No. 793,183. PATENTED JUNE 27, 1905.

W. W. DE VORE.

MEANS FOR FURNISHING AMUSEMENT AND DIVERSION.

APPLICATION FILED FEB. 27, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

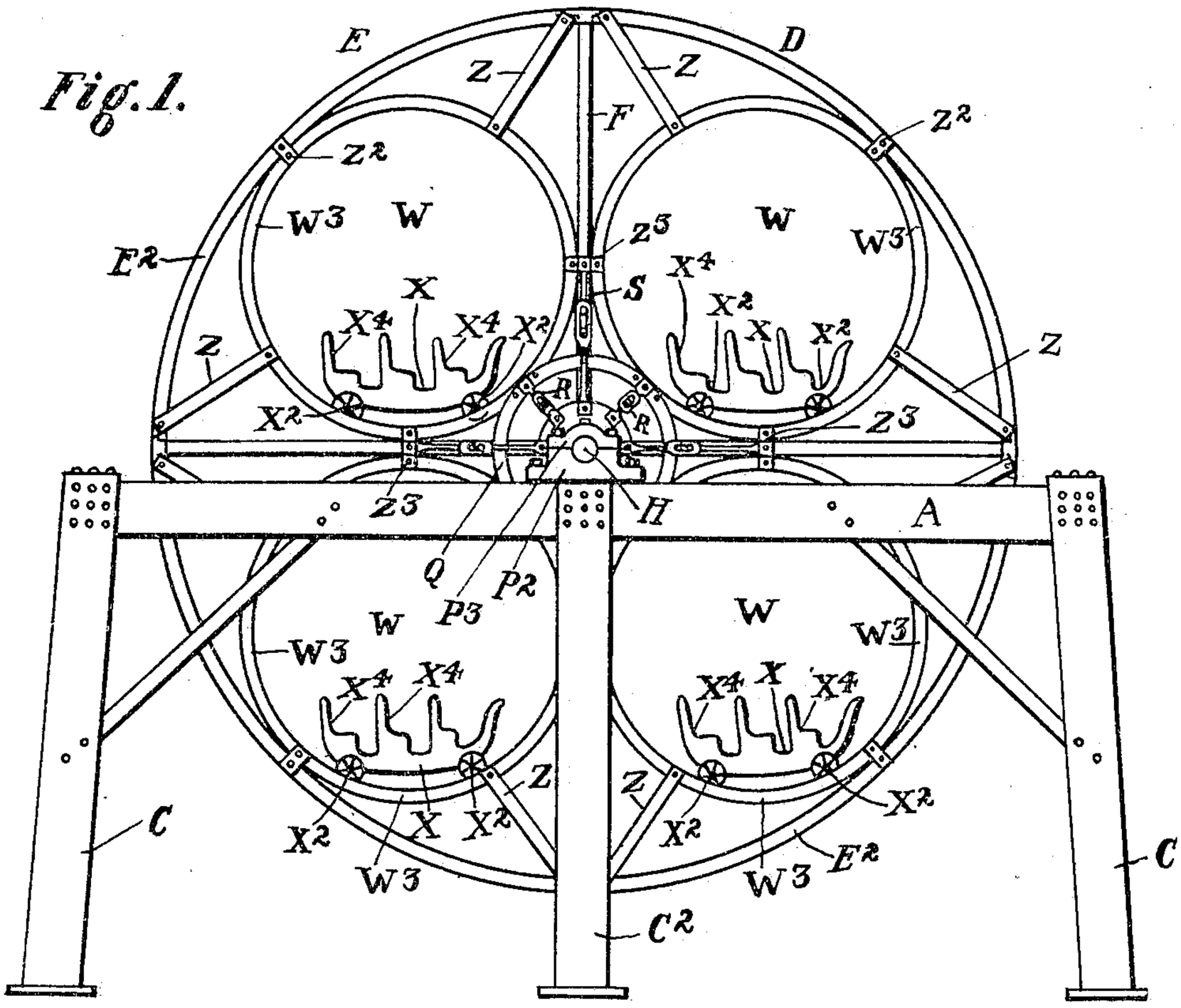


Fig. 2.

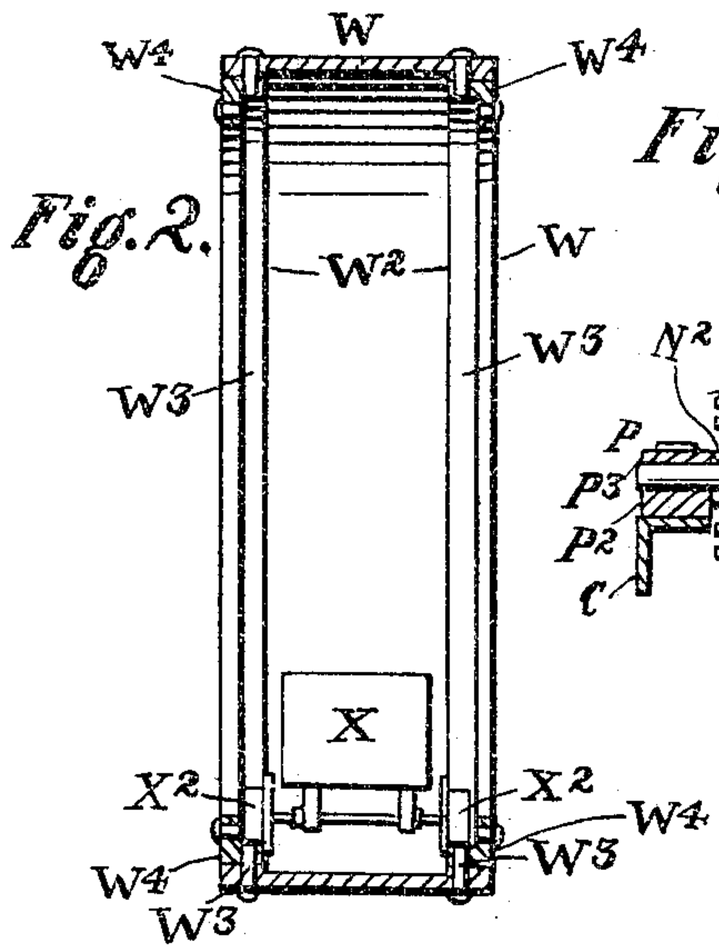
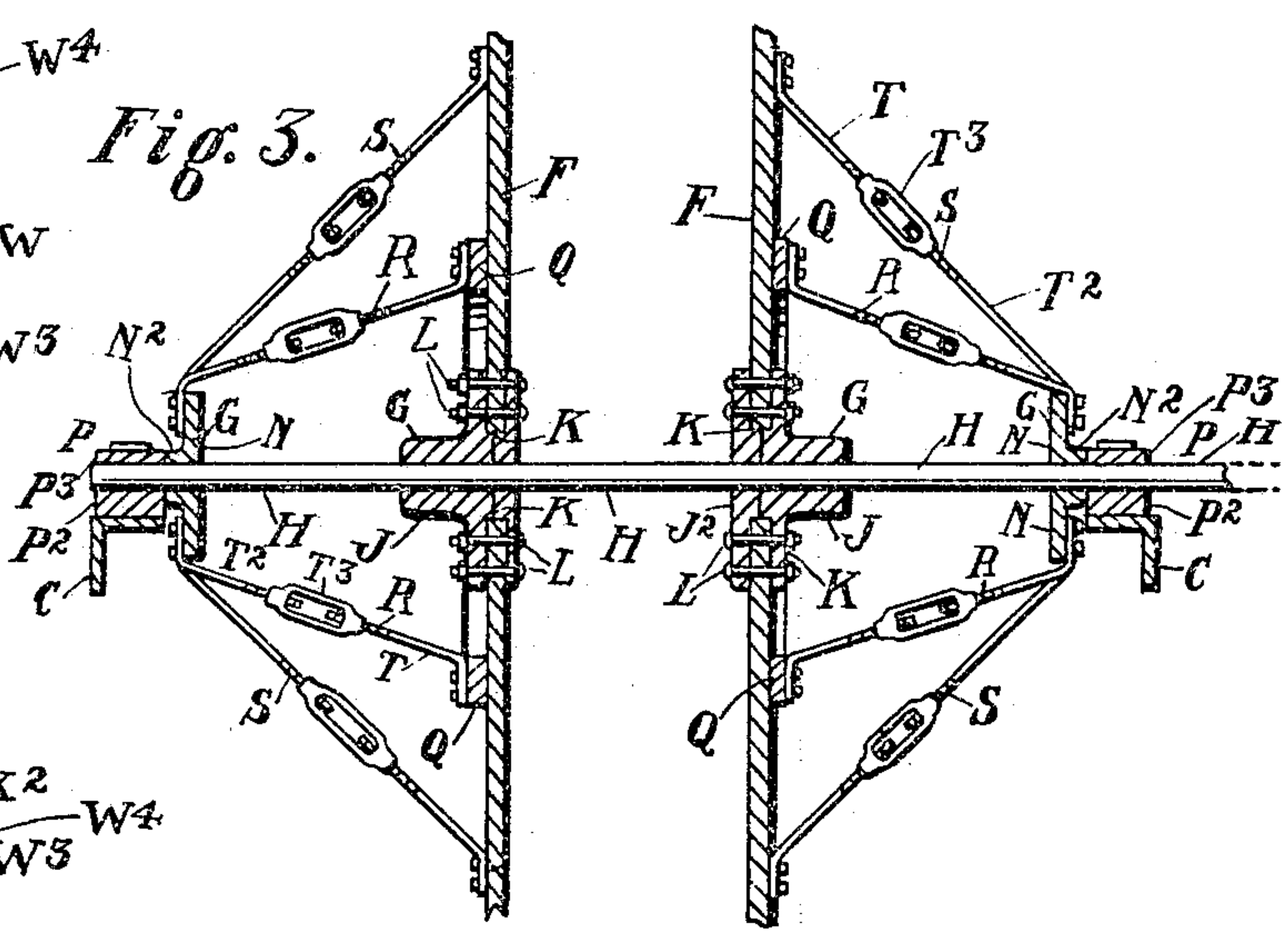


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

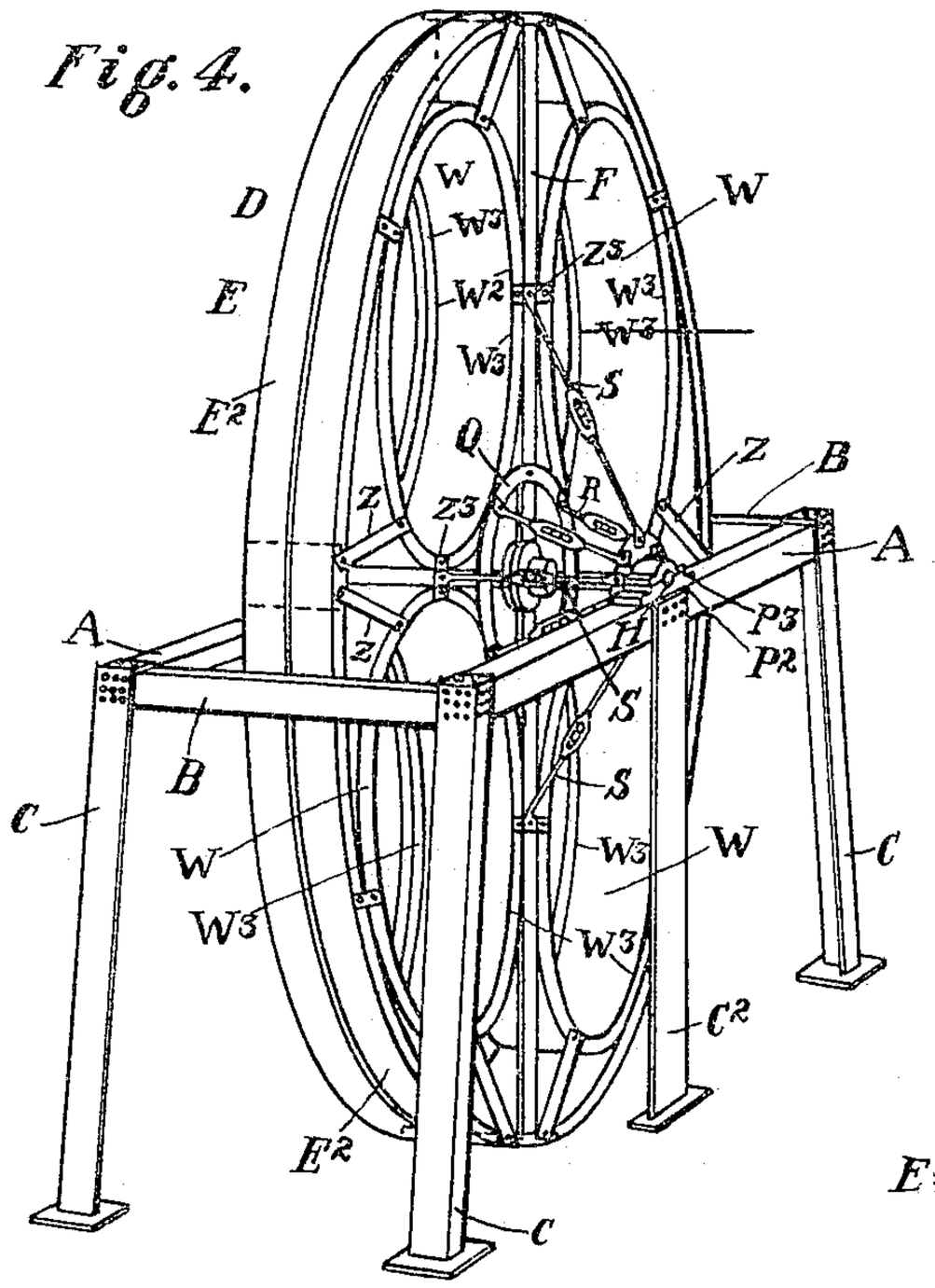


Fig. 5.

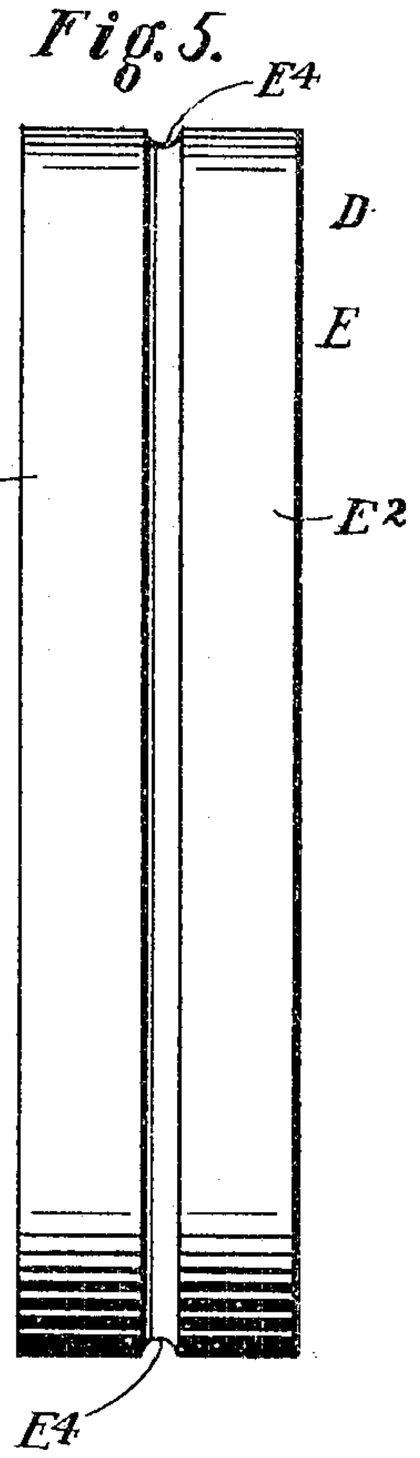


Fig. 6.

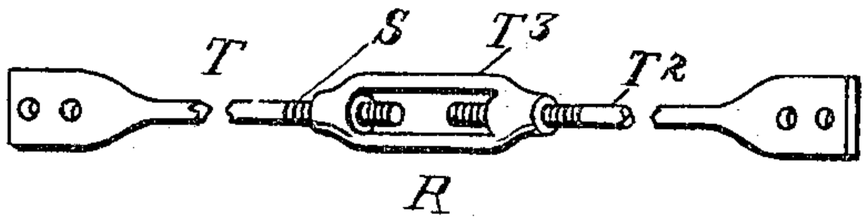
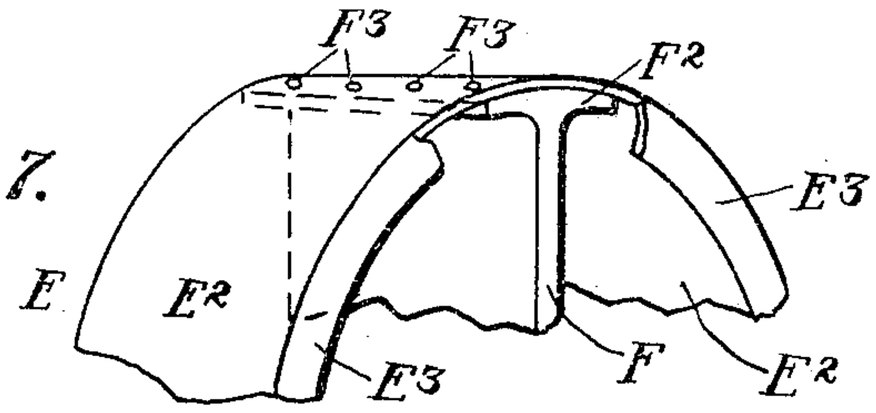


Fig. 7.



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No. 793,183. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM W. DE VORE, OF CONEY ISLAND, OHIO.

MEANS FOR FURNISHING AMUSEMENT AND DIVERSION.

SPECIFICATION forming part of Letters Patent No. 793,183, dated June 27, 1905.

Application filed February 27, 1905. Serial No. 247,484.

To all whom it may concern:

Be it known that I, WILLIAM W. DE VORE, a citizen of the United States, and a resident of Coney Island, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Means for Furnishing Amusement and Diversion, of which the following is a specification.

The several features of my invention and the various advantages resulting from their use conjointly or otherwise will be apparent from the following description and claims.

In the accompanying drawings, making a part of this application, and in which similar letters of reference indicate corresponding parts, Figure 1 represents a side elevation of a swing embodying my invention. Fig. 2 shows, upon an enlarged scale, a vertical transverse section of one of the interior compartments. A car belonging to the compartment is shown in place therein in elevation. Fig. 3 represents, on a diminished scale, a vertical transverse section of the framework of the rotary swing. Fig. 4 represents in perspective my swing. Fig. 5 is an edge elevation of the periphery of the wheel. Fig. 6 is an elevation of one of the adjustable couplings. Fig. 7 is a perspective view of a portion of the wheel and its frame, the rim being partly broken away to illustrate the construction within.

I will now proceed to describe my invention in detail.

I provide a frame for the support of the swing. This frame may be varied in construction, according to the place where the swing is located and the adjacent means of support. A simple convenient kind of frame is shown. It consists, first, of the parallel angle side bars A A and angle end bars B B, connected to the former, and together forming a parallelogrammic frame. This frame is supported by upright posts C, one at each corner of this frame, and side posts C^2 at the mid-length of the angle-bars A, substantially as indicated.

D indicates the wheel, whose peripheral portion E is made strong in order to successfully carry the weights and perform the work for which it is designed. It is my intention that the wheel shall contain three or more subwheels or compartments, substantially as hereinafter described. The preferred mode of constructing the wheel, of bracing it, and of hanging it is as follows: The periphery or rim consists of the sheet-metal band E^2. The edge of this band has a flange E^3 at right angles to the axial center of the wheel and extending toward the axle. This flange and the felly-band E^2 are preferably integral. The wheel has radial partitions or wide spokes F. These have flanged outer ends F^2, whereby the spoke is bolted to the rim-band E^2, as indicated at F^3. The wheel has several hub portions G, mounted on an axial shaft H. To secure the greatest efficiency, these hubs should be fixed to this shaft. J J^2, respectively, indicate those hub portions united to the spokes F of the wheel. That end portion of each spoke which is nearest the axle is embraced between the two portions J J^2 of the adjacent hub. Each of the portions J J^2 has a shoulder K opposite the end of the spoke, and this end of the latter bears against the said shoulder. Bolts L secure these hub portions J J^2 and the spoke together. The other hub portions G consist of a disk N, having a hub N^2, fixed to the shaft H at the adjacent bearing P of this shaft. To further strengthen the structure of the wheel, I affix to the spokes at their outer sides a flat ring Q and suitably secure this to the spokes F. I extend braces R from this ring to the hub portion N N^2 and secure them to the disk N thereof. I also extend braces S from the outer part of the spokes F and nearer the rim of the wheel to the disk N of the hub portion N N^2 and secure the same thereto. In a composite wheel of this size and make the parts need more or less of adjustment. This is especially true of a metal wheel, as the parts expand and contract according to the temperature of the air in which this wheel is. To provide for this contingency and also to enable all of the parts to be kept sufficiently taut relatively to one another, I construct each brace in two parts T T^2. On their adjacent ends I form screw-threads whose pitch is respectively in opposite directions. I provide a long nut T^3, whose ends each have a

female screw adapted to engage the screw-thread on the end of the adjacent brace. Rotation of this nut T^3 in one direction serves to draw the braces T and T^2 together, and rotation of this nut in the opposite direction moves these braces apart. Thus the several movable parts of the wheel can be held firmly together at a proper tension. There will be no unnecessary looseness nor play. The bearing P is preferably divisible into an upper part P^2 and lower part P^3, after the manner of a box-bearing, and preferably has boxes of any well-known form.

Within the wheel are the compartments W, circular in form. Each compartment is provided with a track W^2. This track has preferably two rails W^3, of course parallel. The track extends around the inner surface of the compartment. A car X is provided and rides upon the track. Thus X^2 X^2 are the flanged wheels of the car. These respectively engage the rails W^3. The car is preferably provided with seats X^4. The compartment W is preferably made of metal, constituting the peripheral rim of it. To this the rails W^3 may be bolted. A strengthening annular flange W^4 is present, bolted to the rim or integral therewith. The compartments W are fixedly secured to the wheel in a suitable manner. Where the wheel is made as shown, the compartments may be secured to it by the connecting-pieces Z, Z^2, and Z^3. The pieces Z and Z^2 connect it to the rim, and the pieces Z^3 connect it to an adjacent compartment.

The wheel is to rotate. Various means of making it rotate may be employed. Power may be communicated directly to the axle-shaft. In such event the shaft H is preferably lengthened, as shown in dotted lines at the right hand in Fig. 3, and a pulley or gear-wheel, &c., fixed thereto. A preferred means of rotating the wheel D consists of a pulley band or chain applied to the outside of the peripheral rim E^2 of the wheel. A groove E^4 in the rim and extending around the wheel serves as a proper receptacle to receive the pulley-band and prevent it slipping off. Such a band applied at the rim of the wheel relieves the axle-shaft and its adjacent parts of strain.

The mode in which my invention operates is no doubt already obvious. The persons who are to enjoy the amusement derived from this wheel enter the car or cars and are seated. The wheel is then rotated. Each car is thereby carried a short distance upward at the side of its compartment. Its weight causes it to move down. At the same time the compartment as well and its car are rotating up, over, and down, and under and up again around the axial center of the wheel. There is thus a compound motion imparted to the occupants of the wheel, which adds zest to the amusement.

It will of course be understood that the details of construction may be varied within reasonable limits without departing from the spirit of my invention.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. In a rotatable amusement device, the combination of a main wheel, spokes having flanges connected to the rim of the wheel, hubs each consisting of two parts, the inner ends are securely set between these parts of the hubs, compartments within the wheel, and cars within the compartments and adapted to travel therein, substantially as and for the purposes specified.

2. In a rotatable amusement device, the combination of a main wheel, hubs consisting of two parts, spokes having their inner ends secured between these two parts of the hubs, flanges on the outer ends of the spokes secured to the rim of the wheel, and an auxiliary circular rim connected to the spokes between the hub and the rim, and circular compartments having cars adapted to travel therein, substantially as and for the purposes specified.

3. In a rotatable amusement device, the combination of a main wheel, spokes, hub therefor, outlying hubs, and brace-rods from the hubs containing the spokes to these outlying hubs, and bearing beyond said outlying hubs, compartments within said wheel and car in each compartment adapted to travel therein, substantially as and for the purposes specified.

4. In a rotatable amusement device, the combination of a main wheel, spokes, hub therefor, outlying hubs, an auxiliary circular rim connected to the spokes between the hub and the rim, and braces connecting said auxiliary rim and the outlying hubs, and compartments provided with cars adapted to travel therein, substantially as and for the purposes specified.

5. In a rotatable amusement device, the combination of a main wheel, spokes, hub therefor, outlying hubs, an auxiliary circular rim connected to the spokes between the hub and the rim, and braces connecting said outlying hub to the wheel-hub, and other braces from the said outlying hub to the auxiliary rim, and compartments and cars therein, substantially as and for the purposes specified.

6. In a rotatable amusement device, the combination of a main wheel, spokes, hub therefor, outlying hubs, an auxiliary circular rim connected to the spokes between the hub and the rim, and braces connecting said outlying hub to the wheel-hub, and other braces from the said outlying hub to the auxiliary rim, and compartments and cars therein, these braces being constructed so as to be contractible, or to be elongated, substantially as and for the purposes specified.

7. In a rotatable amusement device, a

main wheel, a hub, interconnections, compartments having devices for traveling therein, outlying hubs, braces adjustable as to length extending from these outlying hubs to the wheel, for rendering the structure rigid, substantially as and for the purposes specified.

8. In a rotatable amusement device, the combination of a main wheel, hubs, spokes, compartments having therein traveling devices, links or braces from these compartments to the spokes and to the wheel-rim, substantially as and for the purposes specified.

9. In a rotatable amusement device, the combination of the main wheel, rim-flange thereof, spokes having flanged heads secured to the rim, hub in two parts, lower end of each spoke secured in the hub and between said parts, auxiliary circular rim secured on the spokes, outlying hub, braces adjustable in length, and respectively connecting the outlying hub to the auxiliary rim and to the central hub, main shaft and bearings, substantially as and for the purposes specified.

10. In a rotatable amusement device, the combination of the main wheel, and circular compartments within the wheel, these circular compartments being arranged between the periphery of the main wheel and the center of the latter, substantially as and for the purposes specified.

11. In a rotatable amusement device, the combination of the main wheel, and circular compartments located around the center of the main wheel, the center of each compartment being in a radius of the main wheel, substantially as and for the purposes specified.

12. In a rotatable amusement device, the combination of the main wheel, and circular compartments located around the center of the main wheel, the center of each compartment being in a radius of the main wheel, each compartment provided with a track, and car therefor, substantially as and for the purposes specified.

13. In a rotatable amusement device, the combination of the circular compartments, whose axial centers are respectively located in respective radii of a central shaft, the compartments rotating in a circle of which the central shaft is the center, substantially as and for the purposes specified.

14. In a rotatable amusement device, the combination of the circular compartments, whose axial centers are respectively located in respective radii of a central shaft, the compartments rotating in a circle of which the central shaft is the center, and tracks and cars therefor, substantially as and for the purposes specified.

15. In a rotatable amusement device, the combination of the main wheel and four circular compartments within the wheel, these circular compartments being arranged between the periphery of the main wheel and the center of the latter, substantially as and for the purposes specified.

16. In a rotatable amusement device, the combination of the main wheel and four circular compartments within the wheel, these circular compartments being arranged between the periphery of the main wheel and the center of the latter, these four compartments being symmetrically disposed relatively to the center of the main wheel, and each inwardly provided with a track, and car therefor, substantially as and for the purposes specified.

In witness whereof I have set my hand to this specification in the presence of two subscribing witnesses.

WILLIAM W. DE VORE.

Attest:

JOHN E. FITZPATRICK,
K. SMITH.