No. 678,670. Patented July 16, 1901.

P. M. KLING.

RAILROAD FERRIS WHEEL.

(Application filed Mar. 8, 1901.)

(No Model.) 2 Sheets—Sheet 1.

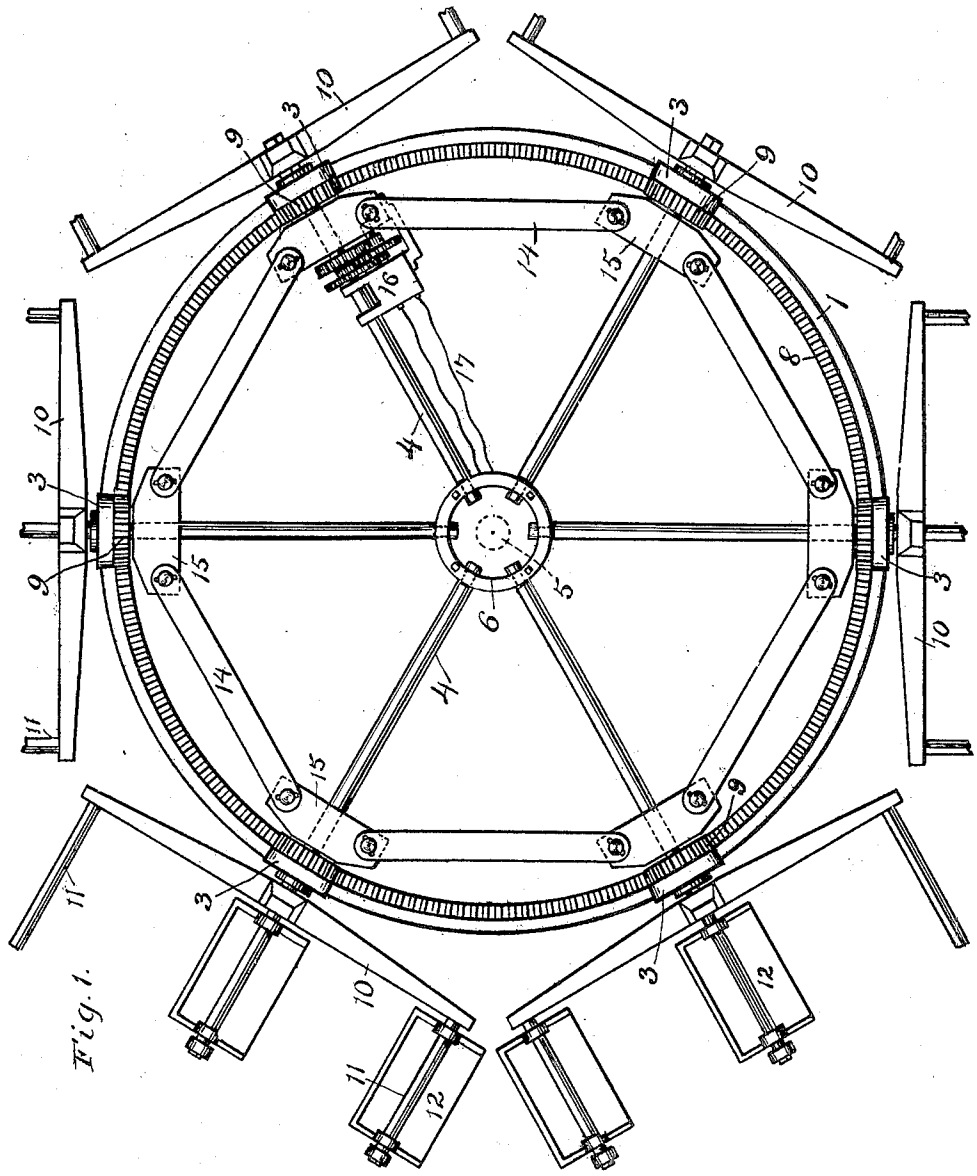

Fig. 1.

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Fig. 3.

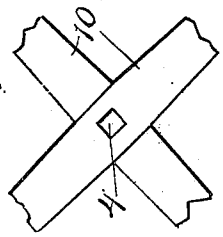
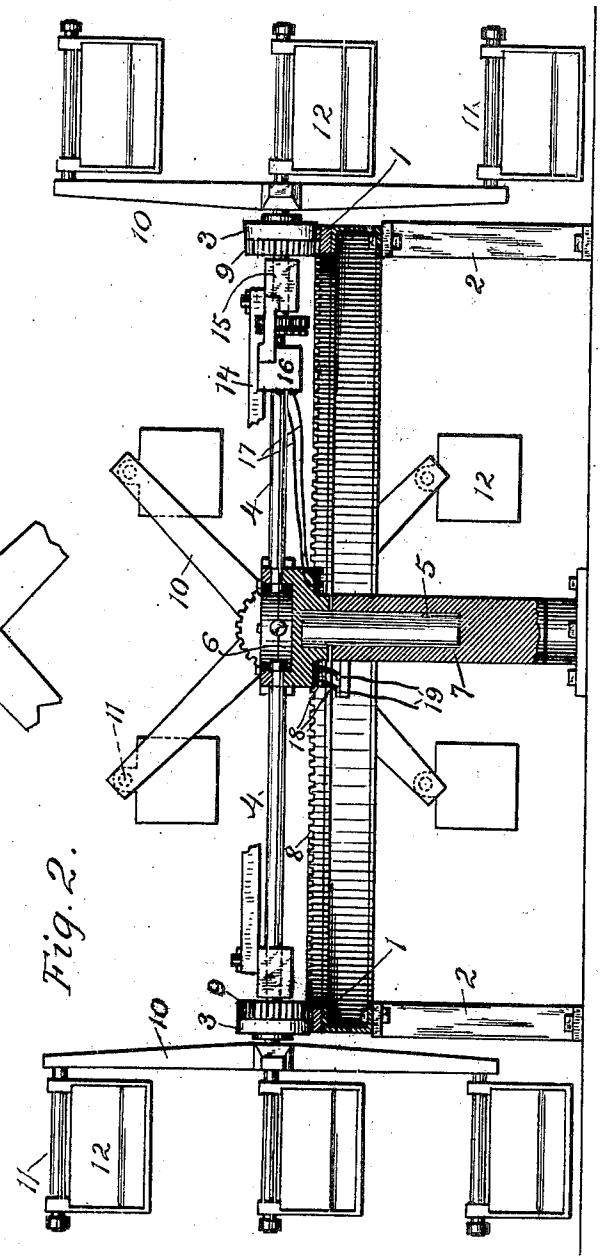


Fig. 2.



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RAILROAD FERRIS WHEEL.

SPECIFICATION forming part of Letters Patent No. 678,670, dated July 16, 1901.

Application filed March 8, 1901. Serial No. 50,351. (No model.)

To all whom it may concern:

Be it known that I, PETER M. KLING, a citizen of the United States, residing at Elizabeth, in the county of Union, State of New Jersey, have invented certain new and useful Improvements in Railroad Ferris Wheels, of which the following is a specification.

This invention relates to a railroad Ferris wheel, comprising any desired number of Ferris wheels arranged to turn on axes which are themselves movably supported, so as to give a movement of translation to the wheel as a whole in addition to the rotary movement thereof. To this end I provide a circular rail or track on which travel trucks or wheels carrying shafts or axles on which are arranged arms for supporting the cars for passengers, motive devices being connected directly to the shafts or axles or to the truck-wheels in such manner as to cause a slow movement of the wheels around the circular track.

In the accompanying drawings, Figure 1 is a plan view of a railroad Ferris wheel embodying my invention. Fig. 2 is a vertical axial section thereof, and Fig. 3 is a detail end view of one of the shafts with adjacent portions of the arms.

The circular track 1 is supported on suitable standards or supports 2. Wheels 3 are adapted to run on this track, and shafts 4, mounted in or secured to these wheels, extend radially toward the central shaft or post 5, whose hub 6 forms an inner bearing for all of said shafts. This center post turns in a bearing 7. Concentric with the track 1 is a toothed ring or cog-track 8, with which engage gears or cog-wheels 9, mounted fast on the shafts 4.

Arms 10, forming a frame, are secured to shafts 4, so as to turn therewith, as by squaring the end of the shaft, (see Fig. 3,) and at their outer ends these arms carry studs or pivot-shafts 11, on which are hung or pivotally suspended the cars or seats 12 for passengers. Links 14, connecting bearing-blocks 15, mounted on the shafts 4, maintain the latter at proper distances.

The motive power is applied directly to one of the shafts 4, so as to reduce to a minimum the frictional resistance. I have shown such motive device as an electric motor 16, geared to one of the shafts 4 and connected by wires 17 and sliding contacts 18 with a power-circuit 19.

If it be attempted to drive a large structure of this kind by power applied to the central shaft or to a part attached to and near such shaft, the torsional strains become so great as to be practically prohibitive, especially if the truck-wheels be relatively small compared with their distance from the center. Such a method of driving involves also a large heavy central post with extremely strong radial trussed arms or frames to transmit the power; but by applying the power directly to one of the horizontal rotating shafts it is exerted at the most favorable location and the friction is reduced to a minimum, while the necessity for a heavy center frame is done away with, all that is required being a steady central support and a circumferential frame linking the outer ends of the shafts together, the strains on the main frame being tensile and compressive, which are more easily provided for than torsional strains.

On setting the motor in operation the movable part of the structure is made to turn around the center post 5 by reason of the rotation of gears 9 in engagement with gear-ring 8, and at the same time the rotation of the shafts 4 will cause the arms 10 to have a movement of rotation around said shafts as centers in addition to their movement of revolution around the post 5, giving a resultant compound or cycloidal movement.

The rotating-wheel devices constituted by a shaft 4 with attached arms or frame 10 and wheels 3 and 9 may be of any desired number, whether one or more. The center post 5 with the radiating shafts 4 and links 14 constitute a main frame rotating on a vertical axis and supporting the subsidiary frames constituted by arms 10, which rotate on horizontal axes relatively to the main frame.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

The combination of the circular track, wheels traveling thereon, a bearing arranged

centrally of the track, shafts supported by said wheels and bearing, a fixed gear-ring concentric with the track, a gear on each shaft engaging with said gear-ring, a circumferential connecting-frame connecting the shafts so that they revolve together around the center of the track, and a motive device supported on said frame and connected directly to one of the said shafts to rotate the attached wheel and cause the structure to revolve around the center aforesaid.

PETER M. KLING.

Witnesses:
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J. GREEN.