May 29, 1923. 1,457,035

J. E. KOTLIK

ROUNDABOUT

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Fig. 1.

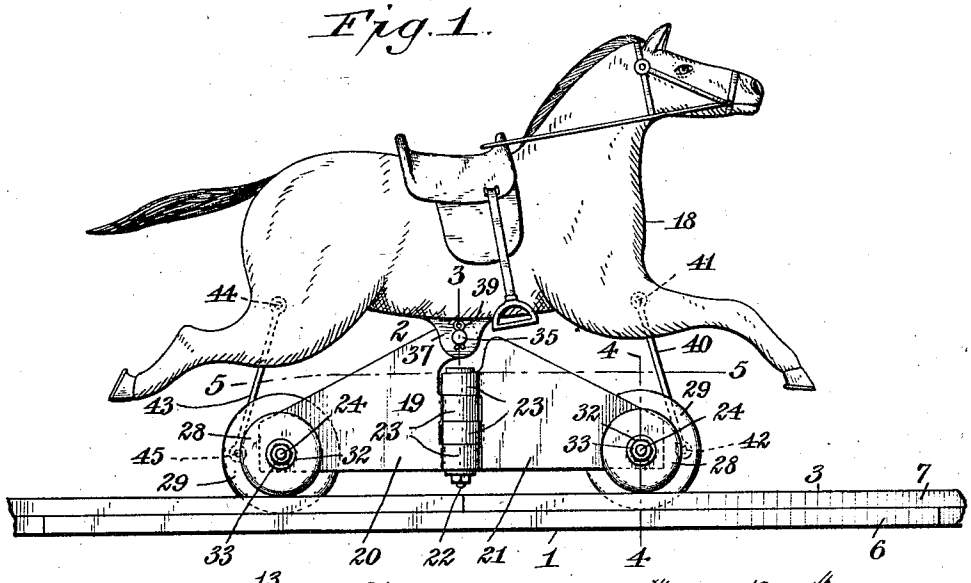


Fig. 2.

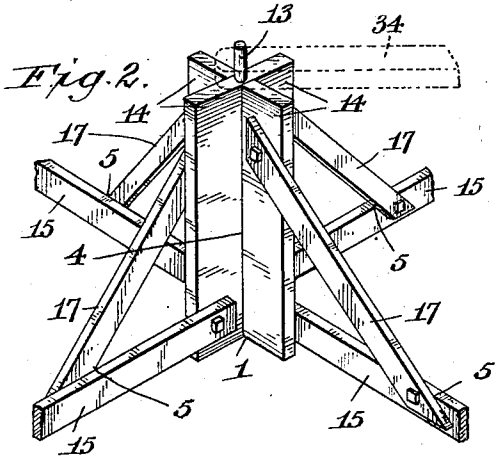


Fig. 3.

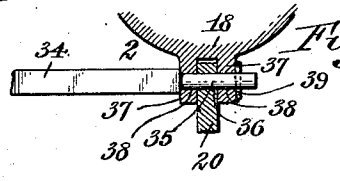


Fig. 4.

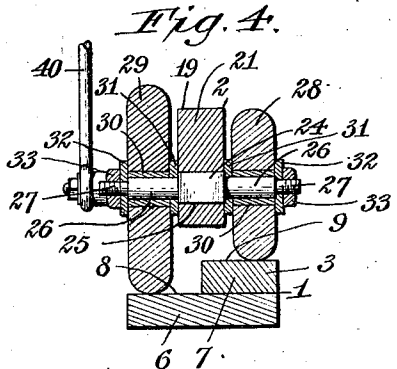
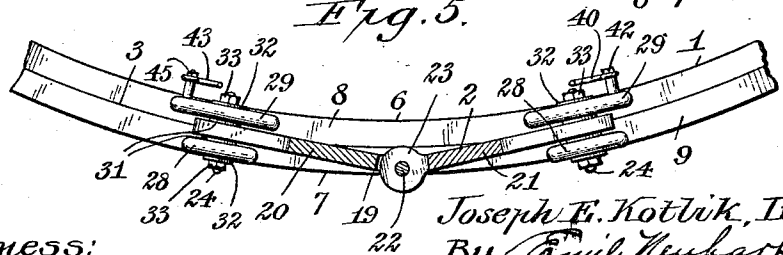


Fig. 5.



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Fig. 6.

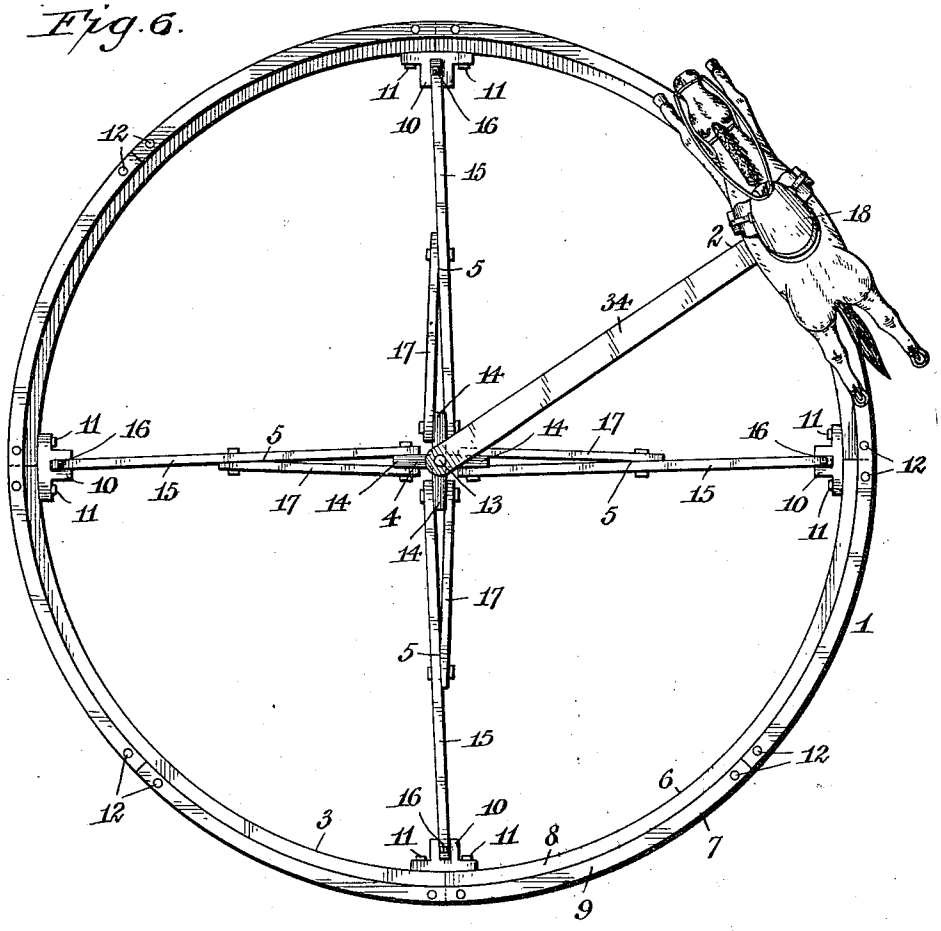


Fig. 7.

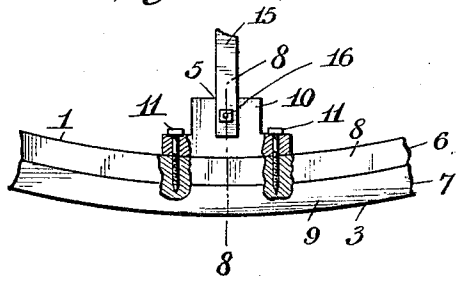
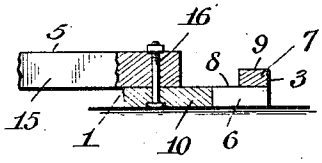


Fig. 8.



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Patented May 29, 1923. 1,457,035

UNITED STATES PATENT OFFICE.

JOSEPH E. KOTLIK, OF HAMBURG, NEW YORK.

ROUNDABOUT.

Application filed May 8, 1920. Serial No. 379,809.

To all whom it may concern:

Be it known that I, JOSEPH E. KOTLIK, a citizen of the United States, residing at Hamburg, in the county of Erie and State of New York, have invented certain new and useful Improvements in Roundabouts, of which the following is a specification.

My invention relates to roundabouts, and more particularly to an apparatus of this kind adapted for house use; it being designed to be operated by a child seated on the traveling member of the apparatus.

The primary object of my invention is the production of a roundabout for either house or outdoor use, the parts of which can be easily disassembled so that it may be stored away when not in use, and which can as readily be placed into operative condition and be capable of use in an ordinary sized room.

A further object is to provide a roundabout with an improved track and a traveling member having improved traction elements adapted to travel along said track.

Another object is to provide a device in which the track is of circular formation and in which the traveling member may be adjusted to properly fit and travel along tracks of different diameter, thus making it possible to utilize a traveling member commonly for tracks of different diameters.

A further object is to provide a wheeled support for the traveling member, which can be easily adjusted to position the traction wheels of said support at the proper angles relatively so that the traveling member may travel over the circular track without binding or causing unnecessary friction.

With these and other objects in view to appear hereinafter, the invention consists in the novel features of construction and in the arrangement and combination of parts to be hereinafter described and more particularly pointed out in the subjoined claims.

In the drawings:—

Fig. 1 is a side elevation of the traveling member of the roundabout and a portion of the track on which said traveling member is mounted for continuous circular traveling movement.

Fig. 2 is a perspective view of the center standard or pivot element showing parts of the sweeps connected thereto.

Fig. 3 is an enlarged vertical section taken on line 3, Fig. 1.

Fig. 4 is an enlarged vertical section taken on line 4—4, Fig. 1.

Fig. 5 is a horizontal section taken on line 5—5, Fig. 1.

Fig. 6 is a plan view of the roundabout.

Fig. 7 is an enlarged plan view of a portion of the track, with portions thereof shown in section to illustrate the manner of connecting the sweeps thereto.

Fig. 8 is a radial section taken on line 8—8, Fig. 7.

The apparatus comprises a fixed member 1 and a traveling member 2. The fixed member includes a circular track 3, a center standard or pivot element 4, and suitable combination tying and bracing elements 5 connecting the center standard or pivot element with the track and bracing said pivot element.

The track 3 is preferably formed of a wide bottom member 6 and a narrow top member 7 whereby two traction or riding surfaces 8, 9, respectively, are furnished. The members 6 and 7 of the track are preferably formed of wood cut into segmental portions or sections with the ends of adjoining sections abutting, and with the joints of the upper member broken with respect to those of the lower member, the joints of the upper member being preferably half way between the joints of the lower member.

At each joint of the lower member 6, an inwardly-directed connector 10 is provided, which is fastened to the inner concaved edge of said lower member by means of bolts 11, the bolts of each connector being threaded into adjoining sections of said lower member at opposite sides of the joint between them, as clearly shown in Fig. 7. In this manner the sections of the lower member are securely connected together. As shown in Fig. 6, the sections of the upper member are bolted or otherwise fastened to the lower member, as at 12, thus providing a circular track with two traction or riding surfaces and the parts of which track can be easily disassembled.

The center standard or pivot element 4 is of cross formation in section and is preferably formed of three pieces of wood, two of which are narrower than the third piece and are fastened edgewise to opposite sides of said third piece, as clearly shown in Fig. 2. Extending upwardly from the center of said standard or pivot element is

a pivot pin 13. It is of course to be understood that this center standard or pivot element may be constructed of other material and may also be otherwise formed without departing from the principle involved, but for lightness and to facilitate the disassembling of the parts of the apparatus, I have found the construction shown and particularly described herein to be quite desirable.

A center standard or pivot member, such as shown, has therefore four wings or flanges 14, and fastened to each flange near its lower end is a sweep or sill 15. These sweeps or sills are extended radially and terminate above the connectors 10 to which they are bolted or otherwise fastened, as at 16. In this manner the track and center standard or pivot element are tied together and the track maintained concentric to the pivot pin 13 of said standard or pivot element. Diagonal braces 17 connect the wings or flanges of the center standard or pivot element with the sweeps 15 and serve to prevent swaying of said standard or pivot element while assisting in rigidly connecting the various parts of the fixed member of the apparatus together.

The traveling member 2 of the apparatus comprises a riding or carrying element 18 and a wheeled support 19. The support 19 may be coisidered the frame of the traveling element and it is preferably formed of two pivotally connected parts 20, 21, said parts being connected together by a vertical bolt or pivot 22 passing through co-operating alternating ears or lugs 23 formed on said parts.

Extending transversely through the front end of the part 21 and the rear end of the part 20 are spindles or axles 24 which project outwardly and also inwardly from the parts through which they are passed, as best shown in Fig. 4. Each of these spindles or axles may be secured in its supporting part in any suitable manner to prevent rotation thereof, but I have shown the intermediate portion of each spindle of square formation to fit a square opening 25 formed in each of the two parts of the frame or support 19. The projecting ends of each spindle are cylindrical, as at 26, and the extremities thereof reduced in diameter and threaded, as at 27.

Fitting onto the cylindrical projecting portions of each spindle are traction wheels 28, 29. These wheels are arranged in pairs, each pair having wheels of different diameters, the smaller traction wheel 28 traveling in contact with the traction or riding surface 9 of the upper or narrow track member 7 and the larger traction wheel 29 being in contact with the traction or riding surface 8 of the bottom or wide track member 6. The traction wheels 28, 29 are preferably formed of wood and in order to reduce the frictional contact of these wheels against the riding surfaces of the track, their peripheral edges are rounded.

The traction wheels have metallic bushings 30 through which the projecting portions of the spindles are passed, and between each wheel and the part of the frame or support receiving the spindle of the wheel, washers 31 are arranged. Other washers 32 are placed over the threaded reduced outer extremities 27 of the spindle, and nuts 33 are threaded onto said extremities and bear against said washers 32.

Although I consider this construction simple, inexpensive, and highly efficient for the purpose, it may be varied, so long as provision is made for properly supporting the traction wheels on the frame or support 19, and for permitting rotation of said wheels.

A radially-disposed retainer arm 34 connects the support or frame 8 with the center standard or pivot element 4 of the fixed member, and this retainer arm, or distance retainer as it may be termed, has an opening at its inner end through which the pivot pin 13 is passed and around which pin said retainer arm or distance retainer is permitted to travel. The outer extremity of this arm or retainer is made cylindrical, as best shown at 35, Fig. 3, and is passed through an opening 36 in the front end of the part 20 of the support or frame 19, preferably in line with the pivot pin or bolt 22 connecting the two parts of said support or frame.

The riding or carrying element 18 may be the image of any animal, a box, basket, or any other object, but I have shown an image of a horse formed of wood in the conventional manner and on the under side of this image or horse there are two spaced lugs 37, between which that portion of the part 20 of the support or frame 19 receiving the cylindrical extremity of the retainer arm or distance retainer is passed, and these lugs have openings 38 therein, which are alined with each other and with the opening 36 in said part 20.

The cylindrical portion at the outer extremity of the retainer arm or distance retainer 34, therefore not only passes through the part 20 of said support or frame 19, but also passes through the two spaced lugs 37 depending from the under side of the horse, and a cotter pin or other retaining device 39 is passed through the projecting extremity of the retainer arm or distance retainer so as to assure retention of the horse on said support or frame 19. The horse is therefore pivotally mounted and may oscillate or rock with the retainer arm as its center.

A rod 40 is pivotally connected at its upper end to the front end of the horse, as at 41, and at its lower end to the large traction wheel of the pair of wheels at the front

end of the support or frame 19, as at 42, the pivotal connection 42 being off center or eccentrically arranged, and therefore said rod serves as a conecting rod. A similar connecting rod 43 pivotally connects the horse at its rear end, as at 44, with the large traction wheel of the pair of wheels at the rear end of the support or frame 19, as at 45, the connections of rod 43 being made in the same manner as those of the connecting rod 40. The two rods, however, are so arranged that when the pivotal point 42 of the front connecting rod is in a position in front of the axis of the traction wheel with which said connecting rod co-acts, the pivotal point 45 of the connecting rod 43 is in rear of the axis of the traction wheel with which said connecting rod 43 co-acts and therefore when a child seated upon the horse, rocks the horse, the traction wheels are caused to rotate and travel along the circular track 3.

It is of course to be understood that the pivotal connections between the connecting rods 40, 43 and the wheels and horse are loose connections so as to permit the pivotally connected parts 20, 21 of the horse to be adjusted angularly and yet retain operative connection between said parts, and I might here state that any common form of pivot which will allow of this, may be applied. For instance, pivots such as shown with sufficient play between the connecting rods and the pivots.

By providing the track with two riding surfaces at different elevations and having the traction wheels of two different diameters, assurance is had that the horse will not travel from the track in the event of the retainer arm or distance retainer becoming separated from the center standard or pivot element.

Having thus described my invention, what I claim is:—

1. The combination with two traction wheels of different diameters having alined axes, of a circular track formed of two circular members laid one upon the other, the upper member being narrower than the lower member so as to leave a portion of the upper face of said lower member exposed, thereby providing two traction surfaces on said track, one for each of said traction wheels.

2. In a roundabout a circular track comprising two members of different widths and having similar exterior diameters but different interior diameters, thus providing two traction surfaces, each member being formed in sections abutting end to end with the joints of the upper member between the joints of the lower member.

3. A roundabout comprising a circular track formed in sections arranged to abut end to end, connectors directed inwardly from said circular track and secured to abutting ends of adjacent sections, a center support, and rigid connections between said center support and said connectors and detachably connected thereto.

4. A roundabout comprising a circular track, a center support, means for connecting said support with said track, a traveling element having a frame formed of two pivotally-connected parts, a traction wheel on each of said parts, a carrying element mounted on said frame, and a radially-disposed distance retainer pivoted on said center support and having its outer end connected to said frame.

5. A roundabout comprising a circular track, a center support, means for connecting said support with said track, a traveling element having a frame formed of two pivotally connected parts arranged at an angle to each other, a carrying element mounted for rocking movement on said frame, traction wheels on said frame, connecting rods connecting said carrying element with said wheels, and a radially-disposed distance retainer pivoted on said center support and having its outer end connected to said frame, said outer end serving as the pivot on which said carrying element is adapted to rock.

6. A roundabout comprising a circular track, a traveling element having its axis of rotation coincident with the axis of said track, said traveling element comprising a frame having two parts provided with co-acting lugs, a pivot pin passing through said lugs, a traction wheel at the front and at the rear of said frame, a carrying element pivoted at a point between its front and rear ends to said frame, a connecting rod pivotally connected to said carrying element in advance of the pivotal point thereof and having pivotal connection with the traction wheel at the front of said frame, and a second connecting rod pivotally connected to said carrying element in rear of the pivotal point thereof and having pivotal connection with the traction wheel at the rear of said frame.

7. A roundabout comprising a circular track, and a traveling element having its axis of rotation coincident with the axis of said track including an angularly-adjustable frame, a traction wheel at the front and at the rear of said frame, a carrying element pivotally connected to said frame to permit rocking movement thereof, and means for converting the rocking movement of said carrying element into rotary movement of said traction wheels.

8. A roundabout comprising a circular track having two traction surfaces in different elevations, and a traveling element having its axis of rotation coincident with the axis of said track, said traveling element including an angularly-adjustable

frame comprising two pivotally connected parts, traction wheels arranged in pairs at the front and rear of said frame and having the wheels of each pair of different diameters, a movable carrying element mounted on said frame, and means for imparting movement from said carrying element to said traction wheels to cause rotation of the latter.

9. A roundabout comprising a circular track having two traction surfaces in different elevations, and a traveling element having two spaced pairs of wheels adapted for traction along said traction surfaces, the wheels of each pair being of different diameters, said traveling element including a carrying element mounted for rocking movement, and connecting rods between said carrying element and the large traction wheel of each pair of wheels.

10. A roundabout comprising a circular track, a center standard, means for connecting said standard with said track, a traveling element having a frame formed of two pivotally connected parts to permit of angular adjustment relatively, a distance retainer pivotally attached to said center standard and extending radially therefrom for connection to said frame, a carrying element mounted on the outer extremity of said distance retainer for rocking movement thereon, and connecting rods between said carrying element and said traction wheels whereby the movement of said carrying element is imparted to said traction wheels to cause traveling movement of said traveling element around said track.

In testimony whereof I affix my signature.

JOSEPH E. KOTLIK.