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tectably mounted in front of the monitor so that in the event of either one of the touch screen or the monitor failing, the failed item can be removed, and replaced or service as desired.



## Description

### FIELD OF THE PRESENT INVENTION

**[0001]** The present invention relates to an assembly for a gaming machine and in particular to an assembly for a gaming machine having a monitor and a touch screen.

### BACKGROUND OF THE PRESENT INVENTION

**[0002]** Electronic gaming machines typically have one or more monitors each having a display screen for presenting information to the player. Use of the machines involves the player making various selections or choices on how the game is operated or played. Touch sensitive screens and monitors have been combined in gaming machines whereby images on the display screen align with calibrated regions of the touch screen such that pressing the touch screen based on the images appearing in the images assimilates with selecting the particular images appearing in the display screen.

**[0003]** In simple terms, the outside structure of a gaming machine may be described as a robust cabinet containing the working components of the machine, wherein the cabinet includes a rear casing section and a front door that is pivotally mounted to the casing to secure the components in the cabinet and allow maintenance and servicing of the components as required. Touch screens and monitors have in the past been installed in a manner in which the touch screen is bonded to the face of the monitor using an adhesive and in particular, double sided-tape supplied by 3M. In our experience, double sided tape provides a very strong bond between the touch screen and the monitor. In one particular installation, the combination of the monitor and touch screen are bonded together and mounted inside the cabinet and a window in the front door allows images on the monitor to be observed and the touch screen pressed by a player. A rubberized medium is located around the perimeter of the window in the front door which is intended to form a liquid tight seal with the touch screen when the door is closed. In an alternative installation, the combination of the monitor and touch screen are mounted directly to the door with the monitor and touch screen coinciding with the window in the door. Again a rubberized medium is located around the perimeter of the window to form a liquid tight seal with the touch screen. It is generally more difficult to perform maintenance on the later installation on account of the combined weight of the monitor and touch screen having a substantial contribution to the weight of the door.

**[0004]** In any event, a difficulty with both installations is that if the touch screen or monitor fail or are damaged, it is not possible to successfully release the adhesive to allow the non-defective item, whether it be the monitor or touch screen to be reused. In other words, if the touch screen fails, both the touch screen and monitor are ren-

dered unusable and if the monitor fails, again both the touch screen and monitor are rendered unusable.

### SUMMARY OF THE INVENTION

**[0005]** According to the present invention there is provided an assembly for the front portion of a gaming machine, the assembly comprising:

- i) a touch sensitive screen; and
- ii) a panel having one or more than one opening over which the touch sensitive screen is mounted, wherein the panel is adapted to form at least part of the front portion of a gaming machine and locate the touch sensitive screen in relationship to a monitor of a gaming machine.

**[0006]** According to the present invention there is also provided a player interface that is, at least in part, used to operate a gaming machine, the player interface comprising:

- i) a monitor for displaying images that relate to the operation of the gaming machine; and
- ii) a mounting assembly including a touch sensitive screen, the mounting assembly locating the touching screen in front of the monitor so that the touch screen can be operated in association with the images on the monitor, and wherein the mounting assembly is operable so as to be able to move the touch screen between an operative position in which the touch screen is located in front of the monitor and an inoperative position in which the touch screen is displaced from the monitor and in which a player is unable to use the touch screen in association with the monitor.

**[0007]** The terms "monitor" or "display" have been used synonymously throughout this specification and mean any electric or video display including CRT screens, LCD screens, plasma screens, OLED screens or any other electronic display.

**[0008]** In an embodiment, the mounting assembly includes an openable and closeable panel having an aperture or opening through which the monitor can be seen when closed, and the touch sensitive screen is located over the aperture and located in the operative position when the panel is closed.

**[0009]** In an embodiment, the panel is pivotally mounted to a gaming machine and can be pivoted between opened and closed positions.

**[0010]** According to the present invention there is provided a gaming machine assembly comprising:

- i) a cabinet for containing components of the machine, the cabinet having an openable and closeable front panel to allow access to at least some of the components of the machine;

ii) at least one monitor located inside the cabinet and the front panel having an opening through which a display screen of the at least one monitor can be observed when the front panel is located in a closed position; and  
 iii) a touch sensitive screen over the opening of the front panel and being located in an operative position with the images on at least one display screen when the front panel is located in a closed position and an inoperative position when the front is opened in which the touch screen is displaced from the monitor to prevent a player from using the touch screen in associate with the monitor.

**[0011]** In an embodiment, the front panel of the cabinet has one or more than opening over which at least a part of the touch sensitive screen is mounted.

**[0012]** It is within the scope of the present invention that the touch screen may be used in respect of, and overlap multiple monitors in a single gaming machine. In the situation where the invention is in the form of a gaming machine assembly having multiple monitors, suitably at least one of the monitors, and optionally, two of the monitors each have a dedicated touch screen.

**[0013]** In an embodiment, the panel is pivotally mounted to a gaming machine and can be pivoted between opened and closed positions.

**[0014]** In an embodiment, the panel is in the form of a pivotally mounted door or hatch that, when located in a closed position, forms at least part of the front face of a gaming machine.

**[0015]** In an embodiment, a liquid-tight seal is formed between the touch screen and the panel. Suitably, a rubber sealing ring contacting the panel and touch screen forms a liquid-tight seal.

**[0016]** In an embodiment, the touch screen is able to be removed and substituted with a fresh replacement touch screen.

**[0017]** In an embodiment, the touch screen is bonded directly or indirectly to the panel by hot or cold glue adhesives or tape adhesive including double sided-tape adhesives.

**[0018]** In an embodiment, the touch screen is mounted directly or indirectly to the panel by any one for a combination of: brackets, angular sections that receive the touch screen, or fasteners including screws, bolts, nails and rivets.

**[0019]** In the situation where the assembly for forming the front of the gaming machine has been incorporated in a gaming machine and is located in an operative position, preferably the spacing between the touch screen the display screen of the monitor is less than or equal to 20mm, and suitably less than or equal to 10mm. Even more preferably the touch screen is located less than 5mm from the display screen of the monitor and suitably in the range of 1 to 4mm.

**[0020]** According to an alternative embodiment, the invention may be in the form of an assembly for a gaming

machine, the assembly comprising:

- i) a touch sensitive screen; and
- ii) a monitor on which symbols or images relating to a game being played can be displayed, the touch screen being mounted in a non-permanent manner that allows the touch screen and monitor to be separated.

**[0021]** According to yet another alternative embodiment, the invention may be in the form of an assembly for a gaming machine, the assembly comprising:

- i) a touch sensitive screen; and
- ii) a monitor on which symbols or images relating to a game being played can be displayed, wherein the touch screen is releasably mounted in front of the monitor to allow either one of the touch screen or the monitor can be repaired, replaced or removed as desired.

**[0022]** According to embodiment of the present invention, the touch screen may be directly or indirectly mounted or attached to the monitor. For instance, in the situation in which the releasable connection is directly between the touch screen and the monitor, or alternatively between a panel to which the touch screen is attached and the monitor (i.e. indirect connection), the releasable connection may be provided by any suitable fastening system including screws, bolts, clamps, co-operating snap lock fittings and even releasable adhesives.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0023]** A preferred embodiment will now be described with reference to the accompanying drawings, of which:

Figure 1 is a perspective view of a gaming machine with a front door of the machine opened to allow access to the working components of the machine including a touch screen and monitor;

Figure 2 is a cross sectional side view of a gaming machine through the axis A to A in Figure 1 with the front door of the gaming machine in a closed position; Figure 3 is an enlarged cross sectional view of a monitor and touch screen of the gaming machine shown in Figure 2;

Figure 4 is a detailed cross sectional view illustrating a fastening system for mounting a touch screen to the front door of a gaming machine as shown in Figures 1 to 3; and

Figure 5 is a detailed cross sectional view illustrating an alternative fastening system for mounting a touch screen to the front door of a gaming machine as shown in Figures 1 to 3.

## DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

**[0024]** The Figures illustrate a gaming machine 10 having a monitor display screen 11 and a touch screen 12, wherein the display screen 11 shows images relating to the operation of the machine 10 and regions of the touch screen 12 that have been calibrated such that during operation a player pressing sections of the touch screen 12 is able to make selections based on the images on the display screen 11.

**[0025]** With reference to Figures 1 and 2, there is shown a gaming machine 10 having a cabinet comprising a rear casing 13 and a front door 14 that is pivotally mounted to the casing 13 by side hinges 28 oriented to pivot the front door 14 about an upright left axis. According to an alternative embodiment it is possible for the hinges 15 to be mounted along the top, bottom or right hand side of the rear casing.

**[0026]** The working components of the gaming machine contained in the rear casing include the display screen 11 for showing images to a player relating to the operation of the gaming machine, processor units 16 relating to wager gambling systems, and other electronic circuitry for generating signals such as signals to audio speakers 17 and lighting systems. It should be understood that numerous other components may exist and may be used in a number of combinations to create various forms of a gaming machine.

**[0027]** Operation of the gaming machine 10 may involve a player pressing buttons located on a mid-trim 15 projecting outwardly from the front door 14. In addition to press buttons, operation of the machine involves use of a touch sensitive screen 12 mounted to the front door 14 that overlaps an opening or aperture 20 in the front door 14 through which images on the display screen are observed. In one form not illustrated, the press buttons on the mid-trim 15 may be excluded from the design of the gaming machine and operation of the gaming machine controlled entirely by one or multiple touch screens 12 that are calibrated in association with one, or possibly more than one, display screen 11. Figure 1 illustrates the situation in which a single touch screen 12 has been mounted to the inner face of the front door 14 such that when the front door 14 is located in a closed position, the entire touch screen 12 overlaps with the display screen 11. However, it is possible for a single touch screen 12 to be used in association with two or more display screens 11 or alternatively, two or more touch screens 12 may each be associated with individual display screens 11.

**[0028]** In the situation in Figures 1 and 2, a single touch screen 12 is mounted to the inner face of the front door 14 in a manner such that the pressure sensitive face of the touch screen 12 can be operated by a player in front of the door 14. In the event of damage to the touch screen 12 maintenance can be performed to the touch screen 12 or alternatively, the touch screen 12 can be removed from the door 14 and replaced with a new touch screen

12.

**[0029]** Throughout this specification the terms "touch screen" and "touch sensitive screen" are used synonymously and embrace any transparent medium having an outer sensitive face such as the touch screens available from 3M under the brands MICROTOUCH™ and CLEARTEK™. Such products are predominantly in the form of a transparent or translucent substrate such as glass to which the touch sensitive characteristics have been incorporated.

**[0030]** Figure 3 is an enlarged cross sectional view illustrating the monitor display screen 11 and a touch sensitive screen 12 mounted to the inner face of the front door 14 with the door located in a closed position. As can be seen, the touch screen is spaced from the surface of the display screen of the monitor by a small gap 18, preferably less than 10 mm and suitably in the range of 1-4 mm. In our experience, if the gap 18 is allowed to extend beyond 20 mm, a player may experience difficulties in operating the gaming machine on account of parallax effects. According to alternative embodiments, it is possible for the touch screen to be mounting intermediate the inner and outside faces of the front door, or in the situation in which the door has a thin profile, at or toward the outer face of the front door. In any event, when the touch screen in is an operative position, ideally the touch screen is less than 10mm from the display screen.

**[0031]** In addition, a sealing ring 23 in contact with the touch screen 12 and the framework and/or the front door 14 will prevent liquid on the outside of touch screen 12 from passing into the cabinet of the gaming machine 10.

**[0032]** Figure 4 is a detailed cross sectional view illustrating one possible configuration by which the touch sensitive screen is mounted to the front door 14 of the gaming machine 10. Specifically, the touch sensitive screen 12 is bonded directly to a facial framework 19 defining an opening. The medium used for bonding the touch sensitive screen 12 to the framework 19 may be a hot or cold melt glue adhesive such as a two part epoxy adhesive or any other type of adhesive that is applied as a liquid or paste between the touch sensitive screen and the frame. Similarly, the touch sensitive screen 12 may be bonded directly to the frame by single or double sided adhesive tape 21. The framework 19 to which the touch sensitive screen is bonded may be an integral part of the door itself or, alternatively the frame work may be directly or indirectly fitted to the front door. As can be seen in Figure 4, a protective tape 22 is may be fitted to the perimeter of the touch sensitive screen 12 to prevent lacerating oneself on the edge of the touch screen 12.

**[0033]** Figure 5 illustrates an alternative configuration whereby the touch sensitive screen 12 is mounted to a fascia frame 19 by way of a Z-shaped or step shape bracket 24 which defines a shoulder that receives a section of the perimeter of the touch screen and clamps the touch screen to an abutment surface 25 of the fascia frame 19 by way of a fastening screw or rivet 26. As can be seen in Figure 5, the fascia frame 19 includes a curved

abutment surface 19 in contact with one side of the touch screen 12 and the bracket 24 on the opposite side of the touch screen 12. The fascia frame 19 may be directly or indirectly attached to the front door 14 of the gaming machine 10 or alternatively, integrally formed with the front door 14. A tape or cushioning material 22 may be secured around the perimeter of the touch sensitive panel to prevent chipping or scratching of the touch sensitive panel.

**[0034]** In addition, the abutment surface 25 of the fascia frame 19 is provided with a liquid tight seal in the form of a rubberized boot 27 positioned over the abutment surface 25 of the fascia frame 19, thereby preventing the ingress or liquid spilt on the touch screen 12 into the gaming machine.

**[0035]** In order to minimize parallax effects, it is recommended that the thickness of the base substrate glass of the touch screen 12 be less than 10 mm, and suitably in the range of 2-4 mm.

**[0036]** With respect to preferred embodiment or any other embodiment prior to use of the gaming machine by a player, regions of the touch screen 11 are calibrated to assimilate with the location of images on the display screen relating to operation of the gaming machine 10. In the event that the alignment of the touch screen 11 and display screen 11 shifts during use, the position of the touch screen 12 on the inside face of the front door 14 can be tightened and if necessary, the display screen 11 and touch screen 12 recalibrated. However, it will be appreciated that touch screens 12 such as the 3M CLEARTEK™ touch screen has the capacity for error margins with the calibrated regions and, therefore, minor shifts between the display screen 11 of the monitor and the location of the touch screen 12 may not require recalibration. In the event of a significant equipment failure, such as the fracture of the glass substrate of the touch screen 12, the touch screen 12 can be removed and replaced with a new touch screen 12 and the gaming machine re-calibrated during conventional maintenance or servicing.

**[0037]** Those skilled in the art of the present invention will appreciate that many modifications and variations may be made to the preferred embodiment without departing from the spirit and scope from the present invention.

**[0038]** For example, the preferred embodiment involves securing the touch sensitive screen directly to a region adjacent to the perimeter of an opening in the front door of a gaming machine. However, it is possible that the touch screen may be mounted in an operative position in front of the display screen of the monitor without direct attachment to the front door, and indeed, at a location inside the cabinet of the gaming machine. Specifically, the touch screen may be mounted to framework positioned inside the cabinet without direct attachment to the display screen of the monitor or the door of the gaming machine.

**[0039]** In the claims which follow and in the preceding description of the invention, except where the context

requires otherwise due to express language or necessary implication, the word "comprise" or variations such as "comprises" or "comprising" is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the invention.

## Claims

1. An assembly for the front portion of a gaming machine, the assembly comprising:
  - i) a touch sensitive screen; and
  - ii) a panel having one or more than one opening over which the touch sensitive screen is mounted, wherein the panel is adapted to form at least part of the front portion of a gaming machine and locate the touch sensitive screen in relationship to a monitor of a gaming machine.
2. The assembly according to claim 1, wherein the panel is in the form of a door or hatch that can be mounted to form at least part of the front face of the gaming machine.
3. The assembly according to claim 1 or 2, wherein a liquid-tight seal is formed between the touch screen and the panel.
4. The assembly according to claim 3, wherein the liquid-tight seal is provided by a rubberised sealing ring contacting the panel and touch screen.
5. The assembly according to any one of claims 1 to 4, wherein the touch screen is able to be removed and substituted with a fresh replacement touch screen.
6. The assembly according to any one of claims 1 to 5, wherein the touch screen is bonded directly or indirectly to the panel by hot or cold glue adhesives or tape adhesive including double sided-tape adhesives.
7. The assembly according to any one of claims 1 to 6, wherein the touch screen is mounted directly or indirectly to the panel by any one for a combination of:
  - brackets, angular sections that receive the touch screen, or fasteners including screws, bolts, nails and rivets.
8. A player interface that is, at least in part, used to operate a gaming machine, the player interface comprising:
  - i) a monitor for displaying images that relate to the operation of the gaming machine; and

- ii) a mounting assembly including a touch sensitive screen, the mounting assembly locating the touching screen in front of the monitor so that the touch screen can be operated in association with the images on the monitor, and wherein the mounting assembly is operable so as to be able to move the touch screen between an operative position in which the touch screen is located in front of the monitor and an inoperative position in which the touch screen is displaced from the monitor and in which a player is unable to use the touch screen in association with the monitor.
9. The player interface according to claim 8, wherein the mounting assembly includes an open and closeable panel having an aperture or opening through which the monitor can be seen when closed, and the touch sensitive screen is located over the aperture and located in the operative position when the panel is closed.
10. The player interface according to claim 8 or 9, wherein the panel is pivotally mounted to a gaming machine and can be pivoted between opened and closed positions.
11. The player interface according to claim 10, wherein the panel is in the form of a pivotally mounted door or hatch that when located in a closed position forms at least part of the front face of a gaming machine.
12. The player interface according to any one of claims 8 to 11, wherein liquid-tight seal is formed between the touch screen and the panel.
13. The assembly according to any one of claims 8 to 12, wherein the touch screen is able to be removed and substituted with a fresh replacement touch screen.
14. The player interface according to any one of claims 8 to 13, whereby when the touch screen is located in an operative position, a gap or spacing between the touch screen and the display screen of the monitor is less than or equal to 20mm.
15. The player interface according to any one of claims 8 to 14, whereby when the touch screen is located in an operative position, a gap or spacing between the touch screen and the display screen of the monitor is less than 10mm and suitably in the range of 1 to 4mm.
16. A gaming machine assembly comprising:
- i) a cabinet for containing components of the machine, the cabinet having an openable and closeable front panel to allow access to at least some of the components of the machine;
- ii) at least one monitor located inside the cabinet and the front panel having an opening through which a display screen of the at least one monitor can be observed when the front panel is located in a closed position; and
- iii) a touch sensitive screen over the opening of the front panel and being located in an operative position with the images on at least one display screen when the front panel is located in a closed position and an inoperative position when the front is opened in which the touch screen is displaced from the monitor to prevent a player from using the touch screen in association with the monitor.
17. The gaming machine according to claim 16, wherein the front panel of the cabinet has one or more than opening over which at least a part of the touch sensitive screen is mounted.
18. The gaming machine according to claim 16 or 17, wherein the machine includes multiple monitors and one of said touch screens is operable in respect of two or more of the display screens of the monitors.
19. The gaming machine according to any one of claims 16 to 18, wherein the machine includes multiple monitors and a touch screen is operable in respect of the touch screens of the monitors.
20. The gaming machine according to any one of claims 16 to 19, wherein a liquid-tight seal is formed between the touch screen and the panel.
21. The assembly according to any one of claims 16 to 20, wherein the touch screen is able to be removed and substituted with a fresh replacement touch screen.
22. The gaming machine according to any one of claims 16 to 21, wherein the front panel is pivotally mounted to a gaming machine and can be pivoted between opened and closed positions.
23. The gaming machine according to any one of claims 16 to 22, wherein the panel is in the form of a pivotally mounted door or hatch that when located in a closed position forms at least part of the front face of a gaming machine.
24. An assembly for a gaming machine, the assembly comprising:
- i) a touch sensitive screen; and
- ii) a monitor on which symbols or images relating to a game being played can be displayed, the

touch screen being releasably mounted in front of the monitor so as to allow each to be separated from each other during servicing and either one of the touch screen or the monitor can be repaired, replaced or removed as desired. 5

25. The assembly according to claim 24, wherein the touch screen is releasably mounted to the monitor or a panel that is attached to the monitor via fasteners such as, but by no means limited to screws, bolts, rivots, clamps, snap lock fittings or adhesives. 10

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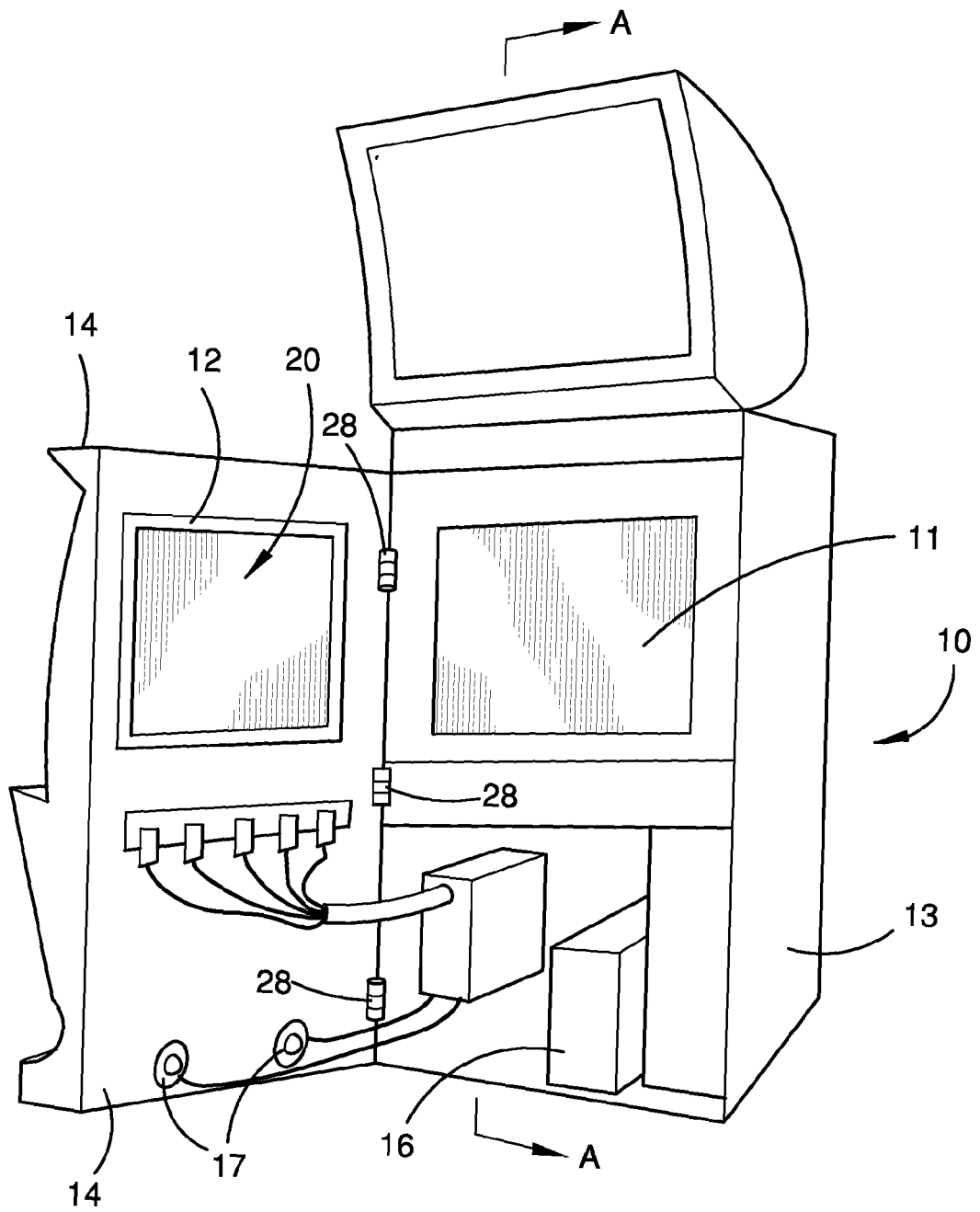
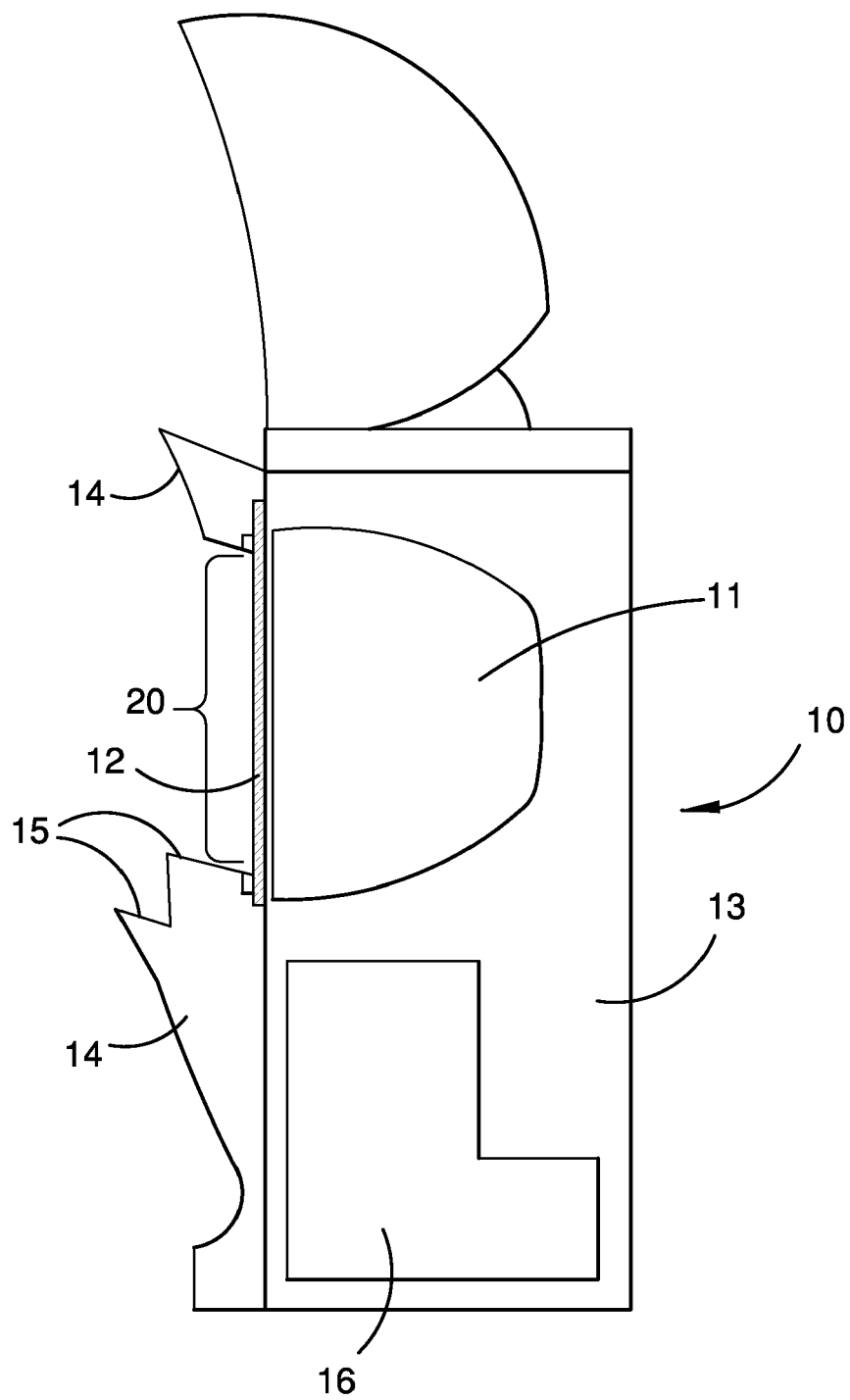
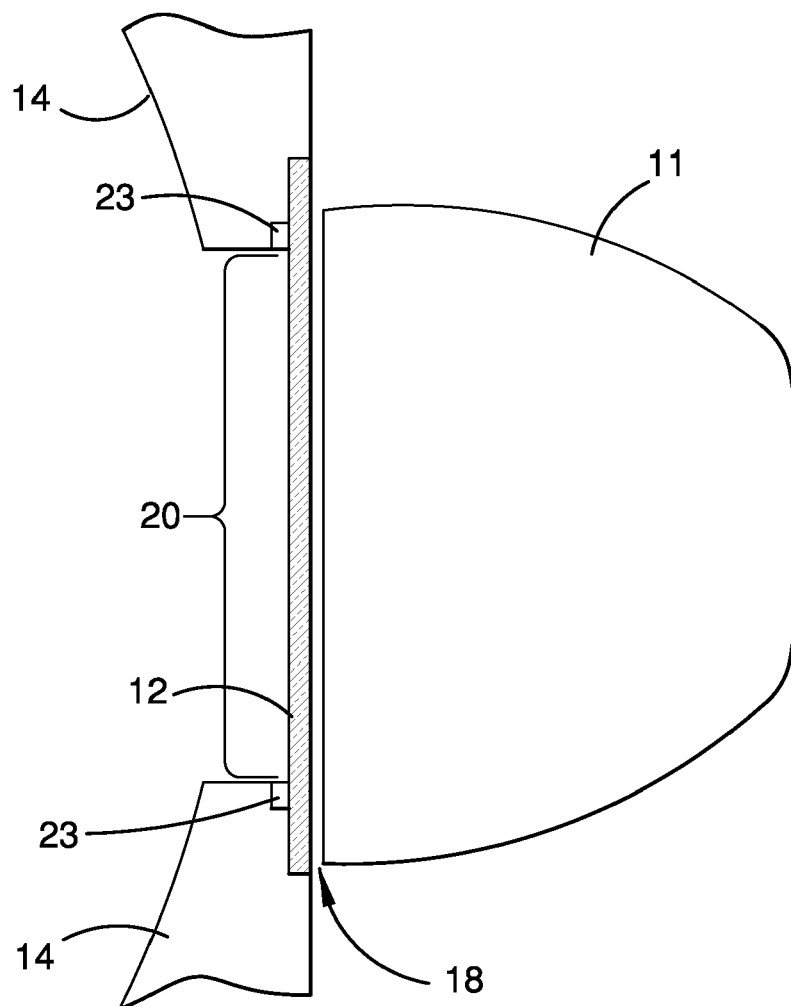


FIGURE 1

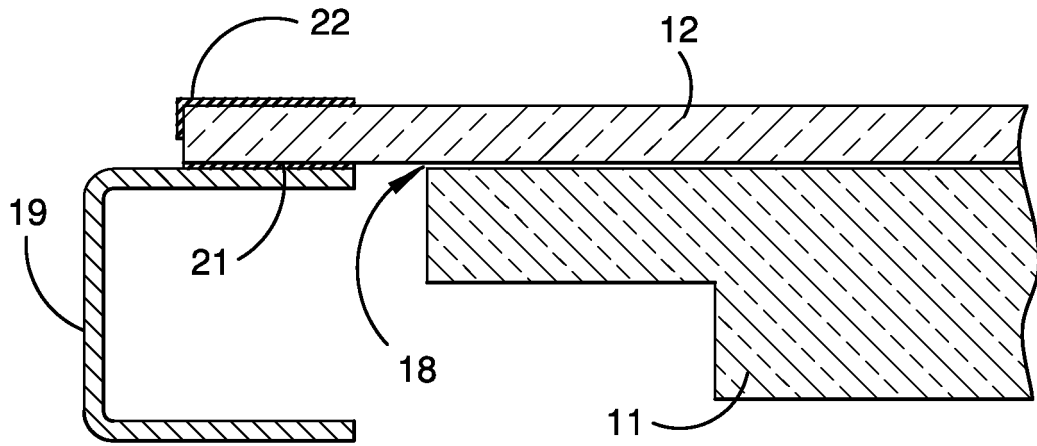




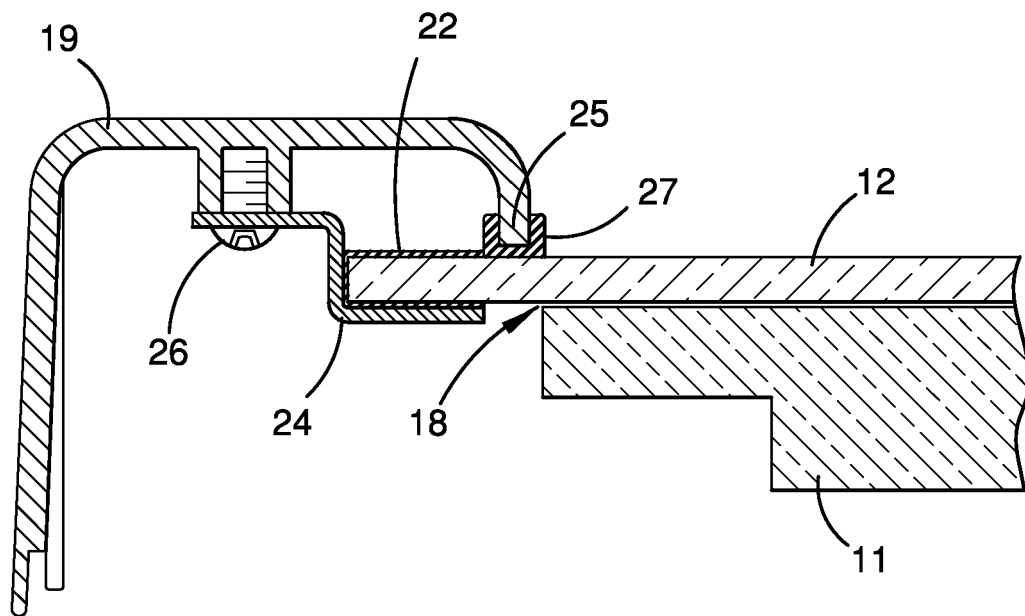
**FIGURE 2**



**FIGURE 3**



**FIGURE 4**



**FIGURE 5**