



US 20100075755A1

(19) **United States**
(12) **Patent Application Publication**
Steelman

(10) **Pub. No.: US 2010/0075755 A1**
(43) **Pub. Date: Mar. 25, 2010**

(54) **ERGONOMIC GAMING MACHINE**

continuation of application No. 09/967,899, filed on Sep. 28, 2001, now Pat. No. 6,910,734, which is a continuation-in-part of application No. 09/678,853, filed on Oct. 4, 2000, now abandoned.

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Publication Classification

- (51) **Int. Cl.**
A63F 13/08 (2006.01)
A47C 31/00 (2006.01)
G06F 3/00 (2006.01)
- (52) **U.S. Cl.** **463/37; 297/217.3; 463/46**

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(57) **ABSTRACT**

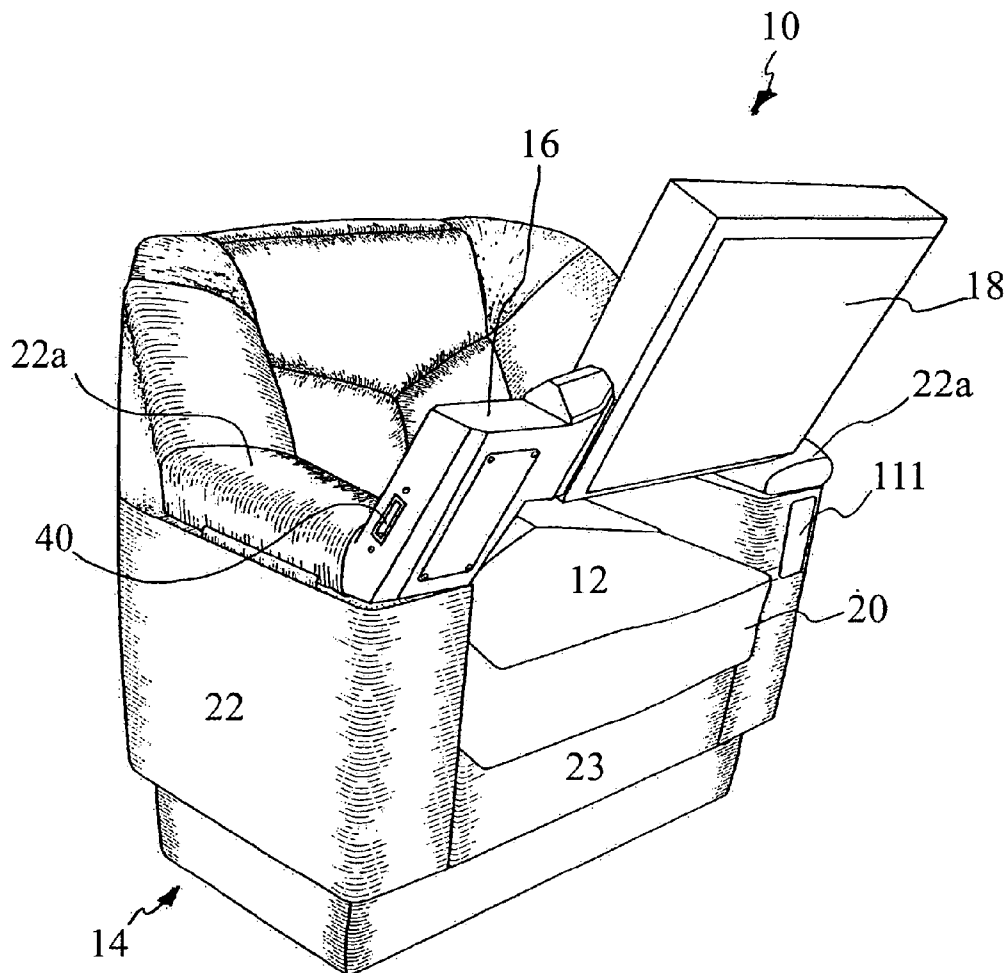
(21) Appl. No.: **12/627,899**

A gaming machine comprising a seat, a main body portion that includes the seat, an arm pivotally connected to the main body portion, and a user interface attached to the arm and pivotal with respect to the seat, wherein the user interface is operable for gaming. In a preferred embodiment the seat and main body portion comprise an upholstered lounge chair and the user interface pivots in a generally vertical arc between first and second positions.

(22) Filed: **Nov. 30, 2009**

Related U.S. Application Data

(63) Continuation of application No. 11/127,840, filed on May 11, 2005, now Pat. No. 7,625,288, which is a



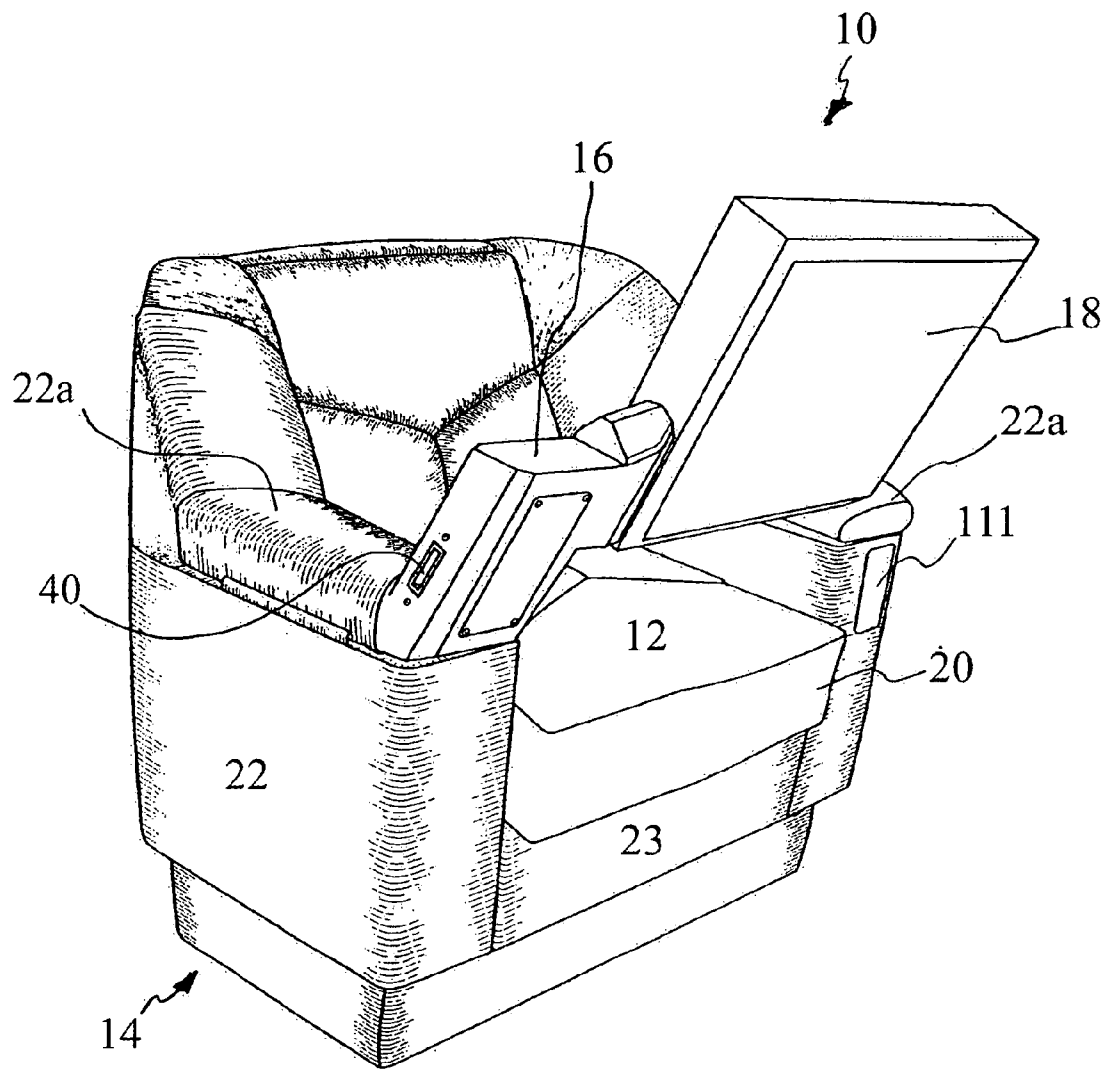


Fig. 1

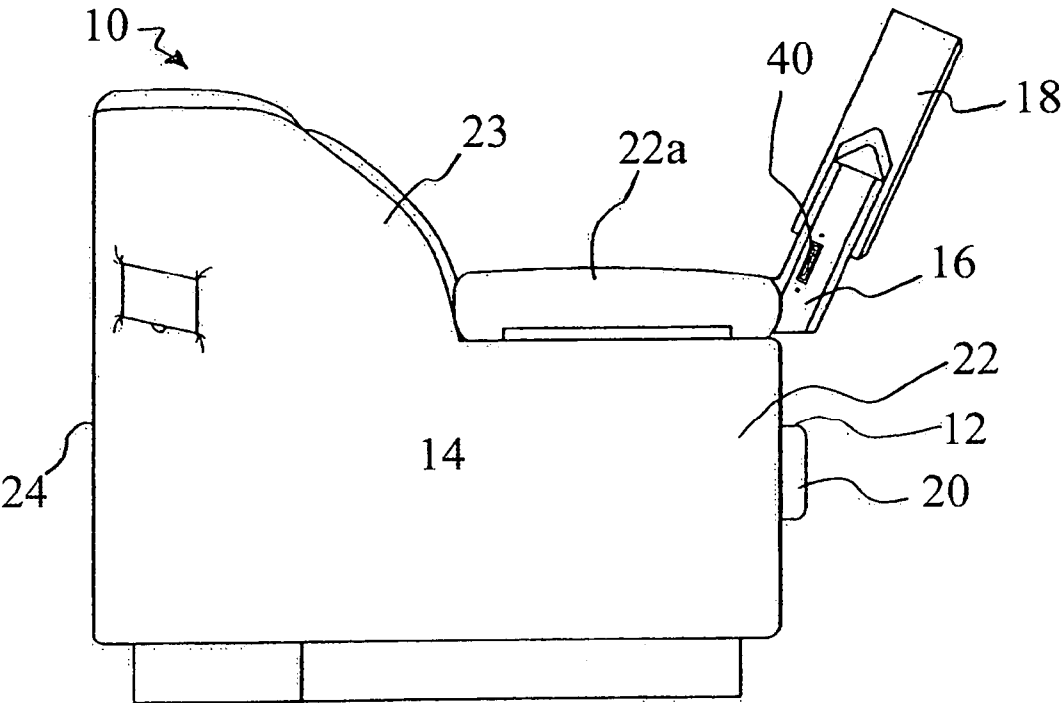


Fig. 2

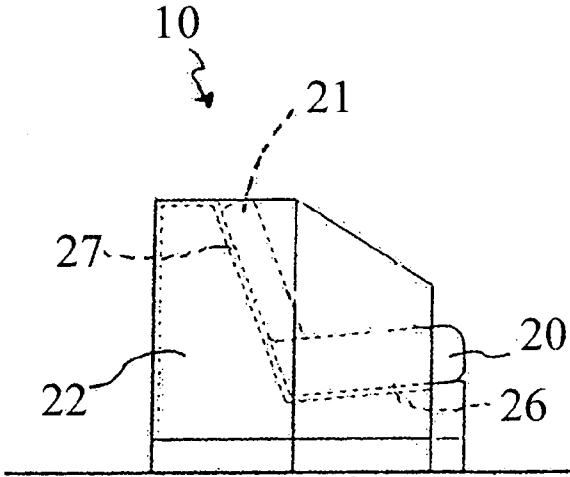


Fig. 3

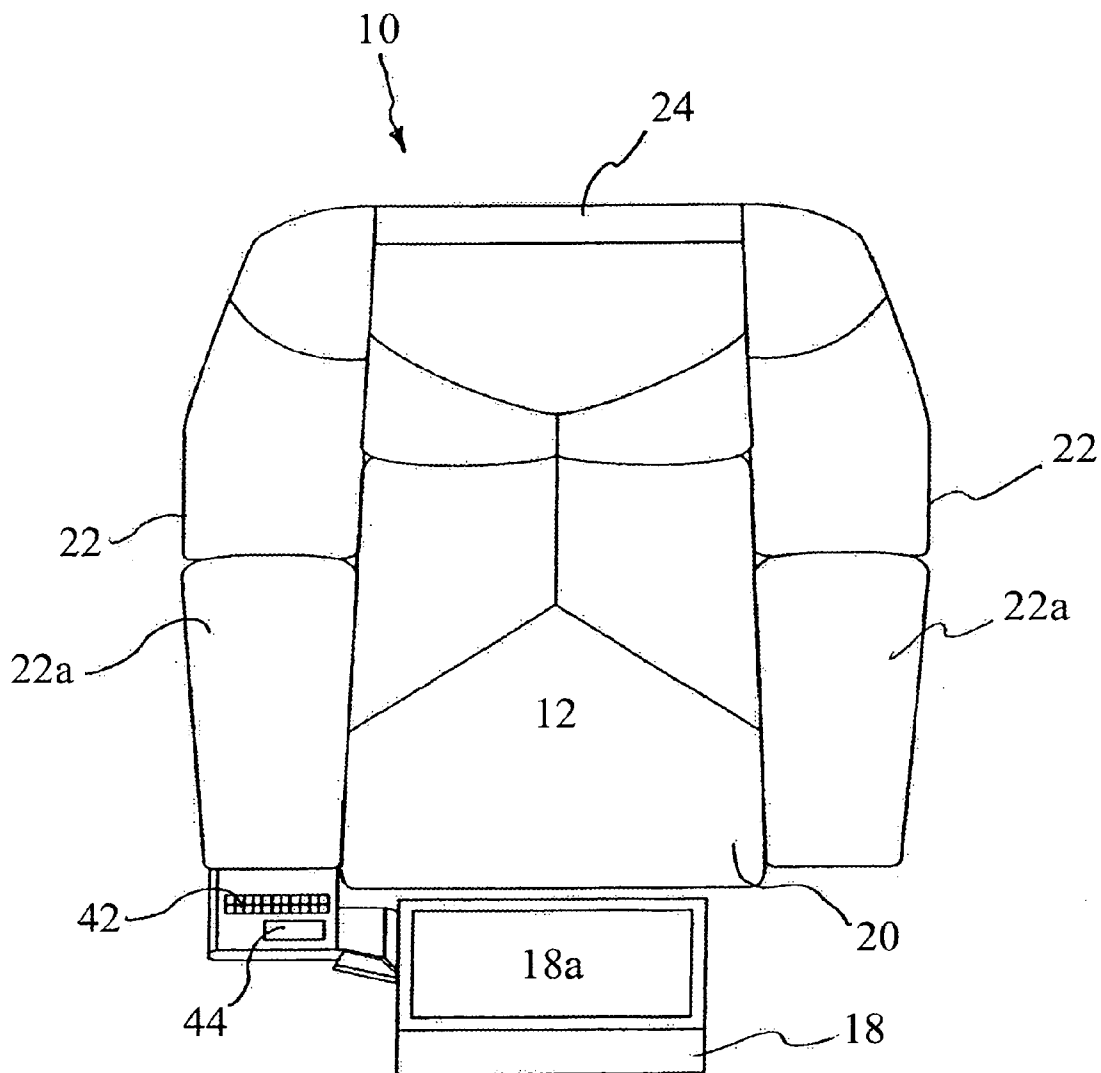


Fig. 4

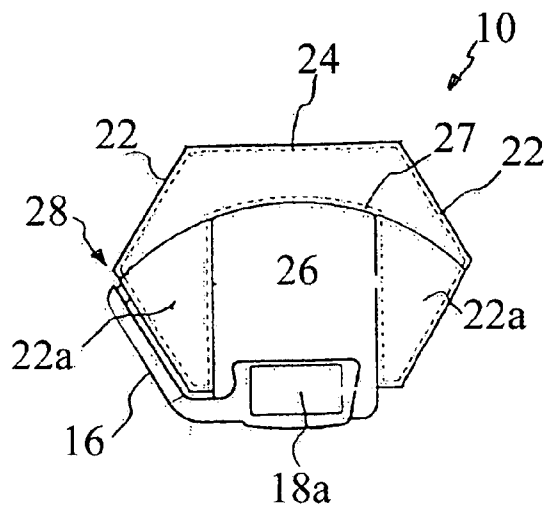


Fig. 6

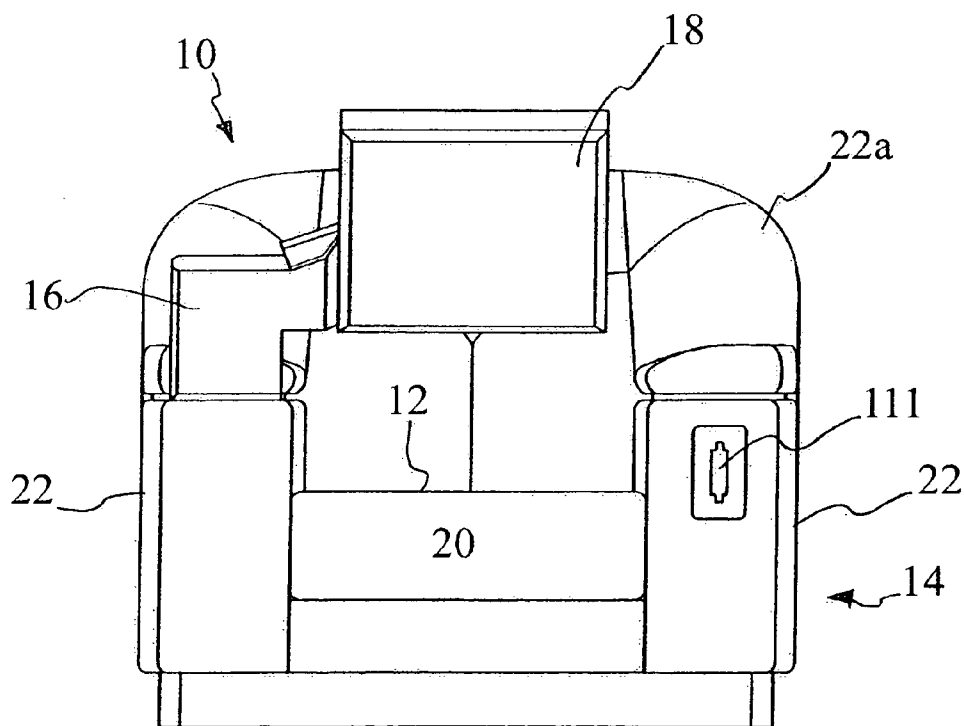


Fig. 7

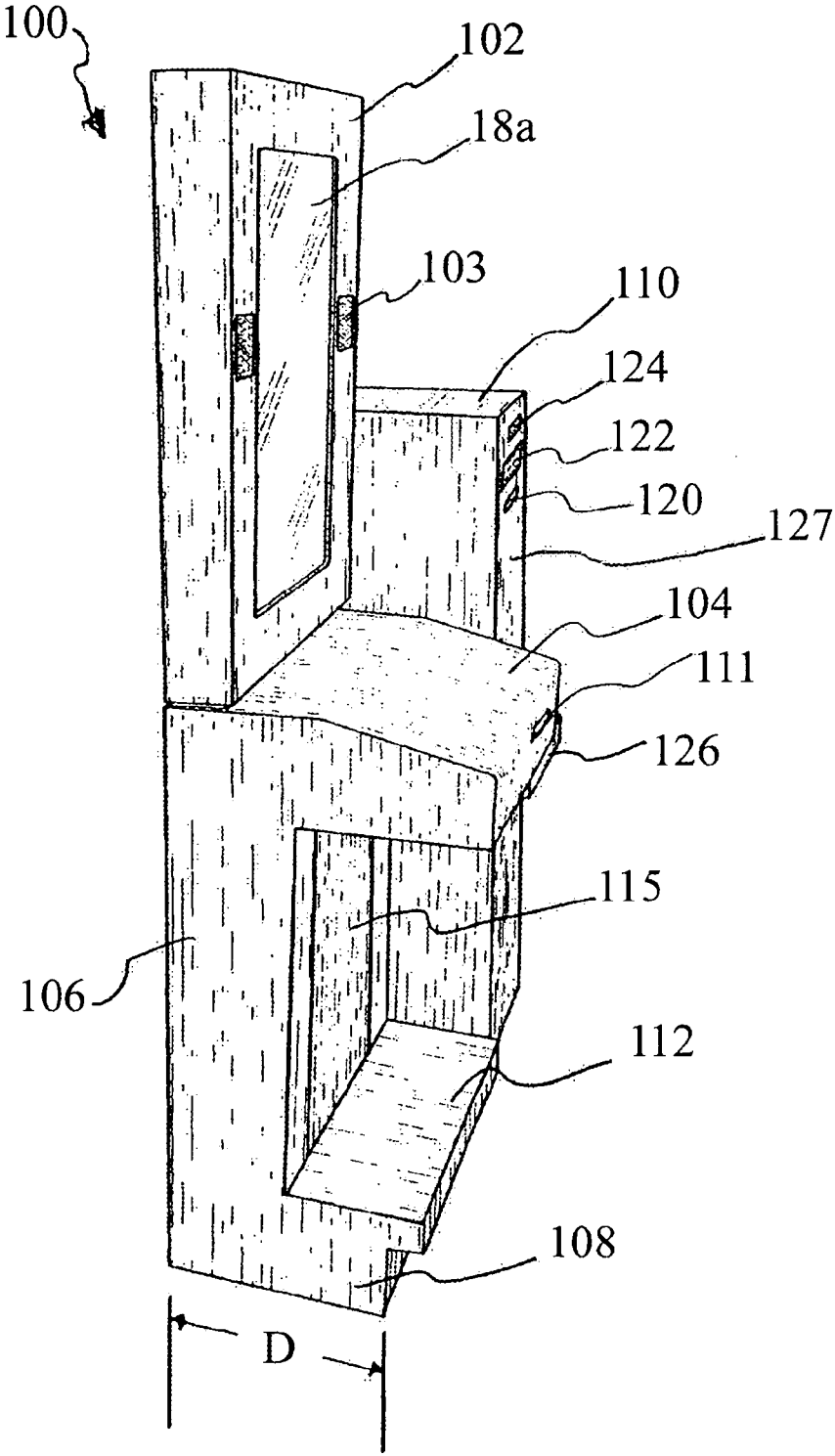


Fig. 8

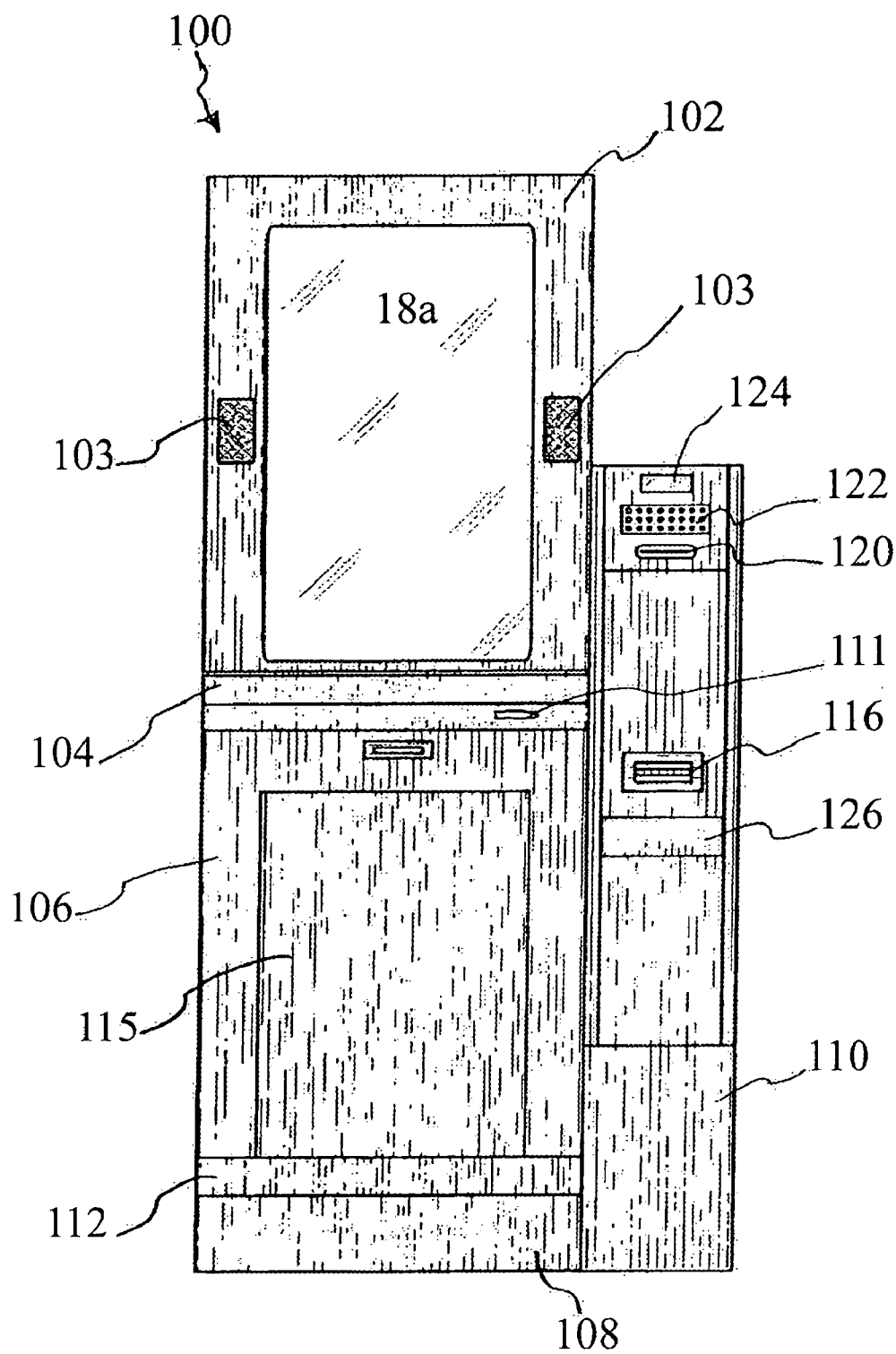


Fig. 9

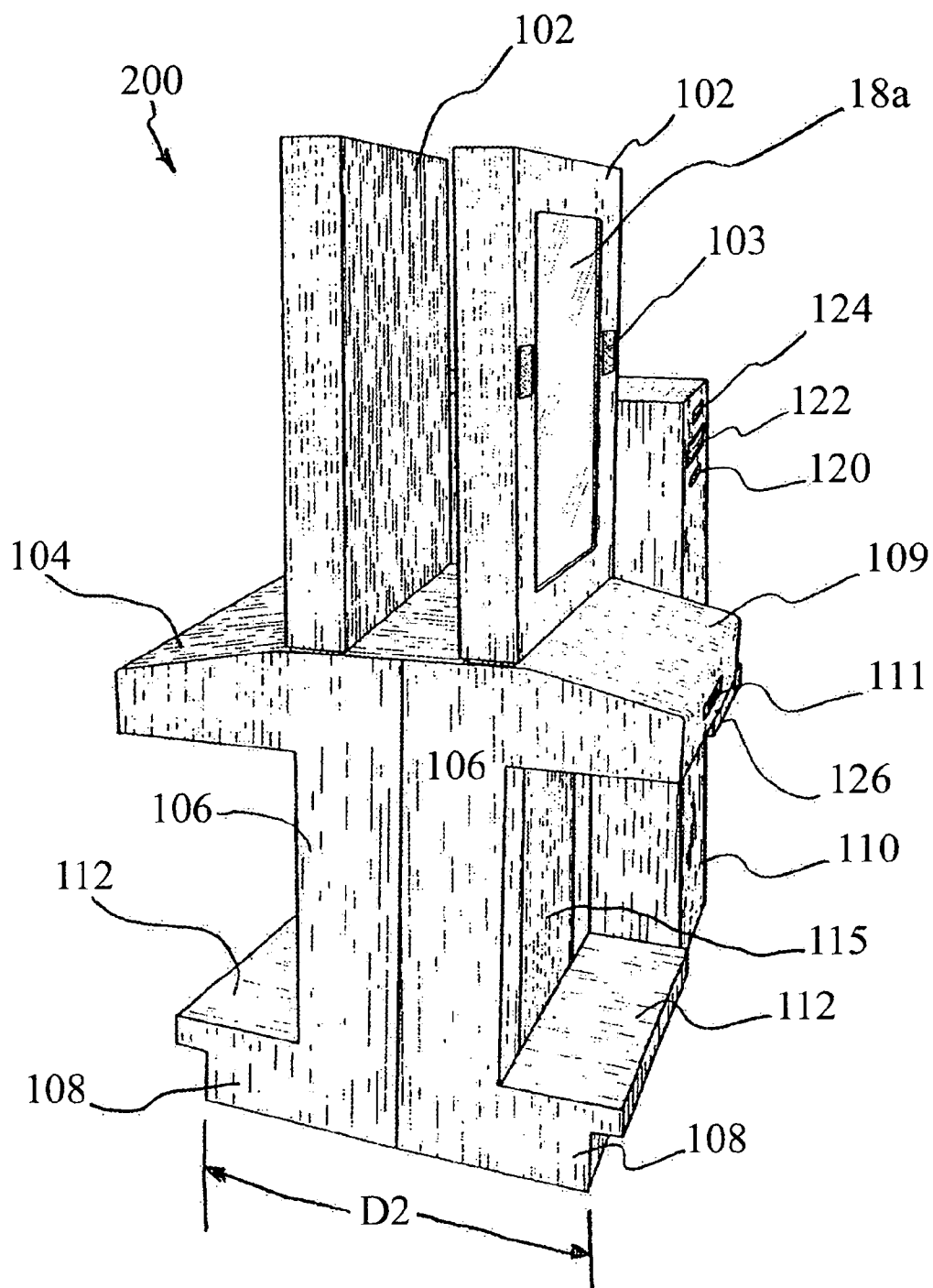


Fig. 10

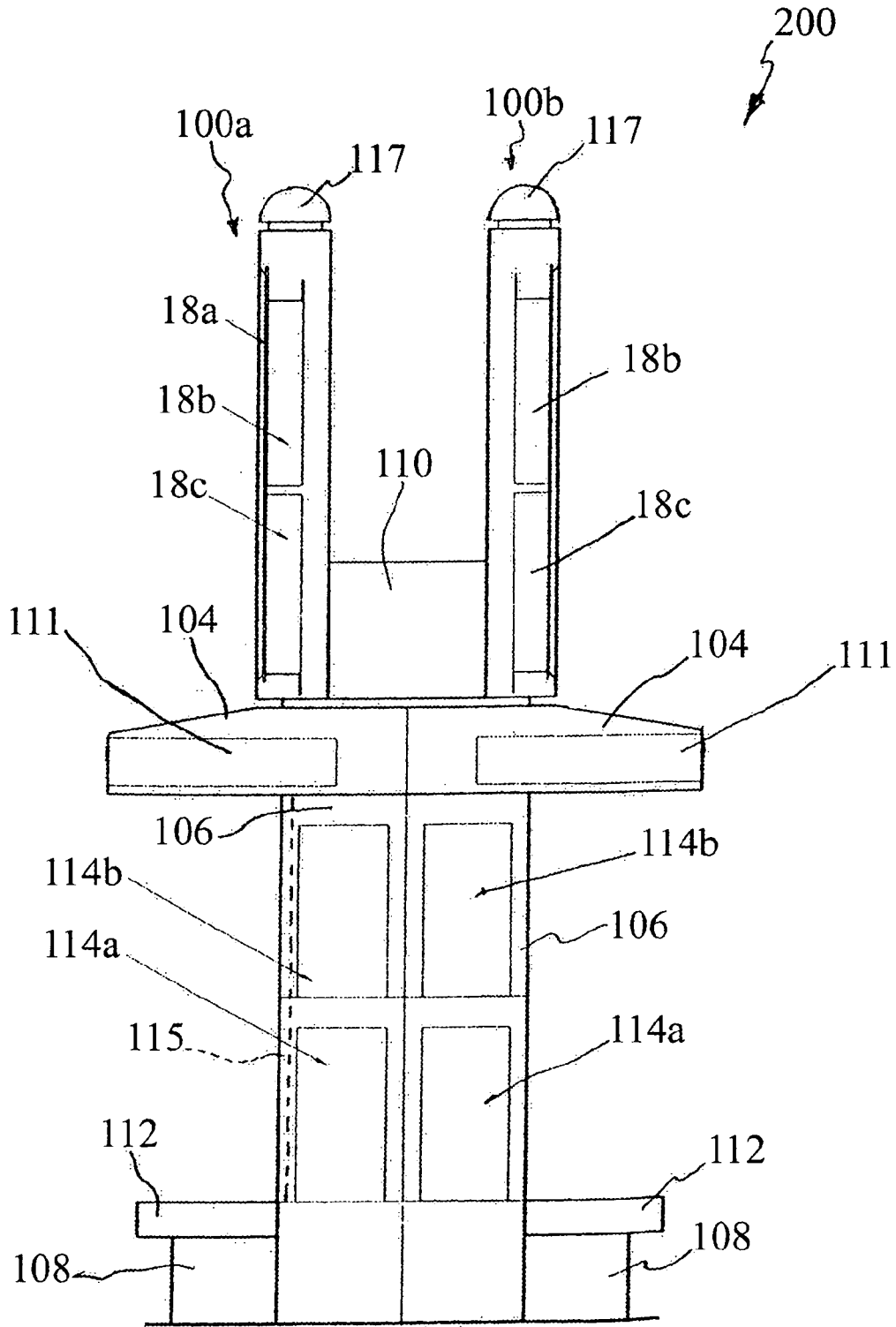


Fig. 11

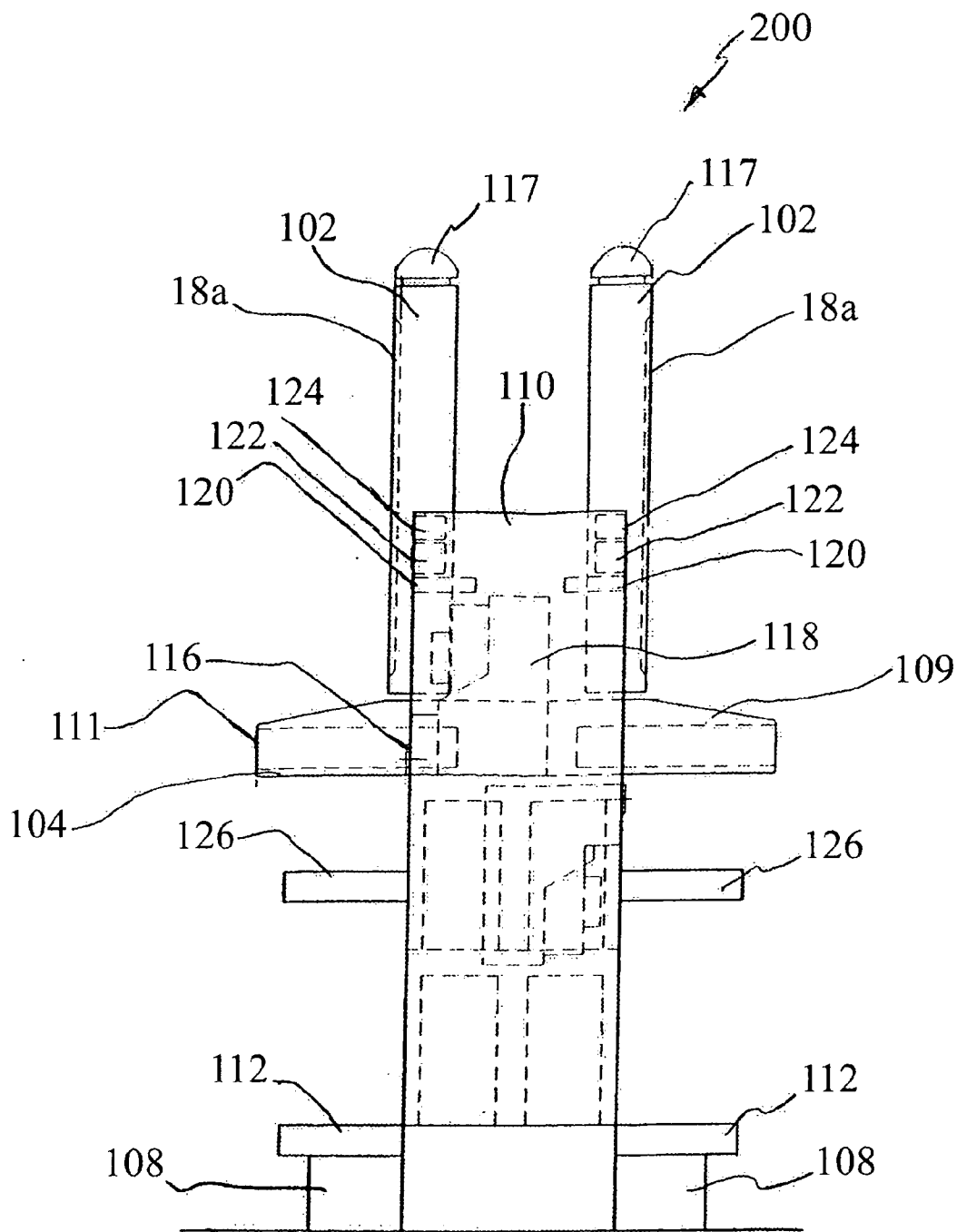


Fig. 12

ERGONOMIC GAMING MACHINE

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This is a continuation of U.S. patent application Ser. No. 11/127,840, filed May 11, 2005, now U.S. Pat. No. 7,625, 288, which is a continuation of U.S. patent application Ser. No. 09/967,899, filed on Sep. 28, 2001, now U.S. Pat. No. 6,910,734, which is a continuation-in-part of U.S. patent application Ser. No. 09/678,853, filed Oct. 4, 2000, now abandoned, the entireties of which are incorporated herein by reference. This application is also related to U.S. patent application Ser. No. 09/967,861, which was filed on Sep. 28, 2001, the entirety of which is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to the field of gaming machines and more specifically to ergonomic gaming machines.

BACKGROUND OF THE INVENTION

[0003] The gaming industry is always looking for new ways to entice users to play its games. Slot machines are a very popular form of gaming. Current slot machines typically only include one game and except only a single monetary unit, such as nickels or quarters. Because many slot machines only include one game, the machines and chairs take up floor space on a game by game basis and are costly for casinos as multiple machines must be purchased for multiple games. Also, current slot machines are uncomfortable to sit at for extended periods of time due to the use of stools that often do not have backs.

[0004] When gaming, a patron often desires food or drinks. Currently, the patron must get the attention of a cocktail waitress to order food or drinks. This can be bothersome to the patron and it can often take a long period of time to find the waitress. One prior art attempt to solve this need involves a switch with a light on top of the machine to attract the waitress. However, this still takes time for the waitress to spot the light.

[0005] Also, people like to talk and socialize while gaming, but current arrays of slots do not readily allow for this.

[0006] Accordingly, a long felt need exists for a gaming machine that overcomes the disadvantages described above.

SUMMARY OF THE INVENTION

[0007] In accordance with a first aspect of the present invention there is provided a gaming device that includes a module for holding a gaming device, a human support surface connected to the module, and a transport and positioning device for positioning the user interactive surface in operational contact with the user. The module has a user interactive surface.

[0008] In accordance with another aspect of the present invention there is provided a gaming machine that includes a human support surface, a main body portion that includes the human support surface, an arm pivotally connected to said main body portion, and a user interface attached to the arm and pivotal with respect to the human support surface. The user interface is used for gaming. In a preferred embodiment, the arm is in mechanical communication with a counterweight assembly and the user interface is pivotal between a first position and a second position.

[0009] In accordance with another aspect of the present invention there is provided a gaming machine that includes a chair having a seat and a back, and a movable user interface associated with the chair.

[0010] In accordance with yet another aspect of the present invention there is provided a method of gambling. The method includes the steps of sitting on a seat, pivoting a user interface from a first position to a second position, and gambling using the user interface. Preferably, the user interface is attached to an arm and the arm is pivotally connected at an opposite end to the seat and the arm can be pivoted in a generally vertical arc.

[0011] In accordance with yet another aspect of the present invention there is provided a gaming machine layout that includes a first gaming machine and a second gaming machine angled toward one another so that users of each machine can socialize. Each gaming machine includes a chair having a seat and a back, and a movable gaming device associated with the chair.

[0012] In accordance with yet another aspect of the present invention there is provided a gaming machine comprising, a bottom portion, an intermediate portion extending upwardly from the bottom portion, two desks extending from the intermediate portion in opposite directions, two display housings extending upwardly from the intermediate portion, and a tower affixed to one of the sides of the intermediate portion. The tower includes at least two bill acceptors. The intermediate portion houses at least two central processing units, and has opposite sides. The desk includes at least one ticket printer in electrical communication with the one or more processors. The display housings each house a touch screen display in electrical communication with one of the central processing units.

[0013] A need exists for a gaming machine that has the following advantages, among others, multiple games and multiple monetary units; a comfortable seat; a reduced need for floor space, allowing for more units in the same space; reduced cost; and the ability to order food or drinks using the gaming machine. The above referenced aspects of the present invention address these needs.

[0014] Other objects, features and advantages of the present invention will become apparent to those skilled in the art from the following detailed description. It is to be understood, however, that the detailed description and specific examples, while indicating preferred embodiments of the present invention, are given by way of illustration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof, and the invention includes all such modifications.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] The invention may be more readily understood by referring to the accompanying drawings in which:

[0016] FIG. 1 is a perspective view of a seated gaming machine in accordance with a first embodiment of the present invention.

[0017] FIG. 2 is a side elevational view of the seated gaming machine of FIG. 1.

[0018] FIG. 3 is a side elevational view of the seated gaming machine of FIG. 1 with the swing arm removed and the cushions shown in phantom.

[0019] FIG. 4 is a top plan view of the seated gaming machine of FIG. 1.

[0020] FIG. 5 is a side elevational view of the seated gaming machine of FIG. 1 with a portion of the side cut away to show the counterweight assembly.

[0021] FIG. 6 is a top plan view of the seated gaming machine of FIG. 1 with the cushions removed.

[0022] FIG. 7 front elevational view of the seated gaming machine of FIG. 1.

[0023] FIG. 8 is a perspective view of a gaming machine in accordance with a second embodiment of the present invention.

[0024] FIG. 9 is a front elevational view of the gaming machine of FIG. 8.

[0025] FIG. 10 is a perspective view of a gaming machine in accordance with a third embodiment of the present invention.

[0026] FIG. 11 is a side elevational schematic view of the gaming machine of FIG. 10 showing the interior components of the main body portion.

[0027] FIG. 12 is a side elevational schematic view of the gaming machine of FIG. 10 showing the interior components of the tower.

[0028] Like numerals refer to like parts throughout the several views of the drawings.

DETAILED DESCRIPTION OF THE INVENTION

[0029] With reference to FIGS. 1-7, the present invention provides for a seated gaming machine 10. The machine includes a seat 12, a main body portion 14, swing arm 16 and a display panel/user interface 18. It will be appreciated that terms such as “left,” “right,” “top,” “bottom,” “inwardly,” “outwardly,” “front,” “inner,” “up,” and “down” and other positionally descriptive terms used hereinbelow are used merely for ease of description and refer to the orientation of the components as shown in the Figures. It should be understood that any orientation of the elements described herein is within the scope of the present invention.

[0030] As best shown in FIG. 1, the seat 12 and main body portion 14 preferably comprise a lounge-type chair. The type of lounge chair is not a limitation on the present invention. For example, the lounge chair may include cushions (such as seat cushion 20 and back cushion 21), as shown in FIGS. 3, 5, and 6, or the entire chair may be upholstered with cushioning material under the upholstery 23 (such as leather), or a combination of both as shown in FIGS. 1, 2, 4 and 7. However, it will be understood that the seat 12 can be any seat or surface that supports a person (human support surface) known in the art, e.g., a cushioned chair, a non-cushioned chair, a stool, a bed, a dentist’s-type chair, a futon, an exercise bicycle, a treadmill etc. The type of seat is not intended to be a limitation on the broadest aspects of the present invention.

[0031] The main body portion 14 includes two side portions 22 (each having an arm 22a) and a back 24. In a preferred embodiment, the main body portion 14 includes supports, such as a set of legs or pads intended to contact the floor. A seat support 26 and a back support 27 extend between the two side portions 22 as shown in FIG. 6. Preferably, the bottom cushion 20 rests on the seat support 26 and the back cushion 21 rests against the back support 27 and on the bottom cushion 20. The cushions are intended to provide comfort to a user of the machine 10. It will be understood that different portions of the chair can have cushions thereon. For example, the arms 22a or side portions 22 can include cushions or cushioning material. In a preferred embodiment, the entire chair is upholstered.

[0032] The swing arm 16 is pivotally connected to the main body portion 14 by a joint assembly 28 and can extend through an opening in one of the sides 22, as shown in FIG. 5. However, swing arm 16 can also extend out of one of the arms 22a, as shown in FIG. 1. The swing arm 16 is preferably pivotal in a vertical arc A (as shown in FIG. 5), such that it can be raised out of the way to allow a user to sit on the seat 12. The out of the way position will be referred to herein as the first position. Once the user is seated, the swing arm 16 is lowered and positioned just above the lap of the user. The gaming position will be referred to herein as the second position. The swing arm 16 is mechanically controlled by pivots and stabilizers to move the swing arm 16 in a predetermined path of travel, having the first and second positions at the ends of this path.

[0033] In a preferred embodiment, the swing arm 16 includes a counterweight assembly 29 that reduces the effort necessary by a user for pivoting the swing arm 16 from the first position to the second position, and vice versa. Preferably, the counterweight assembly 29 includes cam operated gas shocks as found in automotive applications such as hood struts or hatchback struts. The struts push against a predetermined weight (determined by the gas pressure within the struts) thereby countering the weight of the arm 16 and causing the weight to be almost neutral. The apparent weight of the arm is minimized, thereby requiring very little effort by the user in raising or lowering the swing arm 16.

[0034] An example of the counterweight assembly 29 is shown in FIG. 5. Preferably, the back 24 has a support frame 30 connected thereto, to which the counterweight assembly 29 is anchored. As shown, the arm 16 is pivotally connected to a cam 32 by a bearing or bearings 34 and ultimately to the support frame 30. The support frame 30 can be a steel angle or the like. The cam 32 is pivotally connected at its opposite end to a strut 36 (preferably a gas strut), which is anchored to a cross brace 38 in the back of the main body portion 14 of the chair. It will be understood that the strut 36 can also be anchored to other components of the main body portion 14. In FIG. 5, the cam 32 and strut 36 are shown in solid lines in the first position (the raised position of the arm 16). In this position, the strut 36 is in its fully extended position. In FIG. 5, the cam 32 and strut 36 are shown in phantom lines in the second position (the lowered or gaming position of the arm 16). In this position, the strut 36 is in its fully compressed position.

[0035] In another embodiment the swing arm 16 can be pivotal in a horizontal arc. It will be understood that the purpose of the swing arm 16 being pivotal is to move the display panel/user interface 18 out of the way so that a user can sit down. Accordingly, it is within the scope of the present invention to provide any type of user interface (monitor, touch screen display or the like) movable between a first position and a second position.

[0036] In another embodiment, the display panel/user interface 18 may be mounted on an electronically activated track or may swing out of the arm of the chair similar to an eating tray on an airplane seat. Any transport and positioning device for bringing the display panel/user interface 18 into operational contact with the user is within the scope of the present invention.

[0037] The display panel/user interface 18 houses at least one touch screen display 18a for the user to reach and select from a menu of services. The services include, but are not limited to playing games, ordering food or drinks, and checking out of the casino, as well as other functions as described in

attorney docket no. 62853-5005, titled Method and System For Operating a Gaming Device Offering Non-Gaming Services. The display **18a** is preferably connected to a computer network. In an alternative embodiment the computer can be housed within the main body portion **14**, thereby forming a stand alone unit. For example, the computer can be housed in space **40**, as shown in FIG. **5**. The display panel/user interface **18** is preferably disposed at the end of swing arm **16**.

[0038] In an alternative embodiment of the invention the arm **16** and display panel/user interface **18** may be fixed and mounted in a position such that a user can slide by the display panel/user interface **18** to sit in the seat **12**. Also, the arm **16** or display panel/user interface **18** can include inputs **40** for peripherals (such as a printer or the like), a keyboard **42**, a mouse or other pointing device **44** and a ticket printer **111**, as described below.

[0039] In a preferred embodiment the chair is used for gaming purposes. However, the description herein is only intended to be exemplary and not a limitation on the broadest aspects of the present invention. In other embodiments, the chair can be used for educational purposes (such as in schools), home computing, race/sports books, Internet cafes or other places where Internet access is desirable.

[0040] As described above, the broad invention is a physical user interface for gaming in which a person is supported on a seat or other surface for supporting a person while gaming via a user interface. The seat **12** does not necessarily have to be attached to the display housing/user interface **18**. For example, the display panel/user interface **18** can be mounted on a wall (either fixedly or pivotally), and the seat **12** can be a separate chair or the like that is adjacent the display panel/user interface **18**.

[0041] FIGS. **8-9** show a second embodiment of an ergonomic gaming machine **100**. The machine **100** includes a display housing **102**, a desk **104**, an intermediate portion **106**, a bottom portion **108** and a tower **110**. The display housing **102** preferably includes a touch screen display **18a** similar to the one described above with respect to the first embodiment **10**, a monitor or monitors **18b**, **18c** and associated speakers **103**. The intermediate portion **106** extends upwardly from the bottom portion **108** and has the display housing **102** extending upwardly therefrom and the desk **104** extending outwardly from near the top thereof, as shown in FIG. **8**.

[0042] FIGS. **10-12** show a third embodiment of the present invention **200**. In this embodiment, the gaming machine **200** includes two units **100a** and **100b** similar to machine **100** back to back that share a common tower **110**. The two units **100a** and **100b** may be a single component (i.e., share a common housing), or the two may be separate components that are back to back, but are in electrical communication with the same tower **110**. The components of the machines **100**, **200** will be described below with reference to the figures showing the third embodiment **200**.

[0043] The desk **104** preferably includes a ticket printer **111** for printing tickets when a user wins. Ticket printers **111** are known in the art. For example, the ticket printer **111** can be a ticket printer manufactured by Seiko Instruments. The ticket printer **111** is in electrical communication with a central processing unit (CPU) **114** (described below), which controls the number of tickets that are to be printed out as a result of a certain action. The bottom portion **108** preferably includes a footrest **112** extending outwardly therefrom in the same direction as the desk **104**. In a preferred embodiment, the

tower **110** is attached to one side **106a** of the intermediate portion **106**, the bottom portion **108** and the display housing **102**.

[0044] In a preferred embodiment the components of the housing of the machine **100** (e.g., the display housing **102**, desk **104**, intermediate portion **106**, bottom portion **108** and tower **110**) are made of a rigid metal such as stainless steel or aluminum. However, this is not a limitation on the present invention.

[0045] As shown in FIG. **11**, the intermediate portion **106** preferably houses the CPU **114**. Access to the CPU **114** is granted by and an access door **115**. The CPU **114** is in electrical communication with the touch screen display **18a** and monitors **18b**, **18c**. The machine **100** (and the CPU **114**) can be a stand alone unit, or it may be networked with other machines **100**. The CPU **114** can also be operated as multiple processors that perform different functions. For example, in a preferred embodiment, the intermediate portion **106** contains two CPU's **114a**, **114b**, one for performing functions related to gaming, and one for performing functions relating to the non-gaming functions, such as ordering food and drinks. Accordingly, as described above, the display housing **102** can also house two separate monitors **18b**, **18c** for displaying information related to the individual CPU's **114a**, **114b**. The display housing **102** can also include a light bulb **117** or bulbs, such as flashing bulbs for indicating when a user has won. The bulb is electrically communicated with the CPU **114**.

[0046] Preferably the tower **110** is thin and tall. For example, the tower height preferably ranges between about 30 inches and about 66 inches; more preferably between about 36 inches and about 60 inches; and most preferably ranges between about 42 inches and about 54 inches. The tower width preferably ranges between about 4 inches and about 12 inches; more preferably between about 6 inches and about 10 inches; and most preferably is about 8 inches. This, as described below, saves space. As shown in FIG. **12**, the tower includes most of the electronic components of the machine **100**, such as a bill acceptor **116** (and the associated drop box **118**), a club card acceptor **120** (many casinos have club cards), a message delivery keypad **122**, a display screen **124** for keypad entries and club card information. All of these components are in electrical communication with the CPU **114**.

[0047] The tower **110** also preferably includes a shelf **126** on the front thereof and a main door **127** for access to the internal components. The door **127** preferably includes a lock and is hinged to the tower **110**. It will be understood that the doors **115**, **127** can be any component that blocks access to the interior components when shut. The bill acceptor **116** and club card acceptor **120** can be any type of acceptor known in the art. For example, the bill acceptor **116** can be a bill acceptor manufactured by JCM-American, and the club card acceptor/reader **120** can be a club card reader manufactured by American Magnetics. The display screen **124** is preferably a digital display screen. In alternative embodiments all of these components can be housed in the display housing **102**, an intermediate portion **106** or a bottom portion **108**. In another embodiment the ticket printer can be located on the tower **110**.

[0048] Gaming machines **100** and **200** require less floor space than prior gaming machines presently in use. Because the machines are coinless and do not require large drop boxes, and because the machines operate electronically and do not require moving mechanical parts, the depth D, D2 (shown in

FIG. 8) of the machines 100 and 200 is less than gaming machines presently in use. Preferably D ranges between about 8 inches and about 18 inches; more preferably D ranges between about 10 inches and about 16 inches; and most preferably D ranges between about 12 inches and about 14 inches. These ranges are doubled for the depth D2 of machine 200.

[0049] The embodiments of the present invention recited herein are intended to be merely exemplary and those skilled in the art will be able to make numerous modifications to them without departing from the spirit of the present invention. All such modifications are intended to be within the scope of the present invention as defined by the claims appended hereto.

What is claimed is:

- 1. A gaming machine comprising:
 - (a) a human support surface,
 - (b) a main body portion that includes the human support surface,
 - (b) an arm pivotally connected to the main body portion, and
 - (c) a user interface attached to the arm and pivotal with respect to said human support surface, wherein the user interface is used for gaming.
- 2. The gaming machine of claim 1 wherein the main body portion comprises a chair having a pair of chair arms, wherein the arm is connected to one of the chair arms.
- 3. The gaming machine of claim 2 wherein the user interface is pivotal between a first position and a second position.
- 4. The gaming machine of claim 3 wherein the user interface is pivotal in a generally vertical arc, whereby the first position is located above the second position.
- 5. The gaming machine of claim 4 wherein the user interface is pivotal in a generally forward and backward direction with respect to a human supported on the human support surface.

6. The gaming machine of claim 1 further comprising a counterweight assembly in mechanical communication with the pivotal arm.

7. The gaming machine of claim 5 wherein the chair is a lounge chair.

8. The gaming machine of claim 5 wherein the user interface includes a touch screen display.

9. A method of gambling, the method comprising the steps of:

- (a) sitting in a chair having a seat and at least two chair arms,
- (b) pivoting a user interface having a touch screen display from a first position to a second position, and
- (c) gambling using the user interface.

10. The method of claim 9 wherein the user interface is attached to an arm and wherein the arm is pivotally connected at an opposite end to one of the chair arms.

11. The method of claim 10 wherein step (b) further includes the step of pivoting the arm and the user interface in a generally vertical arc.

12. A gaming device comprising:

- (a) a module for holding a gaming device, the module having a user interactive surface,
- (b) a human support surface connected to the module, and
- (c) a transport and positioning device for positioning the user interactive surface in operational contact with the user.

13. The gaming device of claim 12 wherein the transport and positioning device comprises a pivotal arm.

14. The gaming device of claim 13 further comprising a counterweight assembly in mechanical communication with the pivotal arm.

15. The gaming device of claim 13 wherein the user interface includes a touch screen display.

* * * * *