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MOUNTING MEANS FOR AMUSEMENT DEVICES

Original Filed June 7, 1946

Fig. 1.

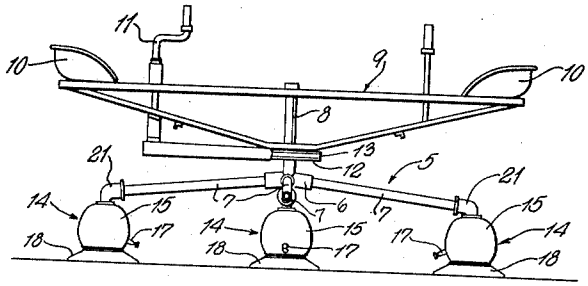


Fig. 2.

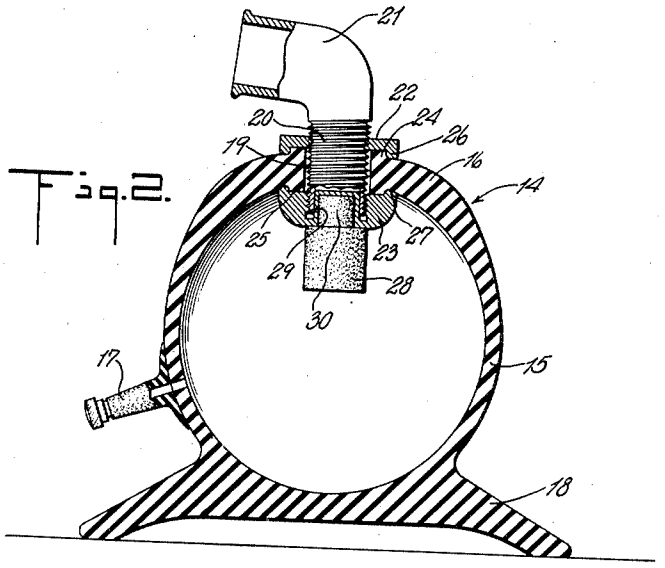
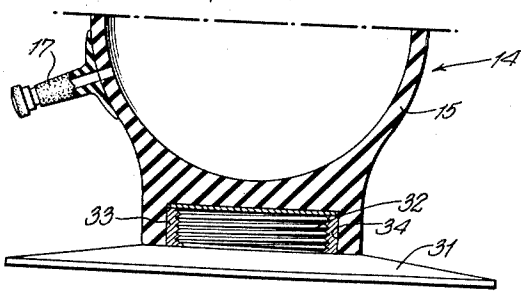


Fig. 3.



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MOUNTING MEANS FOR AMUSEMENT DEVICES

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Original application June 7, 1946, Serial No. 675,212. Divided and this application December 2, 1949, Serial No. 131,283

2 Claims. (Cl. 248—193)

This invention relates to mounting means and while capable of general use is particularly adapted for association with amusement devices of the whirling frame type which are designed for the amusement and pleasure of small children.

This application is a division of application Serial No. 675,212, filed June 7, 1946, now abandoned.

One of the objects of the present invention is to provide novel mounting means for an amusement device of the whirling frame type whereby the riding qualities of said device will be greatly improved and the pleasure derived therefrom by the riders thereof will be materially increased.

Another object of the invention is to provide an amusement device of the above character having mounting means of novel construction and arrangement whereby the riders of said device will receive a rolling wave-like or up and down motion while they are in whirling motion.

Another object is to provide novel resilient mounting members of variable resiliency for yieldingly supporting an amusement device of the whirling frame type at a plurality of circumferentially spaced points so as to effect a variable yielding action of said device at said points under the weight of the riders thereof.

Another object is to provide a novel resilient mounting member which is simple and durable in construction and can be inexpensively manufactured.

A further object is to provide a novel pneumatic mounting member for supporting amusement and other devices in a floating manner for the alleviation of shock and other purposes.

Still another object is to provide a novel resilient mounting member which will adhere by a vacuum grip to any smooth surface.

The above and further objects and novel features of the invention will more fully appear from the following detailed description when the same is read in connection with the accompanying drawings. It is to be expressly understood, however, that the drawings are for the purpose of illustration only and are not intended as a definition of the limits of the invention, reference for this latter purpose being had primarily to the appended claims.

In the drawings, wherein like reference characters refer to like parts throughout the several views,

Fig. 1 is a side elevation of a whirl-around amusement device embodying mounting members constructed and arranged in accordance with the present invention;

Fig. 2 is an enlarged vertical central section of one of the mounting members shown in Fig. 1; and

Fig. 3 is an enlarged fragmentary vertical central section of a modified form of mounting member embodying the present invention.

Inasmuch as the novel mounting members contemplated by the present invention are particularly adapted for use in connection with amusement devices of the whirling frame type, said mounting members will be described in their application to such a device. It will be understood, however, that said mounting members may also be employed in connection with devices other than amusement devices wherein it is desirable to floatingly support the same for the alleviation of shock, vibration, and other purposes.

Referring now to Fig. 1 of the drawings, there is shown a whirlaround amusement device of the general type disclosed in my co-pending application serial No. 663,078, filed April 18, 1946, which issued as U. S. Letters Patent No. 2,516,049, July 18, 1950. It will be understood that the exact construction of this device as hereinafter described, is not to be construed as a limitation since the mounting members are applicable to amusement devices of the same type but of other constructions. As shown, the whirlaround amusement device comprises a supporting base indicated generally at 5 and consisting of a central bracket 6 having secured therein corresponding ends of a plurality of circumferentially spaced radially extending legs or rods 7, four of the latter being shown. Base 5 fixedly supports a vertically extending mast 8 which, in turn, supports and guides a whirling frame 9 for rotation about said mast in a horizontal plane. Frame 9 is provided at opposite ends thereof with seats 10, and rotation is imparted to said frame by a child occupying one of said seats through a crank handle 11, a pulley (not shown) secured to said handle, a fixed pulley 12 secured to base 5, and an endless belt 13 passing around said pulleys. For a more detailed description of the construction and operation of the whirlaround amusement device, reference may be had to my above-mentioned co-pending application.

Attached to the free end of each of the legs 7 of base 5 is a resilient mounting member, indicated generally at 14, whereby the amusement device will be yieldingly supported at a plurality of circumferentially spaced points to not only alleviate shock and provide a more comfortable ride, but to enable said device to yield at said points variable amounts under the weight of the riders and thus give them a rolling wave-like or up and down motion while they are in whirling motion. As shown in Figs. 1 and 2, each mounting member 14 comprises a hollow sphere or ball 15 which is formed of a flexible elastic material, such as natural rubber or synthetic rubber, and has its upper wall portion thickened as indicated at 16 to reinforce the same for a purpose to appear hereafter. If desired, ball 15 may be formed with a reinforcing layer or layers of fabric. Ball 15 is filled or inflated with compressed air of a pressure sufficient to yieldingly support the combined weights of the amusement device and the riders thereof. Air under pressure is introduced into ball 15 through an air valve 17 which is vulcanized or otherwise suitably secured to said ball. It will be understood that the use of other fluids under pressure in place of compressed air in ball 15 is contemplated. Ball 15 has formed integrally therewith a vacuum cup base 18 so that the mounting member 14 will adhere by a vacuum grip to a smooth floor or other foundation and thus be held against creeping movement.

The thickened wall portion 16 of ball 15 is provided with a bore 19 to receive the externally threaded end 20 of an elbow fitting 21 which is adapted to receive the free end of the leg 7 of base 5, as shown in Fig. 1. Fitting 21 is secured to ball 15 by external and internal plates or nuts 22 and 23, respectively, which are threaded on said fitting and engage external and internal annular hubs 24 and 25, respectively, on said ball to form an air tight seal. Plate 23 also serves as a cover for the inner open end of fitting 21 to prevent the escape of air from ball 15 through said fitting. To further insure against leakage of air from ball 15 through the fitting connections 22, 23, plates 22 and 23 are formed with annular beads 26 and 27, respectively, which surround the hubs 24 and 25, respectively, and are pressed into the wall of ball 15.

Disposed within ball 15 is a buffer 28 formed of relatively hard rubber or other cushion material which is adapted to engage the lower inner wall portion of said ball, thus limiting the extent of yielding movement of ball 15 and preventing complete collapse of the latter under the weight of the riders of frame 9 should said ball for some reason be under-inflated. Buffer 28 may be vulcanized to or formed as an integral part of ball 15, but as herein shown is vulcanized or otherwise suitably secured to plate 23 which, for this purpose, is formed centrally thereof with an inverted annular cup portion 29 that projects into the inner open end of fitting 21 and receives therein the upper reduced end 30 of buffer 28.

It is important to note that by merely varying the air

pressure in the respective mounting members **14**, the yielding action of the amusement device under the weight of the riders on the whirling frame **9** thereof may be controlled to a desired degree. Accordingly, by employing mounting members **14** with different air pressures at alternate points, the amusement device will yield under the weight of the riders a greater extent at the lower air pressure points than it would yield at the higher air pressure points. Under these conditions, as the end of the whirling frame **9** with a rider thereon approaches and moves over the lower air pressure points, the amusement device will descend or drop at said points under the weight of the rider, and as said frame approaches and moves over the higher air pressure points said device will be raised at said latter points, thus not only giving the rider a pleasing and enjoyable rolling wave-like or up and down motion while he is in whirling motion, but a more comfortable cushioned ride as well.

In the embodiment of the invention illustrated in Fig. 3, the mounting member **14** is formed to receive a base plate **31** of solid or rigid material so that said member may be substituted for the vacuum cup type illustrated in Fig. 2 when the amusement device is installed at places having a gravel or other rough and uneven foundation where the vacuum cup type is neither practical nor desirable. Plate **31** is formed with a central externally threaded hub **32** which is threaded into an internally threaded ring **33** that is disposed within an annular pocket **34** formed in ball **15** and is vulcanized or otherwise suitably secured to said ball. Except for the above described differences in the construction, the mounting member **14** illustrated in Fig. 3 is the same in construction and operation as the mounting member **14** illustrated in Fig. 2 and hereinbefore described.

There is thus provided an amusement device of the whirling frame type having novel resilient means for yieldingly supporting said device at a plurality of circumferentially spaced points, whereby the rider or riders thereof will receive a more comfortable cushioned ride and a pleasing and enjoyable rolling wave-like or up and down motion as well while they are in whirling motion. The resilient mounting members utilize compressed air as the load supporting medium, and the resiliency or yielding action thereof may be varied to any desired degree to obtain various riding results by varying the air pressure therein. Additionally, the resilient mounting members are simple and durable in construction and may be easily and inexpensively manufactured.

Although two embodiments of the invention have been illustrated in the accompanying drawings and described in the foregoing specification, it is to be expressly understood that said invention is not limited to said embodiments or to the specific use thereof. Various changes may be made therein, particularly in the design and arrangement of the parts illustrated, without departing from the spirit and scope of the invention, as will now be apparent to those skilled in the art. For example, a loose buffer element, such as a small ball of solid rubber, resting on the inner surface of the lower wall portion of ball **15**, or an upwardly projecting rubber block formed integrally with ball **15**, may be substituted for the downwardly projecting, plate carried buffer **28**. For a definition of the limits of the invention, reference is had primarily to the appended claims.

What is claimed is:

1. A pneumatic support comprising a hollow ball formed of a flexible material and having a thickened wall portion at the top thereof provided with internal and external annular hubs presenting flat surfaces on said ball internally and externally thereof, a fitting having an externally threaded portion extending into said ball through an opening formed in and extending through said hubs and said wall portion, flat internal and external annular plates threaded onto said fitting and clamped against said internal and external hubs, respectively, for securing said fitting to said ball in air-tight relation, the internal plate having an annular groove in the upper surface thereof and the portion of said plate defining the outer wall of said groove being threaded to receive said fitting, said internal and external plates each having a projecting annular bead thereon surrounding the respective annular hub and embedded in said wall portion, and a valve secured to said ball for introducing air under pressure therein.

2. A pneumatic support as defined in claim 1, comprising a buffer block of yieldable material secured in a socket formed in the lower surface of the internal plate and projecting downwardly therefrom for limiting the extent of yielding movement of the ball.

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