

THE EMBODIMENTS OF THE INVENTION FOR WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. An amusement ride assembly comprising:

5 a motion base comprising:

a stationary support structure having a first end and a second end, the first end engaging a support surface and the second end having first pivot means;

a pivot structure comprising;

10 second pivot means rotatably engageable with the first pivot means about a pivot axis located adjacent the center of gravity of the pivot structure;

15 a platform ~~having a transverse axis, the platform oriented in a first plane and~~ supported by the second pivot means and having an upper ~~surface~~ and a lower surface, the lower surface of the platform slidably engaged with the second pivot means such that ~~the platform it~~ is translatable ~~linearly~~ along a longitudinally extending heave axis, ~~the heave axis aligned orthogonally to the transverse axis and aligned coplanarly with the first plane~~, the platform comprising:

20 at least two seats arranged longitudinally along the platform, each of the at least two seats having an upper first end and a lower second end, each of the at least two seats having seat pivot means;

at least one seat frame bracket attached to the upper surface of the platform and rotatably engaging the seat pivot means of each of the at least two seats about a seat pitch axis of each of the at least two seats;

25 at least one canopy transversely extending across the platform and oriented between the at least two seats;

a seat drive member;

30 at least one seat actuating member engaging each of the at least two seats longitudinally at a position adjacent the centre of gravity of each of the at least two seats, the at least one seat actuating member operably connected to the seat drive member such that pitch of each of the at least two seats is rotatable about the seat pitch axis when the seat drive member engages the seat actuating member; and

- at least one actuator and at least one counterbalancing member coupling the platform to the pivot structure, the at least one actuator and the at least one counterbalancing member generating a force opposite to the force generated by rotation of the pivot structure; and,
- 5 a drive for rotating the pivot structure about the pivot axis to move the platform from a generally horizontal first position to a generally vertical second position.
2. An amusement ride assembly of claim 1, further comprising a screen, the screen positioned opposed to and across from a front edge of the platform.
- 10 3. The amusement ride assembly of claim 2, wherein the screen has a shape selected from the group consisting of flat, spherical, semi spherical, hemispherical, arcuate, and semi-conical.
- 15 4. The amusement ride assembly of any one of claims 1 to 3, further comprising a pivot axis stopping member adapted to arrest movement of the pivot structure when the pivot structure approaches at least one of the first position and the second position.
- 20 5. The amusement ride assembly of any one of claims 1 to 4, further comprising at least one shock absorbers positioned between the stationary support structure and the pivot structure.
- 25 6. The amusement ride assembly of any one of claims 1 to 5, wherein the platform further comprises at least one linear guide member extending longitudinally across the platform at a position adjacent an outside longitudinal edge of the platform, the linear guide member adapted to permit translation of the platform relative to the second pivot means along the longitudinally extending heave axis.
- 30 7. The amusement ride assembly of any one of claims 1 to 6, wherein the counterweight is adapted to position the overall center of gravity of the pivot structure closer to the pivot axis

8. The amusement ride assembly of any one of claims 1 to 7, wherein the at least one actuator is a roller screw electrically driven actuator.
- 5 9. The amusement ride assembly of any one of claims 1 to 8, further comprising a locking member adapted to lock the platform relative to the second pivot means.
- 10 10. The amusement ride assembly of any one of claims 1 to 9, further comprising a locking member adapted to lock the pivot structure relative to the stationary support structure.
- 11 11. The amusement ride assembly of any one of claims 1 to 10, wherein the drive member further comprises at least one pair of slew drives.
- 15 12. The amusement ride assembly of any one of claims 1 to 11, wherein the at least one pair of slew drives further comprises at least one worm gear, a planetary gear box and a gear box motor.
- 20 13. The amusement ride assembly of any one of claims 1 to 12, wherein the seat drive member is operably linked to a seat pitch crank rotatably connected to a seat pitch crank support and connected to the upper surface of the platform, the seat pitch crank operably linked to the at least one seat actuating member.
- 25 14. The amusement ride assembly of any one of claims 1 to 13, further comprising a seat drive linkage having a first end and a second end, the first end pivotably connected to each of the at least two seats, the second end pivotably connected to the upper surface of the platform.
- 30 15. The amusement ride assembly of any one of claims 1 to 14, wherein the at least one seat frame bracket further comprises a seat bearing support.

16. The amusement ride assembly of any one of claims 1 to 15, further comprising a ride control system.