1 depicts an exposed, perspective view of stand 10 for one or more gaming devices, according to one embodiment of the present invention. Stand 10 includes six back plates, each referenced as back plate 12, arranged circumferentially and spaced apart from centerline 14, which includes center point 16. In certain embodiments, back plate 12 can be constructed of an aluminum alloy or other metal alloy, and has a generally rectangular shape. Back plate 12 includes circular opening 38 for receiving gaming device wiring. This six back plate carousel configuration provides six positions around stand 10, each position is suitable to be occupied by an individual using a gaming device supported by stand 10.

Back plate 12 has horizontal top and bottom edges 18 and 20 of each back plate 12, which are generally parallel to each other. Each back plate 12 also includes spaced apart, opposing surfaces 22 and 24. Bottom edge 20 is adapted to lie flush to and engage ground engaging surface 26, e.g. a casino floor, so as provide stability to stand 10. In certain embodiments, opposing surfaces 22 and 24 are spaced apart about 0.5 inches to provide a 0.5 inch thickness to back plate 12. In certain embodiments, the thickness is in the range of about 0.25 inches to about 2.0 inches, although, it should be understood that any thickness may be utilized which provides a stable gaming device stand. In certain embodiments, back plate 12 has a height of about 21.25 inches. It should be understood that the height may vary depending on the implementation of the present invention. In certain embodiments, back plate 12 has a width of about 30 inches. It should be understood that the width may vary depending on the implementation of the present invention.

Each back plate 12 also has opposing, vertical, tapered side edges 27 and 28. Side edges 27 and 28 taper inward from surface 22 to surface 24 of back plate 12 at a taper angle suitable for connecting back plates 12 to achieve the circumferential configuration of stand 10. In the case of the six back plate configuration depicted in FIG. 1, the taper angle is about 30 degrees.

It should be understood that the number of positions at a stand can be varied by adjusting the taper angle. For a three position stand, the taper angle can be about 60 degrees. For a four position stand, the taper angle can be about 45 degrees. For a five position stand, the taper angle can be about 36 degrees. For a ten position stand, the taper angle can be 18 degrees. For a twelve position stand, the taper angle can be 15 degrees. It also should be understood that the present invention contemplates a one or two position gaming stand. For example, a one position gaming stand may be mounted to a wall and a two position stand may have a back to back configuration. In the cases of a one or two position stand, the taper angle may not be necessary, and the opposing, vertical sides may be flat, i.e. about 0 degrees.

Back plates 12 are fastened together at or near side edges 27 and 28 by angled joint 30 and fasteners 32. Angled joint 30 includes first and second surfaces 34 and 36, each having a number of apertures for receiving fasteners 32. Surfaces 34 and 36 include four apertures arranged in a vertical, linear orientation, although a different number of fasteners can be used in accordance with the present invention. Back plate 12 has a number of apertures proximate to side edges 27 and 28 for receiving fasteners 32. According to FIG. 1, four apertures are located proximate to each of side edges 27 and 28 and are arranged in a vertical, linear orientation. Fasteners 32 are mounted at least partially in the apertures on angled joint 30 and back plates 12, and provide a tight fitting and strong connection between angled joint 30 and back plates 12.

Stand 10 also includes six first and second support members 40 and 42, extending away from centerline 14 of stand 10. Each support member includes attachment end 44 and extension end 46. Attachment end 44 includes three apertures spaced apart in a triangular configuration for receiving fasteners 48. Back plate 12 also includes three apertures spaced in a triangular configuration for receiving fasteners 48. Back plate apertures are proximate to top edge 18. Fasteners 48 are mounted at least partially in the apertures on first and second support members 40 and 42 and back plate 12, and provide a tight fitting and strong connection between first and second support members 40 and 42 and back plate 12.

Referring to FIG. 2, a perspective view of stand 10 in an assembled state is shown. Stand 10 includes polygonal cover 54 supported by reinforcement members 50 and 52. Each position on stand 10 includes back plate 12, cabinet 56 and shelf 58. Referring to FIGS. 2 and 4, cabinet 56 includes opposing end panels 60 and 62, opposing side panels 61 and 63, upper and lower panels 64 and 66, and door 68. Upper and lower panels 64 and 66 extend between opposing side panels 61 and 63. Lower panel 66 includes a slot proximate to its front edge for receiving the lower edge of door 68. The upper edge of door 68 is lockably and unlockably connected to an area proximate the front edge of upper panel 64 by lock set 65. Although door 68 is a hingeless door, it should be understood that other door and cabinet configurations can be utilized in accordance with the present invention, including, but not limited to, hinged doors. Another example is a one-piece door and lower panel where the lower panel is hinged to open in a downward direction. Opposing end panels 60 and 62 are attached to the outer surfaces of opposing side panels 61 and 63, respectively, and left and right edges of upper panel 64, respectively.

End panels 60 and 62 are generally rectangular in shape and can include lip 70, as depicted in FIG. 4. Non-limiting examples of materials that can be used to construct end panels 60 and 62 include hardboard (e.g. medium density fiberboard (MDF)) and thermoplastic materials. The thickness of each end panel 60 and 62 is about 1.0 inches. The vertical length of each end panel 60 and 62 is about 9.625 inches. The top and bottom edges of each end panel 60 and 62 have lengths of about 18.5 inches and 18 inches, respectively. Lip 70 can include upper and lower radiused portion 71 and 73 with about a 0.375 inch radius and middle portion 75 with a length of about 1.125 inches. The outer
edges of end panels 60 and 62 can be radiused, for example, an about 0.3125 inch radius can be applied to all outer edges, as depicted in FIG. 4. It should be understood that these dimensions may vary depending on the implementation of the present invention.

Each side panel 61 and 63 are generally rectangular in shape. Non-limiting examples of materials that can be used to construct side panels 61 and 63 include hardboard (e.g. medium density fiberboard (MDF)) and thermoplastic materials. The thickness of each side panel 61 and 63 is about 0.75 inches. The vertical length of each side panel 61 and 63 is about 8.5 inches. The horizontal length of each side panel 61 and 63 is about 18 inches. The inner side and inner lower edges of each side panel 61 and 63 can be radiused, for example, an about 0.375 inch radius can be applied to these edges, as depicted in FIG. 4. It should be understood that these dimensions may vary depending on the implementation of the present invention.

Upper panel 64 is generally rectangular in shape. Non-limiting examples of materials that can be used to construct top panel 64 include hardboard (e.g. medium density fiberboard (MDF)) and thermoplastic materials. Moreover, laminates can be applied to the surface of top panel 64. Top panel 64 has a depth of about 18.5 inches, a width of about 28.025 inches, and a thickness of about 1.125 inches. The front edges of top panel 64 can be radiused. It should be understood that these dimensions may vary depending on the implementation of the present invention. Top panel 64 can also include opening for receiving coins from a coin hopper of a gaming device. A chute (not shown) can be fitted to the perimeter of opening 72 to aid in coin collection. Opening 72 can also function to facilitate the passing of wires to and from the gaming device. In other embodiments, the opening is sized differently, typically smaller, for the passing of wires. In these embodiments, the opening is not used to receive coins since the gaming device may not have a coin hopper.

Lower panel 66 is generally rectangular in shape. Non-limiting examples of materials that can be used to construct lower panel 66 include hardboard (e.g. medium density fiberboard (MDF)) and thermoplastic materials. Moreover, laminates can be applied to the surface of lower panel 66. Bottom panel 66 has a depth of about 17.625 inches, a width of about 26.50 inches, and a thickness of about 1.125 inches. It should be understood that these dimensions may vary depending on the implementation of the present invention.

FIG. 5 is a cross-sectional, isolated, side view of cabinet door 68. Non-limiting examples of materials that can be used to construct cabinet door 68 include hardboard (e.g. medium density fiberboard (MDF)) and thermoplastic materials. According to FIG. 5, cabinet door 68 includes lower portion 77 having intermediate surface 79 and radiused surface 74. Lower portion 77 is seated within a slot provided proximate to the front edge of lower panel 66. Upper portion 76 of cabinet door 68 is lockably and unlockably connected to the front edge of upper panel 64 via lock set 65. The height of cabinet 68 from upper edge 78 to lower edge 80 is about 7.188 inches. The height from upper edge 78 to intermediate surface 79 is about 6.813 inches. The thickness of door 68 is about 0.75 inches. The thickness of radiused surface 74 is about 0.375 inches. The radius of radiused surface 74 is about 0.125 inches. The height of radiused surface 74 is about 0.375 inches. Cabinet door 68 is about 26.3125 wide.

Shell 58 includes shelf surface 57 and shelf apron 59. Shelf surface 57 is generally triangular in shape and can have a radiused outer edge. Shelf surface 57 is suitable for supporting chip cups, beverage containers, etc. of individuals using the gaming devices supported on stand 10.

Cabinet 56 at least partially defines a compartment that can be utilized for retention and storage of items. In certain embodiments, the compartment can contain a tray or drawer for retaining coins released from a coin hopper of the gaming device. The tray can be fixed to the cabinet or be supported by lower panel 64 in a non-fixed manner. The compartment can also be utilized to house wiring for one or more gaming devices. To aid the transfer of coins from the hopper to the tray, a chute can be fitted to the perimeter of opening 72.

FIG. 6 is a cut-away, fragment, side view of stand 10 depicting gaming device 82 being supported by stand 10. Gaming device 82 is placed on lower panel 64 of cabinet 56. Stand 10 provides cantilevered support of gaming device 82 such that a clearance 89 is provided with ground engaging surface 26. Stand 10 is particularly suitable for supporting gaming device 82, for example, slot machine, for use by wheelchair occupant 86 who occupies wheelchair 84. Clearance 89 between ground engaging surface 26 and lower panel 66 can be such as to accommodate lower portions 88 of the wheelchair occupant, including portions of the wheelchair leg and foot rest and the occupant’s lower body, more specifically, portions of the leg and feet. It should be understood that clearance 89 is also suitable for accommodating the feet and lower legs of non-wheelchair occupants. In certain embodiments, this clearance is a volume having width, depth, and height dimensions. The width dimension can equal the width of lower panel 66. The depth dimension can equal the depth of lower panel 66. The height dimension (H1) can be the distance between the ground engaging surface 26 and lower panel 66. In certain embodiments, H1 can be in the range of 6 to 19 inches, and in other embodiments, H1 can be in the range of 12 to 18 inches. A second height dimension (H2) can be the distance between the ground engaging surface 26 and upper panel 64. In certain embodiments, H2 can be in the range of 14 to 22 inches.

FIGS. 7a and 7b are schematics showing dimensions for accessible designs for those utilizing wheelchairs. Dimension X is the wheelchair occupant’s maximum reach over an obstruction. X is less than or equal to about 25 inches (about 635 millimeters). Dimension Y is the length of obstruction 92. Z is greater than or equal to Y. Dimension Y is the height of the wheelchair occupant’s maximum reach over an obstruction. When X is less than about 20 inches (about 510 millimeters), then Y is less than or equal to about 48 inches (about 1220 millimeters). When X is in the range of about 20 inches to about 25 inches (about 510 millimeters to about 635 millimeters), then Y is equal to or less than about 44 inches (about 1120 millimeters). According to FIGS. 7a and 7b, the distance from the back of the wheelchair wheels and the end of the lower portions of the wheelchair occupant is about 48 inches. The width of the wheelchair from wheel to wheel, including additional width to allow the user to manipulate the wheels with the occupant’s arms and hands is about 50 inches.
FIG. 6 schematically depicts stand 10 being used in accordance with the accessible design of FIGS. 7a and 7b. FIG. 6 shows dimensions X, Y, and Z, which are in the ranges identified above for accessible design. Dimension D is the distance between the front of gaming device 82 and the chest of the wheelchair occupant. In certain embodiments, dimension D is in the range of about 18 inches to about 22 inches.

FIG. 8 is a cross-sectional view of gaming device stand having two positions. Stand 90 includes positions 92 and 94 such that gaming devices 93 and 95 are facing the opposite direction. Each side of stand 90 includes an end support panel (not shown) for providing support to stand 90. Each end support panel is connected to the end panels of each cabinet 96 and 98, and extends in a vertical direction from ground engaging surface 26 to upper panels 100 and 102 and extends in a horizontal direction to the cabinet doors 104 and 106. Although the height of upper panels 100 and 102 are depicted as being equal, it should be understood that the heights can be different depending on the implementation of the present invention. In certain embodiments, cabinets 96 and 98 can be modified to provide a wire chase for gaming device wires to conceal the wires from player view. In certain embodiments, two or more of stand 90 can be placed side-by-side in close proximity to provide an island of four or more gaming devices.

FIG. 9 is a perspective view of a gaming device stand having three positions. Stand 107 includes three positions 108, 110, and 112. Stand 106 also includes triangular cover 114. FIG. 10 is a perspective view of a gaming device stand having four positions. Stand 116 includes four positions 118, 120, 122, and 124, and rectangular cover 126. FIG. 11 is a perspective view of a gaming device stand having five positions. Stand 128 includes five positions 130, 132, 134, 136, and 138 and pentagonal cover 140.

While embodiments of the invention have been illustrated and described, it is not intended that these embodiments illustrate and describe all possible forms of the invention. Rather, the words used in the specification are words of description rather than limitation, and it is understood that various changes may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. A gaming device stand comprising:
   a back plate partially supported by a ground engaging surface; and
   a cabinet having lower, upper, left and right panels, the upper panel having a surface for supporting the underside of a gaming device, the lower panel cantilevered from the back plate and forming a clearance with the ground engaging surface, the clearance configured to accommodate the lower portions of an individual playing the gaming device.

2. The gaming device stand of claim 1 wherein the clearance includes a vertical dimension (H1) in the range of about 6 to about 19 inches.

3. The gaming device stand of claim 2 wherein the vertical dimension is about 14 inches.

4. The gaming device stand of claim 2 wherein the ratio of H1 to a vertical dimension (H2) from the ground engaging surface to the upper panel is in the range of about 0.40 to about 0.85.

5. The gaming device stand of claim 4 wherein the ratio is about 0.64.

6. The gaming device stand of claim 1 wherein the cabinet further includes a hingeless cabinet door.

7. The gaming device stand of claim 6 wherein the door includes a bottom edge having an intermediate surface and a radius surface.

8. The gaming device of claim 6 wherein the door is lockably and unlockably connected proximate to the outer edge of the upper panel.

9. The gaming device stand of claim 1 wherein the gaming device is a slot machine.

10. The gaming device stand of claim 1 further comprising a pair of support members, each having a proximal end connected to the back plate and a distal end opposite the proximal end, wherein the cabinet is mounted on the pair of support members to provide cantilevered support to the cabinet.

11. The gaming device stand of claim 1 wherein the cabinet at least partially defines a compartment.

12. The gaming device stand of claim 11 wherein the compartment includes a tray.

13. The gaming device stand of claim 11 wherein the compartment houses gaming device wiring.

14. A gaming device stand comprising three or more of the gaming device stands of claim 1 arranged in a carousel configuration.

15. The gaming device stand of claim 14 comprising six gaming device stands of claim 1.

16. A gaming device stand comprising:
   a back plate partially supported by a ground engaging surface;
   a pair of support members, each support member having a proximal end connected to the back plate and a distal end opposite the proximal end; and
   a panel sized to support the underside of a gaming device, the panel being connected to each support member and providing a clearance for accommodating lower portions of an individual playing the gaming device.

17. The gaming device stand of claim 16 wherein the clearance includes a vertical dimension in the range of about 6 to about 19 inches.

18. The gaming device stand of claim 17 wherein the vertical dimension is about 14 inches.

19. A door for a cabinet mounted on a gaming device stand, the door comprising a lower portion having a radius surface and an intermediate surface, the door being removable and hingelessly connected to the cabinet at the lower portion.

20. The door of claim 19 wherein the door is removably and hingelessly connected to a slot provided on the surface of the lower panel of the cabinet.

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