GAMING MACHINE AND CABINETS THEREFOR

Inventor: Hans Zeidler, Kensington Gardens (AU)

Correspondence Address:
POLSINELLI SHALTON FLANIGAN SUELTHER-HUS PC
700 W. 47TH STREET, SUITE 1000
KANSAS CITY, MO 64112-1802 (US)

Assignee: OCTAVIAN INTERNATIONAL LIMITED, Essex (GB)

Publication Classification

Int. Cl.
A47B 47/00 (2006.01)
A47B 43/00 (2006.01)

U.S. Cl. ......................... 312/263; 312/257.1; 463/46

ABSTRACT

A gaming machine cabinet including one or more assembly components which are fabricated for shipment in knock down condition and for on-site assembly.
GAMING MACHINE AND CABINETS THEREFORE

BACKGROUND OF THE INVENTION

1. Field of Invention

The present invention relates to a gaming machine or a gaming machine cabinet which is provided for on-site assembly.

2. Description of the Related Art

For many years, gaming machines have been installed in public places such as hotels, casinos and arcades. There are many types of gaming machines which function in different ways. However, in general, these machines are large, comprise a display screen and means to enable the user to interact with the game and coin or token handling mechanisms. All of these are housed in a large cabinet.

Gaming machines must be robust in order to support the operating mechanisms and the weight of the significant numbers of coins or tokens inserted by users. They must also be sufficiently robust in order to prevent damage not only during routine usage but also from unscrupulous persons attempting to steal collected coins or tokens. To ensure that gaming machines are sufficiently robust, the panels generally used for assembly are thick and have considerable weight. While the significant weight of the gaming machine makes it difficult for the machine to be removed by potential thieves, it does make their transportation, delivery and installation difficult. Movement of the machines may need special equipment and will certainly require at least two delivery people. This will increase the costs of transportation. This is a particular problem where machines have to be transported in bulk and/or overseas.

To date, all gaming machines have been assembled by the supplier and provided to customers in assembled form. While this ensures that the machine is correctly assembled, transport of the assembled machines is space intensive and means that the cost of transporting them in bulk is high.

Gaming machines are frequently themed according to contemporary fashions and tastes, such as popular films or television shows. When the public popularity of the theme of a gaming machine wanes, it is necessary to replace the machine with a more up to date machine. This frequent replacement of gaming machines means that the high cost of transporting them will be repeatedly incurred.

Although the problems associated with transporting gaming machines either singly or in bulk have been known for many years, no meaningful solution has been suggested.

SUMMARY OF THE INVENTION

It is therefore an object of this invention to provide new and improved gaming machines and cabinets for gaming machines.

It is another object of this invention to provide new and improved gaming machines and cabinets for gaming machines which can be efficiently transported and stored, and in particular can be efficiently transported and stored in bulk.

It is a further object of this invention to provide gaming machines and gaming machine cabinets which can be stacked in a space efficient manner during storage or transport.

Thus, according to one aspect of the present invention, there is provided a gaming machine cabinet comprising a plurality of assembly components which are fabricated for shipment in knock down condition and for on-site assembly.

According to a further aspect of the present invention, there is provided a kit for assembling a gaming machine cabinet comprising a plurality of assembly components which are fabricated for shipment in knock down condition and for on-site assembly and instructions for assembly.

By transporting gaming machine cabinets in knock down form rather than in assembled form, the cabinets are less space intensive and can be easily handled. They are able to be stacked efficiently thereby making the best use of the space available.

The gaming machine cabinets in knock down form are less fragile than assembled gaming machines. The less fragile cabinets are less likely to be damaged in transit than assembled gaming machines and can be transported using conventional means, especially containers. Additionally, due to their low fragility, the knock down cabinets of the present invention can be rapidly loaded and unloaded.

The term “knock down” means that the assembly components are in a disassembled state for ease of storing, shipping and the like. The term “flat pack” has been used to refer to furniture which is in knock down form. However, the term knock down additionally covers arrangements where the assembly components are not necessarily flat, but may also include projections as despite possibly including these projections, the gaming machines and gaming machine cabinets of the present invention will still be more easily and efficiently stored and shipped than fully assembled gaming machines of the prior art.

According to a still further aspect of the present invention, there is provided a gaming machine comprising a plurality of assembly components which are fabricated for shipment in knock down condition and for on-site assembly and gaming machine operating means.

According to an additional aspect of the present invention, there is provided a kit for assembling a gaming machine comprising a plurality of assembly components which are fabricated for shipment in knock down condition and for on-site assembly and gaming machine operating means and instructions for assembly.

The provision of a gaming machine in knock down form allows the machine to be transported and stored more efficiently than assembled gaming machines. The components of the gaming machine in knock down form can be stacked efficiently which reduces the amount of space required when those machines are transported or stored.

By the term “gaming machine operating means” is intended any mechanical, electronic or computerised component which is used in a gaming machine. Gaming machine operating means include, for example, the mechanism for receiving, validating, collecting, rejecting and paying out coins or bills. It also includes display units, buttons, switches, central processing units, reeds, lights, speakers and the like.

The assembly components will, in general, comprise a set of panels. For a typical cabinet arrangement, the assembly components will comprise two side panels, a back panel and top and base panels which are joined together at or in the vicinity of their edges. However, arrangements in which one or more of these panels are not included in the assembly components, or which are joined together in other ways still form part of the present invention.

In embodiments where the assembly components comprise one or more panels, it is preferred that at least some
of those panels or other assembly components will be adapted in some way so that they can be securely and reliably fastened together. For example, where two panels are to be connected, the first may include holes extending through the panel to allow screws, nails or other fixation means to pass through the holes and into the second panel, possibly into its edge. Alternatively or additionally, the first panel may be provided with a flange having a holes therethrough to allow fixation means to pass through the holes and into the second panel. The flange may extend along all of the edges of the panel, or just parts thereof.

[0023] Where fixation means are used, panels may include drill-holes to receive the fixation means to improve the ease of fastening the panels together. A further advantage of providing the drill-holes is that, as they will be carefully positioned to receive fixation means extending from other panels, the correct placement and assembly of the panels is ensured.

[0024] Instead of using drill-holes, an alternative option is to provide panels with threaded studs which are positioned to correspond to holes in other panels or their flanges. Again, as the studs and holes are positioned to correspond to each other's location, this ensures that the panels are correctly arranged. Once the panels have been placed such that the studs of a first panel pass through holes in a second panel, a nut can be screwed onto the threaded stud to securely fasten the panels together.

[0025] The panels may be provided with interconnecting features so that they can be interlocked without the need for additional fixation means, although these may be used to provide additional fastening strength. For example, where a first panel is to be attached to a second panel, the first panel may be provided with a series of outwardly extending clips and the second panel may be provided with corresponding tabs which are arranged to pass through the clips to securely fasten the first and second panels together. Tongue and groove arrangements could additionally or alternatively be employed.

[0026] Instead of panels being connected directly to each other, the assembly components may comprise brackets or the like which are connected to both of the panels to fasten them together.

[0027] In addition to, or instead of, the fixation means discussed above, assembly components of the present invention may be fastened together using adhesive.

[0028] It will be appreciated that the assembly components may be adapted for on-site assembly in any way and that the specific fastening arrangements detailed above are exemplary of the many different fastening arrangements known in the art.

[0029] It will also be appreciated that although the fastening arrangements discussed above all involve panels being fastened to other panels, this again is exemplary. Any of the assembly components of the present invention, and not only panels, may be adapted for fastening to other assembly components.

[0030] In preferred embodiments of the present invention, the assembly components comprise first and second side panels. The side panels preferably have top, front and back edges. The side panels may be adapted to be fastened to other assembly components and in this connection, a flange having holes therethrough is particularly preferred.

[0031] The assembly components preferably comprise a back panel. Alternatively, the assembly components may comprise a pair of back semi-panels which are adapted to be fastened together to form a back panel.

[0032] In embodiments where the assembly components comprise a side panels and a back panel or back semi-panels, the back panels/semi-panels may be formed integrally with one or both of the side panels. For example, the back panel may be formed integrally with the first or second side panel. Alternatively, the first side panel may be formed integrally with a first back semi-panel and the second panel may be formed integrally with a second back semi-panel.

[0033] In arrangements in which back panels or semi-panels are formed integrally with side panels, the back panels/semi-panels preferably extend generally perpendicularly from a location towards the back edge of the side panel/s, most preferably from the back edge itself.

[0034] In preferred embodiments of the present invention, the assembly components comprise a base which may be adapted to be fastened to the bottom edges of the side panels and/or back panel/s. It is also preferred that the assembly components comprise a top panel which may be adapted to be fastened to the top edges of the side panels and/or back panel/s.

[0035] In preferred embodiments of the present invention, the assembly components comprise support means. The purpose of the support means is to securely support the gaming machine operating means when those means are inserted into the cabinet. The support means may take any form provided that in use, the gaming machine operating means is securely supported. In preferred embodiments, the support means comprise at least one shelf. The at least one shelf may be adapted to be fastened directly to the side and/or back panels. Alternatively or additionally, the support means may include brackets for mounting the at least one shelf to the side and/or back panels. The side or back panels may also be arranged to receive the support means.

[0036] The assembly components may additionally comprise other components conventionally used in gaming machines, for example, hopper-printer interfaces, vent plates, door stops, security doors, button panels, coin trays, hinges, locks, and the like.

[0037] The assembly components preferably comprise all of the fixation means required to assemble the gaming machine cabinet and also to install the gaming machine operating means. These may include screws, nails, bolts, nuts, bolts, nuts, screws, adhesive, and the like. The kits of the present invention may additionally comprise tools suitable for use with the fasteners mentioned above. However, as it is an essential aspect of the present invention that those kits are suitable for on-site assembly, it is preferred that the gaming machine and gaming machine cabinet can be assembled using standard conventional tools.

[0038] Other objects, features and advantages of the invention in its details of construction and arrangement of parts will be seen from the above, from the following description of the preferred embodiments when considered with the drawings and from the appended claims.

**BRIEF DESCRIPTION OF THE FIGURES**

[0039] FIG. 1 is a front perspective view of a base;

[0040] FIG. 2 is a front perspective view of a side panel fastened to a base;

[0041] FIG. 3 is a front perspective view of a base having two side panels fastened thereto;
FIG. 4 is a front perspective view of a hopper-printer interface;

FIG. 5 is a front perspective view of a partially assembled gaming machine cabinet having a hopper-printer interface fastened thereto;

FIG. 6 is a front perspective view of a loyalty shelf;

FIG. 7 is a front perspective view of a partially assembled gaming machine cabinet having a loyalty shelf fastened thereto;

FIG. 8a is a front perspective view of a CPU shelf;

FIG. 8b is a partial front perspective view of a hanger clip;

FIG. 8c is a partial rear perspective view of the CPU shelf tab;

FIG. 9 is a front perspective view of a partially assembled gaming machine cabinet having a CPU shelf fastened thereto;

FIG. 10 is a front perspective view of a top panel;

FIG. 11 is a front perspective view of a loyalty interface blank;

FIG. 12 is a front perspective view of a partially assembled gaming machine cabinet having a top panel and loyalty interface blank fastened thereto;

FIG. 13 is a front perspective view of a vent plate;

FIG. 14 is a front perspective view of a partially assembled gaming machine cabinet having a vent plate fastened thereto;

FIG. 15 is a front perspective view of a door frame stop;

FIG. 16 is a front perspective view of a partially assembled gaming machine cabinet having a door frame stop fastened thereto;

FIG. 17a is a front perspective view of a fascia monitor door;

FIG. 17b is a rear perspective view of a fascia monitor door;

FIG. 18a is a front perspective view of a LCD frame and components;

FIG. 18b is a rear perspective view of a LCD frame and components;

FIG. 19a is a front perspective view of a bottom door assembly;

FIG. 19b is a rear perspective view of a bottom door assembly;

FIG. 20 is a front perspective view of a complete machine assembly;

FIG. 21 is a front perspective view of the assembly of FIG. 20 with the doors opened.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The figures demonstrate how an exemplary gaming machine apparatus can be assembled using assembly components. Although the assembly of only one type of gaming machine is depicted, it will be understood that all types of gaming machines and gaming machine cabinets are encompassed by the present invention.

With reference to FIG. 1, a rectangular base 10 is shown. As can be seen, base 10 is provided with studs extending upwardly. These studs are threaded to receive other assembly components (not shown in this figure) bolted thereon. The front edge of the base 10 includes a flange 12 arranged to abut other assembly components (not shown in this figure) which are screwed thereto.

FIG. 2 shows a side panel 14 fastened to the base 10. Side panel 14 has a flange running around its front, top and bottom edges. This flange is provided with holes to receive studs extending from other assembly components such as the base 10. The side panel 14 is screwed into a nutsert formed in flange 12. A back semi-panel 16 is formed integrally with side panel 14 and extends perpendicularly from the back edge of the side panel 14 and also has a holed flange running around its edge. Thus, the side panel 4 is L-shaped in cross section.

As can be seen from FIG. 3, the purpose of the flange running along the longest edge of back semi-panel 16 is to allow the back semi-panel 16 to be fastened to the back semi-panel 18 of a second side panel 20. The second side panel 20 is a mirror image of the first side panel 14 except that the flange extending from the front edge of the first side panel 14 is arranged to receive the hinge members 46, 62 illustrated in FIGS. 17b and 19b.

The next assembly component to be installed is the hopper-printer interface 22 and this is shown in FIG. 4. The hopper-printer interface 22 is provided with holes in the flanges which run along several of its edges and as shown in FIG. 5, these allow the hopper printer interface 22 to be bolted onto base 10.

In order to support the gaming machine operating means which are to be added once the cabinet is assembled, it is preferable to provide the gaming machine cabinet with support means. An example of such support means is the loyalty shelf shown in FIG. 6. The loyalty shelf includes a downwardly extending reinforcement 26 which is provided with a studded flange. As can be seen in FIG. 7, that studded flange allows reinforcement 26 to be bolted onto the flanges of back semi-panels 16, 18.

CPU shelf 28, which is shown in FIG. 8a is also installed to support to the gaming machine operating means. Rather than only being screwed or bolted into the partially assembled cabinet, the flange 30 at the top of CPU shelf 28 is provided with a tab 34 which is shown in FIG. 8c. When the CPU shelf 28 is installed, the tab passes through the clip 32 which extends from back semi-panel 16, and the clip is shown in more detail in FIG. 56. The partially assembled cabinet with the CPU shelf 28 mounted is illustrated in FIG. 9.

Top panel 36 and loyalty interface blank 38, which are shown in FIGS. 10 and 11, are the next assembly components to be installed. The cabinet including the top panel 36 and the loyalty interface blank 38 is shown in FIG. 12.

Vent plate 40 which is illustrated in FIG. 13 is then screwed to the top panel 36 and the cabinet with the vent plate 40 fastened thereto is illustrated in FIG. 14.

The final assembly component required to complete the on-site assembly of the gaming machine cabinet is door frame stop 42 and this is shown in FIG. 15. The completed cabinet is illustrated in FIG. 16.

The next stage of assembling the gaming machine apparatus is the installation of the gaming machine operating means. The gaming machine operating means may or may not be provided with the assembly components necessary for assembling the gaming machine cabinet.

The fascia 44 shown in FIGS. 17a and 17b is used to protect the LCD frame 48 shown in FIGS. 18a and 18b. In the illustrated embodiment, fascia 44 functions as a door and has hinge members 46 which are received in the flange extending from the front edge of side panel 14. The inner profile of fascia 44 shown in FIG. 17b matches the outer profile of the LCD frame 48 shown in FIG. 18a. As a result of this close fit,
the fascia 44 protects the LCD screen without distorting the projected image. LCD frame 48 includes two screens 50a, 50b and both of these are visible through fascia 44. In the illustrated embodiment, fascia 44 will be sized to extend from the outer edge of loyalty shelf 24 to the outer edge of top panel 36 and can be considered as an upper door.

The lower door 52 is illustrated in FIGS. 19a and 19b. As can be seen, the front of the lower door is provided with button panel 54, coin entry 56, bill acceptor entry 58 and coin tray 60. The rear of the lower door 52 includes hinges 62, coin validator 64, coin path to cash box 66 and coin path reject 68. The lower door is sized to extend from the outer edge of loyalty shelf 24 to the outer edge of base 10.

The completed gaming machine is illustrated in FIG. 20 in a closed arrangement and in FIG. 21 in an opened arrangement. From FIG. 21, the spatial relationship between the LCD frame 48 and the fascia 44 can be clearly seen. Additionally, it is also clear how the structural features of the cabinet, especially the CPU shelf 28, are used to house the gaming machine operating means.

From the foregoing description and accompanying figures, it can be seen that every assembly component used in assembling the gaming machine cabinet of the illustrated embodiment is adapted to be readily and easily fastened to the other components, i.e. it is provided with a holed flange, a nutsert, a threaded stud, etc. This enables the assembly components to be easily and readily assembled on-site.

It is understood that although the preferred embodiment has been described in detail with reference to the figures, this detail is provided for the purposes of illustration only and that various modifications may be made without departing from the spirit and the scope of the appended claims.

What is claimed is:

1. A gaming machine cabinet comprising a plurality of assembly components which are fabricated for shipment in knock down condition and for on-site assembly.

2. The gaming machine cabinet of claim 1 wherein the assembly components comprise a base and first and second side panels.

3. The gaming machine cabinet of claim 2 wherein the first side panel, the second side panel, or both the first and second side panels include a back panel integrally formed therewith.

4. The gaming machine cabinet of claim 3 wherein the first and second side panels have top, bottom, front and back edges and the first and second side panels include respective first and second back semi-panels which extend perpendicularly from the back edge of the first and second panels such that when the bottom edges of the first and second side panels are fastened to the base, the first and second back semi-panels extend from the first and second side panels toward each other allowing them to be fastened together.

5. The gaming machine cabinet of claim 1 wherein the assembly components comprise support means.

6. The gaming machine cabinet of claim 5 wherein the support means comprises at least one shelf.

7. The gaming machine cabinet of claim 1 wherein the assembly components comprise a top panel.

8. The gaming machine cabinet of claim 1 wherein the assembly components further comprise one or more components selected from the group consisting of hopper-printer interfaces, vent plates, door stops, security doors, button panels, coin trays, hinges and locks.

9. A gaming machine comprising a plurality of assembly components which are fabricated for shipment in knock down condition and for on-site assembly and gaming machine operating means.

10. The gaming machine of claim 9 wherein the assembly components comprise a base and first and second side panels.

11. The gaming machine of claim 10 wherein the first side panel, the second side panel, or both the first and second side panels include a back panel integrally formed therewith.

12. The gaming machine of claim 11 wherein the first and second side panels have top, bottom, front and back edges and the first and second side panels include respective first and second back semi-panels which extend perpendicularly from the back edge of the first and second panels such that when the bottom edges of the first and second side panels are fastened to the base, the first and second back semi-panels extend from the first and second side panels toward each other allowing them to be fastened together.

13. The gaming machine of claim 9 wherein the assembly components comprise support means.

14. The gaming machine of claim 13 wherein the support means comprises at least one shelf.

15. The gaming machine of claim 9 wherein the assembly components comprise a top panel.

16. The gaming machine of claim 9 wherein the assembly components further comprise one or more components selected from the group consisting of hopper-printer interfaces, vent plates, door stops, security doors, button panels, coin trays, hinges and locks.

17. A kit for assembling a gaming machine cabinet comprising a plurality of assembly components which are fabricated for shipment in knock down condition and for on-site assembly and instructions for assembly.

18. The kit of claim 17 wherein the assembly components comprise a base and first and second side panels.

19. The kit of claim 18 wherein the first side panel, the second side panel, or both the first and second side panels include a back panel integrally formed therewith.

20. The kit of claim 19 wherein the first and second side panels have top, bottom, front and back edges and the first and second side panels include respective first and second back semi-panels which extend perpendicularly from the back edge of the first and second panels such that when the bottom edges of the first and second side panels are fastened to the base, the first and second back semi-panels extend from the first and second side panels toward each other allowing them to be fastened together.

21. The kit of claim 17 wherein the assembly components comprise support means.

22. The kit of claim 21 wherein the support means comprises at least one shelf.

23. The kit of claim 17 wherein the assembly components comprise a top panel.

24. The kit of claim 17 wherein the assembly components further comprise one or more components selected from the group consisting of hopper-printer interfaces, vent plates, door stops, security doors, button panels, coin trays, hinges and locks.

25. A kit for assembling a gaming machine comprising a plurality of assembly components which are fabricated for shipment in knock down condition and for on-site assembly, gaming machine operating means and instructions for assembly.
26. The kit of claim 25 wherein the assembly components comprise a base and first and second side panels.

27. The kit of claim 26 wherein the first side panel, the second side panel, or both the first and second side panels include a back panel integrally formed therewith.

28. The kit of claim 27 wherein the first and second side panels have top, bottom, front and back edges and the first and second side panels include respective first and second back semi-panels which extend perpendicularly from the back edge of the first and second panels such that when the bottom edges of the first and second side panels are fastened to the base, the first and second back semi-panels extend from the first and second side panels toward each other allowing them to be fastened together.

29. The kit of claim 25 wherein the assembly components comprise support means.

30. The kit of claim 29 wherein the support means comprises at least one shelf.

31. The kit of claim 25 wherein the assembly components comprise a top panel.

32. The kit of claim 25 wherein the assembly components further comprise one or more components selected from the group consisting of hopper-printer interfaces, vent plates, door stops, security doors, button panels, coin trays, hinges and locks.

* * * * *