

No. 843,908.

PATENTED FEB. 12, 1907.

O. R. OLSON.
CAROUSEL.

APPLICATION FILED DEC. 5, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

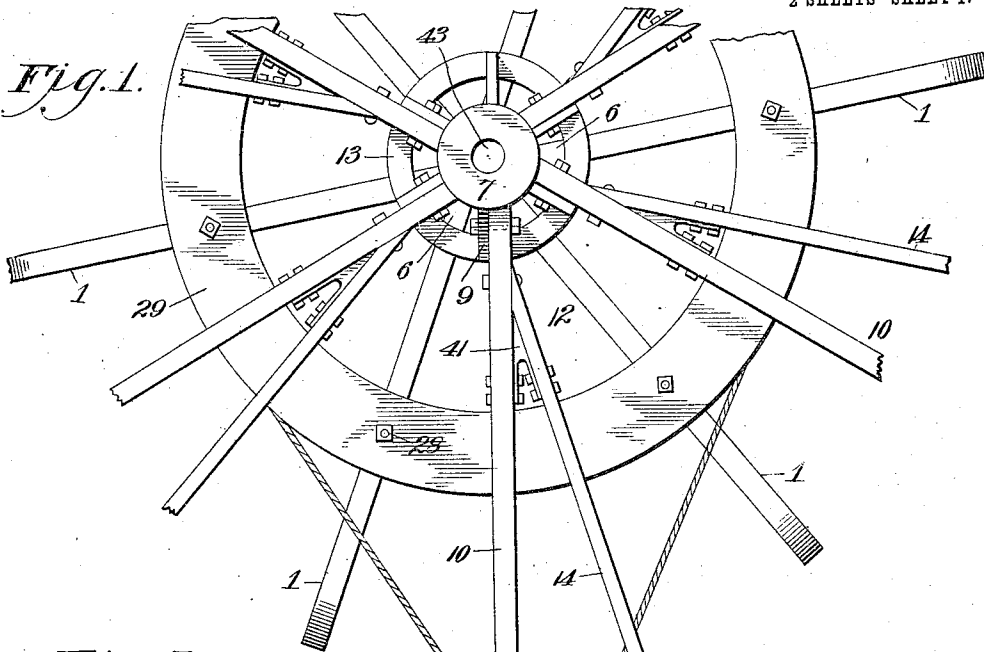


Fig. 7.

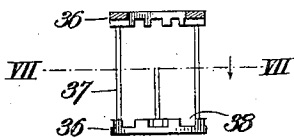
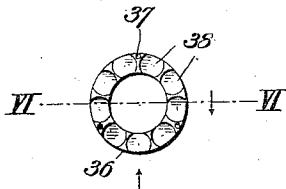


Fig. 6.

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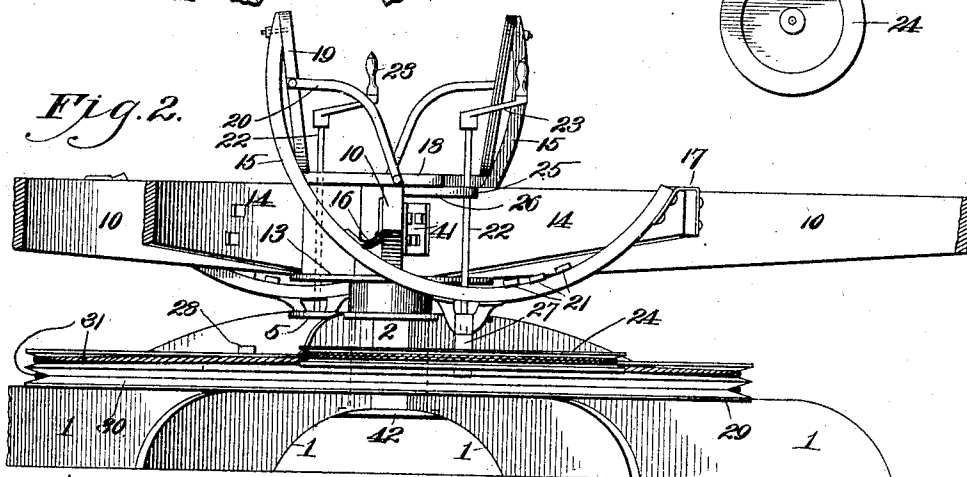
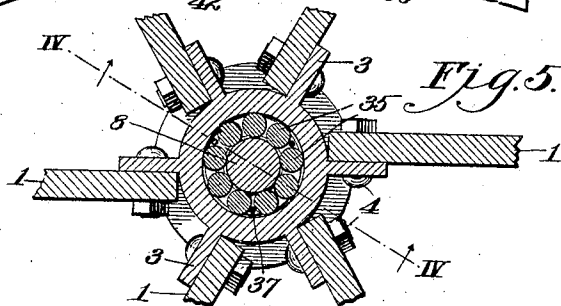
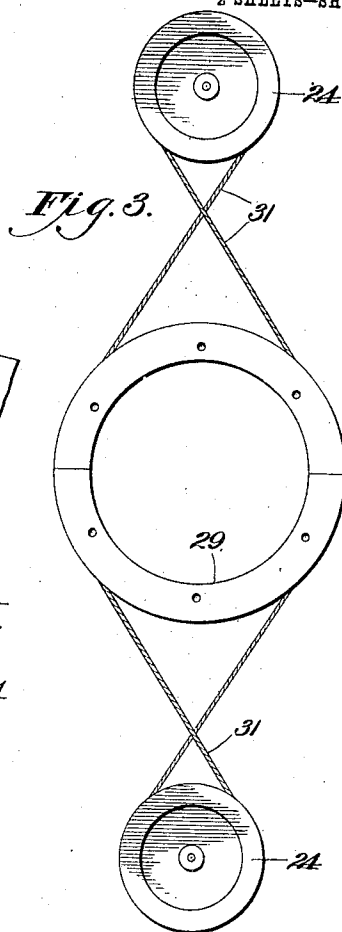
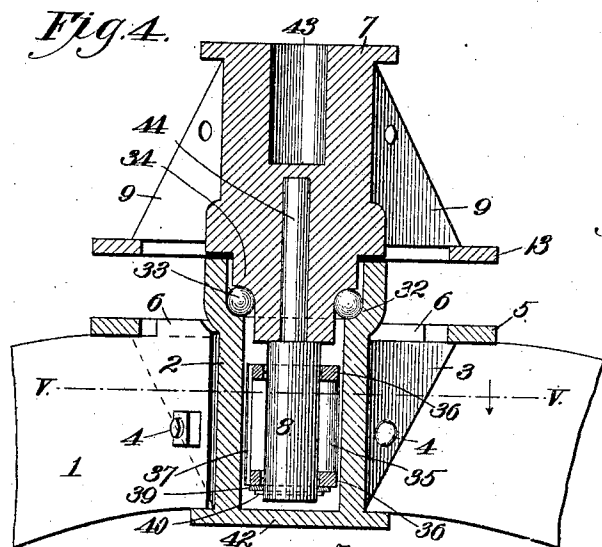
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O. R. OLSON.
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

OLOF R. OLSON, OF CARROLLTON, MISSOURI.

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No. 843,908.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed December 5, 1905. Serial No. 290,346.

To all whom it may concern:

Be it known that I, OLOF R. OLSON, a citizen of the United States, residing at Carrollton, in the county of Carroll and State of Missouri, have invented certain new and useful Improvements in Carousels, of which the following is a specification.

My invention relates to that class of carousels or "merry-go-rounds" in which the motive power is furnished by a passenger; and it consists in the novel and peculiar construction, combination, and arrangement of parts hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a plan view, partly broken away, of the central portion of the machine and one of the seats with its propelling device. Fig. 2 is a side elevation, partly broken away, of a carousel embodying the invention, said figure showing the seats and the drive-ropes, one of the latter being in section. Fig. 3 is a plan view of the central ring and two diametrically opposite propelling-wheels detached. Fig. 4 is an enlarged vertical section. Fig. 5 is a horizontal section taken on the line V V of Fig. 4. Fig. 6 is a detail view, partly in elevation and partly in section, of the rings which hold the anti-friction-rollers in position, the upper ring being in section on the line VI VI of Fig. 7. Fig. 7 is a section on the line VII VII of Fig. 6.

Referring to the drawings in detail, 1 indicates a suitable number of radially-arranged legs, which rest upon the ground and support a stationary cup-bearing 2, provided with lugs 3, to which the inner ends of the legs are bolted, as at 4. Integral, by preference, with said lugs 3 is a ring 5, and the inner end of each leg 1 is formed with an upwardly-projecting shoulder 6, which fits snugly in the space between the ring 5 and cup-bearing 2. The cup-bearing contains anti-friction-bearings hereinafter described which support a rotatable hub 7, provided with a depending axle 8. Said hub 7 is also provided with a plurality of lugs 9, to which the inner ends of a plurality of seat-supporting arms 10 are bolted, as at 12. A ring 13 may be cast integral with the lugs 9 and form

the top of the rotatable hub. Any desired number of seat-supporting arms 10 may be employed; but the usual number of such arms will be six, as shown.

Bolted to each arm 10 is an auxiliary arm 14, which extends outwardly at an angle thereto, and the points of attachment of said arms 14 to the arms 10 may be reinforced by castings 41. (See Fig. 2.) The ends of each pair of arms 10 and 14 support a seat or chair and a foot-rest, the preferred construction of which is substantially as shown. A rocker-shaped frame 15 is rigidly attached to the arms 10 and 14 by means of clips 16 and 17, respectively. The seat-board 18 rests directly upon the arm 10 and is bolted thereto, and the back 19 of the seat is secured at its lower end to the seat-board and at its upper end to the frame 15. An outer arm 20 may be provided for holding the rider in the seat in resistance to centrifugal force, and a foot-rest, consisting of several transverse slats 21, is secured to the frame 15. At least one of the seats will be provided with a propelling device, which when operated by the occupant of the chair will cause the chair-carrying frame to revolve. By preference two diametrically opposite chairs will be so equipped.

Each propelling device comprises a vertical shaft 22, provided with a hand-crank 23 and a grooved wheel 24, the bearings for said shaft being arranged in any preferred manner. As shown, the upper bearing 25 is held by an arm 26, which is secured to the seat-supporting arm 10, and the lower bearing 27 is secured to the frame 15. Secured to the legs 1 by bolts 28 is a stationary ring 29, the periphery of which is provided with one or more V-shaped grooves 30, the number of grooves corresponding to the number of seats or chairs, which are provided with the planetary wheels 24. There is a crossed flexible connection 31 between each grooved planetary wheel 24 and its groove in the ring 29, ordinary rope of small diameter being suitable for this purpose. In Fig. 2 the rope in the lower groove of ring 29 is broken away, exposing the V-shaped groove in the ring. When either of the cranks 23 is revolved, the rotation of wheel 24, acting upon the crossed

rope 31, will revolve the seat-arm 10 about its axis. To revolve the seat forwardly, the crank is turned to the left, and when the two seats provided with the propelling devices are both occupied the two cranks may be turned in unison. The groove in the planetary wheels should also be V-shaped, as when the grooves are so formed the ropes can never slip, even if slack.

The details of the central bearing are illustrated in Figs. 4, 5, 6, and 7, and the bearing shown is designed to provide for very easy running of the machines and for this reason is desirable, though it is to be understood that a cheaper bearing may be employed. The cup-bearing 2 is provided with a ball-race 32, which supports a series of steel balls 33, upon which rests a shouldered bearing 34 on the hub 7. The axle 8 has a stem 44, around which the metal of the hub 7 is cast in making. A series of antifriction-rollers 35 are held between the axle 8 and the smooth inner face of the cup-bearing 2, which is bored out true to form a proper bearing for said rollers, the latter being held slightly spaced apart by a pair of collars 36, rigidly connected by a plurality of rods 37. There are preferably nine rollers journaled at their ends in recesses 8 in the collars and of such diameter that they project inward of the bore and outward of the periphery of the collars, so as to engage axle 8 and the wall of the cup-bearing and hold the collars out of engagement with said parts. The lower collar 36 is supported by a washer 39, which rests upon a diametric pin 40, passing through axle 8, and the cup-bearing has a closed bottom 42, which forms a receptacle in which oil may be placed, if so desired.

The roller-bearing may be raised out of the oil-chamber by lifting the rotatable frame, consisting of the hub and parts carried thereby. The rollers 35 prevent any tilting of the rotatable frame. As shown in Fig. 4, a socket 43 may be formed in the hub 7 for receiving the butt-end of a flagpole or a canopy-support.

With the parts arranged as shown and described it is obvious that by manipulating one of the cranks 23 in the direction of the arrow, Fig. 1, the seat or seats with the revoluble frame will be revolved in the direction of the arrow *a*. The greater the force necessary to revolve the frame the more tightly the drive-rope will be drawn into its grooves; hence the impossibility of slippage of the rope around the drive-wheel 24.

From the above description it will be apparent that I have produced a carousel possessing the features of advantage enumerated as desirable and which obviously is of simple, strong, durable, and inexpensive construction.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a carousel, a stationary base, a rotatable frame thereon, one or more seats carried by said frame, a sun-and-planet gearing comprising a wheel, a ring, and an endless crossed flexible connection between the same, and means to operate the same.

2. In a carousel, a stationary base, a rotatable frame thereon, one or more seats carried by said frame, a sun-and-planet gearing comprising a grooved wheel, a grooved ring and an endless crossed flexible connection between the same, and means to operate the same.

3. In a carousel, a stationary base, a peripherally-grooved ring rigid with said base, a rotatable frame mounted on the base with its axis coincidental with that of the ring, said frame embodying substantially radial arms 10, arms 14 diverging outward with respect to arms 10, a curved or rocker-shaped frame connecting one of the arms 10 with an arm 14, a seat secured to said frame and arm 10, a vertical shaft journaled in said frame contiguous to the seat, a vertically-grooved wheel secured on the lower end of said shaft, and an endless crossed flexible connection between said wheel and said grooved ring.

4. In a carousel, a stationary base, a peripherally-grooved ring rigid with said base, a rotatable frame mounted on the base with its axis coincidental with that of the ring, said frame embodying substantially radial arms 10, arms 14 diverging outward with respect to arms 10, a curved or rocker-shaped frame connecting one of the arms 10 with an arm 14 and underlying the frame, a seat secured to the upper end of the rocker-shaped frame, an arm connecting the outer edges of the seat and back as a precaution against the occupant of the seat falling outward, a vertical shaft journaled in said frame contiguous to the seat, a crank-handle at the upper end of the shaft and a vertically-grooved wheel secured on the lower end of said shaft, and an endless crossed flexible connection between said wheel and said grooved ring.

5. In a carousel, a cup having an outwardly-projecting flange at its lower end, a ring surrounding its upper portion, vertical ribs connecting said ring with the cup, and radial legs fitting against said ribs and secured thereto and resting upon said flange and provided with upwardly-projecting shoulders between the cup and the ring.

6. In a carousel, a cup having an outwardly-projecting flange at its lower end, a ring surrounding its upper portion, vertical ribs connecting said ring with the cup and radial legs fitting against said ribs and secured thereto and resting upon said flange

and provided with upwardly-projecting shoulders between the cup and the ring, in combination with a rotatable hub depending in and journaled upon the cup and provided at its
5 upper end with an outwardly-projecting flange and near its lower end with a surrounding ring and with radial ribs connecting the hub and the ring, arms secured to the ribs of the hub, seats carried at the outer ends of

said arms, and a sun-and-planet gearing to enable the occupant of a seat to effect the rotation of the seat-carrying-hub arms. 10

In testimony whereof I affix my signature in the presence of two witnesses.

OLOF R. OLSON.

Witnesses:

J. N. TULEY,
G. S. OLSON.