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(54) ENCLOSED PROGRAMMABLY CONTROLLED LOOPING SWING

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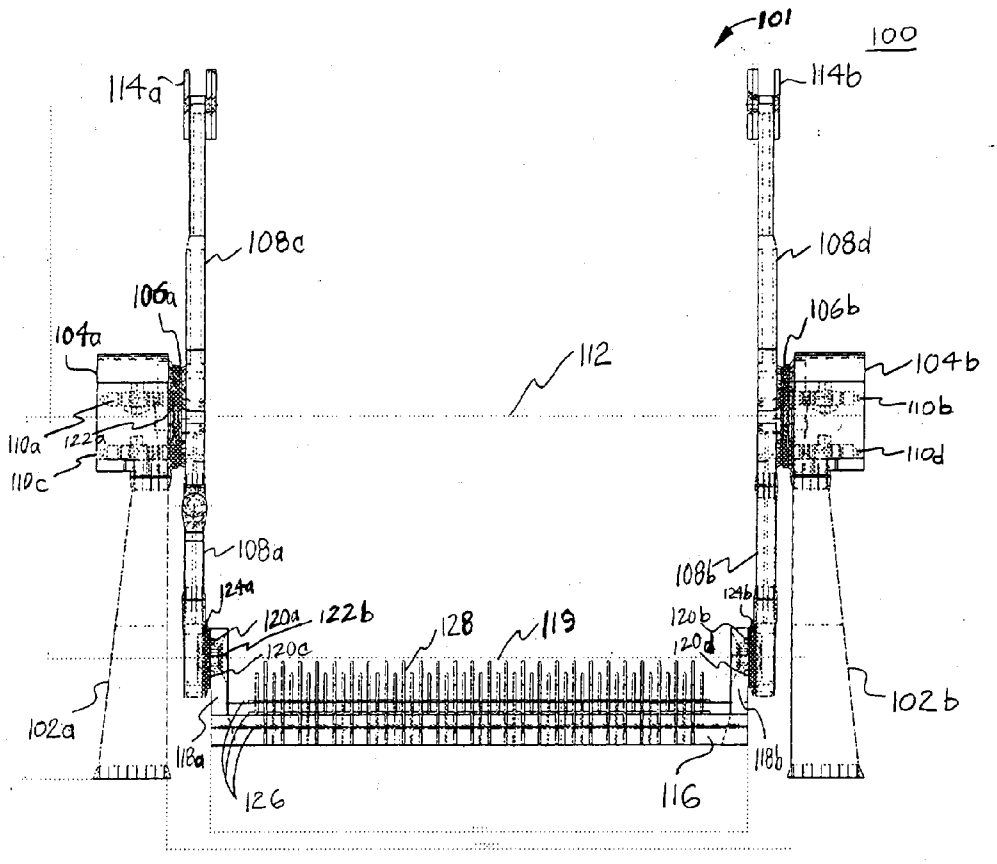
(57) **ABSTRACT**

An exemplary embodiment of the present invention includes an entertainment apparatus including an enclosure; and a ride placed within the enclosure where the ride is a programmably controlled ride that can position a passenger to observe a show experience. The programmably controlled ride can vary a show experience. The programmably controlled ride can be programmed to vary the show experience by, e.g., intensifying, moderating, lengthening, shortening, providing variable ratings to, or providing variable age categorization to the ride. The ride can include a looping swing ride including two vertical supports, each including top portions, two parallel swing arm outriggers including first and second ends, the parallel swing arm outriggers journaled in rotatable fashion about a first axis proximate the top portions of the two vertical supports, and a passenger gondola suspended by pendulum arms from the first ends of the parallel swing arm outriggers to rotate about a swing axis; where the programmably controlled ride is programmable to start rotation and stop rotation at a plurality of rotational position locations of the parallel swing arm outriggers of the looping swing ride relative to the two vertical supports of the looping swing ride about the first axis, and to start and stop rotation at a plurality of rotational positions of the passenger gondola relative to the parallel swing arm outriggers about the swing axis, in synchronization with one or more theatrical elements.



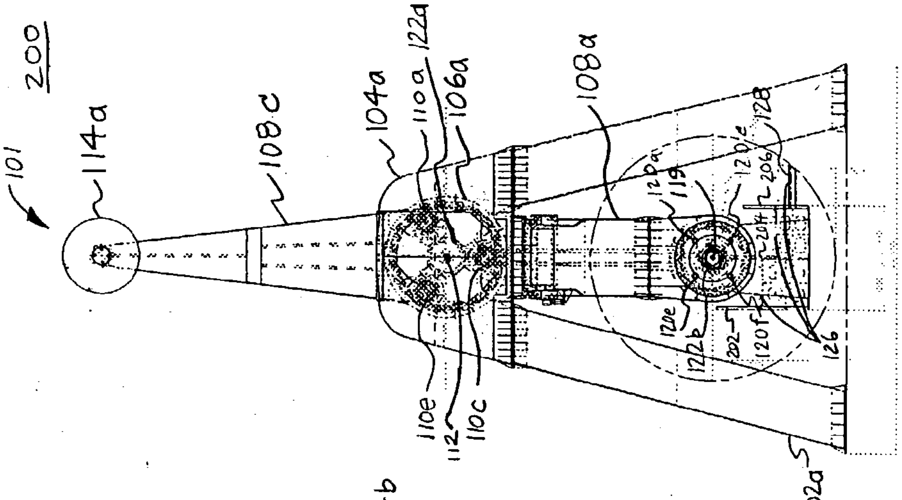

200
101
114a
108c
104a
110a
122a
106a
108a
119
120a
120c
128
206
204
120e
122b
202
120f
126
110e
112
110c
102a

FIG. 2

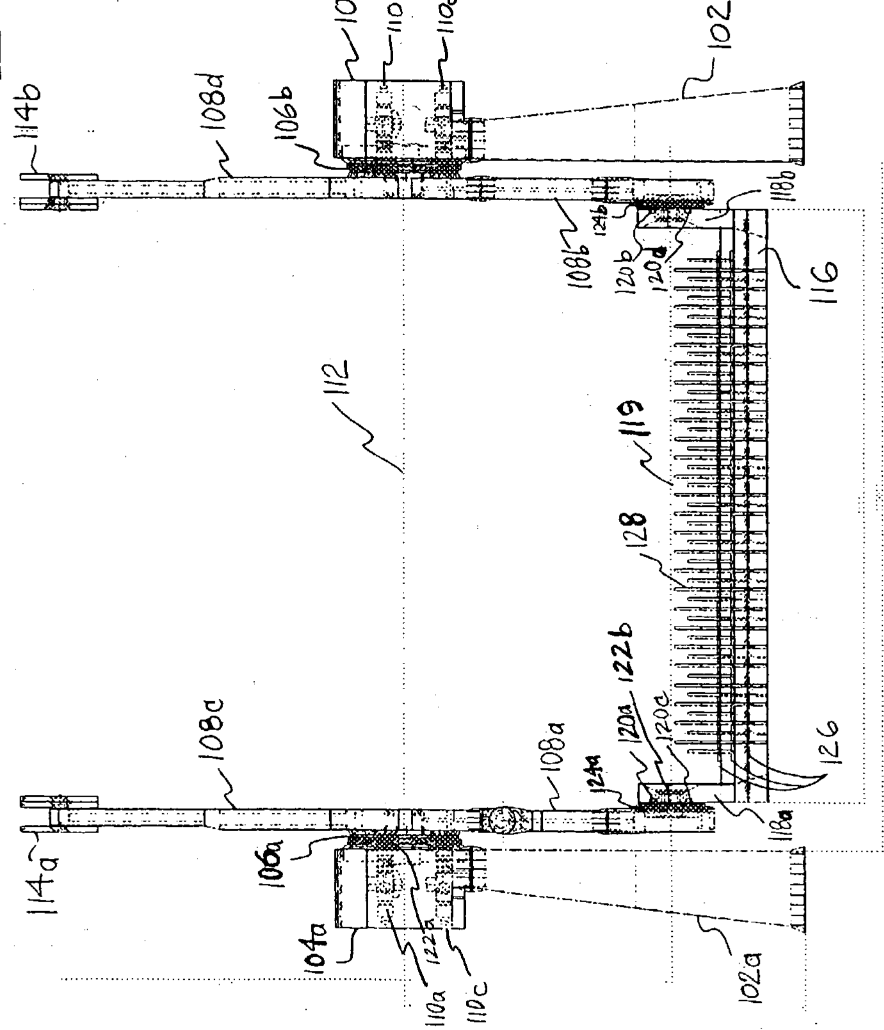

100
101
114b
108d
106b
104b
110b
110d
102b
108b
124b
120b
120d
118b
116
112
119
128
122b
120a
120c
126
114a
108c
106a
108a
124a
118a
104a
122b
110a
110c
102a

FIG. 1

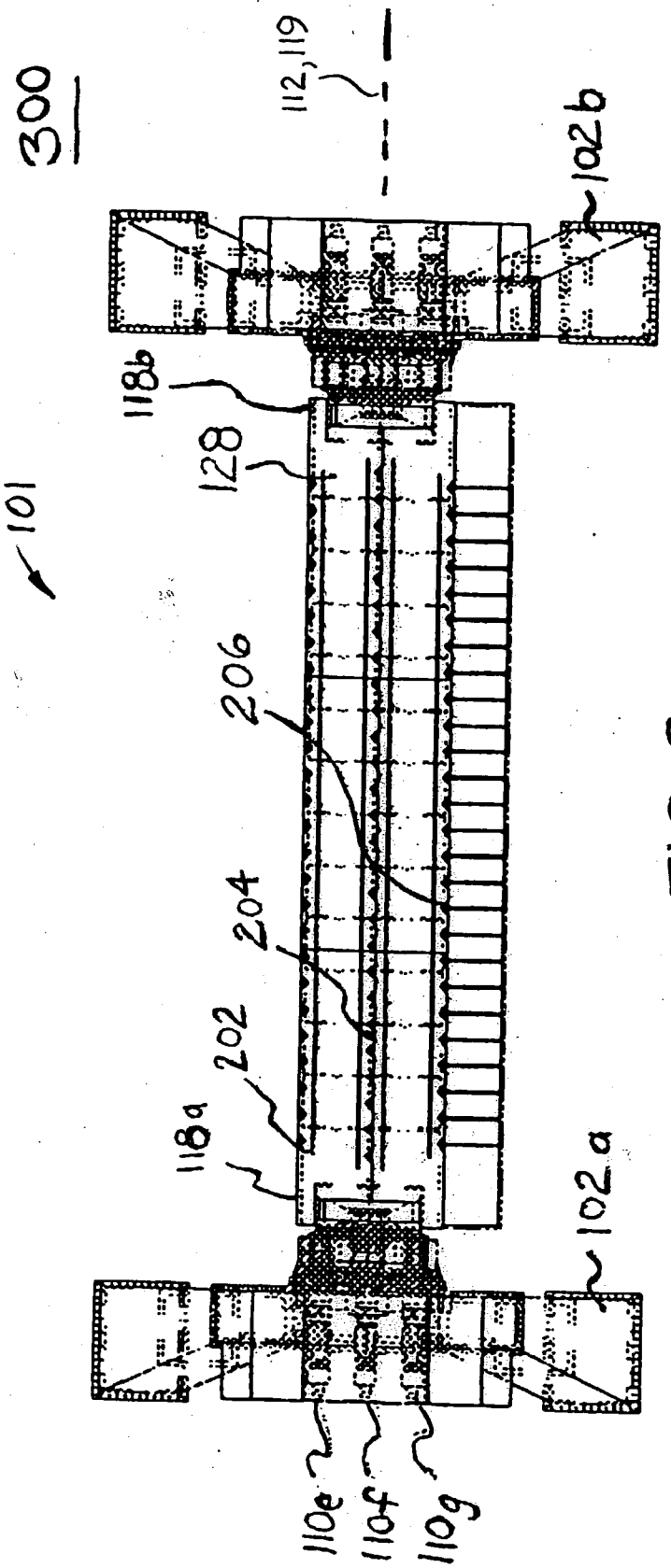

300
112,119
102b
118b
128
101
206
204
202
118a
102a
110e
110f
110g

FIG. 3

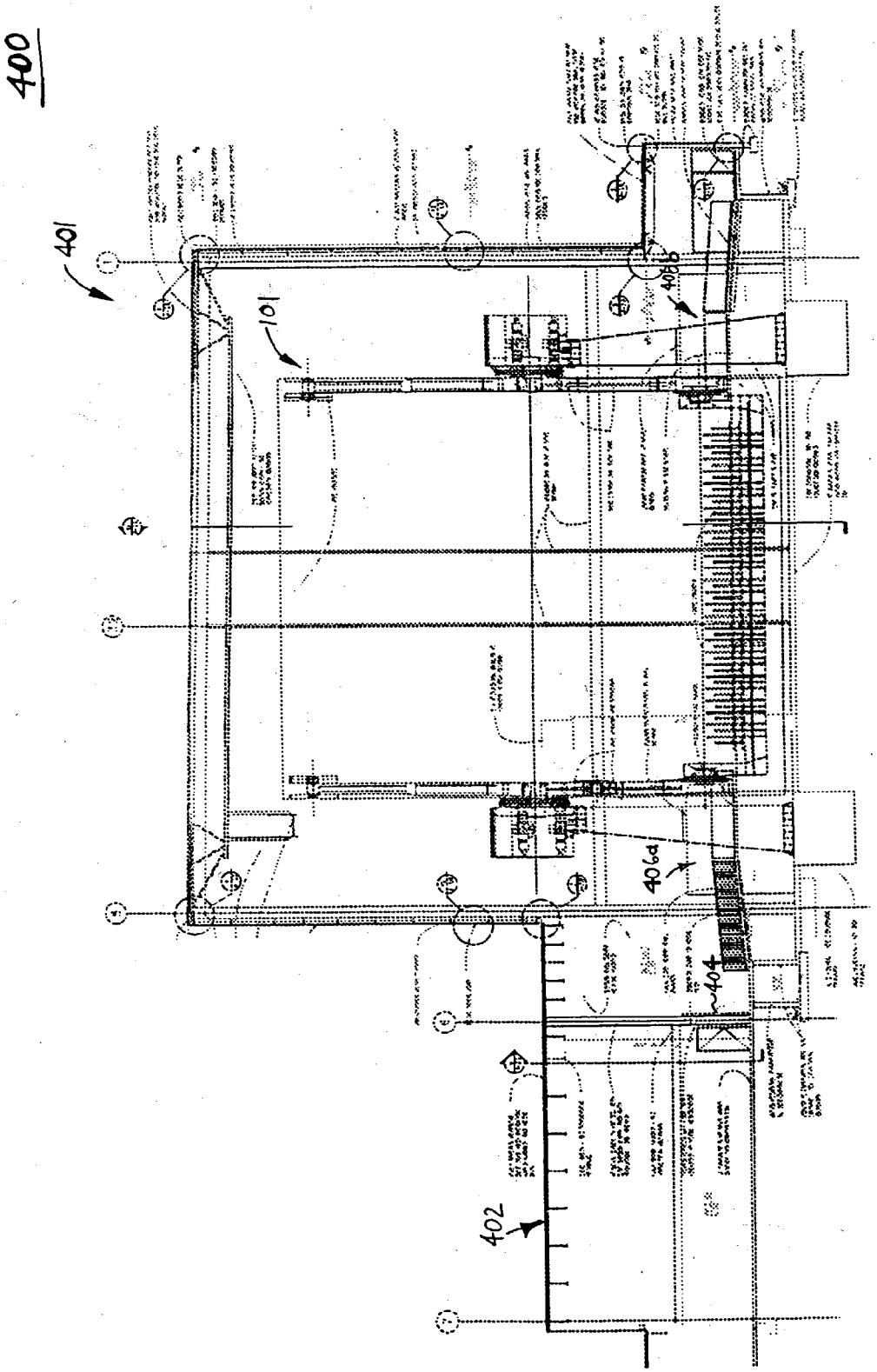


FIG. 4

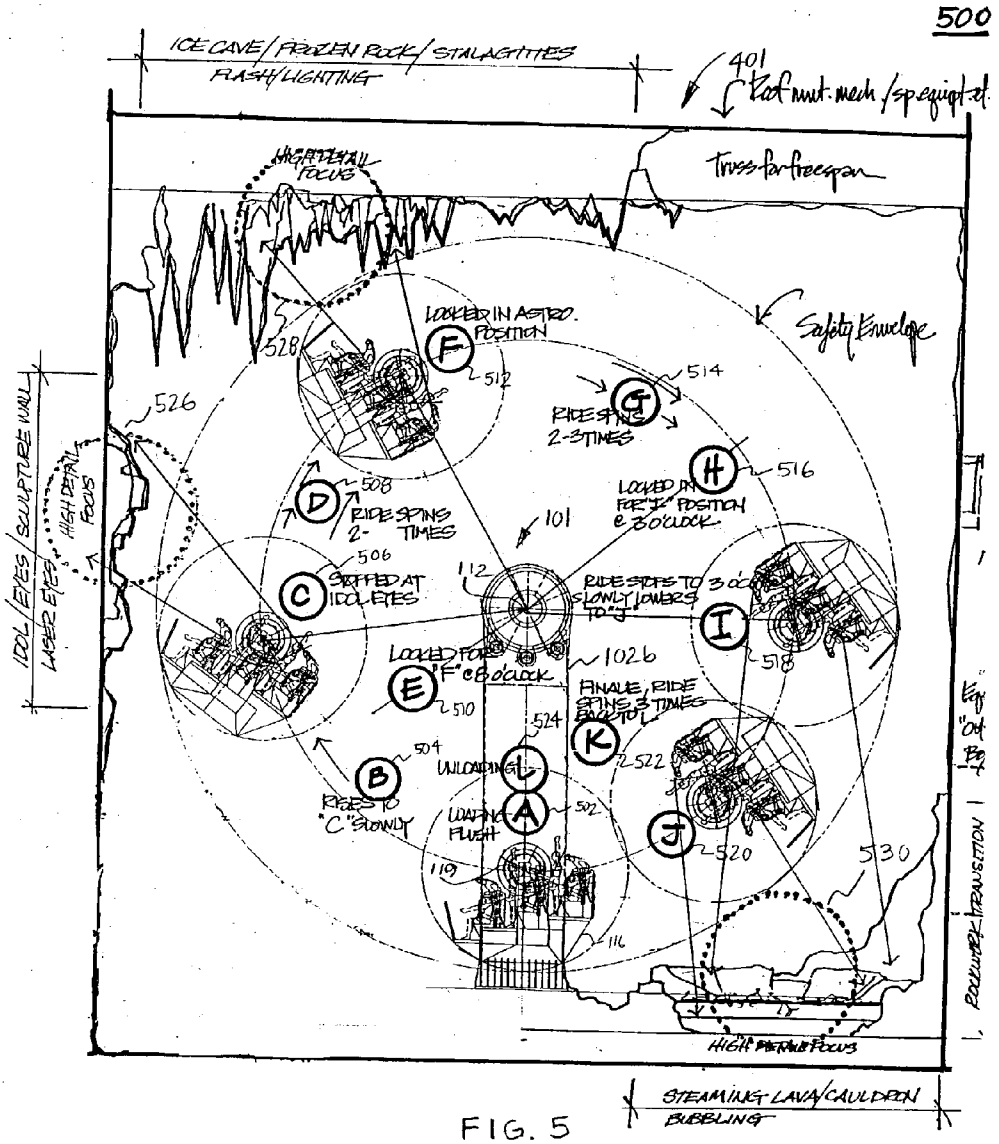

500
ICE CAVE / FROZEN ROCK / STALAGMITES
FLASH / LIGHTING
401
Roof mnt. mech / sp equip'd
Truss for freespan
Safety Envelope
LOCKED IN ASTRO. POSITION
RIDE SPINS 2-3 TIMES
LOCKED IN "F" POSITION @ 3 O'CLOCK
RIDE STOPS TO 3 O'CLOCK SLOWLY LOWERS TO "J"
STOPPED AT IDOL EYES
LOCKED FOR "F" @ 8 O'CLOCK
FINALE, RIDE SPINS 3 TIMES BACK TO "L"
RIDES TO "C" SLOWLY
LOADING
LOADING FLIGHT
IDOL / EYES / SCULPTURE WALL
LASER EYES
HIGH DETAIL FOCUS
STEAMING LAVA / CAULDRON BUBBLING
528
526
512
514
508
516
506
112
101
1026
510
518
524
504
522
502
520
530
119
116

FIG. 5

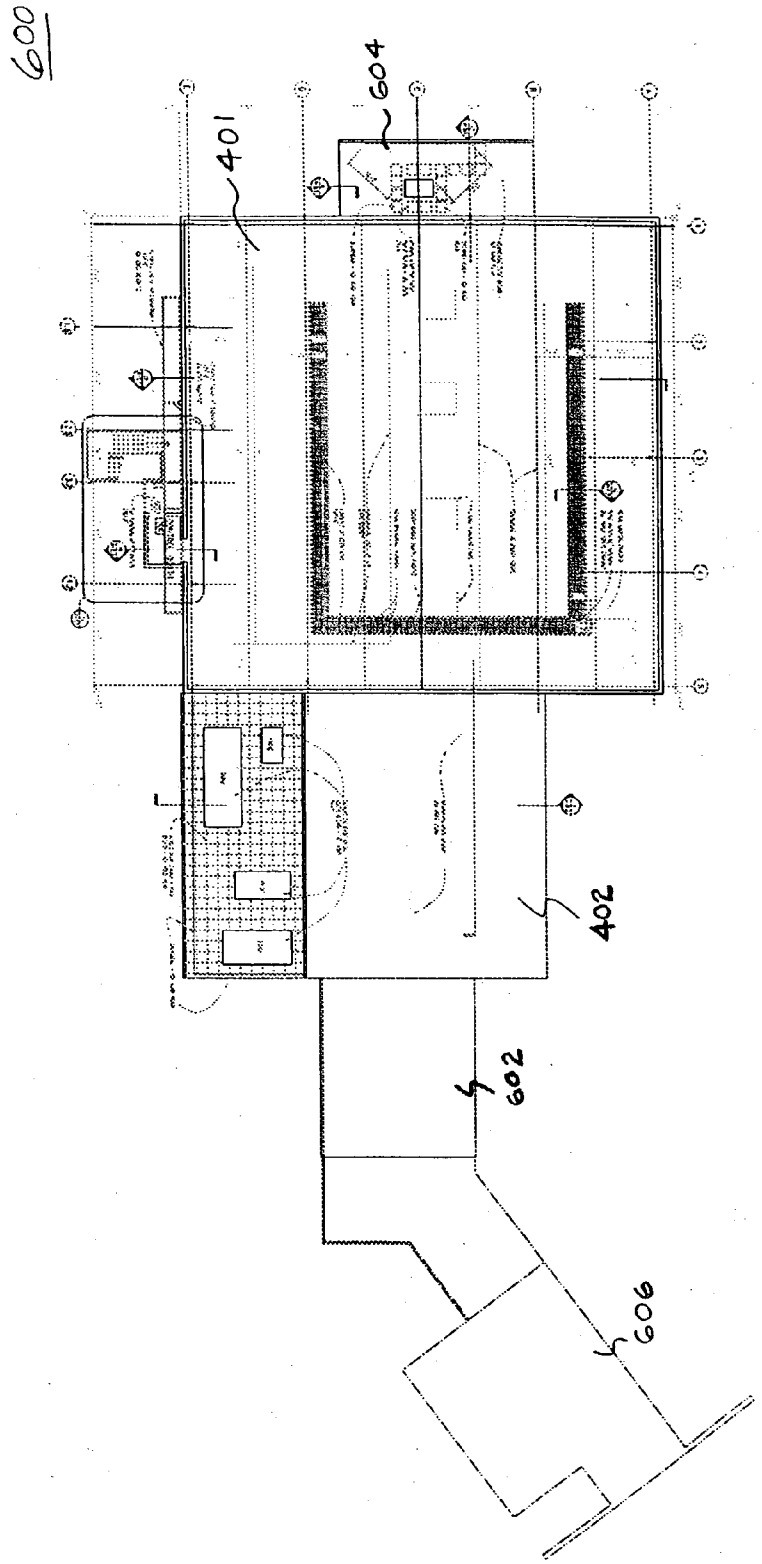


FIG. 6

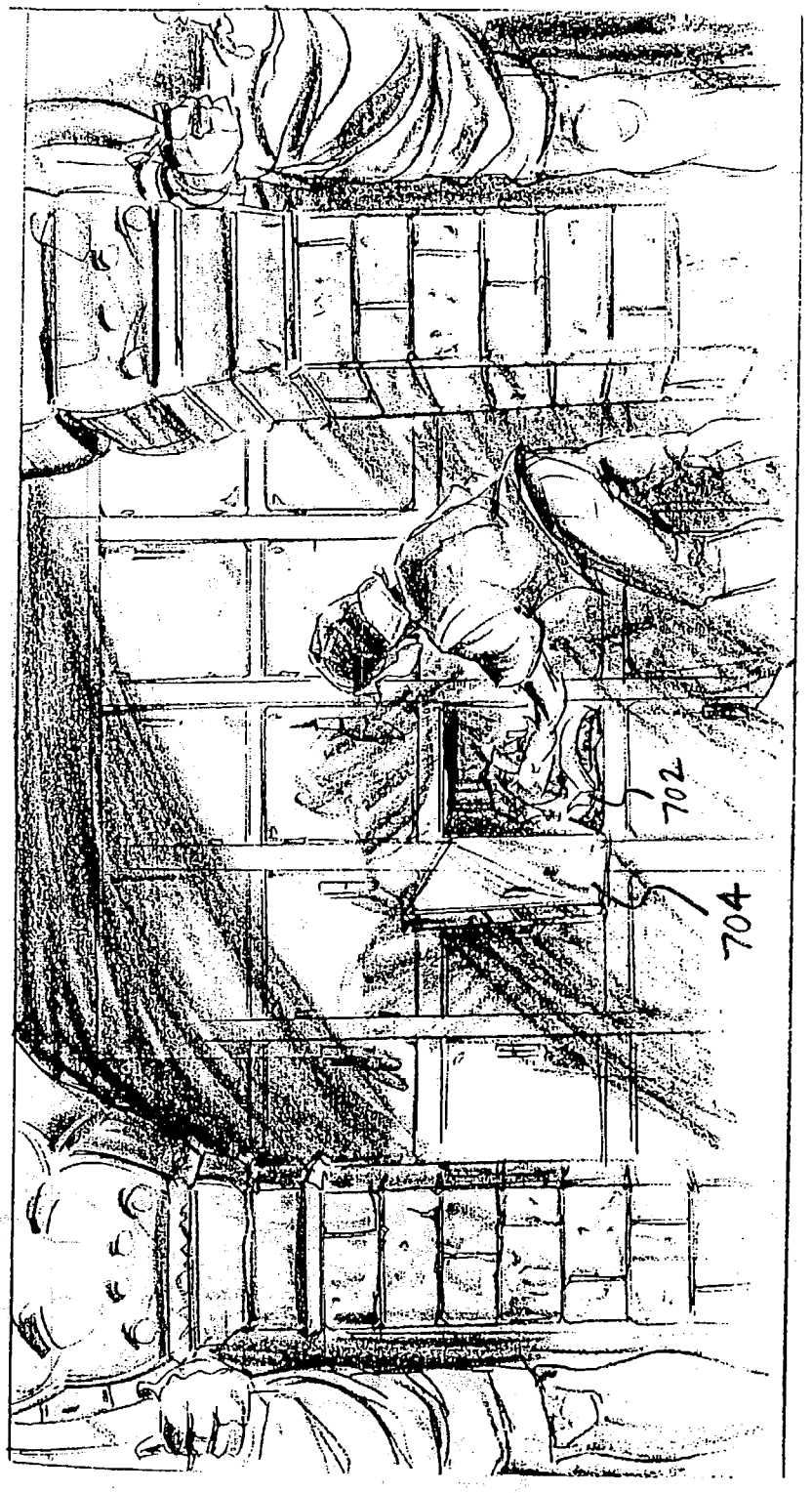


FIG.7

ENCLOSED PROGRAMMABLY CONTROLLED LOOPING SWING

FIELD OF THE INVENTION

[0001] The present invention relates generally to an amusement park ride. More particularly, the invention relates to indoor amusement park rides. Even more particularly, the invention relates to an indoor amusement park ride with theatrical entertainment elements.

BACKGROUND OF THE INVENTION

[0002] Amusement parks or theme parks include various types of rides such as, e.g., roller coasters. One conventional amusement park type ride is a looping swing ride. A conventional looping swing ride is disclosed in detail in U.S. Pat. No. 5,188,566, ("the '566 patent") the contents of which are incorporated herein by reference in their entirety. The looping swing ride of the '566 patent is available from HUSS Maschinenfabrik GmbH & Co., KG, of Bremen, Germany and is marketed under the trademark TOPSPIN. The looping swing of the '566 patent includes a passenger gondola that is suspended at its ends in pendulum (swinging) fashion between two parallel outriggers which, in turn, are journaled in rotatable fashion and capable of being driven in motorized fashion about an axis running between two vertical supports disposed on a frame, with the passenger gondola carrying two rows of passenger seats that run parallel to the axis of the outriggers in a side by side arrangement. A looping swing ride of the type of the '566 patent was also previously disclosed in German Patent Application DE-A-33 21 599.

[0003] The looping swing of the '566 patent includes a locking device for fixing the passenger gondola in a particular angular position relative to the outriggers. In particular, the locking device in the '566 patent consists of a brake arranged in the outrigger concentrically to a brake drum mounted on a gondola-side bearing part. The brake enables not only locking the gondola relative to the outriggers in any arbitrary angular position, but also enables an influencing of the swinging movement of the passenger gondola when such would be desired or required.

[0004] There are numerous entertainment rides around the world enclosed in facilities. So-called "dark rides" have existed at least as early as the **1980**'s. Traditionally, a dark ride includes a vehicle or connected vehicles, such as a roller coaster, on a track or in a water trough, that is propelled through a series of scenes to tell a story. The scenes are usually enhanced by theatrical lighting, animation, special effects, and theatrical painting to create a stimulating visual experience.

[0005] A subsequent wave of indoor attractions incorporated films working in conjunction with moving seats, or platforms with seats attached to them. One of these moving seat type platforms is often generally referred to as a "simulator," since this moving seat type platform was first developed for use in flight simulation/training systems. Simulator attractions generally include projection of film images taken from the point of view (POV) of the viewer. Generally, these films incorporate chase scenes, or the like, that take the viewer visually through a variety of environments while seat movements are programmed to emulate in a synchronized fashion the forces experienced by the subject on screen.

[0006] Examples of conventional dark rides include, e.g., "SPACE MOUNTAIN" and the "OUTER LIMITS" attractions. SPACE MOUNTAIN is an attraction of the Walt Disney Company at Walt Disney World in Orlando, Fla. USA. SPACE MOUNTAIN uses a roller coaster inside a building, with lighting and sound effects to enhance the entertainment experience. The OUTER LIMITS is an attraction of the Paramount Parks of Charlotte, N.C. USA, a division of Viacom Corporation. The OUTER LIMITS attractions are located at Paramount Kings Island in Cincinnati, Ohio USA and Paramount Kings Dominion in Richmond, Va. USA. The OUTER LIMITS attractions include a linear induction launch type ride. Other hybrid rides have also followed such as, e.g., "SPIDERMAN" and "MEN IN BLACK" of Universal Studios Theme Park in Orlando, Fla. USA.

[0007] Conventional looping swing rides have some shortcomings. For example, conventionally, looping swing rides have never been placed in an enclosure to provide a dark-ride-like looping swing ride experience. Conventionally, looping swing rides have always been used only in exterior environments. The exterior nature of conventional looping swing rides limits the times of year of operation of the ride in certain extreme temperature climates. Also, conventional looping swing rides have limited seating capacity, i.e., two rows of passengers for a total seating capacity of approximately 40 passengers. The limited seating capacity of conventional looping swing rides limits the passenger throughput of the ride. The limited seating capacity also contributes to the conventional inappropriateness of the looping swing ride to dark ride applications.

[0008] Conventionally, an amusement park ride is designed for a single, specific passenger category. For example, a ride may be designed for riders of at least a specific height, age and maturity level. Conventionally, if a passenger does not fit, for example, the age category for which the ride is designed, then the passenger's ride experience is suboptimal.

SUMMARY OF THE INVENTION

[0009] An exemplary embodiment of the present invention includes an entertainment apparatus including an enclosure; and a ride placed within the enclosure where the ride is a programmably controlled ride operative to position a passenger to observe a show experience.

[0010] In one exemplary embodiment, the programmably controlled ride can enable varying a show experience. In an exemplary embodiment, the programmably controlled ride is programmable to vary the show experience by, e.g., intensifying, moderating, lengthening, shortening, providing variable ratings to, or providing variable age categorization to the ride.

[0011] Advantageously, the ride experience according to the present invention can be experienced in various ways, i.e., the ride experience is programmable. For example, a ride may run at a slower rate for one passenger group, and at a faster rate for another passenger group. In addition to the ride theatrical elements can be programmably varied to tailor a ride experience for different audience group category types. For example, the ride experience can be tailored for children during afternoon hours, for teens during evening hours, and for adults over 21, for example, after 10 pm.

[0012] In another exemplary embodiment, the programmably controlled ride can further include a looping swing ride. The looping swing ride can include, e.g., two vertical supports, each vertical support including a top portion, two parallel swing arm outriggers including first and second ends, the two parallel swing arm outriggers journaled in rotatable fashion about a first axis proximate the top portions of the two vertical supports, and a gondola for receiving passengers can be suspended by pendulum arms from the first ends of the parallel swing arm outriggers to rotate about a swing axis; where the programmably controlled ride can be programmable to start rotation and stop rotation at a first plurality of rotational position locations of the parallel swing arm outriggers of the looping swing ride relative to the two vertical supports of the looping swing ride about the first axis.

[0013] In one exemplary embodiment, the gondola can have three or more rows of seating to provide for greater passenger throughput than conventionally available.

[0014] In an exemplary embodiment, the looping swing ride can be programmably controlled to start and stop rotation about the first axis in synchronization with theatrical elements. As noted, the experience can be programmably varied so as to tailor the ride experience to a specific audience group.

[0015] In one exemplary embodiment, the ride can include one or more sensors operative to sense the first plurality of rotational position locations of the parallel swing arm outriggers relative to the two vertical supports about the first axis, one or more motors to start rotation of the parallel swing arm outriggers relative to the two vertical supports about the first axis, and one or more braking mechanisms operative to stop rotation of the parallel swing arm outriggers relative to the two vertical supports about the first axis.

[0016] In an exemplary embodiment, the entertainment apparatus can further include a software programmable ride control system ("ride control system") can be provided with a software application programmable interface (API). The ride control system can be coupled via the API to a show software programmable control system ("show control system"). The show control system can control the ride using the ride control system and can control theatrical elements and other ride/show subsystems via other software programmable interfaces. Thus, using the show control system, the ride control system can make the ride start and stop in synchronization with theatrical elements. The ride control system can start movement of the ride by, e.g., energizing one or more motors that can drive rotation of the swing arm outriggers relative to the vertical supports, and/or that can drive rotation of the gondola relative to the swing arm outriggers. The ride control system can use sensors to identify the position of the swing arm outriggers relative to the vertical supports of the ride while in rotation. Similarly, the ride control system can use the sensors to identify the rotational position of the gondola in relation to the swing arm while rotating. The ride control system can then stop the rotation of the swing arm outriggers relative to the vertical supports by using one or more braking mechanisms. The ride control system can similarly use a braking mechanism to stop the rotation of the gondola relative to the swing arm outriggers. It is important to note, that in one exemplary embodiment, the rotation of the gondola can be achieved by the swinging pendulum action of the gondola relative to the rotating swing arm outriggers. Then by locking the gondola in place relative to the swing arm outriggers, the gondola can be driven to rotate from momentum and gravitational force.

[0017] In another exemplary embodiment, the programmably controlled ride can include means for programmably starting and stopping rotation about the first or swing axes in synchronization with theatrical effects including, e.g., music, theatrical scenes, fire, water, smoke, or steam.

[0018] In another exemplary embodiment, the programmably controlled ride can further include means for programmably starting and stopping rotation at a second plurality of rotational position locations of the gondola of the looping swing ride relative to the parallel swing arm outriggers of the looping swing ride about the swing axis.

[0019] In another exemplary embodiment, the ride can include one or more sensors operative to sense the second plurality of rotational position locations of the gondola relative to the parallel swing arm outriggers of the looping swing ride about the swing axis, one or more motors to start rotation of the gondola relative to the parallel swing arm outriggers of the looping swing ride about the swing axis, or one or more braking mechanisms to stop rotation of the gondola relative to the parallel swing arm outriggers of the looping swing ride about the swing axis.

[0020] In another exemplary embodiment, the programmably controlled ride can include means for programmably starting and stopping rotation of the gondola about the swing axis in synchronization with theatrical effects including, e.g., any of music, theatrical scenes, fire, water, smoke, steam, sculpted scenery, lighting effects, audio, visual effects, fog, or video effects.

[0021] In another exemplary embodiment, the ride can include a looping swing ride, where the gondola includes at least three parallel rows of theatrically seated passengers.

[0022] In another exemplary embodiment, an entertainment apparatus can include a looping swing ride. In an exemplary embodiment, the looping swing ride can be programmably controlled to start and stop rotation. The programmably controlled looping swing ride can include one or more motors, one or more braking mechanisms, and one or more sensors. The one or more sensors can be adapted to determine a rotational position about a first axis of two parallel swing arm outriggers of the looping swing ride relative to a position of two vertical supports of the looping swing ride. The one or more sensors can be adapted to determine a rotational position about a swing axis of a gondola relative to a position of the two parallel swing arm outriggers of the looping swing ride.

[0023] In another exemplary embodiment, the ride can further include a retractable loading ramp. The loading ramp can be retracted by a motor or a pneumatic system.

[0024] In another exemplary embodiment, the pneumatically retractable loading ramp can allow tandem loading, simultaneous ingress and egress, simultaneous loading of multiple rows, and/or three (3) parallel paths of entry to the entertainment apparatus.

[0025] In another exemplary embodiment, the ride can further include an article storage compartment. In one exemplary embodiment, the article storage compartment can be

external to the ride. In another exemplary embodiment, the article storage compartment can be integrated into the ride. Examples of article storage compartments can include, e.g., bags, nets, receptacles, boxes, lockers, plastic bags, spandex bags, covers, zippered or snapping bags and the like.

[0026] In another exemplary embodiment, the ride can include a pre-show.

[0027] In another exemplary embodiment, the enclosure can include a box, a cylinder, a dome, a hemisphere or a sphere.

[0028] In another exemplary embodiment, the enclosure can be impermeable to light.

[0029] In another exemplary embodiment, the ride can further include a pair of pneumatically retractable loading ramps external to the vertical supports for loading passengers on and unloading passengers off the ride.

[0030] In another exemplary embodiment, the pneumatically retractable loading ramp allows tandem loading, and three (3) parallel paths of entry to the entertainment apparatus.

[0031] In another exemplary embodiment of the invention, a method is set forth for providing a theatrical experience including: a) receiving one or more guests in an enclosure adapted to present a theatrical experience; b) providing seating for the one or more guests; and c)providing a theatrical experience to the one or more guests that is programmably controllable.

[0032] In another exemplary embodiment, the enclosure can include a box, a cylinder, a sphere, a hemisphere, a dome, a rectangular box, or a material impermeable to light.

[0033] In yet another exemplary embodiment, the step (b) can include: i) providing a looping swing in the enclosure as the seating; or ii) providing a pneumatically retractable loading ramp for passenger entry and exit from the seating.

[0034] In another exemplary embodiment, the step (b) (i) can include: A) providing the looping swing including at least one of a motor, a braking mechanism, and at least one sensor to sense location of the looping swing; or B) providing the looping swing including an article storage compartment.

[0035] In another exemplary embodiment, the step (b) (ii) can include: A) providing tandem loading using the pneumatically retractable loading/unloading ramp; or B) providing at least 3 parallel paths for entry into the seating.

[0036] In another exemplary embodiment, the step (c) can include: i) programmably intensifying or moderating the theatrical experience; ii) programmably lengthening or shortening the theatrical experience; iii) programmably adjusting to ratings tiers the theatrical experience; iv) programmably adjusting to age categorizations the theatrical experience; and v) programmably starting and stopping rotation of a looping swing at any of a plurality of predetermined locations.

[0037] In another exemplary embodiment, the step (c) (v) can include: A) positioning parallel swing arm outriggers at one of a plurality of first predetermined locations, where the first predetermined locations are of the parallel swing arm outriggers relative to vertical supports of a platform of the looping swing; B) positioning the gondola at one of the plurality of second predetermined locations, where the second predetermined locations are of the gondola relative to the parallel swing arm outriggers of the mechanical looping swing; or C) positioning in synchronism with, e.g., music, effects, theatrical elements, sculpted scenery, lighting effects, audio, visual effects, fog, video effects and/or theatrical scenes.

[0038] In another exemplary embodiment, the method can further include: d) receiving an article from the at least one guest into an article storage compartment. The compartment can be part of a ride, or separate from the ride. The compartment can include, e.g., a bag, a plastic bag, a net, a spandex bag, a box, a locker or a cover, snapped or zippered.

[0039] Further features and advantages of the invention, as well as the structure and operation of various embodiments of the invention, are described in detail below with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0040] The foregoing and other features and advantages of the invention will be apparent from the following, more particular description of a preferred embodiment of the invention, as illustrated in the accompanying drawings wherein like reference numbers generally indicate identical, functionally similar, and/or structurally similar elements. The left most digits in the corresponding reference number indicate the drawing in which an element first appears:

[0041] **FIG. 1** depicts a front view of an exemplary embodiment of a looping swing ride in passenger entry/exit position;

[0042] **FIG. 2** depicts an exemplary embodiment of a side view of the looping swing ride of **FIG. 1**;

[0043] **FIG. 3** depicts an exemplary embodiment of a top view of the looping swing ride of **FIG. 1**;

[0044] **FIG. 4** depicts a partial cross-sectional view of an exemplary embodiment of a front view of the looping swing ride in an exemplary embodiment of an enclosure according to the present invention including exemplary pneumatically retractable loading ramps;

[0045] **FIG. 5** depicts a side view of an exemplary embodiment of a schematic representation of the course of a looping swing ride cycle through an exemplary theatrical experience including a plurality of theatrical elements including one or more revolutions of two swing arm outriggers relative to vertical supports and including one or more revolutions of the gondola relative to the swing arm outriggers of the looping swing ride;

[0046] **FIG. 6** depicts an exemplary embodiment of a top view of the exemplary enclosure of **FIG. 4**, also illustrating an exemplary pre-show theatre, anterooms, and exemplary queuing access tunnel; and

[0047] **FIG. 7** depicts an exemplary storage compartment for articles of passengers.

DETAILED DESCRIPTION OF THE INVENTION

[0048] A preferred embodiment of the invention appears below. While exemplary embodiments are discussed below,

it should be understood that this is done for illustration purposes only. A person skilled in the relevant art will recognize that other components and configurations can be used without parting from the spirit and scope of the invention. Accordingly, the exemplary embodiments disclosed herein should be understood to only be representative and that the scope of the present invention should be limited only by the elements of the claims set forth herein and their equivalents.

[0049] **FIG. 1** depicts a front view **100** of an exemplary embodiment of a looping swing **101** as can be integrated as part of the present invention. **FIG. 1** depicts front view **100** of looping swing **101** including two vertical supports **102***a* and **102***b*. Journaled at upper ends **104***a*, **104***b* of the vertical supports **102***a*, **102***b* are hubs **106***a*, **106***b* of parallel swing arm outriggers **108***a*, **108***b*, which can be driven in a direction-of-rotation-reversing manner and with regulated speed of rotation by one or more motors **10***a-d* (collectively **110**). Motors **110** can be electric. In one exemplary embodiment, swing arm outriggers **108***a*, **108***b* can be coupled at the substantial midpoints of outriggers **108***a*, **108***b*, by a shaft (not shown), at axis **112** of rotation. In another exemplary embodiment, the outriggers **108***a*, **108***b* are not coupled together by a shaft.

[0050] In an exemplary embodiment, opposite the hubs **106***a*, **106***b*, the outriggers **108***a*, **108***b* can include counter pieces **108***c*, **108***d* on which can be coupled counterweights **114***a*, **114***b*. The counterweights **114***a*, **114***b* can be of a dimension such that the total weight of counterweights **114***a*, **114***b* corresponds to the total weight of passenger gondola **116** with approximately half occupancy. The passenger gondola **116** can be journaled in swinging fashion at pendulum arms **118***a*, **118***b* in the free ends of the outriggers **108***a*, **108***b*, respectively, about an axis **119** extending parallel to the axis **112**. The pendulum arms **118***a*, **118***b* are short in comparison with the outriggers **108***a*, **108***b*. Rotation of passenger gondola **116** about axis **119** with respect to outriggers **108***a*, **108***b* can be driven by one or more motors **120***a*, **120***b*, **120***c*, and **120***d*. Brakes **122***a*, **122***b* such as, e.g., disc brakes with calipers can be included in an exemplary embodiment. Brake **122***a* can be used to influence the rotation of outriggers **108***a*, **108***b* about axis **112**. In one exemplary embodiment, brake **122***a* in combination with one or more location sensors **124***a* (not shown) and/or motors **110** can be used to programmably control stopping and starting rotation of outriggers **108***a*, **108***b* at any position of rotation about the axis **112**. Brake **122***b* can be used, associated with hubs **106***a*, **106***b* and **106***c*, bearings **124***a*, **124***b* to influence the rotating movement of the passenger gondola **116** about axis **119**. The brake **122***b* can be used to lock the pendulum arms **118***a*, **118***b* at a predetermined angular position relative to the outriggers **108***a*, **108***b*. Brake **122***b*, in combination with one or more sensors (not shown) and/or motors **110**,**120** can be used to programmatically control stopping and starting rotation of the passenger gondola **116** relative to outriggers **108***a*, **108***b* about axis **119**. Three rows **126** of seats **128** for seating, e.g., approximately 70 or more passengers can be arranged at different heights in theatrical terrace fashion in the passenger gondola **116**.

[0051] In one exemplary embodiment, if gondola **116** is hung in a swinging pendulum rotatable fashion with relation to the swing arm outriggers **108***a*, **108***b*, then a motor **110** giving rotation to the swing arm outriggers **108***a*, **108***b* will also cause the gondola to rotate relative to the swing arm outriggers. By using a braking mechanism to hold a position of the gondola **116**, relative to the swing arm outriggers **108***a*, **108***b*, and then rotating the swing arm outriggers **108***a*, **108***b*, then the gondola **116** can be made to rotate relative to the swing arm outriggers **108***a*, **108***b* by effect of gravitational force as described at length in the '566 patent discussed above, the contents of which is incorporated by reference in its entirety. Thus, a motor **110** driving the rotation of the swing arm outriggers **108***a*, **108***b* can in effect also be driving rotation of the gondola **116**. In another exemplary embodiment, a separate motor **120** can be used to cause rotation about the swing axis **119** by gondola **116**.

[0052] **FIG. 2** depicts a side view **200** of the looping swing **101** of **FIG. 1**. The arrangement of the seats **128** relative to the axis **119** of the swing is shown in **FIG. 2**. The seats **128** of the back row of seats **128** can include head rests **202**. The head rests **204** of the second row of seats **128** can be arranged somewhat lower, can be staggered and can lie correspondingly lower than the back row and directly under the axis **119** of the swing. The head rests **206** of the front tow can lie similarly in front and below the second row of seats **128**, and can lie in front of axis **119**.

[0053] **FIG. 3** depicts an exemplary embodiment of a top view **300** of the looping swing **101** of **FIG. 1**. **FIG. 3** illustrates an exemplary staggered layout of passenger seating. The staggered layout allows each passenger to clearly view the theatrical entertainment that can be displayed before the passenger according to the present invention.

[0054] **FIG. 4** depicts an exemplary embodiment of a front view **400** illustrating a cross-section of an exemplary enclosure **401** according to an exemplary embodiment of the present invention enclosing the looping swing ride **101** in an exemplary embodiment. **FIG. 4** also depicts an exemplary pre-show theatre **402** with a door **404** for providing entrance to the looping swing ride **101** completely enclosed within enclosure **401**. The door can enable the enclosure to be fully impermeable to light during operation of the looping swing ride **101**. Additional doors, (not labeled) can be used to exit the enclosure **401**. **FIG. 4** further depicts, in an exemplary embodiment, pneumatically retractable loading ramps **406***a*, **406***b* for providing passenger entry to and exit from, respectively, the looping swing ride **101**. In the exemplary embodiment of looping swing ride **101** shown in **FIG. 4**, entrance to the ride is external to the ride, and is separate from exit from the ride to allow simultaneous exit and entrance by previous and new passengers, respectively. In the exemplary embodiment shown, enclosure **401** can include a slanted or tilted roof for ease of drainage of the enclosure **401**. The enclosure **401** can be of substantially cubic, spherical, cylindrical or other boxed shape. However, other shapes could also be used such as, e.g., a sphere, hemisphere, a cylinder, half cylinder, a rectangular box, or dome. The enclosure **401** can also be made impermeable to external light. In an exemplary embodiment of enclosure **401**, the enclosure **401** can include one or more theatrical scenes through which the passenger can be moved via riding the looping swing **101**.

[0055] **FIG. 5** depicts an exemplary embodiment of a side view **500** of a programmably controlled theatrical experience where looping swing **101** travels starting and stopping

in rotation in a programmably controlled manner from position A**502** through position L**524**. The looping swing ride **101** can move through the positions A**502**-L**524** by rotating the swing arm outriggers **108** about first axis **112** and/or by rotating passenger gondola **116** about swing axis **119**, in synchronization with theatrical elements. Exemplary theatrical elements include theatrical scenes including, e.g., elements **526**, **528**, and **530** which can include, e.g., any combinations of special effects such as, e.g., lights, lasers, sounds, video, content, animation, music, audio, smoke, steam, fire, water, other liquids and other gases.

[**0056**] The entertainment experience of the present invention can include, in an exemplary embodiment, a software programmable master show control system ("show control system") which can be interfaced to any of various software programmable subsystem control systems to allow programmably controlling the ride experience. An exemplary a subsystem could include the looping swing ride **101** which can include a software programmable ride control system ("ride control system"). The ride control system can be accessed by the show control system to, e.g., enable programmably synchronizing ride rotations of the looping swing ride **101** with other theatrical elements being controlled by the show control system. In an exemplary embodiment, the ride control system can include a programmable software application programmable interface (API). The ride control system can be coupled via the API to the show control system. The show control system can control the ride using the ride control system and can control other subsystems including, e.g., theatrical elements and other ride/show subsystems via other software programmable interfaces. Thus, using the show control system, an administrator can program the looping swing ride **101** using the ride control system. For example, the administrator can make the ride start and stop in synchronization with theatrical elements. As programmed by the show control system, the ride control system can start movement of the ride by, e.g., energizing motors that can drive rotation of the swing arm outriggers relative to the vertical supports, or that can drive rotation of the gondola relative to the swing arm outriggers. The ride control system can use sensors to identify the position of the swing arm outriggers relative to the vertical supports of the ride while in rotation. Similarly, the ride control system can use the sensors to identify the rotational position of the gondola in relation to the swing arm while rotating. The ride control system can then stop the rotation of the swing arm outriggers relative to the vertical supports by using one or more braking mechanisms. The ride control system can similarly use a braking mechanism to start or stop the rotation of the gondola relative to the swing arm outriggers.

[**0057**] The programmable show control system allows varying a passenger's ride experience. Advantageously, this allows for example the ride experience to be varied in such ways as, e.g., age categorization, rating tiers, intensity, length, and moderation. For example, in an exemplary embodiment, the ride experience can be programmably controlled to run in a variety of fashions or modes including, e.g., a G-rated fashion, a PG-rated fashion, and/or an R-rated fashion. For example, a ride may run at a slower rate for one passenger group, and at a faster rate for another passenger group. In addition to the ride, theatrical elements can be programmably varied to tailor a ride experience for different audience group category types. For example, the ride experience can vary so as to be be tailored for children during afternoon hours, for teens during evening hours, and for adults over 21, for example, after 10 pm. In the children's ride experience, for example, special effects and water elements might be eliminated, i.e., moderating the experience in comparison to a normal operating mode, while for the teenager's experience the special effects and water elements could, e.g., be increased and a fire element could be added, i.e. intensifying the experience.

[**0058**] As an exemplary embodiment of the ride cycle begins at position A**502**, the ride can lurch forward to position B**504** with, e.g., sounds of grinding metal as, e.g., sparks fall from above in front of the guests. The ride vertical rotation can then begin a slow rise until the looping swing ride **101** and the gondola **116** are locked into position C**506** to face, e.g., a (searching eyes) light source at approximately 8 O'clock about axis **112**. The gondola **116** can then suddenly release and the rotation can lurch forward into, e.g., two (2) 360 degree. rotations about axis **112**, and optionally one or more rotations of gondola **116** about axis **119** until gondola **116** comes to a screeching halt at position D**508** at approximately 11 O'clock, with the gondola **116** locked in an astro position F**512** to, e.g., "almost impale" guests into ice stalactites at element **528**. After a few seconds, the ride can again rocket forward for a couple rotations such as, e.g., shown at position G**514** and then can lock in position at position H**516** for the position of the gondola **116** as shown at approximately 3 O'clock at position **1518** with the gondola **116** upside down over, e.g., bursts of fire, lava, (e.g., backlit steam) coming from a volcano (theatrical set) as shown by element **530**. The gondola **116** can then release and can be locked at 90 degrees relative to the swing arm outriggers vertical, while the ride can slowly lower the guests to position J**520** into erupting streams of hot, bubbling lava of the element **530** (e.g., steam, fire, lighted pool, or water jets). Guests can get wet in varied degrees depending on, e.g., the ride program and seating positions, the ride can let loose with one or more other 360 degree rotations and the gondola **116** can be allowed to freely spin about swing axis **119**. The ride can stop at 5 O'clock at position K**522** and can lower into place at position L**524** to allow guests to exit. The entrance and exit of guests can be by way of loading ramps that can be retractably positioned for entry and exit from the looping swing ride **101**.

[**0059**] The entire experience can include synchronized programmed music, audio, special sound effects, animation, video, effects and lighting with each movement of the ride, locking and gondola positions. Each movement of the ride can be carefully choreographed to match the show scenes, action, audio, video, theatrical and special effects elements and lighting. The show control system can allow for the ride (via interface to the ride control system) and show elements to be programmed to intensify, lengthen, shorten, and/or moderate the experience. Thus, the ride experience can be tailored and varied, e.g., ad hoc in real time, or by a schedule, so as to provide up to an infinite variety of different audience experiences tailored for different audience groups.

[**0060**] The ride can include various theatrical elements that can be integrated and can be programmably controlled by the show control system. For example, the guest can experience various scenes as follows:

[0061] A. Scene Two—The Antechamber—**602**, **606**

[0062] Elements can include, e.g.,: Stone archways, stone monkeys, large medallion, (combination of original movie set pieces, castings from original molds, and sculpt in place rockwork) available from The Weber Group of Louisville, Ky._ U.S.A.;

[0063] programmed lighting, available from Visual Terrain of Los Angeles_, _Calif. U.S.A.; and

[0064] mist and fog, the fog in the space can be provided by a D**5** Hazer (smoke), available from Technifex, Inc. of Valencia, Calif., U.S.A.

[0065] B. Scene Three—The Brahma Shrine (pre-show)—**402**

[0066] Elements can include, e.g.,: Behind us a round stone door grinds shut, trapping us in the Brahma Shrine. This is a large, themed, mechanical door. The action is accompanied with realistic sound effects, available from Technifex, Inc. of Valencia, Calif., U.S.A.;

[0067] Fire pans are up-lit silks animated by mechanical fans, available from Technifex, Inc. of Valencia, Calif., U.S.A.;

[0068] Energy Vortex (front-projection screen) on a scissor lift hidden in the set, and front digital projection, available from Technifex, Inc. of Valencia, Calif., U.S.A.;

[0069] Voiceover(s), sound effects, voiceovers, and audio mix, available from The Bakery of Burbank, Calif. U.S.A.;

[0070] Music composition, score, and edit, available from Rob Pottorf of Charlotte, N.C. U.S.A.; NOTE: Audio throughout the attraction were provided by both Vendors listed above;

[0071] Video Clips were provided by Paramount Pictures of Hollywood, Calif., U.S.A.;

[0072] Video edit, was available from Blue Yonder Pictures of La Crescenta, Calif. U.S.A.; and

[0073] Stone door lifts up to reveal the ride. Themed, mechanical door, available from Technifex of Technifex, Inc. of Valencia, Calif., U.S.A.

[0074] C. Scene Four—Heart of the Tomb (Ride Room)—**401**

[0075] Elements can include, e.g.,: Ride entry drawbridge platforms—pneumatically operated steel platforms **406***a*, **406***b*, operational specifications provided by Paramount Parks of Charlotte, N.C., of U.S.A., manufactured by and available from Huss Maschinenfabrik GmbH & Co., KG, of Bremen, of Germany;

[0076] Element **526**—The Shiva Goddess (a **30**' tall sculpted figure);

[0077] Spray of Sparks—including a continuous-feed spark generator similar to a wire welder, available from Technifex, Inc. of Valencia, Calif., U.S.A.;

[0078] Gondola swings down with a lurch C **506**—Huss ride, brake release and programming, available from Huss Maschinenfabrik GmbH & Co., KG, of Bremen, of Germany;

[0079] (sound effects) as above;

[0080] Headlights—Specified by Paramount Parks of Charlotte, N.C., U.S.A., and installed on front of gondola by Huss Maschinenfabrik GmbH & Co., KG, of Bremen, of Germany—used to reveal the bottom front of the Shiva;

[0081] Jewels—3" acrylic, back-lit jewels, available from Technifex of Technifex, Inc. of Valencia, Calif., U.S.A.;

[0082] Blacklight effects, available from Technifex of Technifex, Inc. of Valencia, Calif., U.S.A.;

[0083] Phosphor-based painting provided by the Weber Group of Louisville, Ky. U.S.A.;

[0084] Searing Beams—High-intensity metal halide light source shines out of the Shiva's eyes and scans audience, available from Technifex of Technifex, Inc. of Valencia, Calif., U.S.A.;

[0085] Strobes, available from Technifex of Technifex, Inc. of Valencia, Calif., U.S.A.; and

[0086] Scene ends, and the Huss looping swing ride can suddenly swing up from A **502** and around the room; programmed to move from A **502**, to B **504**,to C **506**, and D **508**.

[0087] Element **526**—The Ice Cave:

[0088] Razor Sharp Spikes of Ice; the ice shards are cast acrylic stalactites in a field on the "ceiling" which extends the entire length of the gondola, the spikes available from The Weber Group of Louisville, Ky. U.S.A.;

[0089] the spikes are internally lit with fiber optics, and the effect can be enhanced with, e.g., fine water mist such as, e.g., Mee fog and dripping water, available from Technifex of Technifex, Inc. of Valencia, Calif., U.S.A.; and

[0090] the ride is programmed to thrust the guests as if they would be impaled on the spikes, but stops "just in time" at F **512** and in the correct viewing position from at E **510**, programming available from Huss Maschinenfabrik GmbH & Co., KG, of Bremen, of Germany.

[0091] Element **530**—The Lava Pit:

[0092] Backlit from below with red and orange, steam jets (appear to be fire) erupt all around the guests, as if to totally engulf them, available from Technifex of Technifex, Inc. of Valencia, Calif., U.S.A.;

[0093] Volcano is carved rockwork, available from The Weber Group of Louisville, Ky. U.S.A.;

[0094] Lava Pit can be a pool of water lit with red and orange from below, could include fire, and could be covered with, e.g., fine water mist, such as, e.g., Mee Fog;

[0095] the lava spits can be water jets, mist, steam, or flames, and can lit to appear to be lava and programmed to increase in height at exactly the right moment, available from Technifex of Technifex, Inc. of Valencia, Calif., U.S.A.; and

[0096] proper, programmable ride positioning from G **514** to H **516**, I **518**, and J **520** (location and in synchronism with theatrical elements and effects) in these scenes is crucial to a successful show—programming available from Huss Maschinenfabrik GmbH & Co., KG, of Bremen, of Germany.

[0097] The Finale K**522**:

[0098] "all hell can break loose" as the ride accelerates and the gondola swings freely; and

[0099] all of the previously-described effects can go on continuous loop, and additional lighting effects can erupt to a crescendo of booming sound effects and music.

[0100] **FIG. 6** depicts an exemplary embodiment of a top view **600** of enclosure **401** and pre-show theatre room **402**. **FIG. 6** includes a tunnel **602** leading up to pre-show **402**. **FIG. 6** also includes an exit room **604** which can be used to allow exit from the ride into an area that can prevent the enclosure **401** from being lit up by outside light while guests exit the ride **101**. **FIG. 6** also depicts an exemplary ante room **606**. In other exemplary embodiments of the present invention, more or less rooms or enclosures can be included.

[0101] **FIG. 7** depicts an exemplary illustration **700** of an exemplary storage compartment **702** for storing passenger articles. In an exemplary embodiment, the compartment **702** can be separate from the looping swing ride **101**. In another exemplary embodiment (not shown) the storage compartment **702** can be integrated into the looping swing ride **101**. It is again noted that the above-described embodiments are exemplary and are not meant to limit the scope of the present invention. In one exemplary embodiment, the article storage compartment **702** can include a door **704**.

[0102] While the present invention has been described in connection with an exemplary embodiment, it will be understood that many modifications will be readily apparent to those skilled in the art, and this application is intended to cover any adaptations or variations thereof. For example, different ride components, mechanisms, hardware, software and methods may be used without departing from the spirit and scope of the present invention. While various exemplary embodiments of the present invention have been described above, it should be understood that they have been presented by way of example only, and not limitation. Thus, the breadth and scope of the present invention should not be limited by any of the above-described exemplary embodiments, but should instead be defined only in accordance with the following claims and their equivalents.

What is claimed is:

1. An entertainment apparatus comprising:

an enclosure;

a ride placed within said enclosure;

wherein said ride comprises a programmably controlled ride operative to position a passenger to observe a show experience.

2. The entertainment apparatus of claim 1, wherein said programmably controlled ride is programmable to vary said show experience.

3. The entertainment apparatus of claim 2, wherein said programmably controlled ride is programmable to vary said show experience by at least one of: intensifying, moderating, lengthening, shortening, providing variable ratings to, and providing variable age categorization to said ride.

4. The entertainment apparatus of claim 2, wherein said programmably controlled ride comprises:

a looping swing ride comprising:

two vertical supports, each including top portions,

two parallel swing arm outriggers including first and second ends, said parallel swing arm outriggers journaled in rotatable fashion about a first axis proximate the top portions of said two vertical supports, and

a gondola suspended by pendulum arms from the first ends of said parallel swing arm outriggers to rotate about a swing axis; and

wherein said programmably controlled ride is programmable to start rotation and stop rotation at a first plurality of rotational position locations of said parallel swing arm outriggers of said looping swing ride relative to said two vertical supports of said looping swing ride about said first axis.

5. The entertainment apparatus of claim 4, wherein said ride comprises at least one of:

at least one sensor operative to sense said first plurality of rotational position locations of said parallel swing arm outriggers relative to said two vertical supports about said first axis,

at least one motor to start rotation of said parallel swing arm outriggers relative to said two vertical supports about said first axis, and

at least one braking mechanism operative to stop rotation of said parallel swing arm outriggers relative to said two vertical supports about said first axis.

6. The entertainment apparatus of claim 4, wherein said programmably controlled ride comprises means for programmably starting and stopping rotation about at least one of said axes in synchronization with theatrical effects including at least one of:

music,

sculpted scenery,

lighting effects,

audio,

visual effects,

fog,

video effects,

theatrical scenes,

fire,

water,

smoke, and

steam.

7. The entertainment apparatus of claim 4, wherein said programmably controlled ride, further comprises means for programmably starting and stopping rotation at a second plurality of rotational position locations of said gondola of said looping swing ride relative to said parallel swing arm outriggers of said looping swing ride about said swing axis.

8. The entertainment apparatus of claim 7, wherein said ride comprises at least one of:

at least one sensor operative to sense said second plurality of rotational position locations of said gondola relative to said parallel swing arm outriggers of said looping swing ride, about said swing axis,

at least one motor to start rotation of said gondola relative to said parallel swing arm outriggers of said looping swing ride about said swing axis, and

at least one braking mechanism to stop rotation of said gondola relative to said parallel swing arm outriggers of said looping swing ride about said swing axis.

9. The entertainment apparatus of claim 8, wherein said programmably controlled ride comprises means for programmably starting and stopping rotation about said swing axis in synchronization with theatrical effects including at least one of:

music,

theatrical scenes,

fire,

water,

smoke,

steam,

sculpted scenery,

lighting effects,

audio,

visual effects,

fog, and

video effects.

10. The entertainment apparatus of claim 1, wherein said ride comprises:

a looping swing ride, and wherein said looping swing ride comprises a gondola comprising at least three parallel rows of theatrically seated passengers.

11. The entertainment apparatus of claim 1, wherein said ride comprises:

a looping swing ride, wherein said looping swing ride is programmably controlled to start and stop rotation;

wherein said programmably controlled looping swing ride comprises at least one motor, at least one braking mechanism, and at least one sensor;

wherein said at least one sensor is adapted to determine a rotational position about a first axis of two parallel swing arm outriggers of said looping swing ride relative to a position of two vertical supports of said looping swing ride; and

wherein said at least one sensor is adapted to determine a rotational position about a swing axis of a gondola of said looping swing ride relative to a position of said two parallel swing arm outriggers of said looping swing ride.

12. The entertainment apparatus of claim 11, further comprising a retractable loading ramp.

13. The entertainment apparatus of claim 12, wherein said retractable loading ramp comprises at least one of a motor driven retractable loading ramp and a pneumatically driven retractable loading ramp, said retractable loading ramp enabling at least one of: tandem loading, loading multiple rows at one time, loading ingress and egress at the same time, and loading at least three (3) parallel paths of entry to said entertainment apparatus.

14. The entertainment apparatus of claim 1, wherein said ride further comprises: an article storage compartment.

15. The entertainment apparatus of claim 14, wherein said article storage compartment comprises at least one of:

an integrated receptacle coupled to part of said ride;

a bag;

a plastic bag;

a spandex bag;

a net;

a cover; and

an external receptacle for receiving articles separate from said ride.

16. The entertainment apparatus of claim 1, wherein said ride comprises: a pre-show.

17. The entertainment apparatus of claim 1, wherein said enclosure comprises at least one of:

a box,

a cylinder,

a dome,

a hemisphere, and

a sphere.

18. The entertainment apparatus of claim 1, wherein said enclosure is impermeable to light.

19. The entertainment apparatus of claim 1, further comprising a retractable loading ramp comprising at least one of: a pneumatically retractable and a motor driven retractable loading ramp.

20. The entertainment apparatus of claim 19, wherein said retractable loading ramp enables at least one of:

tandem loading,

loading multiple rows at one time,

loading ingress and egress at the same time, and

loading at least three (3) parallel paths of entry to said entertainment apparatus.

21. A method for providing a theatrical experience comprising:

a) receiving at least one guest in an enclosure adapted to present a theatrical experience;

b) providing seating for the at least one guest; and

c) providing a theatrical experience to the at least one guest that is programmably controllable.

22. The method according to claim 21, wherein said enclosure comprises at least one of:

a box,

a cylinder,

a sphere,

a hemisphere,

a dome,

a rectangular box, and

a material impermeable to light.

23. The method according to claim 21, wherein said step (b) comprises at least one of:

i) providing a looping swing in said enclosure as said seating; and

ii) providing a retractable loading ramp for passenger entry and exit from said seating.

24. The method according to claim 23, wherein said step (i) comprises at least one of:

A) providing said looping swing comprising at least one of a motor, a braking mechanism, and at least one sensor to sense location of said looping swing; and

B) providing said looping swing comprising an article storage compartment.

25. The method according to claim 23, wherein said step (ii) comprises at least one of:

A) providing tandem loading using said retractable loading/unloading ramp;

B) providing at least 3 parallel paths for entry into said seating;

C) providing for simultaneous ingress and egress into said seating;

D) providing for simultaneous entry into multiple rows at one time; and

E) pneumatically retracting said retractable loading/unloading ramp.

26. The method according to claim 21, wherein said step (c) comprises at least one of:

i) programmably intensifying or moderating said theatrical experience;

ii) programmably lengthening or shortening said theatrical experience;

iii) programmably adjusting to ratings tiers said theatrical experience;

iv) programmably adjusting to age categorizations said theatrical experience;

v) programmably starting and stopping rotation of a looping swing at any of a plurality of predetermined locations;

vi) programmably varying said theatrical experience; and

vii) receiving a selection of a plurality of pre-programmed guest-tailored theatrical experiences.

27. The method according to claim 26, wherein said step (v) comprises at least one of:

A) positioning parallel swing arm outriggers at one of a plurality of first predetermined locations, wherein said first predetermined locations are of said parallel swing arm outriggers relative to vertical supports of said looping swing;

B) positioning said gondola at one of said plurality of second predetermined locations, wherein said second predetermined locations are of said gondola relative to said parallel swing arm outriggers of said looping swing; and

C) positioning in synchronism with at least one of: music, effects, theatrical elements, theatrical scenes, sculpted scenery, lighting effects, audio, visual effects, fog, and video effects.

28. The method according to claim 21, further comprising:

d) receiving an article from the at least one guest into an article storage compartment.

29. The method according to claim 28, wherein said article storage compartment comprises at least one of:

an integrated receptacle coupled to said seating;

a bag;

a plastic bag;

a spandex bag;

a box;

a locker;

a net;

a cover; and

an external receptacle not coupled to said seating.

* * * * *