Sept. 5, 1933. L. S. HUMPHREY 1,925,324

ROUNDABOUT

Filed Jan. 28, 1931

Fig. 1

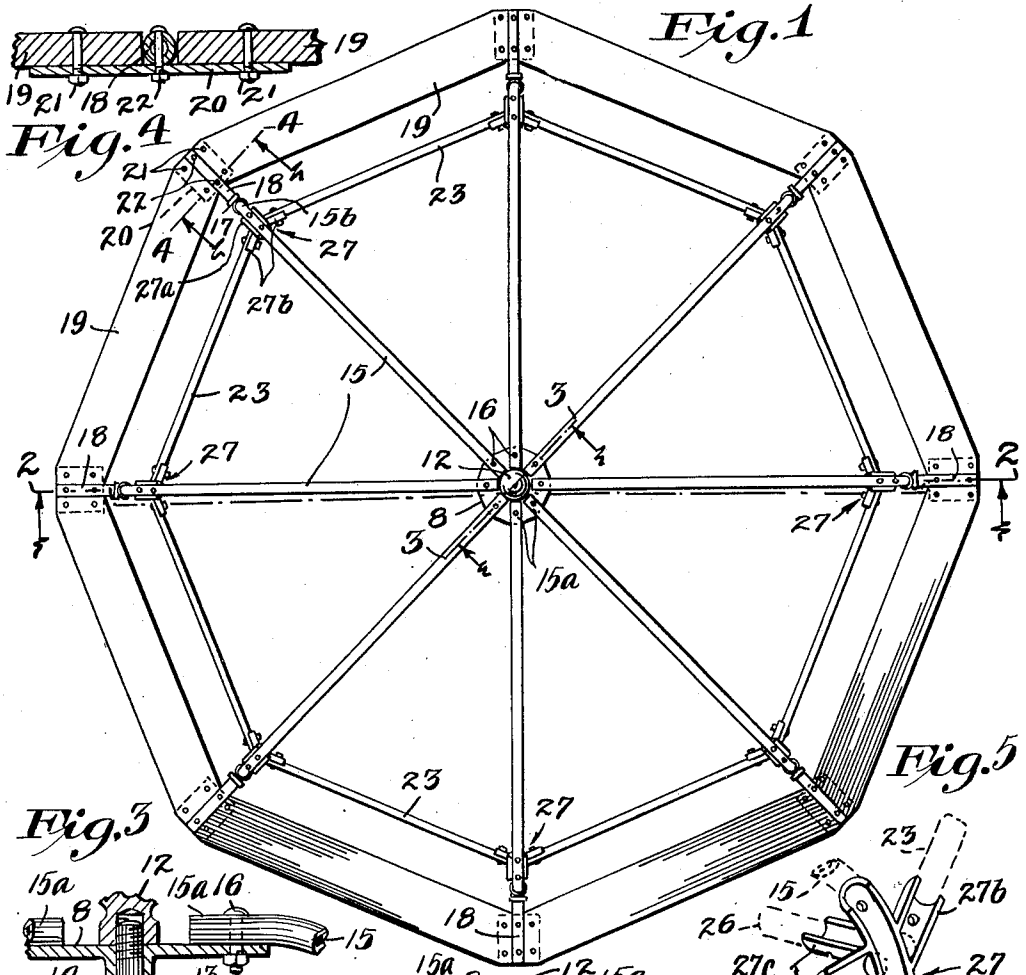


Fig. 4

Fig. 5

Fig. 3

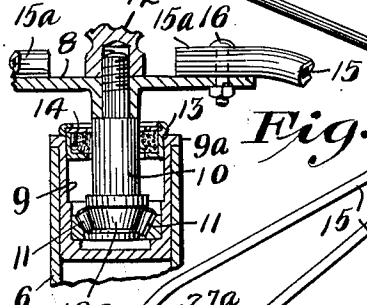


Fig. 2

Inventor
Lee S. Humphrey
By his Attorneys
Williamson & Williamson

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ROUNDABOUT

Lee S. Humphrey, Fargo, N. Dak., assignor to Maude E. Breuer, Park Rapids, Minn.

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2 Claims. (Cl. 272—33)

This invention relates to playground apparatus for children and especially to an improved roundabout or merry-go-round.

It is an object of my invention to provide a strong, extremely simple roundabout structure adapted to withstand heavy usage and capable of being manufactured at low cost.

It is a further object to provide a device of the class described especially constructed for compact disposition of the several parts for shipping and adapted to be very quickly and easily assembled by a person having little knowledge of mechanics.

Another object is to provide a strong, rigid roundabout construction which will accommodate a large number of children; which will minimize the danger from accidents during its operation, and which may be unevenly loaded without injury or danger of fracture to any of the parts thereof.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawing, in which like reference characters refer to similar parts throughout the several views, and in which:—

Fig. 1 is a plan view of an embodiment of my invention;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary vertical section taken on the line 3—3 of Fig. 1 showing the thrust bearing for supporting the revoluble frame;

Fig. 4 is a fragmentary cross section taken on the line 4—4 of Fig. 1 showing the manner in which the seat sections are attached together and to the outer ends of the supporting arms, and

Fig. 5 is a detail perspective view of one of the castings or attachment members for securing the railings and radial brace bars to the supporting arms.

In the embodiment of my invention illustrated the revoluble frame of the roundabout is supported from a heavy upright post 6 which may be of tubular construction, the lower end of which is secured or set in a heavy base 7 preferably constructed of concrete and usually disposed below the ground level. A suitable hub collar 8 is revolubly supported from the top of post 6 and to this end I provide an efficient type of thrust bearing which will be mounted within the upper end of the supporting post. The form of bearing illustrated includes a cylindrical bearing box 9 which may tightly fit the interior of the tubular post 6 being supported from the upper edge thereof by out-turned flanges 9*a*. A short supporting shaft 10 is mounted vertically within bearing box 9 and carries at its lower end a truncated conical head 10*a* between which and the lower end of bearing box 9 is disposed a series of roller bearing elements 11. The upper end of shaft 10 is reduced and threaded and receives the depending bossed portion of the hub collar 8, said collar being clamped to the shaft by means of an internally threaded knob or nut 12. A packing box 13 surrounds the upper portion of shaft 10 and is supported from the upper edge of the bearing box and, as shown, is packed with some suitable absorbent compressible material 14.

The revoluble frame of my device includes a series of radially arranged supporting arms 15 which may be constructed from heavy pipe and and having short horizontal portions 15*a* at their upper ends which are secured by bolts 16 to the flange of hub collar 8. Supporting arms 15 extend outwardly and downwardly having substantially straight and inclined medial portions and downwardly curved lower ends 15*b* to which are secured threaded pipe elbows 17. Short seat supporting bars or pipes 18 are threadedly secured to elbows 17 and extend outwardly and radially with reference to the frame, lying substantially in a horizontal plane, and forming extensions of the arms.

A series of seat sections 19 are secured to and supported from the several bars 18. These seat sections may comprise heavy boards having their ends cut on lines extending radially with reference to the axis of the revoluble frame. The adjacent ends of the several seat sections are rigidly connected together and to the horizontal bars 18 by attachment plates 20 which underlie the bottoms of the adjacent ends of the boards 19 and also underlie the bar 18. Suitable bolts 21 rigidly connecting the ends of the plates with the seat sections and other bolts 22 extend throught the bars 18 and are secured to the medial portions of the plates. The seat sections 19 cooperate to form a large annular seat and moreover serve to reinforce and strengthen the revoluble frame.

Railing sections 23 are interposed between the outer portions of the supporting arms 15 and are disposed the proper distance above the level of the annular seat to cooperate in forming a protective railing as well as a grip and back rest and to further brace and reinforce the frame structure. A bearing collar 24 fixed to the intermediate portion of supporting post 6 and as shown is provided with a set screw 24*a* for attachment to the post. A

flanged hub 25 bears against the upper end of collar 24 and a series of straight radial brace bars 26 extend from said hub having their inner ends rigidly secured by bolts 26*a* to the flange of said hub, the outer ends of said brace bars being connected with the outer portions of supporting arms 15.

I prefer to rigidly secure the outer ends of the brace bars 26 as well as the ends of railing sections 23 to the outer portions of the supporting arms 15 by means of integral attachment members which may be in the form of castings 27, clearly illustrated in Fig. 5. Members 27, include an outer curved channel 27*a* which may be of semi-circular cross section and is adapted to snugly engage the inner edge of one of the supporting arms 15. Symmetrical arms 27*b* extend laterally from the portions 27*a* angled properly thereto and channeled to receive the ends of the railing sections and a channel 27*c* extends rearwardly and laterally from the medial portion of channel 27*a* bisecting the obtuse angle defined by the center lines of the arms 27*b* and adapted to receive from below, the outer end of one of the brace bars 26. The several channels of the attachment elements are bored to receive attachment bolts and a strong reinforced joint is formed between the several members. The brace bars 26 and railing sections 23 are interposed to exert the proper thrusts for bracing purposes and to secure a strong truss effect.

In operation it will be seen that the revoluble frame is mounted with very free rotation, the weight thereof being supported mainly from the upper thrust bearing at the top of the supporting post 6. The weight of the inner ends of radial brace bars 26 is supported by the adjustable bearing collar 24 and the flanged hub 25 surrounds post 6 confining the tilting movement of the revoluble frame when it is unevenly loaded and receiving the lateral thrust from brace bars 26. If desired the collar 24 may be made considerably larger and flanged hub 25 may loosely surround the post to allow some swinging or tilting movement to the revoluble frame as well as the rotative movement.

It will be noticed that the seat sections are disposed substantially flush with the extensions or pipes 18 forming parts of the supporting arms and that further no projecting elements or dangerous parts protrude from the entire frame.

The protective railing made up of the tubular sections 23 prevents the children from falling inwardly, while affording a hand grip and back rest. The railing sections further are interposed between the outer portions of the supporting bars reinforcing the structure of the frame.

It will be obvious that the device may readily be knocked down by merely detaching the upper ends of the supporting arms 15 and removing the radial brace bars 26, the attachment brackets 27 and the attachment plates 20 which connect the ends of the seat sections with the projections 18 of the supporting arms. The parts of my device may then be disposed in a small compact bundle for shipment and it will be obvious that the device may be quickly and easily assembled by one unfamiliar with mechanics.

It will, of course, be understood that various changes may be made in the form, details, proportions and arrangement of the parts, without departing from the scope of my invention, which, generally stated, consists in a device capable of carrying out the objects above set forth and in the novel parts and combinations of parts disclosed and defined in the appended claims.

What is claimed is:—

1. A roundabout comprising a vertical supporting post, a hub revolubly supported in the upper end of said post, a series of radially arranged supporting arms extending outwardly and downwardly from said hub, and terminating in outturned seat supporting ends, seat sections secured between said supporting ends and reinforcing the bottom of the frame formed by said arms, a second hub surrounding the medial portion of said vertical post, a series of radial brace bars fixed at their inner ends to said last mentioned hub and having their outer ends thrust against intermediate points of said supporting arms, railing sections extending circumferentially of said frame and each having its ends interposed between and bracing said supporting arms at the same level as the points of thrust of said radial brace bars and integral attachment brackets each securing the adjacent ends of two of said railing sections and the outer end of one of said brace bars to one of said supporting arms, said brackets each having three diverging channels, the center lines of which lie substantially in a common plane and a fourth channel for attachment to one of said supporting arms, the center line of said last mentioned channel intersecting the said plane at an angle.

2. A roundabout comprising a vertical supporting post, a hub revolubly mounted at the upper end of said post, a series of radially arranged supporting arms extending outwardly and downwardly from said hub and having portions adjacent their outer portions extended downwardly from the upper portions, seat sections secured between the outer ends of said supporting arms and reinforcing the frame formed by said arms, railing sections extending circumferentially of said frame and interposed with thrust effect between said downwardly extended portions of said supporting arms and above the level of said seat sections, a second hub element surrounding the medial portion of said supporting post, a series of radial brace bars secured at their inner ends to said last mentioned hub element and thrust thereagainst and having their outer ends thrust against said supporting arms with truss effect in cooperation with said railing sections and integral attachment brackets disposed inwardly of said supporting arms, each securing the adjacent ends of two of said railing sections and the outer end of one of said brace bars to one of said supporting arms and each having sockets for receiving and engaging said last mentioned elements.

LEE S. HUMPHREY.