

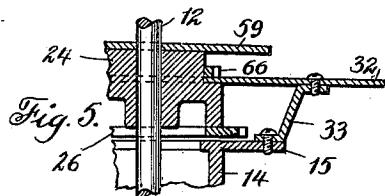
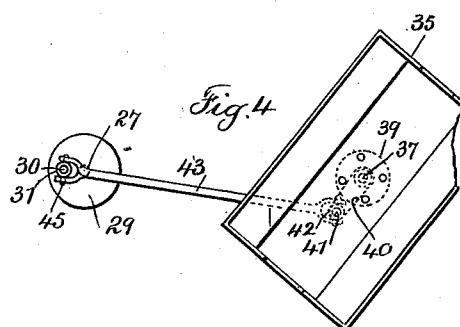
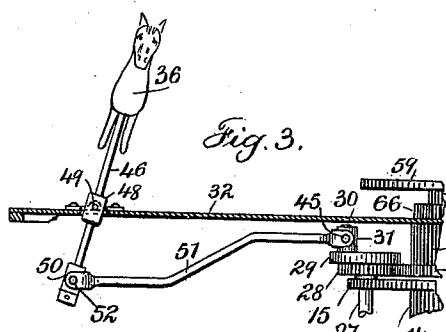
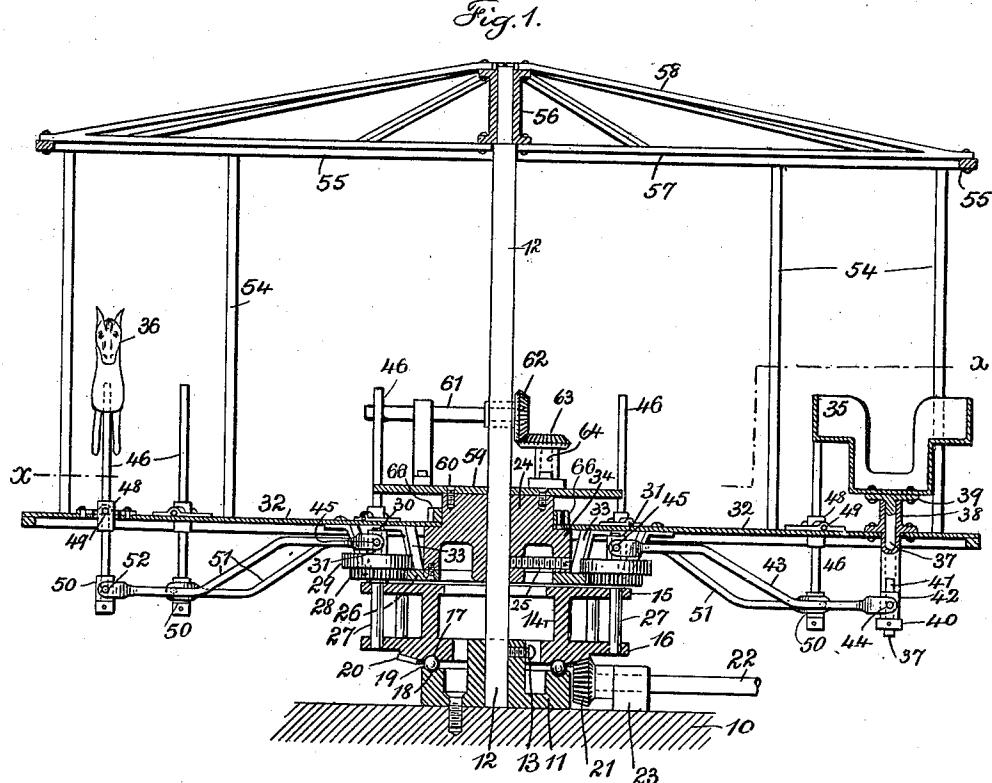
F. O. DEGENHARDT.  
CAROUSEL.

APPLICATION FILED SEPT. 8, 1910.

991,199.

Patented May 2, 1911.

2 SHEETS—SHEET 1.



*Witnesses*

Chas. A. Smith  
A. B. Lowell

*Inventor.*

Frank O. Degenhardt  
by Harold Terrell  
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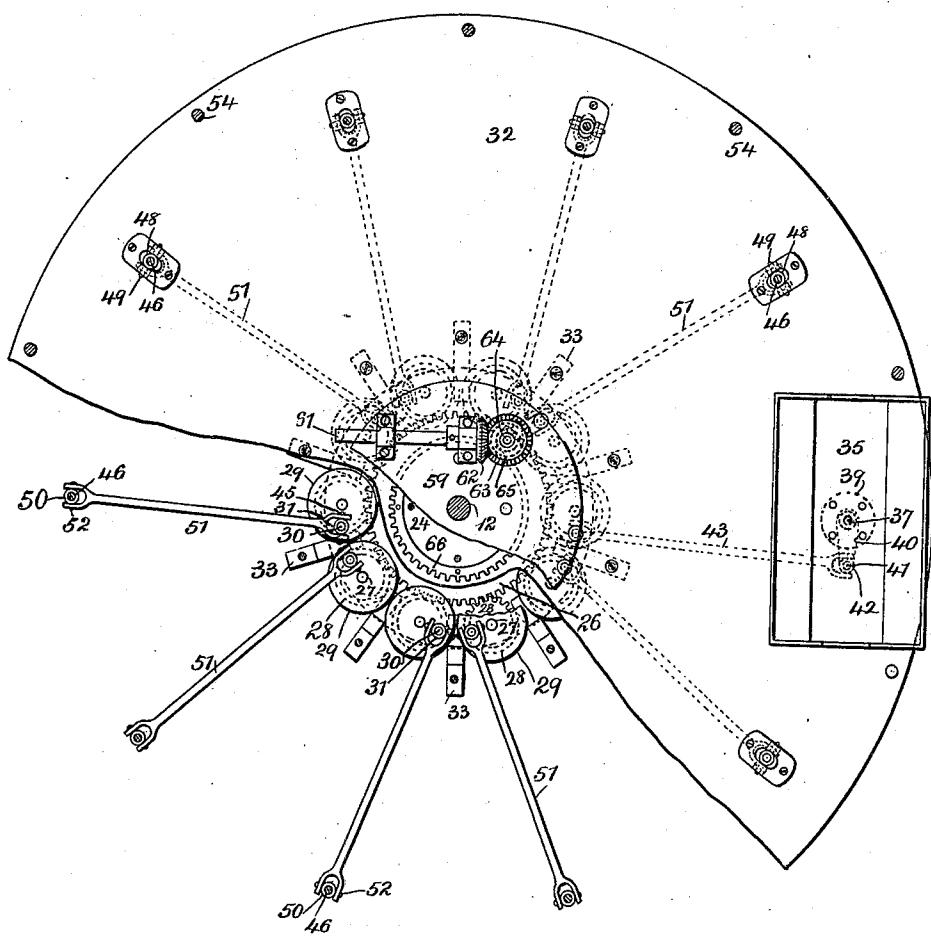
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2 SHEETS—SHEET 2.

Fig. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

FRANK O. DEGENHARDT, OF NEW YORK, N. Y.

## CAROUSEL.

991,199.

Specification of Letters Patent.

Patented May 2, 1911.

Application filed September 8, 1910. Serial No. 581,006.

To all whom it may concern:

Be it known that I, FRANK O. DEGENHARDT, a citizen of the United States of America, residing in the borough of Brooklyn, county 5 of Kings, city and State of New York, have invented an Improvement in Carousels, of which the following is a specification.

My present invention relates to a carousel and is an improvement on the structure 10 shown and described in Letters Patent No. 797,347, granted to me August 15, 1905, for an improvement in similar apparatus.

In carrying out my present invention, I have dispensed with the lower platform employed in the apparatus as illustrated in the aforesaid patent and have improved the manner of actuating the swinging bars on or to which the passenger carriages are secured, so that to these members in my present 15 and improved construction, there is imparted a rocking movement, the shafts to which the animal forms or other devices in or upon which the passengers are carried, being connected to the single revoluble platform in the present case in such a manner 20 that this rocking movement is imparted thereto and to the passenger carrying devices. In this construction, the sliding plates employed to cover the upper platform as shown in the patent to which reference has 25 been made, are entirely dispensed with and the apparatus is otherwise simplified, as will be hereinafter more particularly described.

In the drawing, Figure 1 is a central vertical section illustrating the carousel apparatus comprising my present invention. Fig. 2 is a sectional plan on line  $\alpha$ ,  $\alpha$ , Fig. 1, a portion of the platform being broken away to illustrate the operating mechanism more 30 clearly. Fig. 3 is a sectional elevation illustrating the operating parts in a different position to that shown in Fig. 1, Fig. 4 is a plan view of another form of the operating parts, showing the same in a different position than they are illustrated in Fig. 1, and Fig. 5 is a partial sectional elevation showing the manner of supporting the platform.

Referring to the drawing, 10 designates a foundation which may be of any suitable character and upon which is secured a base 11 which is preferably double U-shaped in cross section. Secured in the base 11 by means of the set screw 13 or otherwise and extending upwardly from the same, is a spindle 12, 45 and above the base 11 I employ a cylinder 14. The cylinder 14 at its respective ends

is provided with flanges 15—16 and in its under side there is a circular groove 17. In the upper surface of the outer annular member of the base 11 there is also a circular groove 18 of the same diameter as the circular groove 17, these circular grooves forming raceways to receive the balls 19, so that the cylinder 14 is mounted on the base 11 upon a ball bearing. On the under side 60 of the cylinder 14 there is a bevel gear 20 adapted to mesh with a bevel gear 21 secured on the end of a drive shaft 22 which is journaled in a suitable bearing 23 fixed on the foundation 10, and as will be understood, 65 the drive shaft 22 may be driven from any suitable source of power.

Mounted on the spindle 12 above the cylinder 14 I employ a head member indicated at 24 and this is secured or fixed in position 70 on the spindle 12 by means of a set screw 25 or otherwise and on the under face of the head 24 a spur gear 26 is secured. The head 24, the gear attached thereto, the spindle 12 and the base 11 are fixed on the founda- 75 tion 10.

In equally spaced apart positions in the flanges 15 and 16 of the cylinder 14, shafts indicated at 27 are journaled. Each shaft 27 above the flange 15 is provided with a 80 gear 28 adapted to mesh with the gear 26. Each shaft 27 is also provided with a crank disk 29 above its gear 28 and in each crank disk 29 a pin 30 is secured and each pin 30 carries a collar indicated at 31. 90

32 designates a platform which may be made of any suitable material and so constructed as to be secured to the cylinder 14 by means of brackets 33 which are connected at one end to the under side of the platform 95 and at the opposite end to the flange 15 of the cylinder 14 as shown in Fig. 5, the central portion of the platform 32 being open and adapted to pass over a reduced upper end of the head 24 and to rest upon a shoulder 34 provided in the head 24 by reason of the reduced upper end thereof. 100

35 designates a passenger carriage which comprises a car having doors or openings at the opposite ends thereof and seats running longitudinally the entire length of the car, whereas 36 designates the form of an animal which in accordance with my present invention I may also employ as a carriage upon which passengers may ride. The car 110 35 is connected to a shaft 37, the upper end of which is secured to a flange 39 fixed cen-

trally to the under surface of the floor of the car, the shaft 37 passing through a sleeve 38 fixed in the platform 32 and also through the platform 32 and extending an appreciable distance below the same.

At its lower end the shaft 37 is provided with a crank arm 40 connected thereto in any suitable manner, and at its outer or free end the crank arm 40 carries a pin 41 over which is fitted a collar 42. This collar 42, on the opposite sides thereof, is provided with projecting trunnions 44, by means of which the bifurcated end of the connecting rod 43 is pivotally connected. The opposite and similarly bifurcated end of this connecting rod 43 is pivotally connected to trunnions 45 extending from opposite sides of one of the collars 31 on one of the pins 30.

By this construction as will be apparent from Figs. 1 and 4, the platform is revolved from the drive shaft 22 which turns the cylinder 14, and that by means of turning these parts, the gear 28 will turn the crank disks 29 and the same will actuate the connecting rods 43, whereby through the crank arm 40 a rocking movement will be imparted to the shaft 37 which in turn imparts this rocking movement to the carriage 35, so that together with being carried around by the platform 42, the carriage 35 is also given a rocking or oscillating or partial rotary motion.

Referring to the left hand portion of Fig. 1 and to Fig. 3, it will be understood that I may also employ a series of shafts 46 upon the upper end of which an animal 36 or other device is mounted. Each of these shafts 46 passes through the platform 32 and is provided with a collar 48 having pins 49, by means of which the shaft 46 is pivotally connected between the upper surface of the platform 32 and a strap secured thereto and employed for this purpose. Beneath the platform 32, each shaft 46 is fitted with a collar 50 also provided with trunnions 52 extending from opposite sides thereof, to which trunnions the bifurcated end of the connecting rod 51 is pivotally connected, the oppositely and similarly bifurcated end of this connecting rod 51 being connected to the trunnions 45 extending from opposite sides of one of the collars 31, so that as the cylinder 14 and the platform 32 are revolved by turning the drive shaft 22, the reciprocating movement imparted to the connecting rod 51 is transmitted to the shafts 46 to impart a rocking movement thereto.

Connected to the platform 32 I may employ a suitable frame comprising a series of uprights 54 secured at their lower ends to the platform 32 and at their upper ends to a ring 55.

The upper end of the spindle is preferably of reduced cross section to receive the sleeve 56 which performs the function of the king-

post, the tie-beams 57 extending therefrom to the ring 55 and the rafters or inclined members 58 also extending from the sleeve 56 at the upper end thereof to the said ring 55.

Above the head 24 I may also employ a fixed platform indicated at 59 secured thereto by screws 60 or otherwise. I may also employ an auxiliary drive-shaft 61 journaled in any suitable manner and fitted with a bevel gear 62 meshing with a similar gear 63 secured on a vertical shaft 64 which at its opposite end carries a spur gear 65 meshing with a gear 66 secured to the upper surface of the platform 32, so that if it is desired or if it is more convenient, the revolute parts of the carousel may be operated from a motor or other driving mechanism situated above the platform and the drive shaft 22 below the platform entirely dispensed with.

I claim as my invention:

1. A carousel comprising a base, a spindle fixed to said base, a flanged cylindrical member revolvably mounted on said base, a platform spaced apart from and secured to the said cylindrical member above the same, a head secured on the spindle above the cylindrical member and over which a portion of said platform extends, a shaft connected to and passing through the said platform, a passenger-carriage secured to the said shaft, means for revolving the said cylindrical member to turn the platform, and means whereby as the platform and cylindrical member are revolved, a rocking movement is imparted to the said shaft and its passenger-carriage.

2. A carousel comprising a base, a spindle fixed to said base, a revoluble platform, a passenger carriage, a shaft connected to said platform and to which the said passenger carriage is secured, a flanged cylindrical member revolvably mounted upon said base, a head secured on the said spindle above the said flanged cylindrical member and over which a portion of the said platform extends, a short shaft journaled in the flanges of said cylindrical member, a crank disk secured on the said short shaft, means for revolving the said platform and flanged cylindrical member, means whereby in revolving the said platform and flanged cylindrical member, the said short shaft and crank disk are revolved, and means whereby the revoluble motion of the said short shaft and crank disk is transmitted to the first aforesaid shaft to impart a rocking movement thereto.

3. A carousel comprising a base, a spindle fixed to said base, a revoluble platform, a passenger carriage, a shaft connected to said platform and to which the said passenger carriage is secured, a flanged cylindrical member revolvably mounted upon said base,

a head secured on the said spindle above the said flanged cylindrical member and over which a portion of the said platform extends, a short shaft journaled in the flanges 5 of the said cylindrical member, a crank mounted on the said short shaft, a gear secured to the said head and meshing with the aforesaid gear whereby in the revolution of the platform and flanged cylindrical member, the said short shaft and its 10 crank disk are turned, means for revolving the platform and flanged cylindrical member, and means whereby the revolution of the said crank disk is transmitted to the first 15 aforesaid shaft to impart a rocking movement thereto.

4. A carousel comprising a base, a spindle fixed to said base, a revolute platform, a passenger carriage, a carriage shaft connected to said platform and to which the said passenger carriage is secured, a bearing secured to the platform and in which the said carriage shaft is journaled, a flanged cylindrical member revolubly mounted upon 20 said base, a head secured on the said spindle above the said flanged cylindrical member and over which a portion of the said platform extends, a short shaft journaled in the flanges of the said cylindrical member, a 25 crank mounted on the said short shaft, a gear secured to the said head and meshing with the aforesaid gear whereby in the revolution of the platform and flanged cylindrical member, the said short shaft and its 30 crank disk are turned, a crank arm secured to said carriage shaft, means for revolving the said platform and flanged cylindrical member, a pin on the said crank arm, a collar and trunnions on said pin, a pin on 35 the said crank disk, a collar and trunnions on the last aforesaid pin and a connecting rod extending between and pivotally connected to the said trunnions for imparting a swinging movement to the said carriage shaft from the said crank disk.

5. A carousel comprising a base, a spindle fixed to said base, a revolute platform, a passenger carriage, a carriage shaft connected to said platform and to which the said passenger carriage is secured, a bearing secured to the platform and in which the said carriage shaft is journaled, a flanged cylindrical member revolubly mounted upon 40 said base, a head secured on the said spindle above the said flanged cylindrical member and over which a portion of the said platform extends, a short shaft journaled in the flanges of the said cylindrical member, a 45 crank disk mounted on the said short shaft, a gear secured to the said head and meshing with the aforesaid gear whereby in the revolution of the platform and flanged cylindrical member, the said short shaft and its 50 crank disk are turned, a crank arm secured to said carriage shaft, means for revolving the said platform and flanged cylindrical member, a pin on the said crank arm, a 55 collar and trunnions on said pin, a pin on the said crank disk, a collar and trunnions on the last aforesaid pin and a connecting rod extending between and pivotally connected to the said trunnions for imparting a 60 swinging movement to the said carriage shaft from the said crank disk.

Signed by me this 30th day of August 1910.

FRANK O. DEGENHARDT.

Witnesses:

GEO. T. PINCKNEY,  
BERTHA M. ALLEN.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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