Claims

[Claim 1]

A steering bogie comprising:

a steering shaft provided at a lower part of a carbody of a vehicle for a track-based transportation system traveling on a traveling road surface of a track;

shaft-like king pins provided in a pair at end sections of the steering shaft on both sides of the carbody in a width direction;

axle hubs provided so as to be swingable with respect to the steering shaft via the king pins;

a plurality of tires mounted on each of the axle hubs;

guide wheels that roll on guide rails provided at the track in an extending direction of the track and that are guided from the width direction of the track;

a guide device part that supports the guide wheels and the steering shaft; and

a steering mechanism that causes the axle hubs to rotate around the king pins in accordance with the displacement of the guide device part.

[Claim 2]

The steering bogie according to Claim 1,

wherein the king pins are provided at an inclination angle of 0 degrees or more and 8 degrees or less on the

basis of a vertical line orthogonal to a traveling direction and the width direction of the carbody, and

wherein the axle hubs are provided to have the inclination angle.

[Claim 3]

The steering bogie according to Claim 1,

wherein the king pin is provided at an inclination angle of 0 degrees or more and 1 degree or less on the basis of a vertical line orthogonal to a traveling direction and the width direction of the carbody, and

wherein the axle hub is provided to have the inclination angle.

[Claim 4]

The steering bogie according to any one of Claims 1 to 3,

wherein in the king pin, the spacing between a central position, on the traveling road surface, of a tire width that is a distance between an inside end surface in a tire located on an innermost side in the width direction among the plurality of tires in the same axle hub, and an outside end surface in a tire located on an outermost side in the width direction, and a point where a central axis of the king pin intersects the traveling road surface is 50 mm or more and 350 mm or less.

[Claim 5]

The steering bogie according to any one of Claims 1 to 4,

wherein the guide wheels are supported by the guide device part in front of and behind the tires.

[Claim 6]

The steering bogie according to Claim 5,

wherein the guide device part includes a guide frame that supports the guide wheels and is provided so as to be turnable with respect to the carbody, and

wherein the steering mechanism includes a steering member that is installed between each of the axle hubs and the guide frame and steers the tires in accordance with the displacement of the guide frame.

[Claim 7]

The steering bogie according to any one of Claims 1 to 6,

wherein, in the plurality of tires in the same axle hub, air pressure is higher in the tire provided on a side away from the king pin than in the tire provided on a king pin side.

[Claim 8]

The steering bogie according to any one of Claims 1 to 7,

wherein, in the plurality of tires in the same axle hub, the dimension of the tire width is larger in the tire

provided on a side away from the king pin than in the tire provided on a king pin side.

[Claim 9]

The steering bogie according to any one of Claims 1 to 8,

wherein, in the plurality of tires in the same axle hub, the dimension of tire diameter is larger in the tire provided on a side away from the king pin than in the tire provided on a king pin side.

[Claim 10]

The steering bogie according to any one of Claims 1 to 9,

wherein the guide wheels are guided by the guide rails provided in a pair on both sides of the track in the width direction.

[Claim 11]

The steering bogie according to any one of Claims 1 to 9,

wherein the guide wheels are guided by one guide rail provided on at a central position of the track in the width direction.

[Claim 12]

A vehicle for a track-based transportation system comprising:

the steering bogie according to any one of Claims 1

to 11; and

a carbody having the steering bogie provided at a lower part thereof.

CLAIMS

1. A steering bogie comprising:

a steering shaft provided at a lower part of a carbody of a vehicle for a track-based transportation system traveling on a traveling road surface of a track;

shaft-like king pins provided in a pair at end sections of the steering shaft on both sides of the carbody in a width direction;

axle hubs provided so as to be swingable with respect to the steering shaft via the king pins;

a plurality of tires mounted on each of the axle hubs;

guide wheels that roll on guide rails provided at the track in an extending direction of the track and that are guided from the width direction of the track;

a guide device part that supports the guide wheels and the steering shaft; and

a steering mechanism that causes the axle hubs to rotate around the king pins in accordance with the displacement of the guide device part,

wherein the king pins are provided at an inclination angle of 0 degrees or more and 8 degrees or less on the basis of a vertical line orthogonal to a traveling direction and the width direction of the carbody, and

wherein the axle hubs are provided to have the inclination angle.

2. The steering bogie according to Claim 1,

wherein the inclination angle is 0 degrees or more and 1 degree or less.

3. The steering bogie according to Claim 1 or 2,

wherein in the king pin, the spacing between a central position, on the traveling road surface, of a tire width that is a distance between an inside end surface in a tire located on an innermost side in the width direction among the plurality of tires in the same axle hub, and an outside end surface in a tire located on an outermost side in the width direction, and a point where a central axis of the king pin intersects the traveling road surface is 50 mm or more and 350 mm or less.

4. The steering bogie according to any one of Claims 1 to 3,

wherein the guide wheels are supported by the guide device part in front of and behind the tires.

5. The steering bogie according to Claim 4,

wherein the guide device part includes a guide frame that supports the guide wheels and is provided so as to be turnable with respect to the carbody, and

wherein the steering mechanism includes a steering member that is installed between each of the axle hubs and the guide frame and steers the tires in accordance with the displacement of the guide frame.

6. The steering bogie according to any one of Claims 1 to 5,

wherein, in the plurality of tires in the same axle hub, air pressure is higher in the tire provided on a side away from the king pin than in the tire provided on a king pin side.

7.The steering bogie according to any one of Claims 1 to 6,

wherein, in the plurality of tires in the same axle hub, the dimension of the tire width is larger in the tire provided on a side away from the king pin than in the tire provided on a king pin side.

8. The steering bogie according to any one of Claims 1 to 7,

wherein, in the plurality of tires in the same axle hub, the dimension of tire diameter is larger in the tire provided on a side away from the king pin than in the tire provided on a king pin side.

9. The steering bogie according to any one of Claims 1 to 8,

wherein the guide wheels are guided by the guide rails provided in a pair on both sides of the track in the width direction.

10. The steering bogie according to any one of Claims 1 to 8,

wherein the guide wheels are guided by one guide rail provided on at a central position of the track in the width direction.

11. A vehicle for a track-based transportation system comprising:

the steering bogie according to any one of Claims 1 to 10; and

a carbody having the steering bogie provided at a lower part thereof.