CLAIMS

1. An observation wheel type ride, comprising:

a wheel, comprising:

a wheel rim;

a wheel hub, wherein the wheel hub has a rotational axis which coincides with a rotational axis of the wheel and has an axial opening; and

wheel spokes that extend between the wheel hub and the wheel rim in a radial direction;

multiple passenger cabins, wherein said passenger cabins are supported by the wheel;

a drive mechanism configured for rotating the wheel about its rotational axis;

a support structure comprising a support frame and a support axle, wherein the support axle extends through said axial opening provided in the wheel hub and is supported by the support frame and wherein the support structure supports the wheel;

two first bearings, the two first bearings each comprising an inner bearing ring and an outer bearing ring, and wherein two first bearings enable rotational movement of the wheel about its rotational axis, and wherein the first bearings are provided at opposite ends of the wheel hub and between the wheel hub and the support axle to rotatably support the wheel hub on the support axle and thus enable rotational movement of the wheel about its rotational axis;

a first bearing locking mechanism for each first bearing, said first bearing locking mechanism can selectively be converted between a locking condition, in which the first bearing locking mechanism prevents rotational movement of the first bearing inner bearing ring relative to the first bearing outer bearing ring, and an unlocking condition, in which the first bearing locking mechanism allows for rotational movement of the first bearing inner bearing ring relative to the first bearing outer bearing ring;

two second bearings, the second bearings are friction bearings and are each provided between the support axle and the support frame to rotatably support the support axle on the support frame, and thus enable rotational movement of the wheel about its rotational axis when the first bearing locking mechanisms are in their locking condition, wherein the second bearings each comprise an inner bearing ring and an outer bearing ring or outer bearing semi ring; and

a second bearing locking mechanism for each second bearing, wherein the second bearing locking mechanism can selectively be converted between a locking condition, in which the second bearing locking mechanism prevents rotational movement of the second bearing inner bearing ring relative to the second bearing outer bearing ring, and an unlocking condition, in which the second bearing locking mechanism allows for rotational movement of the second bearing inner bearing ring relative to the second bearing outer bearing ring,

wherein the second bearings outer bearing rings each comprise a semi ring support section that is part of the support structure for rotatably supporting the second bearing inner bearing rings, and a semi ring clamp section that is part of the second bearing locking mechanism, and

wherein the locking mechanism further comprises clamping devices for pulling the semi ring clamp section towards the semi ring support section to clamp the second bearing inner bearing ring between the clamp section and the support section and to thus block rotation of the second bearing inner bearing ring relative to the second bearing outer bearing ring.

2. The observation wheel according to claim 1, wherein the two second bearings are each provided concentric with the first bearings, and wherein the first bearings outer bearing rings and the second bearings inner bearing rings are combined into intermediate bearing rings.

3. The observation wheel according to claim 1, wherein the first bearings are rolling bearings, for rotating the wheel during normal use, and the second bearings are for rotating the wheel when one or both of the rolling bearings break(s) down.

4. The observation wheel according to claim 1, wherein the first bearing locking mechanism comprises a flange provided on the support axle, said flange extends in a radial direction adjacent the first bearing, and can be fixed to the first bearing outer bearing ring to block rotational movement of that first bearing outer bearing ring relative to the support axle.

5. A method for providing an evacuation modus for an observation wheel type ride, the method comprising:

providing an observation wheel type ride according to claim 1;

using the first or the second bearings as main bearings, and the other bearings as auxiliary bearings

rotating the wheel about its rotational axis using the main bearings, with the bearing locking mechanisms of the main bearings in their unlocking condition and the bearing locking mechanisms of the auxiliary bearings in their locking condition, thus using the main bearings to enable rotational movement of the wheel;

when at least one of the main bearings fails, providing an evacuation modus by:

optionally: rotating the wheel about its rotational axis to correctly position the main bearing locking mechanism of at least the main first bearing for converting it from its unlocking condition into its locking condition;

stop rotating the wheel about its rotational axis;

converting at least the main bearing locking mechanism of the failed main bearing from its unlocking condition, in which it allows for rotational movement of the main bearing inner bearing ring relative to the main bearing outer bearing ring, into its locking condition, in which it prevents rotational movement of the main bearing inner bearing ring relative to the main bearing outer bearing ring;

converting at least the auxiliary bearing locking mechanism of the auxiliary bearing associated with the failed main bearing from its locking condition, in which it prevents rotational movement of the auxiliary bearing inner bearing ring relative to the auxiliary bearing outer bearing ring, into its unlocking condition, in which it allows for rotational movement of the auxiliary bearing inner bearing ring relative to the auxiliary bearing outer bearing ring; and

in the evacuation modus, rotating the wheel about its rotational axis to bring the passenger cabins in a position for evacuating passengers from the cabins, using one or both auxiliary bearings to enable rotational movement of the wheel.

6. The observation wheel according to claim 1, wherein one of the inner bearings and one of the outer bearings are provided concentric and in a common plane.

7. An observation wheel type ride, comprising:

a wheel comprising:

a wheel rim;

a wheel hub, wherein the wheel hub has a rotational axis which coincides with a rotational axis of the wheel; and

wheel spokes that extend between the wheel hub and the wheel rim in a radial direction;

multiple passenger cabins, wherein the multiple passenger cabins are supported by the wheel;

a drive mechanism configured for rotating the wheel about its rotational axis;

a support structure, wherein the support structure supports the wheel;

two first bearings, the two first bearings each comprising an inner bearing ring and an outer bearing ring, and wherein the two first bearings enable rotational movement of the wheel about its rotational axis;

a first bearing locking mechanism for each first bearing, wherein the first bearing locking mechanism can selectively be converted between a locking condition, in which the first bearing locking mechanism prevents rotational movement of the first bearing inner bearing ring relative to the first bearing outer bearing ring, and an unlocking condition, in which the first bearing locking mechanism allows for rotational movement of the first bearing inner bearing ring relative to the first bearing outer bearing ring;

two second bearings, wherein the second bearing are friction bearings and each comprise an inner bearing ring and an outer bearing ring or outer bearing semi ring, and wherein the second bearings enable rotational movement of the wheel about a rotational axis thereof when the first bearing locking mechanisms are in their locking condition; and

a second bearing locking mechanism for each second bearing, wherein the second bearing locking mechanism can selectively be converted between a locking condition, in which the second bearing locking mechanism prevents rotational movement of the second bearing inner bearing ring relative to the second bearing outer bearing ring, and an unlocking condition, in which the second bearing locking mechanism allows for rotational movement of the second bearing inner bearing ring relative to the second bearing outer bearing ring,

wherein the wheel hub extends on opposites sides of the wheel,

wherein the support structure comprises a support frame, wherein the support frame supports opposites ends of the wheel hub;

wherein the first bearings are provided at opposite ends of the wheel hub and between the wheel hub and the support frame, to rotatably support the wheel hub on the support frame and thus enable rotational movement of the wheel about its rotational axis;

wherein the second bearings are provided at opposite ends of the wheel hub and between one of the first bearings and the support frame, such that the rotatably support the first bearings and thus the wheel hub on the support frame, to thus enable rotational movement of the wheel about its rotational axis when the first bearing locking mechanisms are in their locking condition,

wherein the two second bearings are each provided concentric with the first bearings,

wherein the first bearings outer rings and the second bearings inner rings are combined into intermediate bearing rings,

wherein the second bearings outer bearing rings each comprise a semi ring support section, which is part of the support structure for rotatably supporting the second bearing inner bearing rings, and a semi ring clamp section, which is part of the second bearing locking mechanism, and

wherein the locking mechanism further comprises clamping devices for pulling the semi ring clamp section towards the semi ring support section to clamp the second bearing inner bearing ring between the clamp section and the support section and to thus block rotation of the second bearing inner bearing ring relative to the second bearing outer bearing ring.

8. The observation wheel according to claim 7, wherein the two second bearings are each provided concentric with the first bearings, and wherein the first bearings outer bearing rings and the second bearings inner bearing rings are combined into intermediate bearing rings.

9. The observation wheel according to claim 7, wherein the first bearings are rolling bearings, for rotating the wheel during normal use, and the second bearings are for rotating the wheel when one or both of the rolling bearings break(s) down.

10. The observation wheel according to claim 7, wherein the first bearing locking mechanism comprises a flange provided on the support axle, said flange extends in a radial direction adjacent the first bearing, and can be fixed to the first bearing outer bearing ring to block rotational movement of that first bearing outer bearing ring relative to the support axle.

11. The observation wheel according to claim 7, wherein one of the inner bearings and one of the outer bearings are provided concentric and in a common plane.