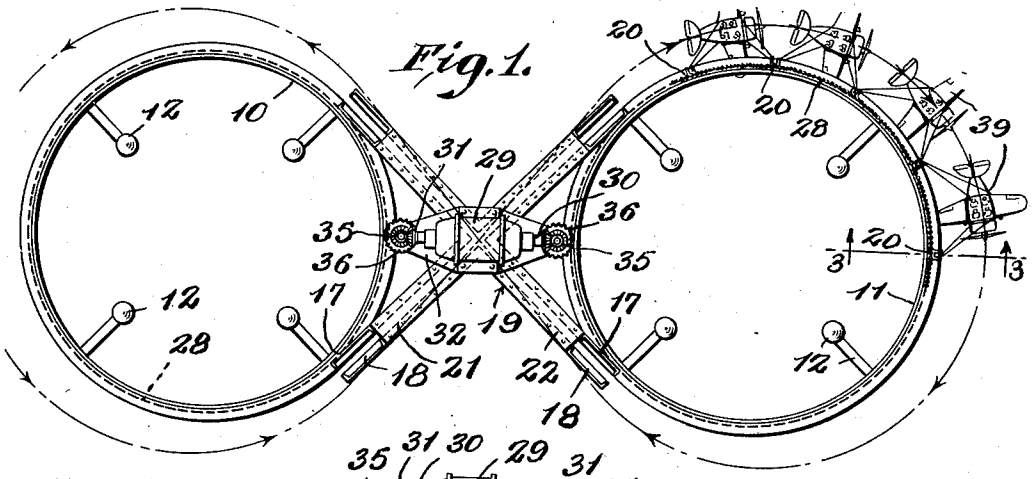
Oct. 31, 1939. H. W. HANNA 2,177,804

AMUSEMENT DEVICE

Filed Aug. 10, 1938

Fig. 1.



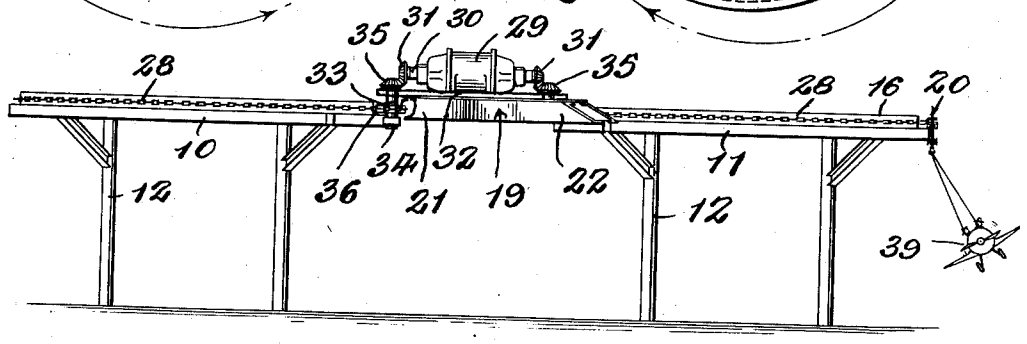


Fig. 2.

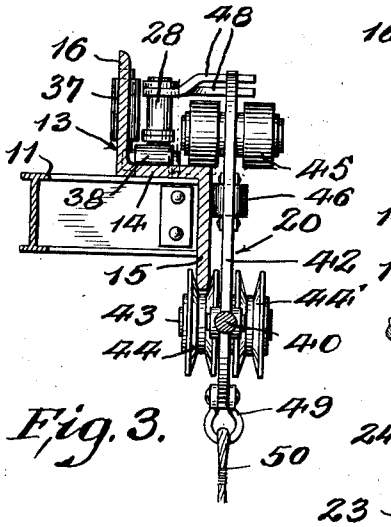


Fig. 3.

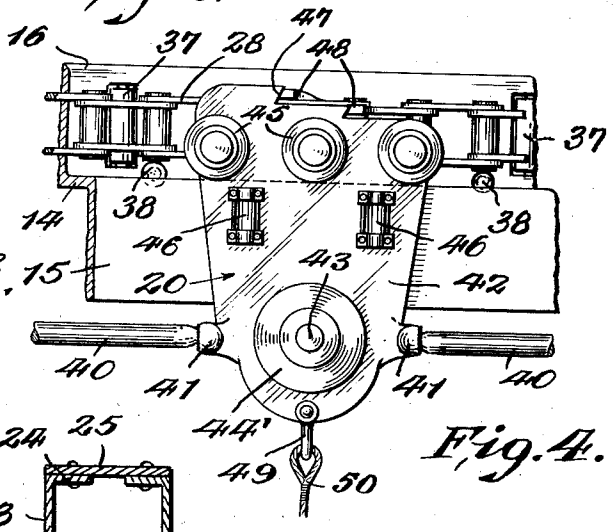


Fig. 4.

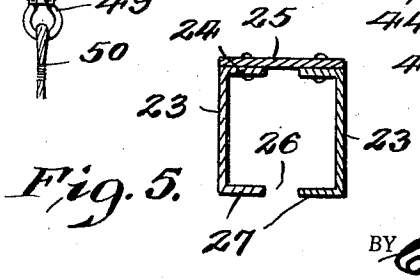


Fig. 5.

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AMUSEMENT DEVICE

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Application August 10, 1938, Serial No. 224,216

2 Claims. (Cl. 272—28)

This invention relates to amusement devices suitable for erection in amusement parks and it consists in the constructions, arrangements and combinations herein described and claimed.

It is an object of the invention to provide an aerial trackway of a sinuous course from which suspended passenger vehicles may travel.

It is also an object of the invention to provide an aerial trackway in which a pair of circular trackways are involved interconnected by a cross-over trackway, so that the suspended vehicle when traversing the trackway and cross-over follows a path substantially that of the figure eight.

It is a further object of the invention to provide the circular trackways only, with driving means and employing single motor unit for the two driving means.

It is a still further object of the invention to provide a novel vehicle suspension carrier.

Additional objects, advantages and features of invention will be apparent from the following description and accompanying drawing, wherein

Figure 1 is a top plan view of the amusement trackway.

Figure 2 is a side elevation with a portion of the cross-over track broken away.

Figure 3 is a cross section on the line 3—3 of Figure 1 illustrating the vehicle carrier.

Figure 4 is a side elevation thereof.

Figure 5 is a cross section of one of the cross-over rails.

Attention is invited to Figures 1 and 2 of the drawing wherein there is shown a pair of circular supporting trackways 10 and 11 spaced apart and supported upon lateral arms of upright standards 12. The standards 12 are of a height and support the trackways at an elevation such as to suspend mobile passenger carriers therefrom, as will be explained. The trackways 10 and 11 are preferably constructed from I-beams and upon the outer edge thereof, a combined track and guide-way 13 is rigidly secured as by welding or bolting as desired. Obviously, the trackway 13 will be circular to conform to the supporting tracks 10—11. The track 13 comprises a horizontal bed flange 14 adapted to lie flush upon the upper edge of the rails 10 and 11; a depending flange 15 and an upstanding flange 16. The track 13 extends continuously around the supporting trackways 10 and 11 except at junction points between the trackways and the cross-over portion where, at suitable points, the trackways 13 are cut away as at 17 to accommodate rail portions 18 of the cross-over 19, the portions 18 lying flush with the adjacent edges of the rails 13 so as to permit smooth passage of vehicle suspension carriages 20.

The cross-over 19 comprises a pair of channel members 21—22 arranged at right angles to each other, their outer terminations being spaced so as to register the ends 18 with respective cut out portions 17 of the trackways 13. In the present instance, the channel members 21—22 are constructed from a pair of channel beams 23, the flanges thereof being presented toward each other, as clearly shown in Figure 5. Upon the upper flanges 24 of the beams, a plate 25 is bolted extending substantially the full length of the beams, and maintaining the beams in proper parallel relation. The beams 23 will be spaced apart sufficiently to define a slot 26 between the lower flanges 27 for a purpose presently to be explained.

As clearly shown in Figures 1 and 2, an annular traction chain 28 is trained around each circular trackway 13, the chains being driven around the trackway simultaneously by a motor unit 29. The unit 29 in the present instance, is shown as an electric motor, the shaft 30 of which extends through the casing at both ends and has fixed thereon a bevel gear 31. The motor 29 is mounted medially of the cross-over 19 upon a base plate 32 and vertically supported in the plate 32 in advance of the bevel gears 31 there are stud shafts 33. The shafts 33 may also be supported at their lower ends by bracket bearings 34 extended from the support rails 10—11. Each shaft 33 has a bevel gear 35 adapted to mesh with respective gears 31 on the motor shaft.

Upon the shafts 33 there is a sprocket wheel 36, the teeth of which mesh with links of the chain, and it will thus be seen that upon energization of the motor, the chains 28 will be drawn around respective tracks 13, as indicated by the arrows in Figure 1.

In order that the chains 28 may travel freely and with as little friction as possible, the upstanding flange 16 of the rails 13 are provided with rollers 37 and the bed flange 14 is similarly provided with rollers 38. The rollers 37 will support the front edges of the chains while the rollers 38 will engage the end edges of the chains and support the weight thereof, and such rollers will be spaced at suitable points throughout the trackways 13.

As clearly shown in Figures 1–2, a plurality of passenger vehicles 39 are provided connected in tandem fashion by means of tow poles 40, the poles being connected to the following suspension carriage of a vehicle by means of a universal

joint 41. The carriage 20 is shown as a flat body member 42 elongated in a vertical direction, and adjacent its lower end there is rigidly secured a shaft 43. The shaft 43 projects upon both sides of the body and has revolubly fixed upon its end guide wheels 44—44'. The guide wheels 44 have a deep V-shaped groove receiving the depending flange 15 of the trackways 13.

Adjacent the upper end of the body member 42 there are a plurality of supporting rollers 45, the rollers being positioned upon both sides of the body member and contact the bed flange 14 for support of the carriage. The rollers 44—44' and 45 are spaced vertically apart only such distance as will permit free movement of the carriage along the flanges 14 and 15, thereby insuring stability, and to further insure proper movement of the carriage the body 42 is provided with vertically disposed rollers 46 for bearing contact with the depending flanges 15, as clearly shown in Figure 3.

The upper edge of the body member 42 is formed with a pair of stepped notches 47 adapted to receive respective draft arms 48 fixed at suitable points on the chain 28, and at the lower end of the body member, a clevis 49 is provided from which suspension cables 50 are extended to the vehicles 39 where they are suitably secured.

The operation

The operation will be substantially as follows: The motor 29 being energized, the chains 28 will be drawn circumferentially of respective trackways 13, and assuming that the passenger vehicles 39 are in the position shown in Figure 1, with the chain 28 moving in a clockwise direction. The carriages 20 being engaged with the chain will move in a similar direction and this movement will continue until the carriage 20 enters the channel 22, and due to the fact that the channel is at a tangent to the track 13, the arms 48 will be freed from the notches 47 and the train thus allowed to pass through the channel by its own momentum. Upon passing out of the other end of the channel 22, the draft arms 48 of the chain 28 associated with the track 10 will engage the notches 47 and carry the train around in a counter-clockwise direction, when the carriage is again released upon entering the channel 21. Upon leaving the channel 21 the carriage is picked up for traction due to engagement between the draft arms 48 and notches 47. It should be noted that as the carriages 20 move from a clockwise to a counter-clockwise direction, it will be necessary to have pairs of rollers 44—44' and 45 for alternate engagement with the base flange 14 and guide flange 15 of the units 10 and 11.

While I have shown and described a preferred form of the device, this is by way of illustration only, and I consider as my own, all such modifications in structure as fairly fall within the scope of the appended claims.

I claim:

1. In an aerial trackway, a pair of spaced circular trackways, an angular cross-over trackway positioned between the circular trackways, the trackways of the cross-over connecting the circular trackways at a tangent, defining a continuous sinuous trackway, said circular trackway having an upstanding flange, a horizontal bed-flange and a depending flange, anti-friction rollers on the upstanding flange and the bed flange, a sprocket chain trained about each circular trackway, a power unit having driving engagement with respective chains, a mobile unit, said unit comprising rollers complemental to the bed flange and a guide roller complemental to the depending flange, draft arms on the chains, said mobile unit comprising an upright portion having means for retention of the arms in one direction of rotation of the chains, said mobile unit further having means for suspension of a passenger vehicle, and said draft arms being releasable from the mobile unit at the entrance of respective portions of the cross-over.

2. In an aerial trackway, a pair of spaced circular trackways, a channel-shaped cross-over trackway between the circular trackways, said cross-over comprising right angularly disposed sections, the circular trackways being cut away at a point in their peripheries for accommodation of a respective cross-over section thereby forming a continuous sinuous trackway, said circular trackways having a continuous upstanding flange, a horizontal bed flange and a depending flange, anti-friction rollers on the upstanding flange and the bed flange, a sprocket chain trained about the upstanding flanges of each circular trackway, and bearing upon said anti-friction rollers, a power unit mounted medially of the cross-over, said power unit having a drive shaft extended therethrough, a gear on each end of the shaft, a pair of upright stud shafts on the base of the power unit, a shaft being positioned beneath respective gears, each shaft having a gear in mesh with the first named gears, a sprocket gear on each stud shaft, said sprocket gears having teeth for engagement with links of the chain, a mobile unit, said unit comprising rollers complemental to the bed flange and a guide roller complemental to the depending flange, draft arms on the chains, said mobile unit comprising an upright portion having notches for engaging and retaining the draft arms in one direction of rotation of the chains, and said mobile unit having means for suspension of a passenger vehicle.

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