

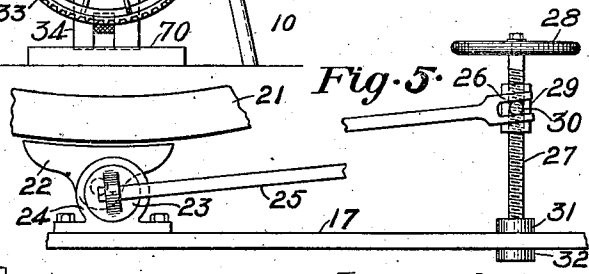
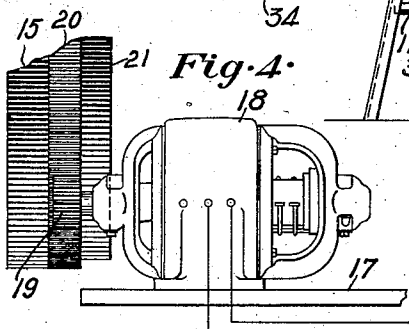
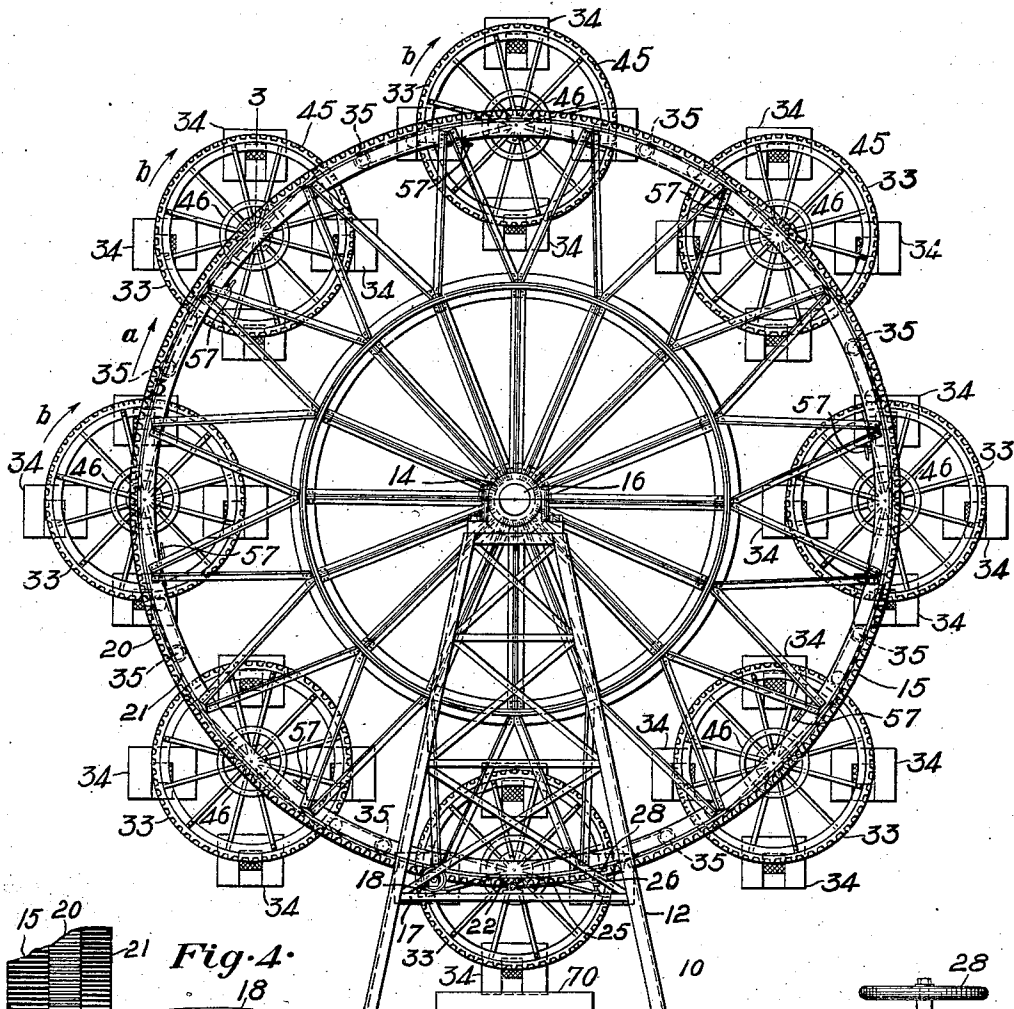
No. 853,155.

PATENTED MAY 7, 1907.

F. E. BOARDMAN.
AMUSEMENT APPARATUS.
APPLICATION FILED FEB. 16, 1907.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

Walter L. Davis
Herbert E. Noble.

Inventor:

Frederick E. Boardman
by his attorney, Charles S. Gooding.

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3 SHEETS—SHEET 2.

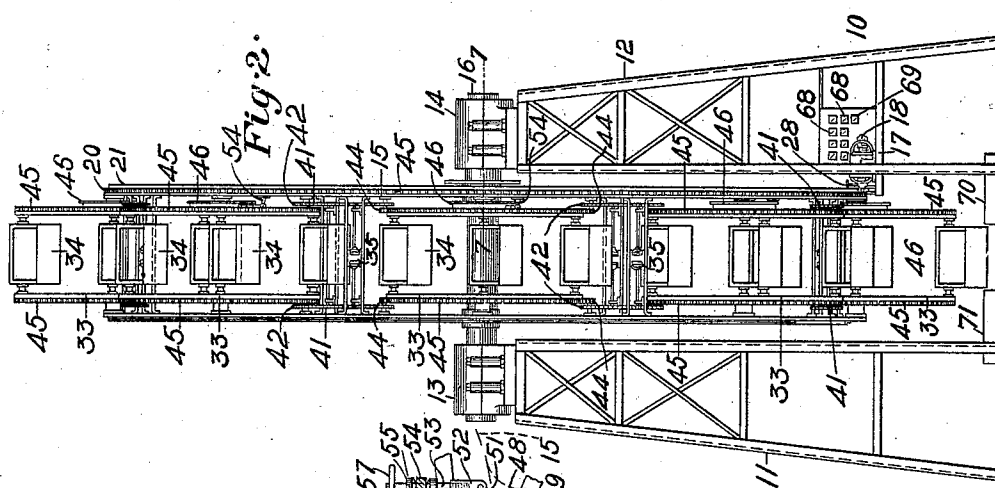
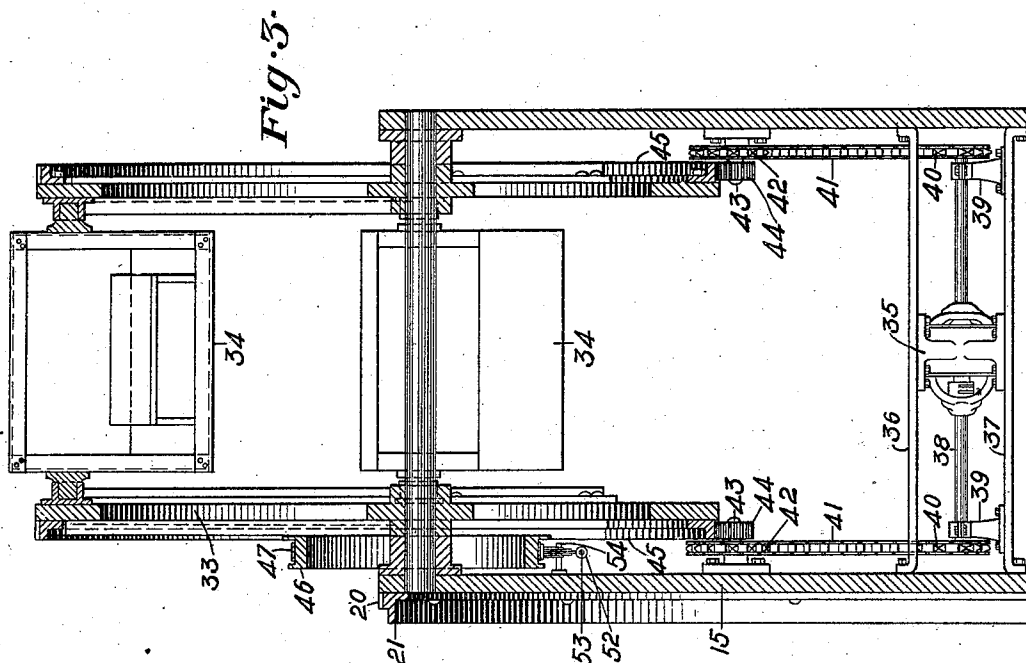
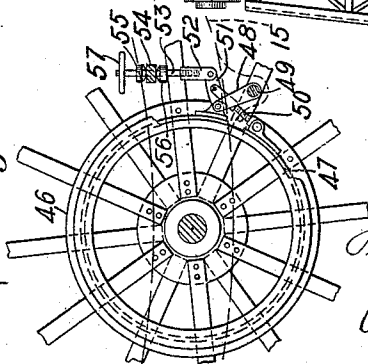


Fig. 6.

Witnesses:

Walter L. Pierce
Herbert E. Noble



Inventor:

Fredrick E. Boardman
by his attorney,
Charles S. Gooding.

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3 SHEETS—SHEET 3.

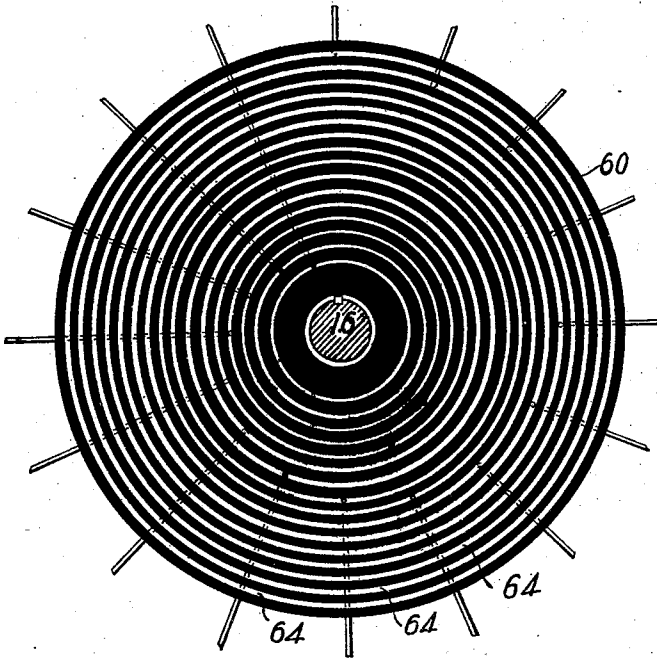


Fig. 8.

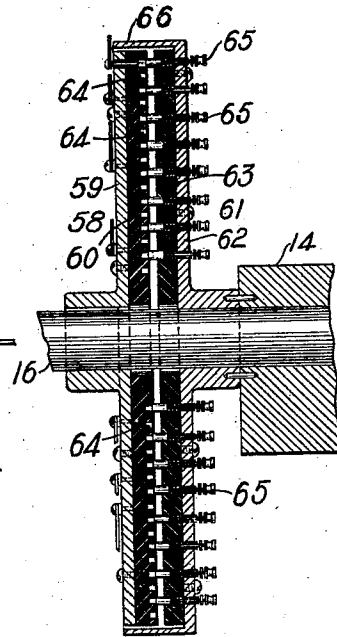


Fig. 7.

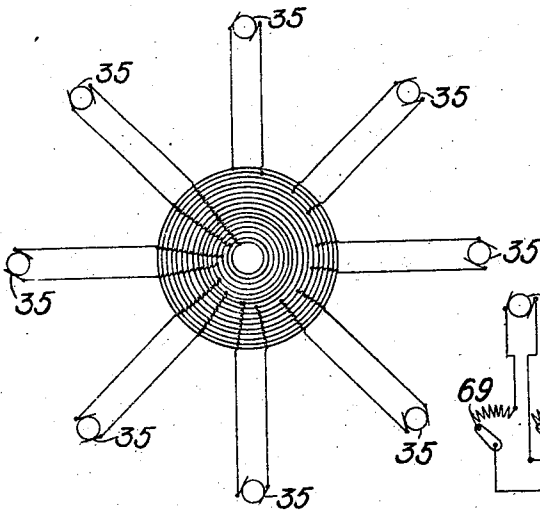


Fig. 9.

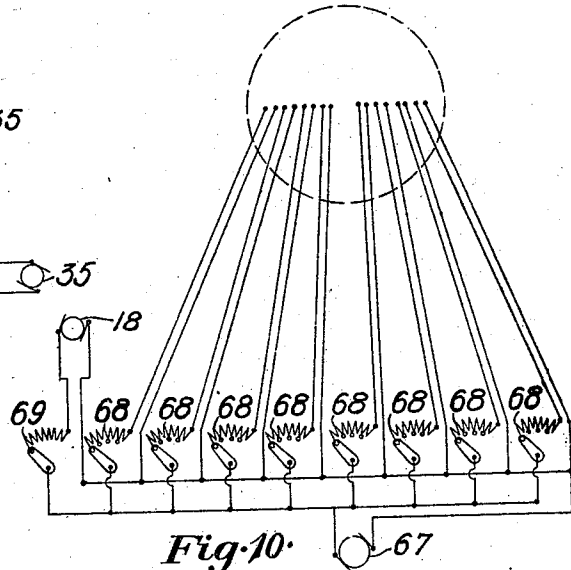


Fig. 10.

Witnesses:

Walter L. Dorse
Herbert E. Noble

Inventor:

Frederick E. Boardman
by his attorney, Charles J. Gooding.

UNITED STATES PATENT OFFICE.

FREDERICK E. BOARDMAN, OF WEST SOMERVILLE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JOHN J. JUNG, OF BROOKLYN, NEW YORK.

AMUSEMENT APPARATUS.

No. 853,155.

Specification of Letters Patent.

Patented May 7, 1907.

Application filed February 15, 1907. Serial No. 357,457.

To all whom it may concern:

Be it known that I, FREDERICK E. BOARDMAN, a citizen of the United States, residing at West Somerville, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Amusement Apparatus, of which the following is a specification.

This invention relates to improvements in amusement apparatus and will be best understood by the following description when taken in connection with the accompanying illustration showing one specific embodiment thereof while its scope will be more particularly pointed out in the appended claims.

Referring to the drawings: Figure 1 is a front elevation of my improved amusement apparatus. Fig. 2 is a side elevation of the same viewed from the left of Fig. 1. Fig. 3 is an enlarged section, partly in elevation, taken on line 3—3 of Fig. 1, looking toward the left. Fig. 4 is an enlarged detail side elevation of the motor for driving the main wheel together with a portion of the main wheel driving gear. Fig. 5 is an enlarged detail front elevation, partly broken away, of the brake apparatus for the main wheel. Fig. 6 is an enlarged detail front elevation, partly broken away, of the brake mechanism of one of the smaller wheels, the rim of the main wheel being indicated in dotted lines. Fig. 7 is an enlarged detail plan section, taken on line 7—7 of Fig. 2, showing the rotary member which carries the contact rings and the stationary member on which the contact pins are mounted. Fig. 8 is an enlarged detail front elevation of the rotary member which carries the contact rings. Fig. 9 is a diagram showing the connections between the contact rings and the motors which drive the smaller wheels. Fig. 10 is a diagram showing the connections between the contact pins and the dynamo showing also the controllers or rheostats arranged in circuit therewith.

Like numerals refer to like parts throughout the several views of the drawings:

In the drawings, 10 is a frame comprising two towers 11 and 12 of any suitable construction, said towers having supported thereon bearings 13 and 14, respectively. A main wheel 15 is provided with a shaft 16 journaled in the bearings 13 and 14. A platform 17 forming a part of the tower 12 supports a motor 18 which is adapted to drive the main wheel 15. A pinion 19 fast to the shaft of

the motor 18 meshes into a gear 20 fast to the main wheel 15. A brake drum 21 is fast to the main wheel 15 and in this instance is formed integral with the gear 20. A brake shoe 22 is adapted to be moved into contact with the periphery of the brake drum 21 to stop the main wheel 15. In the present embodiment of my invention the brake shoe is pivotally mounted on an eccentric 23, said eccentric being journaled in an eccentric strap or bracket 24 fast to the platform 17.

An arm 25 fast to the eccentric 23 is provided with a fork 26. A screw 27 rotatably mounted on the platform 17 has fast thereto a hand wheel 28. A nut 29 has screw-threaded engagement with said screw. The nut 29 is provided with a pin 30 which engages the fork 26 of the arm 25. Two collars 31 and 32 prevent movement of the screw 27 in the direction of its length. When it is desired to stop the main wheel 15, the operator rotates the hand wheel 28 in the proper direction to cause the nut 29 to be moved downwardly thereby, said nut acting through the arm 25 to rock the eccentric 23, so that the brake shoe 22 is forced into contact with the brake drum 21. An engine of any desired form may be employed instead of the motor 18, if I so desire. A plurality of smaller wheels 33 are rotatably mounted on the main wheel 15, each of said wheels having pivotally suspended therefrom a plurality of cars 34 of any desired construction, the number of cars carried by each wheel in this instance being four. A plurality of motors 35 are mounted on the main wheel 15, each of said motors being supported by transverse braces 36 and 37. The shaft 38 of the motor 35 is journaled in bearings 39, 39 while two sprocket wheels 40, 40 are fast to said shaft at opposite ends thereof, respectively.

The sprocket wheels 40, 40 are connected, respectively, by chains 41, 41 to sprocket wheels 42, 42 journaled on studs 43, 43 fast to the wheel 15. Two pinions 44, 44 fast to the sprocket wheels 42, 42, respectively, mesh into gears 45, 45, said gears being fast to the wheel 33. A brake drum 46 fast to the wheel 33 is surrounded by a brake band 47. One end of the brake band 47 is pivotally connected to a link 48, said link being pivotally mounted on a stud 49 fast to the main wheel 15. The other end of the brake band 47 is pivotally connected to a balance lever 51. One end of the lever 51 is pivotally connected to the brake band 47, while

the other end of said lever is pivotally connected to a nut 52 having screw-threaded engagement with a rod 53. The rod 53 is journaled in a lug 54 fast to the main wheel 15, while two collars 55 and 56 prevent movement of said rod in the direction of its length. The rod 53 may be rotated by means of a hand wheel 57, whereby the brake band 47 may be tightened or loosened.

Referring now more particularly to Figs. 7 and 8, 58 is a rotary member comprising a metal plate 59 and a plate 60 formed of insulating material fast to the plate 59, said plate 59 being keyed to the shaft 16. A stationary member 61 comprises a metal plate 62 to which is fast a plate 63 formed of insulating material, the plate 62 being fast to the bearing 14. A plurality of contact rings or plates 64 are embedded in the insulating plate 60, there being twice as many of said rings as there are motors for driving the smaller wheels. A plurality of spring-pressed contact pins 65 are mounted on the insulating plate 63 and extend through the plate 62 and are insulated therefrom, there being as many of said contact pins as there are contact rings, said contact pins being arranged in contact with said contact rings, respectively. The plate 62 is provided with an annular flange or rim 66 to prevent rain from finding its way between the two members 58 and 61.

In Fig. 9 I have illustrated in diagram the connections between the contact rings 64 and the motors 35, while in Fig. 10 I have illustrated in diagram the connections from the contact pins 65 to a dynamo 67, said dynamo being shown conventionally, there being a plurality of controllers or rheostats 68 arranged in circuit therewith. The controllers or rheostats 68 are adapted to complete separate circuits from the dynamo 67 to the motors 35 and are adapted to control the speed of said motors independently of each other and stop and start said motors independently of each other. The motor 18 is connected by suitable wiring to the dynamo 67, there being a controller or rheostat 69 interposed between said motor and said dynamo, said controller being adapted to start and stop said motor and provide any desired variation in speed of said motor.

The cars 34 are provided with any suitable seating arrangement and with suitable doors for the ingress and egress of passengers, there being two platforms 70 and 71 from which said cars may be loaded and unloaded.

The general operation of the apparatus hereinbefore specifically described is as follows: The operator stands on the platform 17 where the controllers 68, the controller 69, and the brake apparatus for the main wheel 15 are located. Assuming the parts to be in position shown in Figs. 1 and 2, the passengers enter the lowermost car which is in alignment with the platforms 70 and 71, the doors

of said car are then closed and the operator operates the proper controller to cause the lowermost wheel to be rotated 90° bringing the second car of said wheel to alignment with the platforms 70 and 71. He rotates the hand wheel 57 in the proper direction to cause the brake band 47 to grip the brake drum 46 and stop and hold the wheel in the proper position. When the second car has been loaded with passengers he releases the brake and causes the wheel to be rotated the entire 90° and so on until all of the cars of said wheel have been loaded with passengers. In the meantime, it will be understood that the remaining wheels 33 are being rotated by their respective motors. The operator then by means of the controller 69 starts the motor 18, thereby causing the main wheel 15 to be rotated one-eighth of a rotation, thereby bringing the second wheel to the platforms 70 and 71 so that passengers may be loaded or unloaded from the cars of said second wheel. This process is continually repeated, it being understood that all of the smaller wheels 33 except the one which is temporarily maintained stationary for the purpose of loading and unloading passengers, are rotated. In order to stop the main wheel 15 in the proper position for loading and unloading passengers, the operator rotates the hand wheel 28 in the proper direction to cause the brake shoe 22 to be forced into contact with the periphery of the brake drum 21.

If I so desire instead of loading and unloading the cars 34 from the platforms 70 and 71, I may do so from the platform 17 by providing suitable means for the passengers to reach the platform 17 from the ground. It will be also understood that the apparatus is capable of being modified to suit special requirements and I do not desire to limit myself to the specific embodiment herein shown. Having thus described my invention, what I claim and desire by Letters Patent to secure is:

1. An amusement apparatus comprising in its construction a frame, a main wheel rotatably mounted on said frame with its axis horizontally arranged, a plurality of smaller wheels rotatably mounted on said main wheel with their axes parallel to the axis of said main wheel, a plurality of cars pivotally suspended from each of said smaller wheels, and means for rotating all of said wheels.

2. An amusement apparatus comprising in its construction a frame, a main wheel rotatably mounted on said frame with its axis horizontally arranged, a plurality of smaller wheels rotatably mounted on said main wheel with their axes parallel to the axis of said main wheel, a plurality of cars pivotally suspended from each of said smaller wheels, and means for rotating all of said wheels independently of each other.

3. An amusement apparatus comprising in its construction a frame, a main wheel rotatably mounted on said frame with its axis horizontally arranged, a plurality of smaller wheels rotatably mounted on said main wheel with their axes parallel to the axis of said main wheel, a plurality of cars pivotally suspended from each of said smaller wheels, a plurality of electric motors mounted on said main wheel, said motors operatively connected to said smaller wheels, respectively, and a motor operatively connected to said main wheel.

4. An amusement apparatus comprising in its construction a frame, a main wheel rotatably mounted on said frame with its axis horizontally arranged, a smaller wheel rotatably mounted on said main wheel with its axis parallel to the axis of said main wheel a car pivotally suspended from said smaller wheel, gearing operatively connecting said motor to said smaller wheel, a source of electrical current in circuit with said motor, and a controller in circuit with said motor and said source of electrical current.

5. An amusement apparatus comprising in its construction a frame, a main wheel rotatably mounted on said frame with its axis horizontally arranged, a plurality of smaller wheels rotatably mounted on said main wheel with their axes parallel to the axis of said main wheel, a plurality of cars pivotally suspended from each of said smaller wheels, a plurality of electric motors mounted on said main wheel, said motors operatively connected to said smaller wheels, respectively, and a plurality of controllers adapted to control said motors independently.

6. An amusement apparatus comprising in its construction a frame, a main wheel rotatably mounted on said frame with its axis horizontally arranged, a plurality of smaller wheels rotatably mounted on said main wheel with their axes parallel to the axis of said main wheel, a plurality of cars pivotally suspended from each of said smaller wheels, a

plurality of electric motors mounted on said main wheel, said motors operatively connected to said smaller wheels, respectively, a plurality of controllers operatively connected to said motors, respectively, said controllers adapted to control said motors independently, a motor operatively connected to said main wheel, and means for controlling said last-named motor.

7. An amusement apparatus comprising in its construction a frame, a main wheel rotatably mounted on said frame, with its axis horizontally arranged, a smaller wheel rotatably mounted on said main wheel with its axis parallel to the axis of said main wheel, a plurality of cars pivotally suspended from said smaller wheel, an electric motor mounted on said main wheel, gearing operatively connecting said motor to said smaller wheel, annular contact plates carried by said main wheel and insulated therefrom and from each other, wires connecting said rings to the poles of said motor, respectively, stationary contact pins arranged in contact with said contact rings, a controller, and wires operatively connecting said controller to said contact pins.

8. An amusement apparatus comprising in its construction a frame, a main wheel rotatably mounted on said frame with its axis horizontally arranged, a plurality of smaller wheels rotatably mounted on said main wheel with their axes parallel to the axis of said main wheel, a plurality of cars pivotally suspended from each of said smaller wheels, means for rotating all of said wheels, and braking means for each of said wheels, respectively.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FREDERICK E. BOARDMAN.

Witnesses:

LOUIS A. JONES,
SADIE V. MCCARTHY.