No. 828,073. PATENTED AUG. 7, 1906.

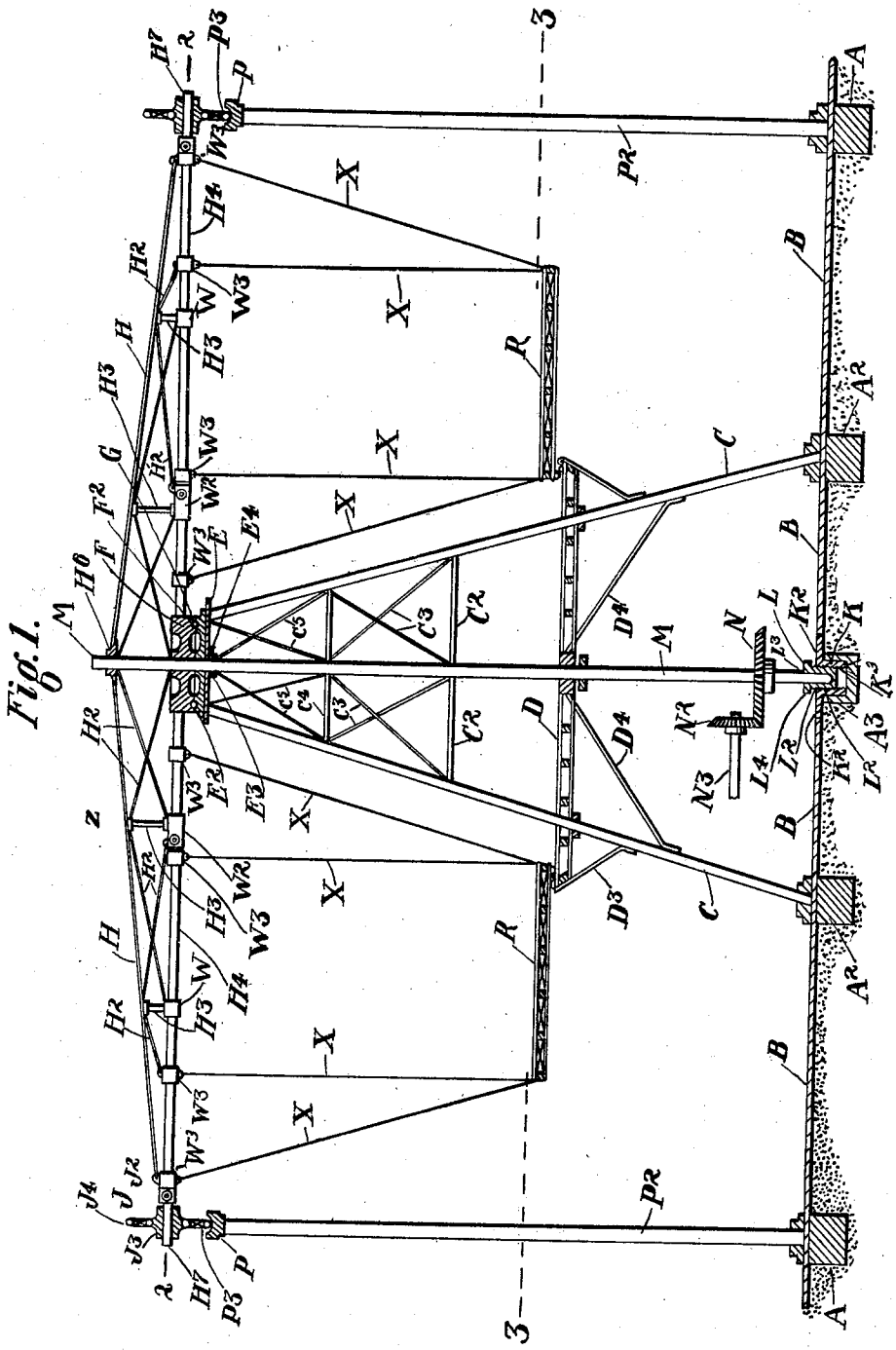
W. W. TICE.

MERRY-GO-ROUND.

APPLICATION FILED NOV. 25, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



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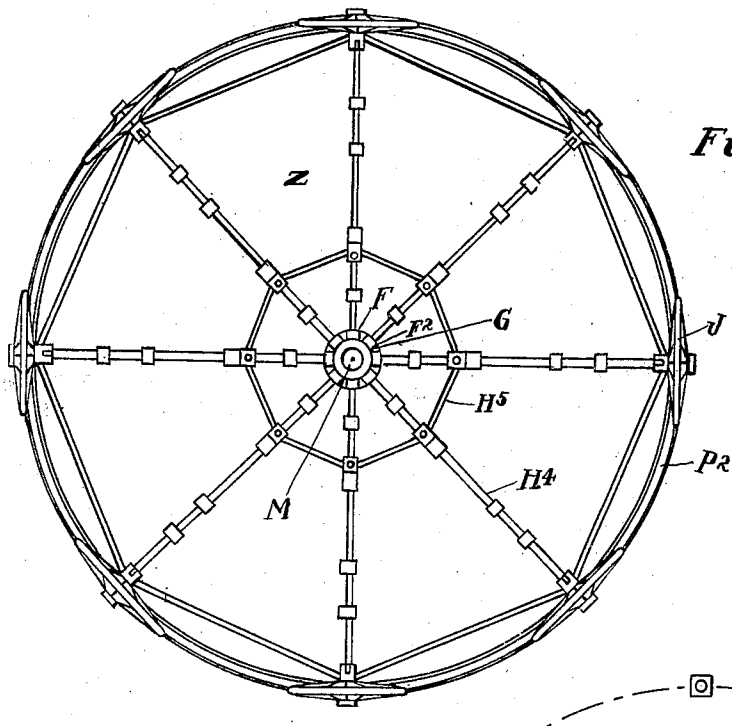


Fig. 2.

Fig. 3.

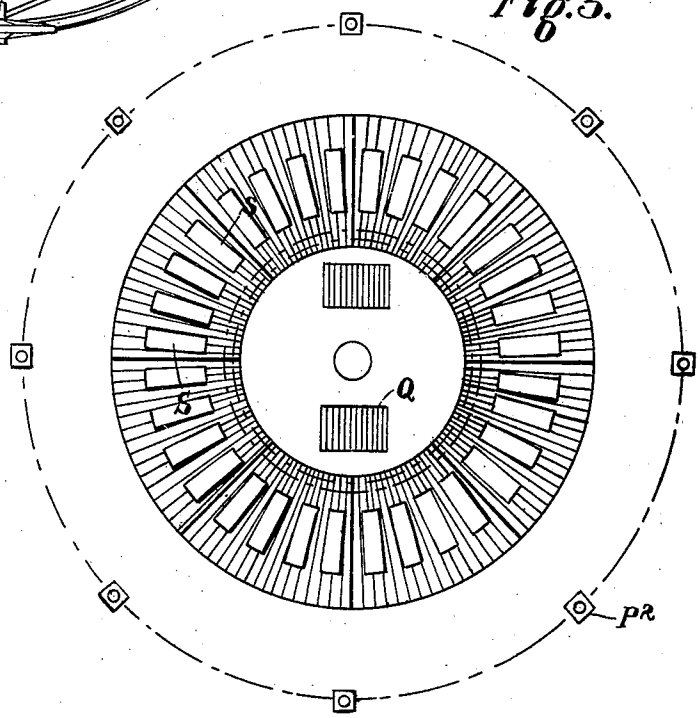
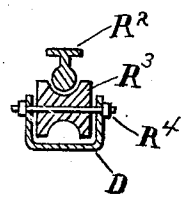


Fig. 4.



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MERRY-GO-ROUND.

No. 828,073. Specification of Letters Patent. Patented Aug. 7, 1906.

Application filed November 25, 1904. Serial No. 234,188.

To all whom it may concern:

Be it known that I, WILLIAM W. TICE, a citizen of the United States, and a resident of the city of Piqua, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Merry-Go-Rounds, 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.

I will now proceed to describe my invention in detail.

In the accompanying drawings, making a part of this application, and in which similar letters of reference indicate corresponding parts, Figure 1 is a view, partly in elevation and partly in section, of mechanism illustrating my invention. Fig. 2 is a view of the under side of the upper revolving portion of this merry-go-round illustrated in Fig. 1. Fig. 3 is a top view of that part of the mechanism which lies below the horizontal plane of the dotted line 3 3 of Fig. 1. Figs. 2 and 3 are on a scale smaller than that of Fig. 1. Fig. 4 is an enlarged detail of the preferred connection between the central support and the revolving platform.

A and A^2 and A^3 indicate the basal supports of the machine. Each of the supports A and A^2 is preferably annular; but it may be of any other suitable shape. The support A^3 is for upholding the step or bearing for the central mast. Above these supports I locate a platform B. This not only is convenient for standing upon when occasion requires, but also it serves to interconnect the annular basal supports and the central bearing.

I provide a central structure for supporting the revolving portions of the mechanism. This central structure is substantially as follows: Posts C, supported on the base A^2, extend upwardly and are connected at their upper ends. Intermediately they are connected by suitable braces, preferred forms of which are shown and are marked D^3, D^4, C^2, C^3, C^4, and C^5.

The revolving platform R for holding the persons to be carried is duly supported from a frame above. This frame Z may be solid; but I prefer to make it of a skeleton form. The frame Z is supported at the center and at its periphery. At the center it is supported as follows: A stationary bearing-plate E is supported on the posts C. It has an annular groove E^2. A bearing piece or plate F is fixed to the frame Z and has on its under side an annular groove F^2. The grooves E^2 and F^2 are opposite one another, and in them are the friction balls or rollers G. This bearing is a non-friction one. The central shaft M extends up through, and thus enables the two bearing-plates E and F to be readily kept concentric. This shaft M also serves to uphold and stiffen the skeleton structure of the frame Z. The device is rotated by this shaft M.

The frame Z is conveniently constructed with the ring H^6 on the shaft M and bracing-rods H H^2 H^3 and radial arm H^4. Rods H^2 are preferably connected to their horizontal bars at points W W^2 W^3. This frame is to be supported at or near its periphery. Between that support and the frame a non-friction bearing or bearings should be present. The preferred construction for this purpose is as follows: I provide a series of posts P^2, located at suitable intervals concentrically to the axial center of the machine. These posts are supported upon a suitable annular post A. At their top they are provided with an annular connection P, provided with a channel P^3, adapted to receive the tread J^4 of the wheel J. There are a suitable number of these wheels located at proper intervals at the periphery of the frame H. To properly support the wheels, there extends from the frame H in each case an axle H^7, on which the hub of the wheel J revolves. The hub of the wheel is preferably extended on each side of the plane of the spokes, and thus forms an elongated bearing J^2 J^3. The axle H^7, on which this wheel revolves, is preferably an extension of the radial arm H^4 of the frame. As the frame H revolves these wheels run in the groove P^3 and duly support the frame H and also keep it at times horizontal.

From the frame H is suspended in a suitable manner the annular platform R, adapted to carry the people who wish to use the merry-go-round. The suspensions are preferably made by means of wire cables X, preferably united to the horizontal bars H^4 by connection W^3 W^3. Any suitable mode of carrying the people upon these platforms can be employed. The preferable one consists of the seats S S, radially disposed.

When the frame H is revolving rapidly,

there would be a tendency of the annular ring of the platform R to sway objectionably more or less. I provide means for preventing such swaying, and the preferred description of such means is as follows: To the under side of the inner edge portion of the annular platform R, I connect a rail R^2, whose tread or operative portion is undermost. On the fixed platform D of the central stationary structure I locate sheaves R^3, revolving on or with axles R^4, supported in suitable bearings, one form of which, D, is shown in Fig. 4. These bearings are fixed to the platform. Of course the rail might be located on the fixed platform and the sheaves upon the under adjacent portion of the revoluble annular platform R, this being a mere equivalent of the device aforenamed.

The mast M is supported at the bottom, preferably by a device which I have invented for securing the best operation of it at all times, to wit: In the basal support A^3, I provide a recess, and in this I locate the sleeve K, having a flange K^2 resting upon the basal support A^3. The interior surface of the sleeve K is provided with a screw-thread K^3. I provide a step-piece L, having an exterior screw-thread L^2, which engages a female screw K^3 of the sleeve K. This step has a recess L^3, into which the foot of the mast is placed or stepped. This step is preferably further provided with a flange L^4, whereby it may be easily rotated and may be used for other obvious purposes. The function of this step is to enable this bearing to always share in the work of duly supporting the mast M, as well as in steadying it, and also when necessary adjusting the gear N, fixed on the mast, so that it shall properly engage gear N^2, fixed on the shaft N^3, which latter receives the power used to move the rotatable portions of the merry-go-round. Of course instead of the gear N N^2 other means for rotating these movable portions of the merry-go-round can be employed.

Suitable stairs from the ground to the platform D are to be provided, of which one form is shown and indicated by the letter Q. Two or more such flights of stairs are preferably employed. These flights of stairs Q extend to the central platform D. From the platform D the revolving platform R can be readily reached.

On the perpendicular shaft M, under the grooved plate E and on the supporting-framework, I place an adjustable collar E^3 to prevent the perpendicular shaft from raising when in use. This collar E^3 is suitably fixed to the shaft M, preferably by a set-screw E^4. In the event of an injury to one of the friction-balls, &c., this collar can be loosened and the driving-gear lowered on the shaft, and then with the aid of a strong wrench applied to the aforementioned step device at the foot of the shaft this shaft and the rotatable structure can be readily and quickly raised and adjusted and the injured ball or balls replaced.

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

1. In a merry-go-round, a central structure, and a rotatable frame therefor, an annular grooved plate fixed to the central structure, an annular grooved plate fixed to the rotatable frame, these grooved plates facing each other, balls or rollers in the grooves of the plates, the plates being concentric with the rotatable frame and the central structure and a revolving platform suspended from the rotatable frame and having its inner edge engaging with the central structure, substantially as and for the purposes specified.

2. In a merry-go-round, a central structure, a rotatable frame thereon, a central shaft passing through the central structure and connected to the rotatable frame, means for rotating said shaft and a revolving annular platform suspended from the rotatable frame and having its inner edge engaging with the central structure.

3. In a merry-go-round, a central stationary structure, a rotatable frame supported thereby at its center, wheels on the outer edge of said rotatable frame, an annular track for said wheels, and a revolving platform suspended from the rotatable frame and located between the central structure and the track, the inner edge of said platform engaging the central structure.

4. In a merry-go-round, a central structure, a rotatable frame thereon, means for rotating said frame, an annular platform suspended from said frame, sheaves fixed to a part of the central structure and an annular track R^2 fixed on the inner edge of the platform and engaging with the sheaves.

5. In a merry-go-round, a central stationary structure, a rotating frame supported thereby, an annular platform suspended from said rotating frame, a stationary platform on the central structure, sheaves on one of the platforms and a track on the other engaging with the sheaves to prevent radial deflection of the revolving platform.

6. In a merry-go-round, a central structure, a rotatable frame supported thereby, a revolving platform suspended from the frame and having its inner edge engaging with the central structure and non-frictional means at said point of engagement.

7. In a merry-go-round, a central structure, a rotatable frame supported thereby, supports for the outer periphery of said frame, a revolving platform suspended from said frame, a non-friction guide between the revolving platform and the central structure and means for rotating the frame.

8. In a merry-go-round, the central structure, rotatable frame, the non-friction plates

respectively connected thereto, and axially coincident therewith, the outlying non-friction bearings located at the periphery of the rotatable frame, and an outlying non-friction support for these bearings, a continuous annular passenger-platform supported by the rotatable frame, and a non-friction guide between the passenger-platform and the central structure, the central shaft axially coincident with the rotatable frame, and connected thereto and means for rotating said shaft.

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

WILLIAM W. TICE.

Attest:

SAMUEL A. WEST.

K. SMITH