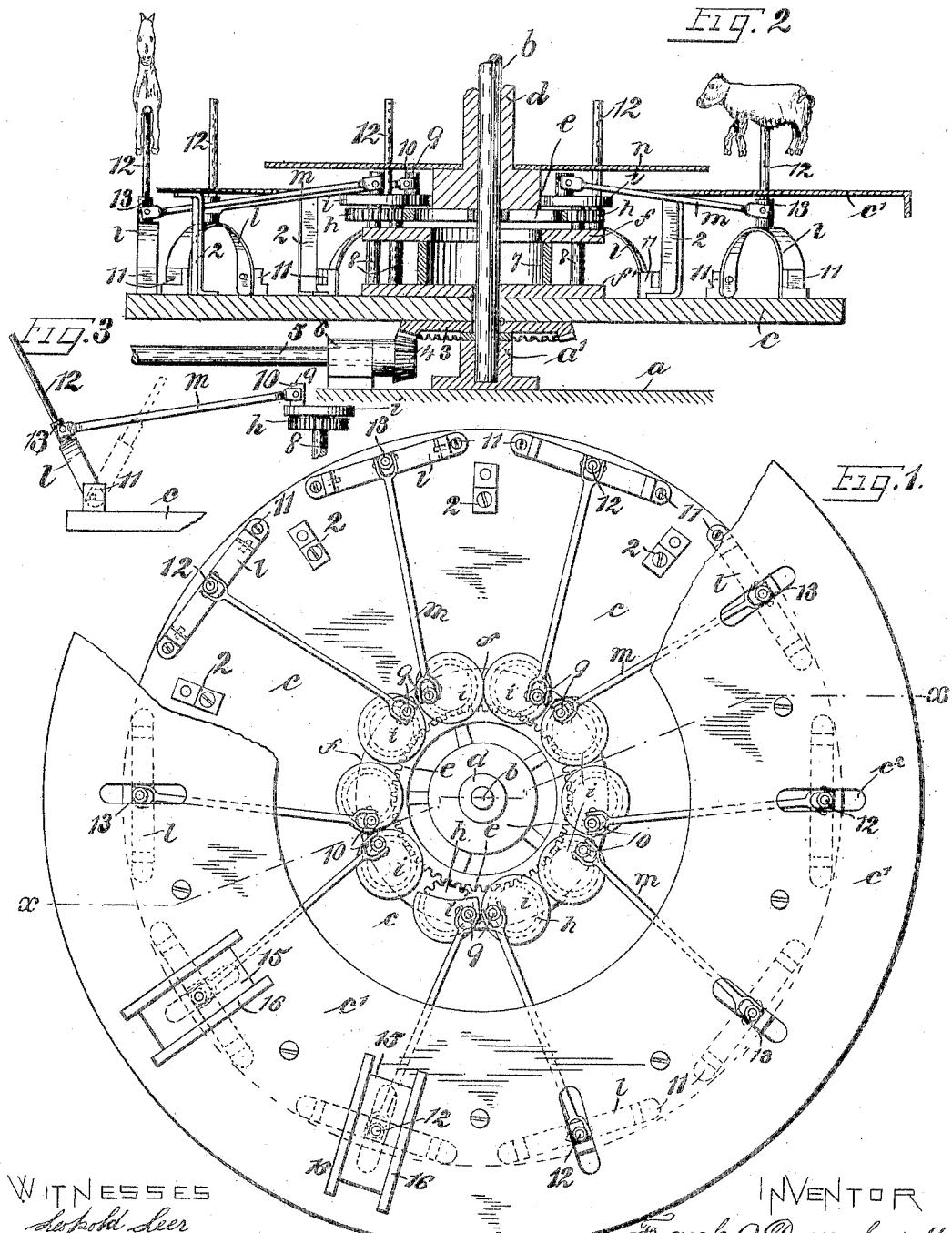


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F. O. DEGENHARDT.
CAROUSEL.
APPLICATION FILED OCT. 25, 1904.



WITNESSES

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CAROUSEL.

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Specification of Letters Patent.

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To all whom it may concern:

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

My invention relates to carousels or merry-go-rounds, and in carrying out the same I employ a base, a spindle, revoluble platforms spaced apart and secured together one above the other, devices pivotally mounted in the lower platform passing through the upper platform and upon which are mounted the forms of animals, carriages, or other devices on or in which passengers are carried, means for revolving the platforms, and means actuated by the revolution of the platforms to impart a swinging movement to the said devices, all of which will be hereinafter more particularly described.

In the drawings, Figure 1 is a plan view of the operating mechanism of my improved carousel. Fig. 2 is a central sectional elevation on line $x-x$, Fig. 1, and Fig. 3 is an elevation of the swinging bar and the disk, gear, and connecting-rod by which the same is operated.

a represents a base on which is placed a suitable pedestal a' , in which a spindle b is secured.

c represents a platform centrally through which the spindle b passes, and c' is also a platform provided with a central opening, and the platforms c and c' are preferably circular and secured together, the one above the other, in a spaced-apart relation by straps 2 or other suitable means. Immediately below and secured to the platform c is a bevel-gear 3 , surrounding the spindle b . A bevel-gear 4 , meshing with the gear 3 and secured to a shaft 5 , journaled in bearings 6 , is employed to impart a revoluble movement to the said platforms.

At a suitable distance above the platform c a sleeve d is secured on the spindle b , and intermediate of the lower end of the sleeve d and the platform c I prefer to employ a frame surrounding the spindle b and comprising plates f, f' , secured together in any desired manner and spaced apart by an intervening ring 7 , and a gear-wheel e surrounds the spindle b and is secured to the lower end of the sleeve d , and journaled at spaced-apart intervals in the circumference of a circle and in the plates f, f' are a number of short shafts 8 . Each of these short shafts 8 extends

through the plate f and is provided above the same with a gear-wheel h , meshing with the gear-wheel e , and a disk i , provided at a point adjacent to its periphery with a pin 9 , surrounded by a sleeve 10 , on which at diametrically opposite points suitable lugs are provided.

At equally-spaced-apart intervals adjacent to the periphery of the platform c I employ a series of pairs of brackets 11 , in each pair of which is mounted a yoke l , the number of yokes l corresponding with the number of disks i , gear-wheels h , and short shafts 8 . Secured to each yoke l and extending from the same and through a slot c^2 in the platform c' is a bar 12 , provided adjacent to the yoke with a sleeve 13 , having suitable lugs at diametrically opposite points, and on the upper end of each of the bars 12 is mounted the form of an animal, carriage, or other device on or in which a passenger may ride. The lugs on the sleeves 10 and 13 , respectively, are connected by rods m , at whose ends are yokes spanning the sleeves and pivotally connected to the lugs, and I also prefer to employ a stationary and supplemental platform n , which, as illustrated, may rest on and be carried by a shoulder formed in the sleeve d , and the platform n is of sufficient diameter to cover the opening in the platform c' .

It may be advantageous to employ slide-plates 15 to cover the slots c^2 , in which case each bar 12 passes freely through an opening in its slide-plate, and the slide-plate operates in guideways 16 , placed upon the platform c' adjacent and parallel to the slots c^2 , or the slide-plates may be otherwise arranged as found convenient.

It will now be apparent that upon applying power to turn the shaft 5 the platforms c and c' will be turned by means of the bevel-gears $3, 4$, and also that the turning of the platforms c, c' causes the short shafts 8 to revolve by means of the gear-wheels h meshing with the stationary gear e , and that the revolutions of the short shafts 8 impart a radial swinging movement to the yokes l and the devices carried thereon by means of the connecting-rods, pins, and disks mounted on the short shafts 8 . It will also be apparent that the forms of the animals and other devices may be placed upon the bars 12 in any desired position to obtain the required swinging movement—that is to say, by placing the form in a radial position a front and back swinging movement will be obtained, whereas by placing the form in a

sidewise position a lateral swinging movement will be obtained—and also that in adjusting the relation between the fixed gear *e* and gears *h* the forms of the animals or other devices may be given a uniform swinging movement or an alternate swinging movement or any intermediate swinging movement which may be desired. It may also be noted that the amount of the swing imparted to the bars 12 will depend not only upon the size of the disks *i* and the distance from the center that the pins 9 are mounted therein, but also upon the distance above the pivotal points of the yokes *l* that the outer end of the connecting-rods *m* are pivotally connected to the rods 12.

I claim as my invention—

1. In a carousel, the combination with a base and spindle, of a revoluble support, yokes pivotally mounted thereon in spaced-apart positions, bars extending from said yokes, passenger-carrying devices mounted upon said bars and means actuated by the turning of said support for imparting a radial swinging movement to said passenger-carrying devices and their swinging supports.

2. In a carousel, the combination with a base and spindle, of a revoluble support, yokes pivotally mounted thereon in spaced-apart positions, bars extending from said yokes, passenger-carrying devices mounted upon said bars, a sleeve secured on said spindle, a gear-wheel surrounding said spindle and secured to said sleeve, a frame surrounding said spindle adjacent to said sleeve and secured to said support, short shafts journaled in the circumference of a circle in equally-spaced-apart positions in said frame, a gear on each of said short shafts meshing with the said fixed gear and means actuated by the turning of the said short shafts to impart a radial swinging movement to the said passenger-carrying devices and their swinging supports.

3. In a carousel, the combination with a base and spindle, of a revoluble support, yokes pivotally mounted thereon in spaced-apart positions, bars extending from said yokes, passenger-carrying devices mounted upon said bars, a sleeve secured on said spindle, gear-wheels surrounding said spindle and secured to said sleeve, a frame also surrounding said spindle and adjacent to said sleeve and secured to said support, short shafts journaled in spaced-apart positions in the circumference of a circle in said frame, a gear on each of said short shafts meshing with the said fixed gear, a disk also mounted on each of said short shafts, a pin mounted in each disk, a sleeve on said pin and a connecting-rod connecting each of the last aforesaid sleeves and its corresponding bar to impart a radial swinging movement to the passenger-carrying device supported thereby and its swinging support.

4. In a carousel, the combination with a base and spindle, of a platform, a second platform, means for securing said platforms together in

a spaced-apart relation, means for turning said platforms about the spindle, yokes pivotally mounted in spaced-apart positions adjacent to the periphery of said platforms, bars extending from said yokes through openings in said second platform, cover-plates for the openings in said second platform and through which the said bars also pass, guideways for said cover-plates, passenger-carrying devices mounted upon said bars and means actuated by the turning of said platforms for imparting a radial swinging movement to said passenger-carrying devices and their swinging supports.

5. In a carousel, the combination with a base and spindle, of a platform, a second platform, means for securing the said platforms together in a spaced-apart relation, means for turning said platforms about said spindle, yokes pivotally mounted in spaced-apart positions adjacent to the periphery of said platforms, bars extending from said yokes through openings in said second platform, passenger-carrying devices mounted upon said bars, and means actuated by the turning of said platforms for imparting a radial swinging movement to said passenger-carrying devices and their swinging supports.

6. In a carousel, the combination with a base and a spindle, of a platform, a second platform, means for securing the said platforms together in a spaced-apart relation, means for turning said platforms about said spindle, yokes pivotally mounted in spaced-apart positions adjacent to the periphery of said platform, bars extending from said yokes through openings in said second platform, passenger-carrying devices mounted upon said bars, a sleeve secured on said spindle, a gear-wheel surrounding said spindle and secured to said sleeve, a frame intermediate of said sleeve in said platform, short shafts circularly journaled in equally-spaced-apart positions in said frame, a gear on each of said short shafts meshing with the said fixed gear and means actuated by the turning of said short shafts to impart a radial swinging movement to the said passenger-carrying devices and their swinging supports.

7. In a carousel, the combination with a base and spindle, of a platform, a second platform, means for securing the said platforms together in a spaced-apart relation, means for turning said platforms about said spindle, yokes pivotally mounted in spaced-apart positions adjacent to the periphery of said platform, bars extending from said yokes through openings in said second platform a sleeve on each of said bars adjacent to its yoke, passenger-carrying devices mounted upon said bars, a sleeve secured on said spindle, a gear-wheel surrounding said spindle and secured to said sleeve, a frame intermediate of said sleeve in said platform, short shafts circularly journaled in spaced-apart positions in said frame,

a gear on each of said short shafts meshing with the said fixed gear and a disk also mounted on each short shaft, a pin mounted in each disk a sleeve on said pin and a connecting-rod connecting the lugs on the sleeve surrounding the pin and the lugs on the sleeve of its corresponding bar to impart a radial swinging movement to the passenger-carrying device supported thereby and its swinging support.

8. In a carousel, the combination with a base and spindle, of a revoluble support, yokes pivotally mounted thereon in spaced-apart and substantially vertical positions, bars extending upward from said yokes, passenger-carrying devices mounted upon said bars and yokes as supports, a series of radially-disposed devices connected directly to said supports for imparting a swinging movement to the passenger-carrying devices and their supports, and means actuated by the turning of

said revoluble support for imparting reciprocating movement to the radially-disposed devices.

9. In a carousel, the combination with a base and spindle, of a revoluble support, yokes pivotally mounted thereon in spaced-apart and substantially vertical positions, bars extending from said yokes, passenger-carrying devices mounted upon said bars and yokes as supports, and means actuated by the turning of said revoluble support and connected directly to the latter supports for imparting a swinging movement to said passenger-carrying devices and their swinging supports.

Signed by me this 17th day of October, 1904.

FRANK O. DEGENHARDT.

Witnesses:

GEO. T. PINCKNEY,
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