

Dec. 28, 1954

M. L. WILLIAMS

2,698,178

VERTICAL AXIS ROUNDABOUT

Filed July 26, 1952

2 Sheets-Sheet 1

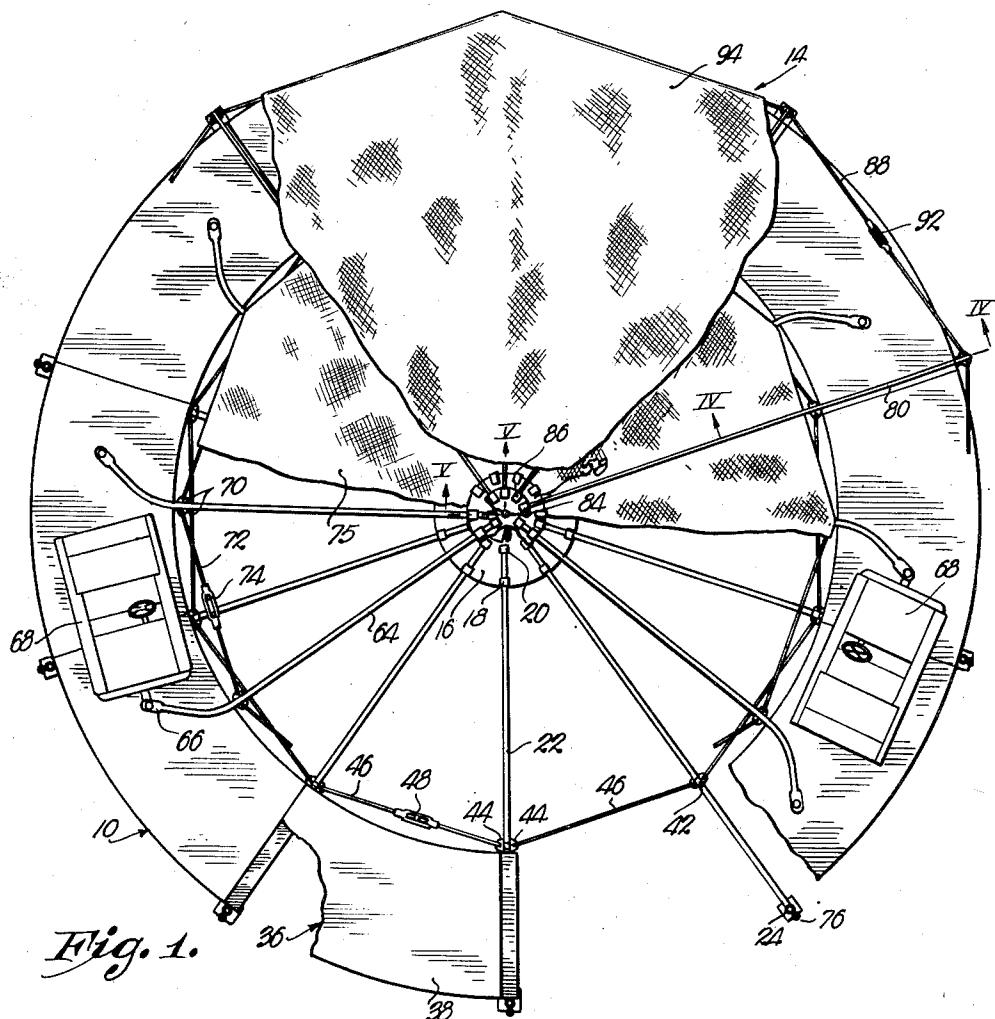


Fig. 1.

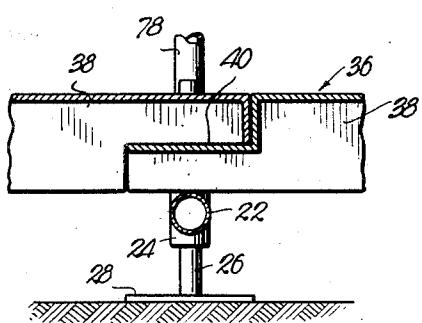


Fig. 6.

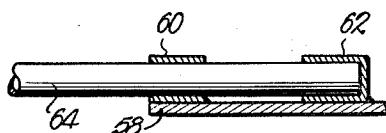


Fig. 5.

INVENTOR,
Melvin L. Williams
BY
Geel Young
ATTORNEY.

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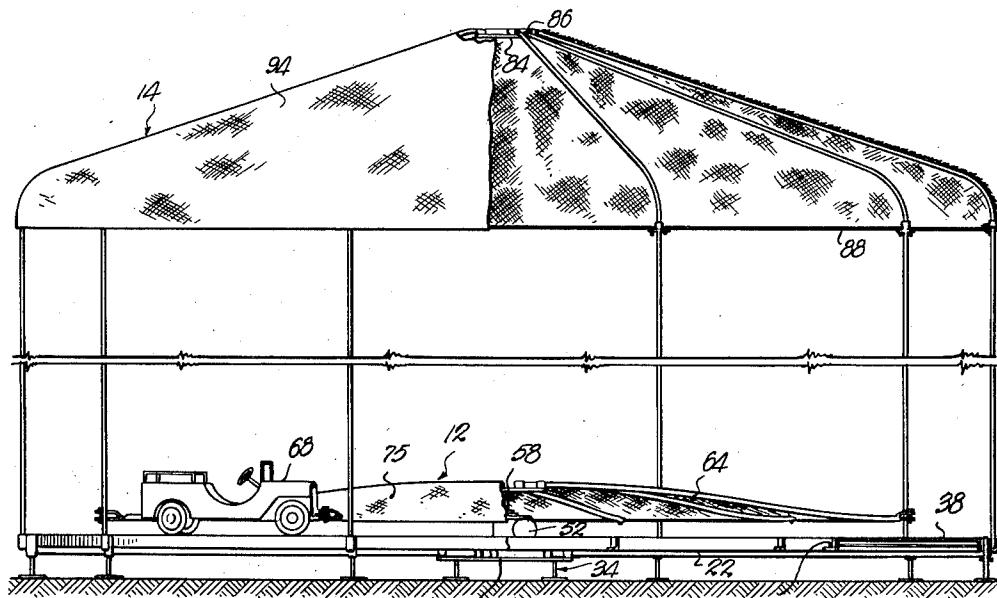


Fig. 2.

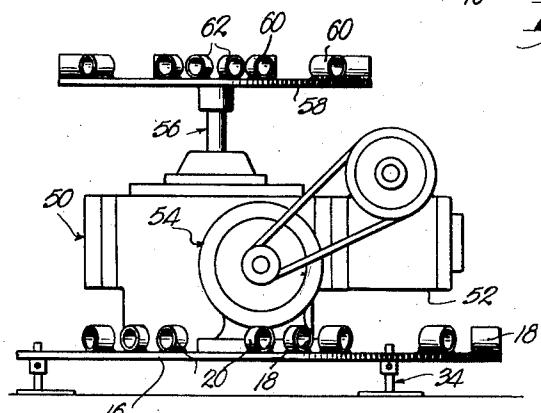


Fig. 3.

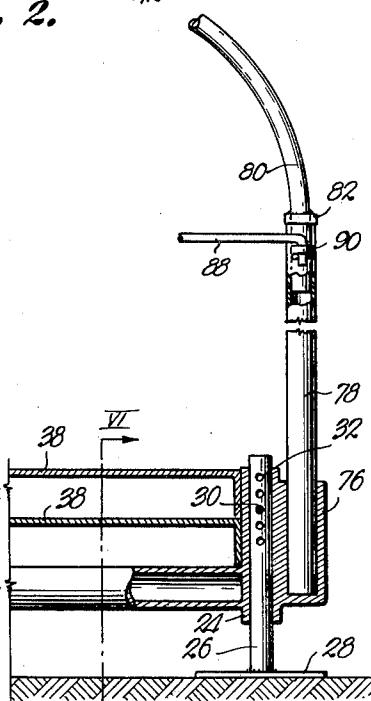


Fig. 4.

INVENTOR.
Melvin L. Williams

BY

Y 
Gael Young
ATTORNEY.

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VERTICAL AXIS ROUNDABOUT

Melvin L. Williams, Lansing, Kans.

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3 Claims. (Cl. 272—43)

This invention has to do with amusement apparatus in the nature of a ride for children wherein is employed toy automobiles or like mobile vehicles mounted for advancement in a circle around a band-like supporting platform therefor, the primary object being to provide in apparatus of such character, interconnected parts throughout the entire assembly that are easily and quickly assembled and disassembled for movement as desired.

This is a continuation-in-part of my co-pending application Serial No. 105,938, filed July 21, 1949, abandoned, and has for the primary object the improvement upon the kiddie auto ride therein set forth by a revision of the component parts, elimination of unnecessary elements, and therefore, simplification of the demountable structure.

An important object of this invention is to provide amusement apparatus wherein is provided three relatively superimposed, wheel-like elements each having a hub, a plurality of spoke elements and releasable interconnecting means for the spoke elements that includes a turnbuckle, to the end that the spoke elements may be tightly drawn together and inwardly toward the hub without the necessity of any additional interconnecting means requiring the use of tools in the assembling and disassembling.

Other important objects of this invention relate to the way in which the band-like supporting platform for the mobile vehicles is carried by the spoke elements of one of the wheel-like structures; the manner of insertion of the segments forming a part of the sectional platform between upstanding projections on the spoke elements of the support; the way in which drawing of the spokes of the support inwardly toward the hub thereof also holds the platform tightly interlocked through the medium of lap joints on the segments of the platform; the way in which the support for the autos also supports a roof; the manner for providing framework for the roof that is self-supporting through use of the principles aforementioned; and many other important objects including details of construction, all of which will be made clear as the following specification progresses.

In the drawings:

Figure 1 is a top plan view of a kiddie auto ride made pursuant to my present invention, parts being broken away for clearness.

Fig. 2 is a side elevational view thereof, parts being broken away to reveal details of construction.

Fig. 3 is an enlarged, elevational view showing the hub of the support and the hub of the rotor, together with the motivating means for the latter, the spokes of the aforesaid elements being entirely removed.

Fig. 4 is an enlarged, fragmentary, detailed, cross-sectional view taken on line IV—IV of Fig. 1.

Fig. 5 is an enlarged, fragmentary, detailed, cross-sectional view taken on line V—V of Fig. 1; and

Fig. 6 is an enlarged, fragmentary, cross-sectional view taken on line VI—VI of Fig. 4.

The three primary components of the amusement apparatus forming the subject matter hereof, consists of a wheel-like support 10, a wheel-like rotor 12, and a roof 14 that has a wheel-like frame hereinafter to be fully described.

The support 10 is provided with a hub 16 that is preferably in the form of a circular disc and provided with an annular row of collars 18 at the periphery thereof as shown in Figs. 1 and 3 of the drawings, together with an innermost annular row of sockets 20. Each collar

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18, and its corresponding socket 20, that is mounted on the uppermost face of the hub 16, receives an elongated, preferably tubular spoke 22 that extends radially and outwardly beyond the hub 16 and terminates in an upstanding tube 24 shown most clearly in Figs. 4 and 6; each tube 24 in turn slidably receives an upstanding standard 26 that is mounted on the uppermost face of a foot 28, and each tube 24 likewise has a pin 30 traversing the same and extending through one of a plurality of openings 32 in the standard 26.

Similar supporting means, broadly designated by the numeral 34, is provided for the hub 16 as shown in Figs. 2 and 3. Consequently, the entire support 10 can be leveled to accommodate for uneven terrain by merely adjusting the pins 30 for the spokes 22 and for the hub 16 respectively.

The spokes 22 support an annular band-like platform 36 that is composed of a plurality of identical, arcuate segments 38, the segments 38 being interconnected directly above the spokes 22 by lap joints 40. It is noted that the segments 38 are each provided with opposed, down-turned flanges that rest upon the spokes 22 in the manner illustrated by Figs. 1, 2, 4 and 6. The platform 36 is interposed between the upstanding tubes 24 and the vertical leg of an L-shaped bracket 42 that is rigid to each spoke 22 respectively, intermediate the ends of the latter. Thus, the lap joints 40 which manifestly comprise the weakest points of the entire platform 36, are not only disposed directly above the spokes 22 but are interposed between the tubes 24 and the brackets or projections 42.

Each spoke 22 is provided with a pair of opposed, perforated ears 44 that loosely receive the down-turned legs of U-shaped interconnecting links 46. A turnbuckle 48 is interposed in one of the links 46 as shown in Fig. 1 of the drawings. The innermost ends of the sockets 20 are closed and, therefore, as turnbuckle 48 is manipulated, all of the spokes 22 are drawn inwardly toward the vertical axis of hub 16 which not only rigidly interconnects all of the spokes 22, but tends to draw the platform 36 inwardly toward the hub 16 and binds together all of the segments 38 of the platform 26, presenting therefore, a unitary construction in the entire support 10.

Hub 16 of the support 10 carries mounting means 50 for a prime mover 54 such as an electric motor, that is operably coupled with a speed reducer 52. Speed reducer 52 terminates in a vertical shaft 56 that is in turn connected at its uppermost end with a plate-like hub 58 forming a part of the rotor 12. Like the hub 16, there is provided an annular row of collars 60 on the uppermost face of the plate 58 at the periphery thereof, together with a like number of socket members 62 as detailed most clearly in Fig. 5 of the drawings.

Rotor 12 has a spoke-like arm 64 extending into each collar 60 respectively, and therefore, into each corresponding socket member 62. The radially extending arms 64 are arched downwardly as the outermost ends thereof are approached in the manner illustrated in Fig. 2 of the drawings, rendering the rotor 12 substantially dome-shaped, and arms 64 are also substantially L-shaped as shown in Fig. 1 of the drawings, terminating in a bifurcated end 66 so as to adapt the same for pivotal coupling with a toy car or other mobile vehicle for children, designated by the numeral 68.

65 The arms 64, like the spokes 22, have opposed, perforated ears 70 thereon for receiving interconnecting links 72, one of which has a turnbuckle 74 therein as shown in Fig. 1. Here again, it is but necessary to take up the turnbuckle 74 in order to join the arms 64 as a unit with the hub 58 and such action draws the arms 64 inwardly into abutting relationship with the closed ends of the socket members 62, it being understood that arms 64 are freely slideable within the collars 60 and within the socket members 62.

75 The arms 64 and the links 72 present a convenient means for mounting a cover 75 of flexible material such as canvas, on the rotor 12, thereby adding to the attractive appearance of the entire apparatus.

As above indicated, the roof 14 is held in place by 80 the support 10 and to this end, each tube 24 respectively of the spokes 22, has a second tube 76 secured directly

thereto as shown in Fig. 4. The lowermost ends of the tube 76 are closed for receiving vertical posts 78 that are preferably tubular, so that the same may telescopically receive at the uppermost ends thereof, rods 80 forming a part of a framework for the roof 14. An external shoulder 82 on each rod 80 bears against the uppermost end of the posts 78 as shown in Fig. 4. Rods 80 are preferably arched slightly adjacent their lowermost ends and extend upwardly and inwardly in spoke-like fashion toward a disc-like hub 84. The disc 84 has a row of sockets 86 rigid to the upper face thereof and taking much the same form as sockets 62 for receiving the proximal uppermost ends of the rods 80.

To the end that such framework for the roof 14 that includes rods 80 and disc 84 is rendered self-sustaining, the posts 78 are interconnected by a plurality of U-shaped links 88. Posts 78 are provided with opposed, perforated ears 90 adjacent the uppermost ends thereof for receiving the down-turned legs of the links 88 and as shown in Fig. 1 of the drawings, one of the links 88 has a turnbuckle 92 therein. This turnbuckle 92 rigidly binds the posts 78 together, serves to tightly hold the rods 80 against displacement in any direction, and forces the rods 80 tightly into their sockets 86. A cover 94 for the dome-shaped roof 14 overlies the rods 80, the disc-like hub 84, and is joined at its lowermost periphery to the links 88 in any suitable fashion not herein detailed.

It is now apparent that the hubs 16, 58 and 84 are relatively superimposed and have their vertical axes coincident with the axis of rotation of shaft 56.

Those skilled in this field are well aware of the fact that a tremendous investment is needed to undertake the business of providing a playground for children, and therefore, the present invention presents a classic example of a satisfactory, attractive amusement apparatus that is not expensive to manufacture, maintain, or transport. It is unique in its provision of a relatively large number of separable parts, but notwithstanding such fact, when the same are interconnected in an operable manner, the entire structure is still rigid and capable of withstanding considerable abuse. No experienced help is needed to assemble or disassemble the three primary components 10, 12 and 14, and such operation can be accomplished within a few minutes.

The principle of interlocking the spoke-like elements by use of a single turnbuckle to force the said spoke elements inwardly into their respective sockets, is carried out in each of the three instances and by virtue of such principle, the aforesaid objects are fully attained.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In amusement apparatus, a wheel-like support for mobile vehicles; a roof for the support, said support including a flat hub having a plurality of socket members

mounted thereon, a horizontal spoke in each member respectively and extending radially outwardly from the hub, an inner and an outer vertical tube rigid to each spoke respectively at the outermost free ends of the latter, an upstanding projection on each spoke respectively intermediate the ends thereof, a circular, band-like platform resting on the spokes and composed of a number of arcuate segments, lap joints interconnecting the segments, there being a lap joint overlying each spoke respectively between the projection and innermost tube thereof, with the platform confined tightly between the projections and the innermost tubes, a plurality of links pivotally interconnecting the spokes between the projections and the hub, and a turnbuckle forming a part of one of the links for forcing the spokes tightly into the socket members and for drawing the platform segments tightly together at the lap joints and radially inwardly toward the hub; a wheel-like rotor overlying the support beneath the roof, said rotor having a center plate and a plurality of arms radiating from the plate, the outermost ends of the arms terminating above the platform and each being adapted for coupling with a mobile vehicle on the platform; a foot for each spoke respectively having a standard extending upwardly into the corresponding innermost tube and secured thereto; and a vertical roof-supporting post in each of the outermost tubes respectively, the posts and the standards being within concentric rows surrounding the platform.

2. In the apparatus as set forth in claim 1, wherein said roof includes a disc above the center plate having a plurality of socket elements mounted thereon; an elongated rod for each post respectively, each rod having one end thereof in a socket element of the disc and extending radially and downwardly from the latter to the upper end of a corresponding post upon which the other end of the rod is mounted; and a cover supported by said rods.

3. In the apparatus as set forth in claim 2, wherein is provided a plurality of links pivotally interconnecting the posts between the platform and the rods, and a turnbuckle forming a part of one of said last-mentioned links for rendering the frame presented by the rods and disc self-sustaining.

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