

1,049,480.

Patented Jan. 7, 1913.

2 SHEETS-SHEET 1.

Fig. 1.

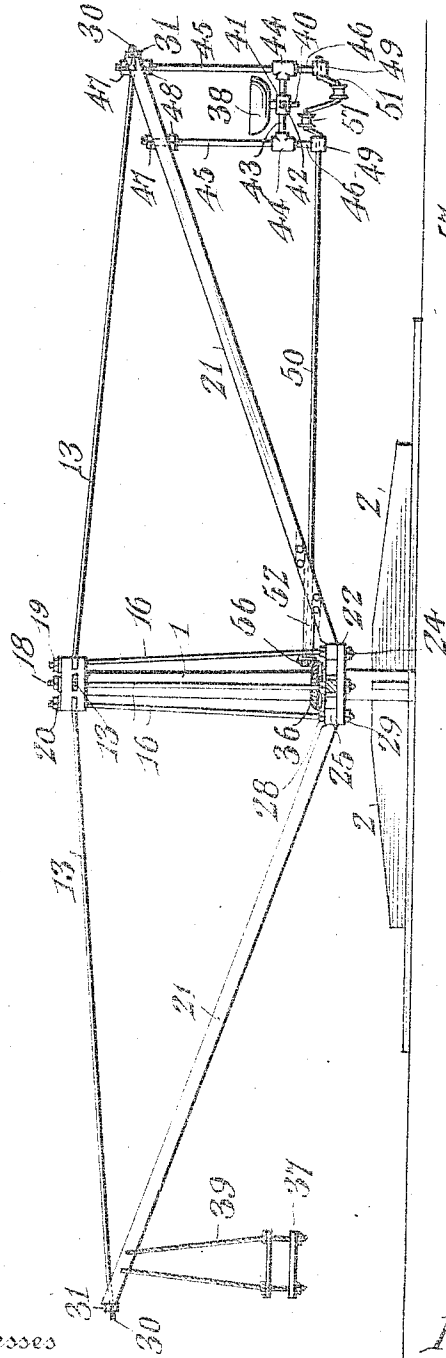
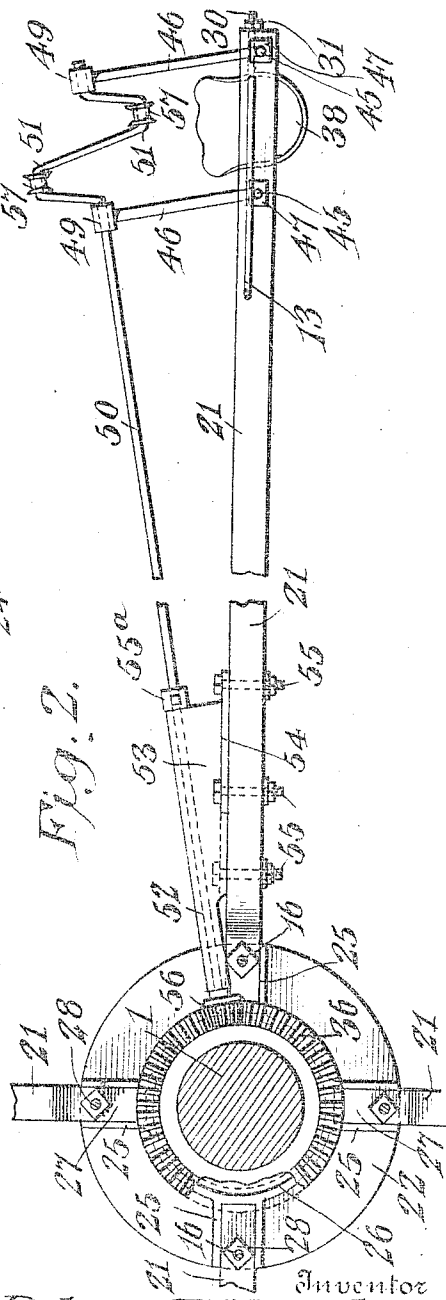


Fig. 2.

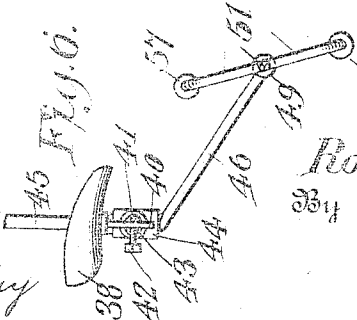
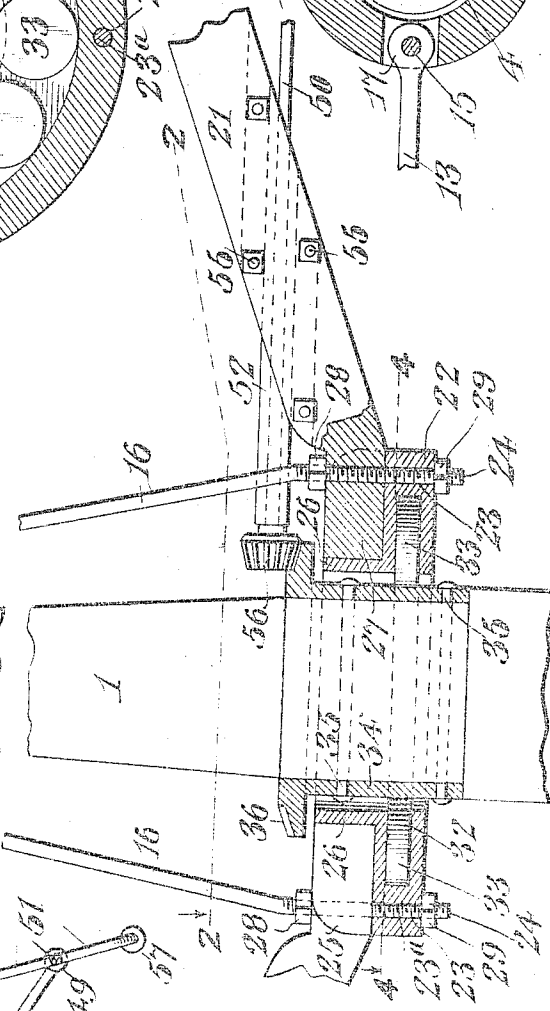
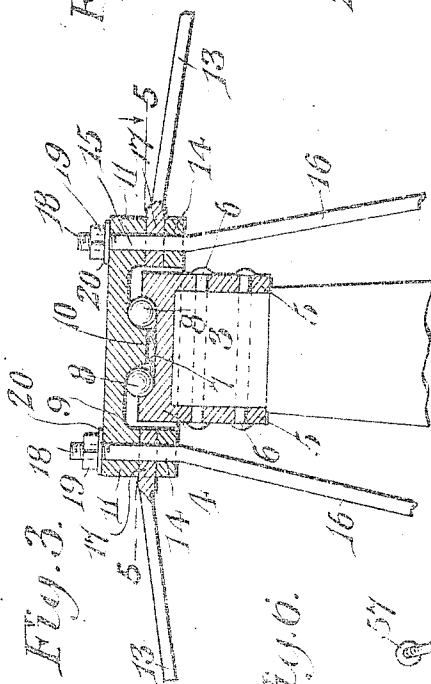
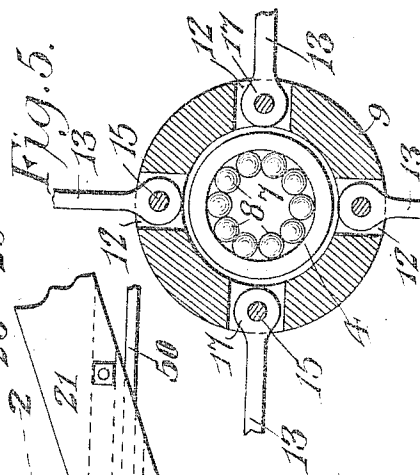
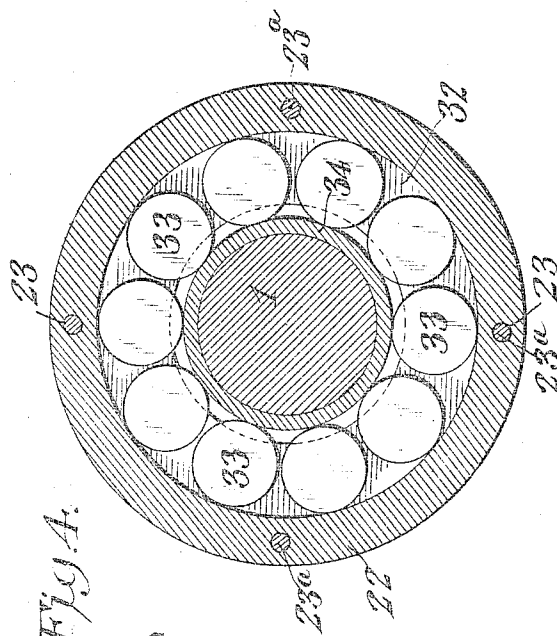


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1,049,480.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ROBERT H. HEMPHILL, OF PORT ST. JOE, FLORIDA.

MERRY-GO-ROUND.

1,049,480.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed October 9, 1911 Serial No. 653,333.

To all whom it may concern:

Be it known that I, ROBERT H. HEMPHILL, a citizen of the United States, residing at Port St. Joe, in the county of Calhoun and State of Florida, have invented a new and useful Merry-go-round, of which the following is a specification.

The invention relates to improvements in merry-go-rounds.

The object of the present invention is to improve the construction of merry-go-rounds, and to provide a light, strong and inexpensive construction, equipped with anti-friction devices, adapted to enable it to be easily operated with a minimum amount of labor.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a side elevation of a merry-go-round, constructed in accordance with this invention. Fig. 2 is an enlarged horizontal sectional view on the line 2—2 of Fig. 3. Fig. 3 is an enlarged central vertical sectional view of the central portion of the merry-go-round. Fig. 4 is a horizontal sectional view on the line 4—4 of Fig. 3. Fig. 5 is a similar view on the line 5—5 of Fig. 3. Fig. 6 is a detail view of the seat for the operator.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

In the accompanying drawings in which is illustrated the preferred embodiment of the invention, 1 designates a central mast or post supported in a vertical position by a base 2, preferably composed of diametrically arranged portions secured to and extending from the lower end of the vertical post or mast and adapted to rest upon the ground, or other supporting surface. Any other desired construction of base may, of course, be employed. The upper portion of the post 1 is preferably tapered, as clearly illustrated in Fig. 3 of the drawings, and fitted on the upper end 3 of the said post

is an upper bearing 4, having a depending cylindrical socket 5 to receive the upper end of the post. The upper end 3 of the post is slightly reduced to fit the socket 5, which is secured to the post by parallel horizontal pins 6. The pins 6, which pierce the walls of the socket 5 and the upper end 3 of the post 1, are preferably headed at their terminals, as shown, but bolts or any other suitable fastening means may be employed for securing the upper bearing to the upper end of the post. The upper bearing, which is constructed of steel or other suitable material, is provided in its upper face with a circular recess 7, forming a race for anti-friction balls 8, which support a cap 9. The cap 9, which is preferably constructed of steel, is approximately cylindrical to fit over the upper bearing, and it is provided with a central depending tapered portion 10, fitting within the annular series of anti-friction balls 8 and maintaining the same in proper position within the bearing recess of the top bearing 4 and presenting curved faces to the balls. The rotary seat carrying frame hereinafter described is supported upon the central post by means of the top bearing, which enables the rotary frame to be supported with a minimum amount of friction.

The rotary cap 9, which has relatively thick side walls 11, is provided therein with horizontal radial openings 12 to receive the inner ends of guy rods 13, and it is also provided with vertical perforations 14, intersecting the openings 12 and receiving the upper ends 15 of hanger or supporting rods 16, which secure the inner ends of the guy rods to the rotary cap. The inner ends 17 of the guy rods are provided with eyes, and the upper ends 15 of the hanger or supporting rods 16 pass through the eyes of the guy rods and have threaded portions 18 for the reception of nuts 19, washers 20 being preferably interposed between the nuts 19 and the upper face of the cap. The guy rods 13 extend outwardly from the rotary cap 9 at a slight downward inclination, and they pierce the upper outer ends of inclined bars 21, which extend upwardly and outwardly from a lower bearing ring 22. The bearing ring 22, which surrounds the lower portion of the central post 1, is provided with vertical perforations 23 to receive the lower threaded ends 24 of the hanger or supporting rods 16, and it is pro-

vided at its upper face with spaced vertically disposed transverse flanges 25, extending outwardly from an inner vertical annular flange 26 and forming radial seats or recesses for the lower ends 27 of the inclined bars 21. The lower ends 27 of the inclined bars are horizontal and fit within the recesses and abut against the vertical annular flange 26, and the lower ends 23^a of the hanger or supporting rods are vertical and are equipped with upper and lower nuts 28 and 29, located, respectively, at the upper faces of the ends 27 of the inclined bars and at the lower face of the ring 22, and securely fastening the inclined bars to the ring and the latter to the lower ends of the supporting or hanger rods. The outer ends 30 of the guy rods are threaded to receive nuts 31, and the downwardly and outwardly inclined guy rods and the upwardly and outwardly inclined bars 21 form a truss for the rotary seat carrying frame, and enable a light frame-work of great strength to be cheaply constructed.

25 The upper ends 15 of the hanger or supporting rods 16 are also arranged vertically, the rods 16 being inclined upwardly and inwardly from the lower bearing ring to the upper cap.

30 The lower bearing ring is provided at its inner face with a horizontal annular bearing groove 32, in which is arranged an annular series of horizontal anti-friction disks 33, projecting beyond the plane of the inner face of the lower bearing ring and arranged to bear against a metallic bearing sleeve 34, which surrounds the post 1 at the lower bearing ring 22. The sleeve 34, which extends above and below the plane of the bearing ring, is secured to the post by horizontal fastening devices 35, and is provided at its upper ends with an integral beveled gear 36. The fastening devices 35 are shown as headed pins, but they may consist of bolts.

45 The sleeve forms a bearing surface for the anti-friction disks, which space the lower bearing ring from the central post and prevent friction resulting from any lateral thrust of the rotary seat carrying frame due to the unequal weight carried by the same.

50 The inclined bars 21 form arms for supporting swinging seats 37, and one of the inclined bars or arms 21 also supports a seat 38 for the accommodation of the operator. The swinging seats 37 are suspended from the inclined arms or bars 21 by flexible connections 39, but the merry-go-round may be equipped with any other form of seat or support for the accommodation of children or other persons using it. The inclined bars 21 besides forming a truss of the seat carrying frame enables the lower bearing ring to be arranged close to the base, and the seats may be located above the plane of the lower end of the inclined bars 21. This

will enable an exceedingly low structure to support the seats at the proper elevation. The cheapness of the merry-go-round and the stability of the same are greatly increased by this particular construction and arrangement. The seat 38 is provided with a stem or standard 40, which is adjustably secured in an opening of a sleeve 41 by a clamping screw 42. The sleeve is mounted on a transverse rod 43, which is connected by couplings 44 with vertical rods 45, secured at their upper ends to the supporting inclined bars 21 and having lower downwardly extending inclined portions 46. The transverse rod 43 may be composed of two sections connected by the sleeve or coupling 41, and the upper ends of the rods 45 are threaded and are engaged by upper and lower nuts 47 and 48, which fit against the upper and lower faces or edges of the inclined bars 21.

The inclined portions 46 of the depending rods 45 are provided at their lower outer ends with bearings 49 for an operating shaft 50, provided with opposite crank bends 51, which are located between the inclined portions 46 of the rods in advance of the seat 38. The shaft 50 is horizontal, and it is journaled at its inner portion in a bearing 52 of a bracket 53, having a vertical attaching portion 54, which is secured by bolts 55 to the inner portion of the inclined bars 21 from which the depending rods 45 are hung. The bearing 52 of the bracket 53 extends inwardly beyond the attaching portion 54, and is arranged at an acute angle to the vertical plane of the inclined bar 21, and the shaft 50, which is held against inward movement by a set collar 55^a, is equipped at its inner end with a beveled pinion 56, which meshes with the horizontal beveled gear 36. The crank bends 51 are provided with suitable pedals 57, and when the shaft 50 is rotated, the beveled pinion will travel around the fixed beveled gear 36 and rotary motion will be communicated to the seat carrying frame.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A merry-go-round including a central post, a cap supported by the upper end of the post, a lower bearing ring suspended from the cap and surrounding the lower portion of the post, inclined bars extending upwardly and outwardly from the lower bearing ring and secured at their lower ends to the same, guy rods extending outwardly from the said cap and connected to the upper ends of the inclined bars, and seats having supporting means hung from the outer portions of the inclined bars, said seats being located in a plane above the lower ends of the same and below the upper ends of the inclined bars.

2. A merry-go-round including a post, a cap fitted on the post, a lower bearing ring, a fixed gear secured to the post and having a sleeve extending into the lower bearing
5 ring, anti-friction devices interposed between the lower bearing ring and the sleeve, hanger rods suspending the ring from the cap, inclined bars extending upwardly and outwardly from the lower bearing ring,
10 guy rods connecting the bars with the cap, a bearing bracket mounted on one of the inclined bars and having a horizontal bearing, a shaft journaled in the bearing and provided in its inner end with a gear meshing
15 with the fixed gear, said shaft being also provided at its outer portion with operating cranks, rods depending from the outer portion of one of the inclined bars and having
20 inclined portions provided with bearings receiving and supporting the outer portion of the said shaft, and a seat supported by the last-mentioned rods.

3. A merry-go-round including a post, a cap fitted on the post, a lower bearing ring,
25 a fixed gear secured to the post and having

a sleeve extending into the lower bearing ring, anti-friction devices interposed between the lower bearing ring and the sleeve, hanger rods suspending the ring from the cap, inclined bars extending upwardly and
30 outwardly from the lower bearing ring, guy rods connecting the bars with the cap, spaced rods depending from the outer portion of one of the inclined bars and having lower inclined portions provided with bear-
35 ings, a transverse rod connecting the last-mentioned rods, a seat supported by the transverse rod, a shaft journaled in the said bearings and having operating cranks at its
40 outer portion located in advance of the seat, and a gear mounted on the inner end of the shaft and meshing with the fixed gear.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROBERT H. HEMPHILL.

Witnesses:

GEO. E. DUNAN,
P. H. PLAEGER.