

May 18, 1943

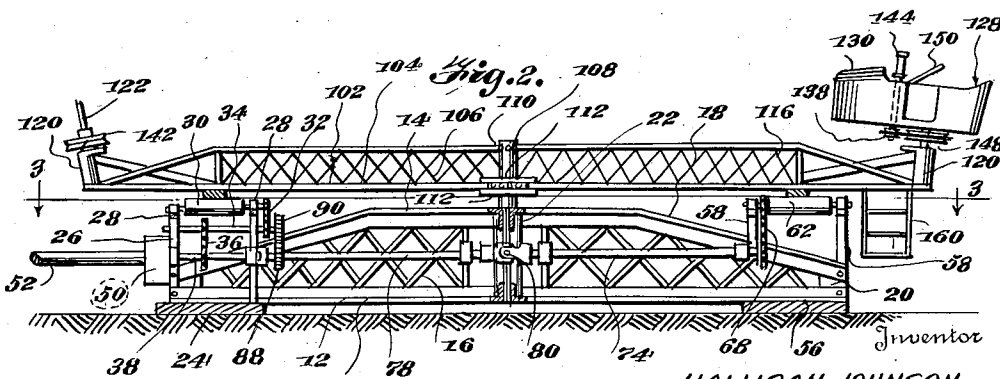
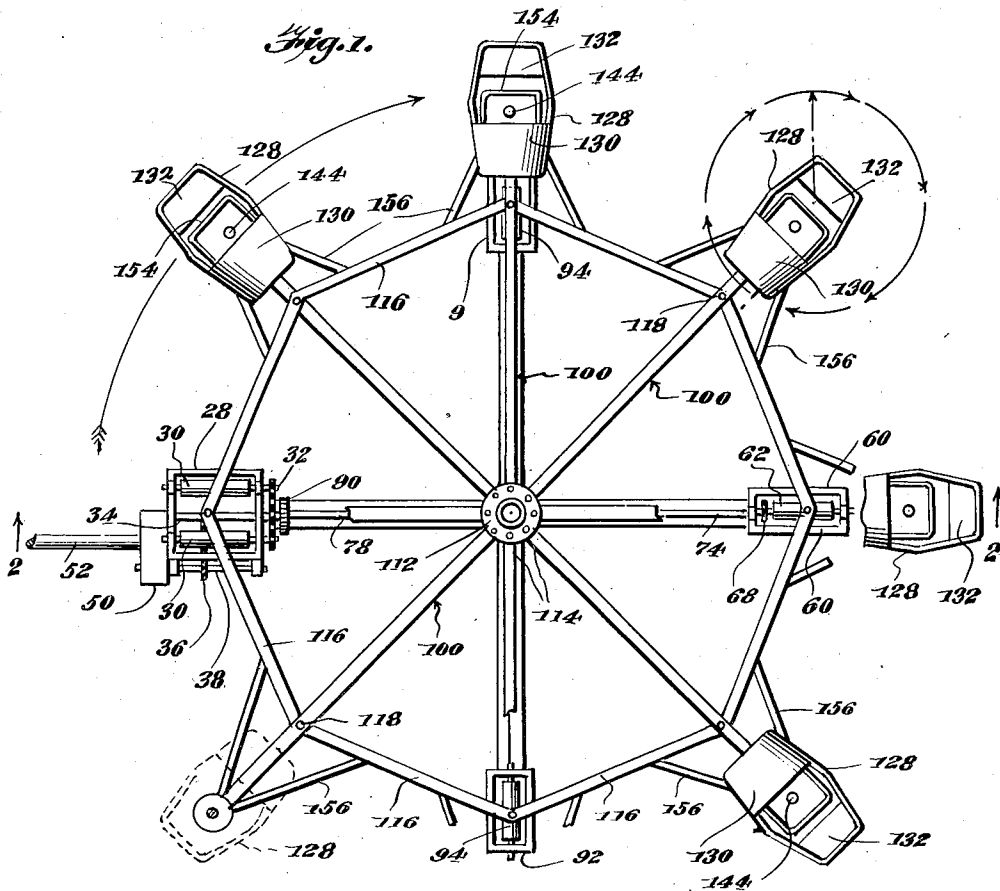
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2,319,327

AMUSEMENT APPARATUS

Filed Nov. 12, 1941

3 Sheets-Sheet 1



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May 18, 1943

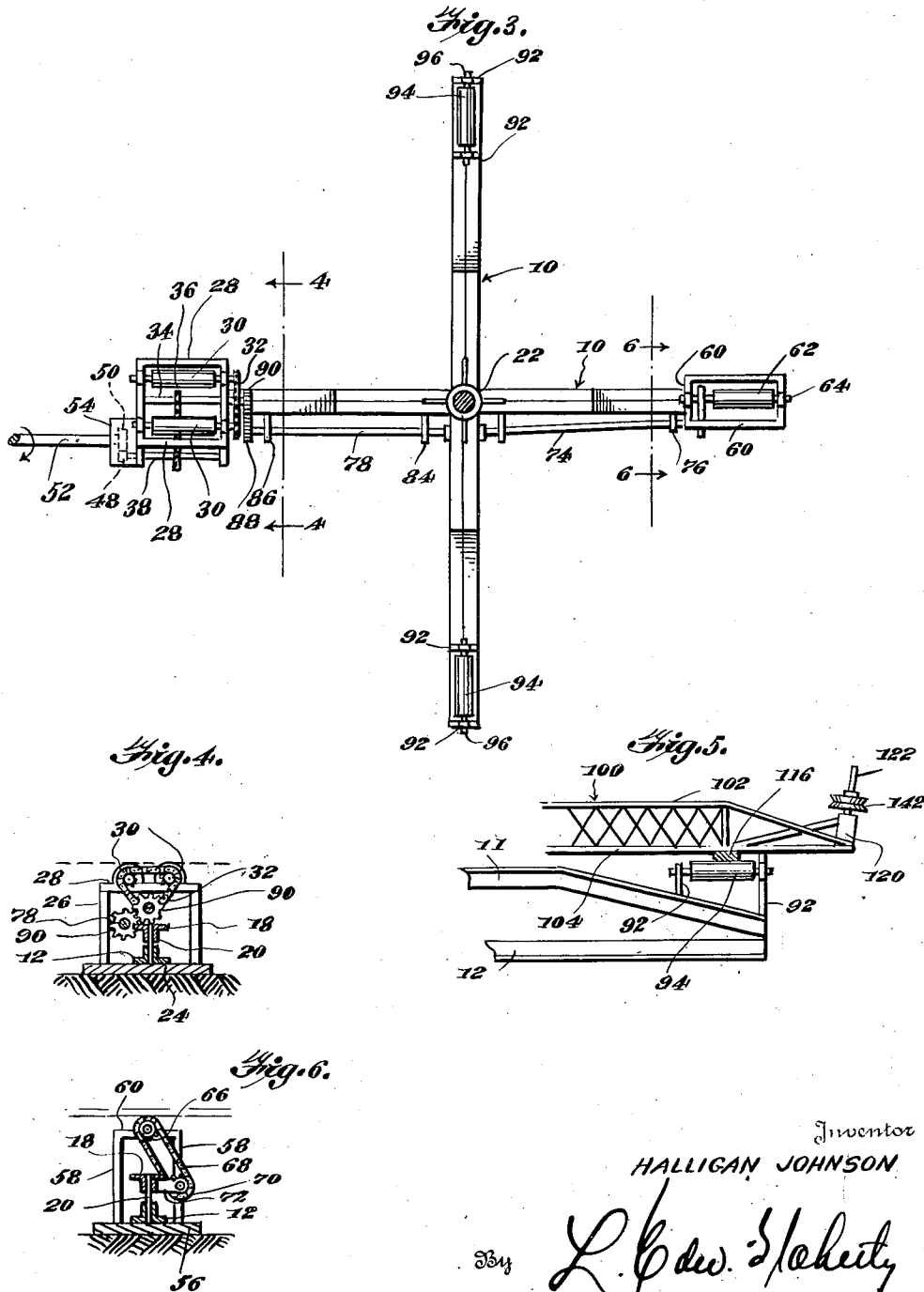
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AMUSEMENT APPARATUS

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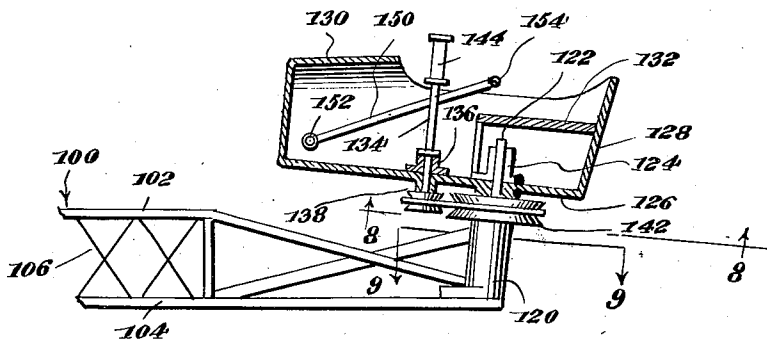
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AMUSEMENT APPARATUS

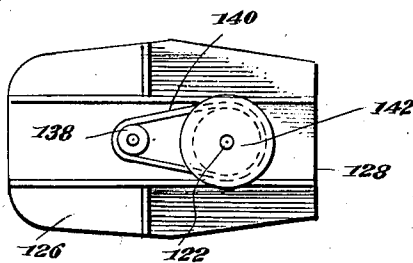
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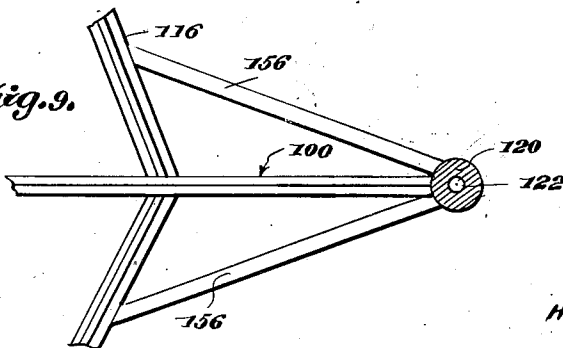
*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



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## UNITED STATES PATENT OFFICE

2,319,327

## AMUSEMENT APPARATUS

Halligan Johnson, Miami, Fla.

Application November 12, 1941, Serial No. 418,820

5 Claims. (Cl. 272—37)

The present invention relates to improvements in amusement apparatus and, more particularly, to roundabouts.

The primary object of the invention is to provide an amusement ride adapted to produce unique sensations which is accomplished partially by mechanical means and partially through a manual drive or control for causing the cars to rotate in a planetary fashion.

A further object of the invention is to provide an amusement ride such as a roundabout which is frictionally driven to eliminate to a large extent costly gearing which is incapable of being disassembled for the purpose of transportation.

A still further object of the invention is to provide an amusement ride which is durable and which may be easily taken apart and assembled for the purpose of transportation without requiring excessive mechanical skill on the part of the workmen.

A still further object of the invention is to provide an amusement ride or roundabout having sectional members which may be assembled to form a circular supporting ring for the cars to eliminate the use of an absolutely true circular supporting member which is difficult to knock down and transport to various locals.

Other objects and advantages of the invention will become apparent during the course of the following description of the accompanying drawings wherein:

Figure 1 is a top plan view of the amusement ride showing a portion broken away to disclose the mechanical drive means;

Figure 2 is a longitudinal vertical sectional view taken on line 2—2 of Figure 1 looking in the direction of the arrows illustrating in detail the structural elements and their arrangement;

Figure 3 is a horizontal cross sectional view taken on line 3—3 of Figure 2 illustrating in detail the construction of the supporting base and the drive rollers therefor;

Figure 4 is a vertical detailed cross sectional view taken on line 4—4 of Figure 3, looking in the direction of the arrows, illustrating the drive gearing for the set of supporting rollers adjacent the drive shaft;

Figure 5 is a fragmentary sectional view illustrating in detail the manner in which the roundabout is supported on its base;

Figure 6 is a vertical cross sectional view taken on line 6—6 of Figure 3 looking in the direction of the arrows, illustrating a reversely driven roller for supporting the roundabout at a point diametrically opposite the initial drive rollers;

Figure 7 is a vertical sectional view through one of the cars illustrating in detail the manual operating drive for causing the car to rotate in a planetary manner;

Figure 8 is a horizontal sectional view taken on

line 8—8 of Figure 7 looking in the direction of the arrows illustrating in detail the construction and arrangement of the manual drive and;

Figure 9 is a substantially horizontal cross sectional view taken on line 9—9 of Figure 7 looking in the direction of the arrows showing the bracing means for supporting the car spindle boss.

In the drawings, wherein for the purpose of illustrating the invention in detail and wherein like reference characters will be employed to designate like parts throughout the same, the reference character 10 will generally be employed to designate a pair of crossed beams each of which includes a lower flanged section 12 and an upper flanged section 14 trussed throughout its length by brace bars 16. The free ends of the flanged beam 14 are bent downwardly to provide inclined portions 18 which are connected to the base flange member 12 by means of a plate 20. Formed at the point of intersection of the crossed beams 10 is a hub 22 and said crossed beams 10 may be welded or otherwise secured to the hub 22.

Mounted beneath one end of one of the cross beams 10 is a platform 24 having four equidistantly spaced uprights 26 connected at the top by cross rails 28 upon which is journaled a pair of spaced rollers 30 having sprocket wheels on one end thereof over which is trained a sprocket chain 32 coupling the rollers 30 to a stub shaft 34 suitably journaled in a portion of the frame formed by the uprights 26 and the cross arms 28. The stub shaft 34 also carries a sprocket wheel over which is trained a sprocket chain 36 and which is driven from a shaft 38 journaled in the frame 26 and 28 similar to the shaft 34. One end of the shaft 38 is provided with a gear wheel 48 meshing with a gear wheel 50 on the end of the drive shaft 52. The drive shaft 52 is supported in a housing 54 enclosing the gears 48 and 50.

Mounted beneath the opposite end of the same cross beam 10 is a platform 56 having four uprights 58 connected at the top by horizontal cross bars 60 which form a support for a roller 62 having its ends journaled in the end cross bars 60. The shaft 64 of the roller 62 being mounted in suitable bearings allows free turning movement of the roller and said shaft is provided with a sprocket wheel 66 around which is passed a sprocket chain 68 for imparting rotation to the roller 62 from a sprocket wheel 70 suitably supported by a bracket 72 on the end of the cross beam 10. The sprocket wheel 70 is keyed to a shaft 74 which is journaled in the cross beam as at 76 and said shaft 74 extends into the bracket 72 and is coupled with a shaft 78 by means of a universal connection 80 as shown in Figure 2. The shaft 78 is journaled in bearings 84 and 86 supported by the cross beam 10 and the free end

thereof is provided with a gear wheel 88 which is keyed thereto and is constantly in mesh with a gear wheel 90 mounted on the shaft 34.

It will thus be seen that rotation of the shaft 52 will drive the rollers 30 in one direction while the roller 62 will be driven in the opposite direction.

Mounted on the free ends of the other cross arm 10 is a pair of spaced uprights 92 for supporting rollers 94 which are freely rotatable upon spindles 96.

The car carrier comprises a series of beams 100 composed of upper and lower sections 102 and 104 respectively, trussed throughout their length by truss bars 106. The inner ends of the beams 100 are connected to a vertical spindle 108 rotatably mounted in the hub 22 and as shown in Figure 2, the upper rails 102 of the beams are connected as at 110 to the vertical spindle 108, while the lower rails 104 are mounted between spaced anchoring plates 112 held in place by bolts 114.

The free ends of the beams 100 are provided on their underside with flat friction boards 116 connecting the beams 100 by bolts or the like as at 118, and said friction boards connect the beams 100 adjacent their ends in circular fashion as shown in Figure 1 so that rotation of the rollers 30 will drive the frame structure formed by the beams 100 about the vertical axis or shaft 108. Since the roller 62 is rotating in an opposite direction from the rollers 30, the roller 62 will further drive the rotating frame structure at a diametrically opposite point.

Formed integral with the extreme end of each radial beam 100 is a tubular boss 120 in which is mounted a shaft 122 which extends into a bearing 124 mounted in the floor 126 of a car 128. The car 128 is provided with a hood section 130 and a passenger seat 132. Also journaled in the floor 126 of the car is a shaft 134 mounted in suitable bearings 136 and having keyed to the lower end thereof a pulley as at 138 around which is passed a cable or belt 140 extending around a pulley guide 142 rigidly attached to the tubular boss 120 by suitable means such as set screws or the like.

Mounted on the upper end of the shaft 134 is a hand spool or knob 144 which may be grasped by the passenger riding in the car 130 and rotated to impart rotation to the car so as to produce a planetary movement as shown by the arrows in Figure 1.

A U-shaped handle 150 is pivoted at its ends as at 152 to the front portion of the car 128 beneath the hood 130 so that the handle bar 154 will be presented to the rider in the seat 132 to assist in holding the rider from being thrown from the car.

Brace bars 156 may have their ends connected to the traction boards 116 and to the tubular boss 120 as shown in detail in Figure 9.

Steps 160 may be supported adjacent the free ends of the radial beam 100 to facilitate mounting and dismounting of passengers in the cars 128.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred embodiment of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, what is claimed is:

1. An amusement round-about comprising a base including crossed beams, a vertical spindle mounted for rotation at the intersection of the beams, driving and supporting rollers carried by the beams, a rotatable carrier mounted on the spindle adapted to be supported and driven by the rollers and a series of passenger cars arranged in circular fashion on the carrier adapted to be manually rotated independently from the carrier.

2. An amusement round-about comprising a base including a pair of crossed beams, a vertical spindle mounted at the intersection of the beams, driving and supporting rollers mounted at the ends of the beams, a frame-work constructed of radially extending beams supported by the vertical spindle, a traction board connecting each radial beam adapted to be engaged by the rollers on the base for imparting rotation to the frame-work and a series of cars arranged in circular fashion and supported on the ends of the radial beams for rotation independent of the frame-work.

3. An amusement round-about comprising a base including trussed cross beams, a vertical spindle mounted at the point of intersection of the beam for rotation with respect thereto, supporting and driving rollers mounted on the ends of the beams, a rotatable frame-work secured to the spindle comprising radially arranged beams, traction boards connecting the beams on the underside thereof for being engaged by the supporting and driving rollers and passenger cars mounted on the free ends of the radial beams adapted to be manually rotated independent of the rotation of the carrier.

4. An amusement round-about comprising a base including crossed truss beams, a vertical spindle rotatably mounted at the intersection of the beams, one of said beams having drive rollers supported at each end thereof, means for driving the rollers in reverse directions, supporting rollers carried by the other cross truss beam, a rotatable frame-work mounted above the base including a series of radially extending beams connected to the vertical spindle, traction boards connecting the free ends of the beams in circular fashion on the underside of said beams in alignment with the rollers for supporting and driving the rotatable frame-work, passenger cars rotatably mounted on the free ends of the radially extending beams and manual means carried by the cars for rotating the same independent of the rotary frame-work.

5. An amusement round-about comprising a base including crossed truss beams, a vertical spindle rotatably mounted at the intersection of the beams, reversely rotating rollers mounted on the opposite ends of one of the beams, idle supporting rollers mounted on the ends of the other beam, a rotatable frame-work carried by the vertical spindle including a series of radially extending beams, roller engaging traction boards connecting the free ends of the beams for imparting rotation to the frame-work and supporting the same above the base, passenger cars rotatably mounted on the ends of the radial beams and manual means carried by the cars for rotating the same independently of the carrier.

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