Aug. 30, 1927. 1,640,848

W. F. NORRIS

COMBINATION TEETER-TOTTER AND MERRY-GO-ROUND

Filed July 19, 1926 3 Sheets-Sheet 1

FIG. 1.

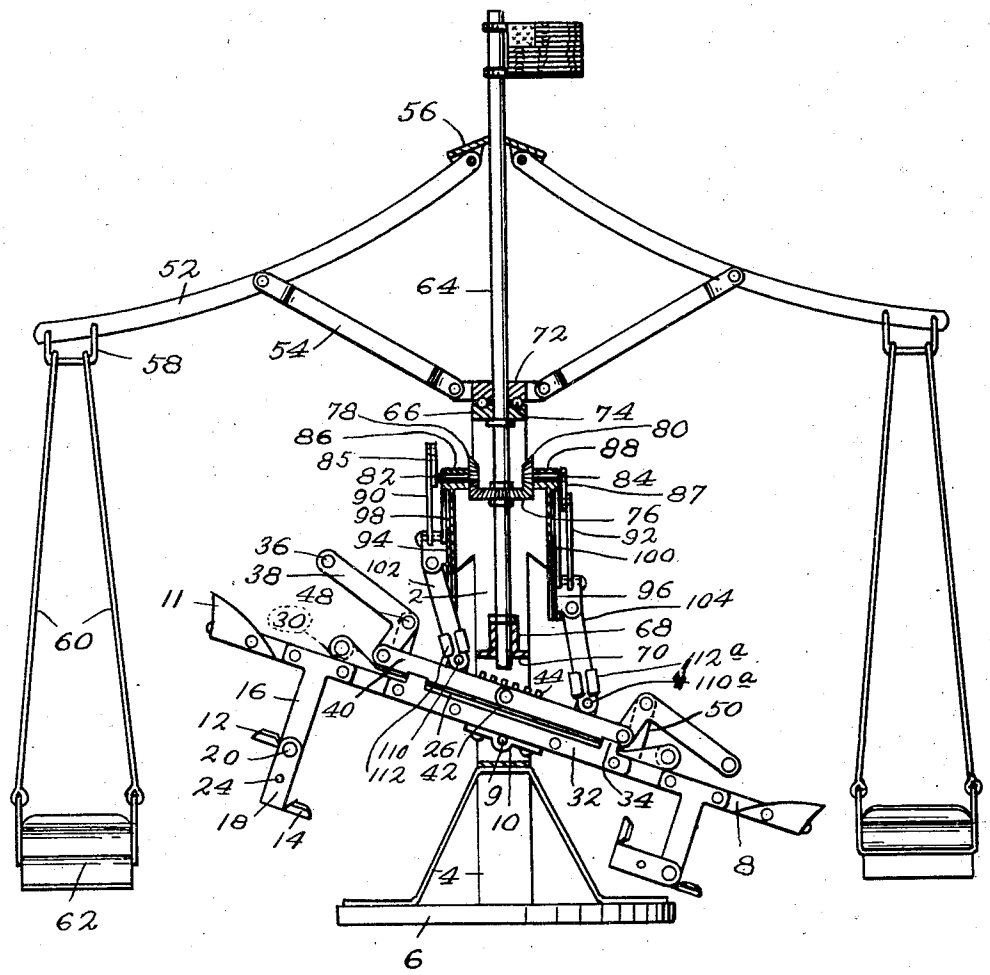

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FIG. 2.

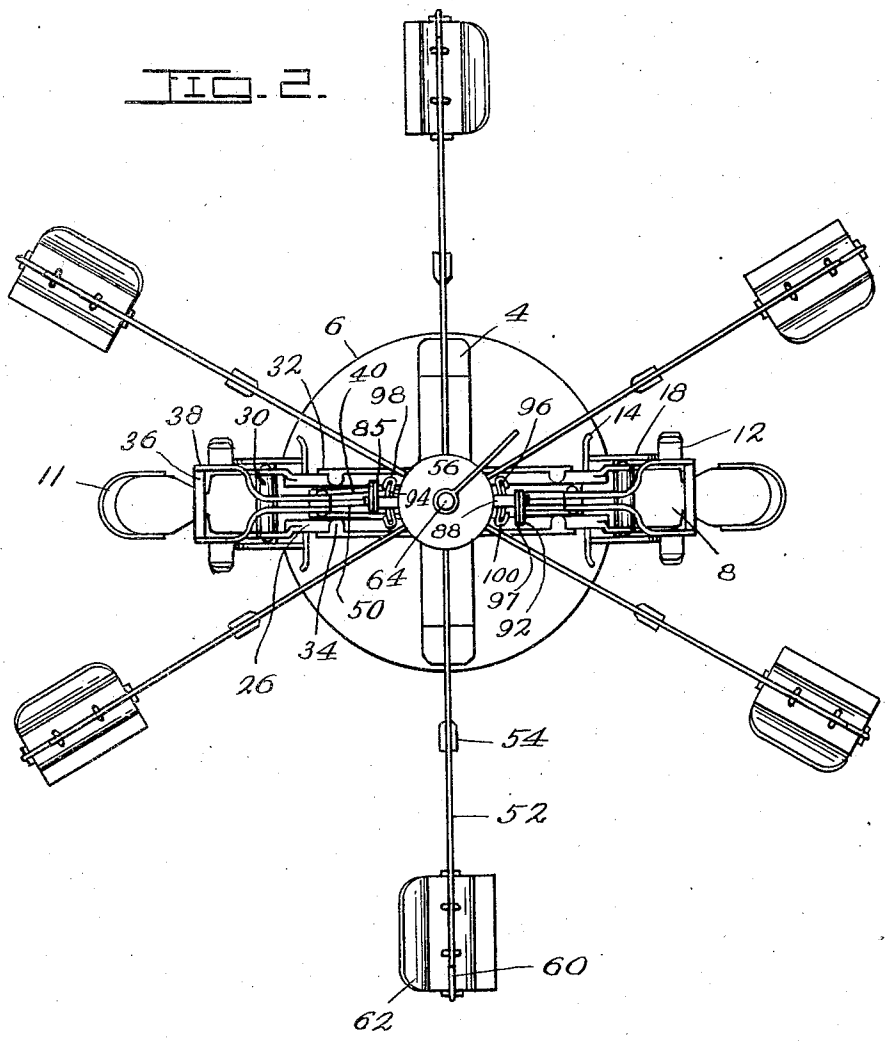

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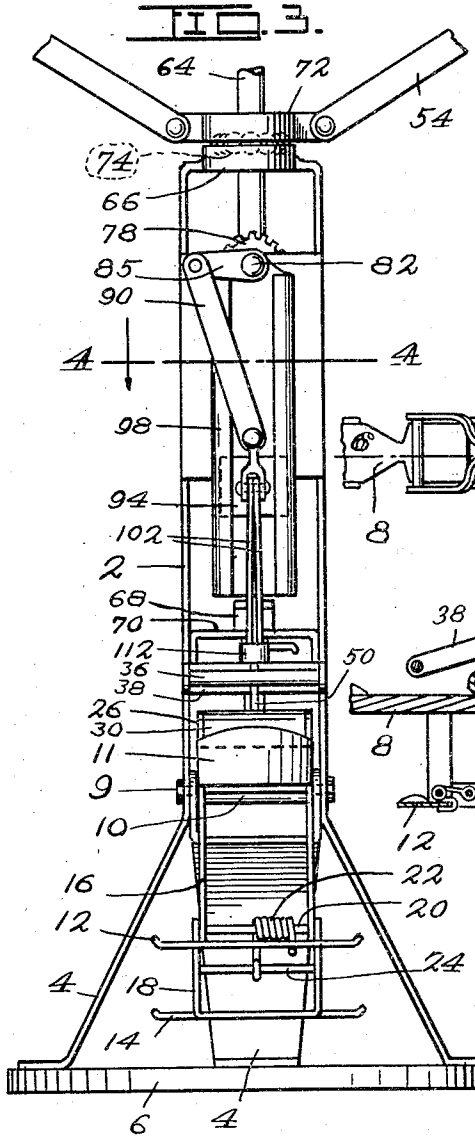
FIG. 3.



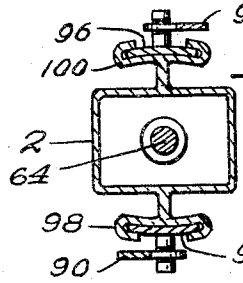


FIG. 4.

FIG. 5.

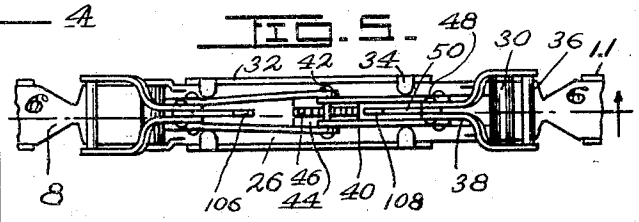


FIG. 6.

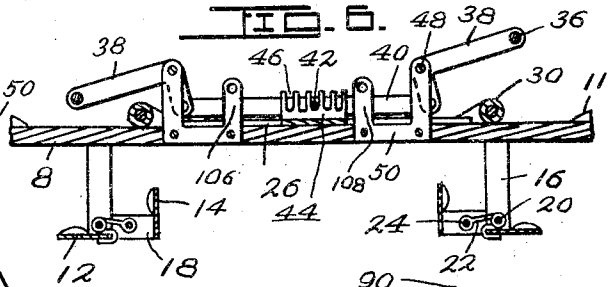


FIG. 8.

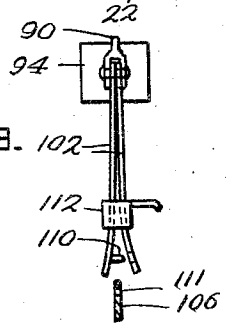
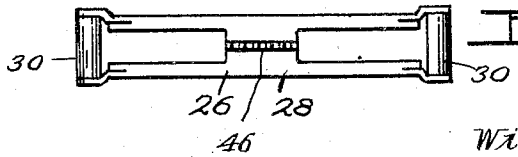


FIG. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM F. NORRIS, OF KANSAS CITY, MISSOURI.

COMBINATION TEETER-TOTTER AND MERRY-GO-ROUND.

Application filed July 19, 1926. Serial No. 123,563.

My invention relates to a combination teeter and merry-go-round and one object is the provision of a healthful, outdoor apparatus of this character whereby a number of children can simultaneously interest and amuse themselves.

A further object of the invention is to connect the teeter to the merry-go-round in such manner that the oscillations of the former will effect the rotation of the latter about a vertical axis.

Another object is to provide mechanism for adjustably balancing the oscillatory teeter in order to compensate for the difference in weight of the passengers carried thereby.

Other features will hereinafter appear and in order that the invention may be fully understood reference will now be had to the accompanying drawings, in which:

Fig. 1 shows the teeter in side elevation and the merry-go-round in vertical section.

Fig. 2 is a plan view of the apparatus.

Fig. 3 is an enlarged broken elevation of the supporting frame and associate parts.

Fig. 4 is a cross section on line 4—4 of Fig. 3.

Fig. 5 is a broken plan view of the teeter.

Fig. 6 is a longitudinal section on line 6—6 of Fig. 5.

Fig. 7 is a plan view of a balancing device which is adjustably mounted upon the teeter.

Fig. 8 is a detail of a pair of links and associate parts.

Referring in detail to the different parts, 2 designates a vertical supporting frame provided at its lower end with legs 4 rigidly mounted upon a suitable base 6, which in practice may be fixed upon a concrete or other suitable foundation.

8 designates an oscillatory teeter member mounted midway between its ends upon a shaft 9 which is mounted at its ends in opposite sides of the frame 2. A bearing 10 serves to reliably hold the teeter member 8 in position upon said shaft 9. The teeter member 8 is provided at its ends with seats 11 and steps 12 and 14. When the teeter member 8 is tilted by a passenger occupying one of the seats 11 the other high seat can be readily reached by means of the associate steps.

The steps 12 are fixed to the lower portions of U-shaped hangers 16 depending from the teeter member 8, while the steps 14 are fixed to arms 18 rockably mounted upon pivots 20 arranged in the lower portions of the hangers 16. Normally the steps 14 and the arms 18 are held in raised position as shown by Fig. 6, by coil springs 22 mounted upon the pivots 20 and having one end engaging the transverse lower portions of the hangers 16 and their opposite end engaging rods 24 connected to the arms 18.

26 designates a balancing device to compensate for the difference in weight of the persons carried by the teeter member 8. Said balancing device 26 consists of a frame 28 and roller weights 30, which latter travel upon the teeter member 8. The teeter member 8 may be provided with any suitable means for preventing lateral or vertical displacement of the frame 28. In the present instance I have shown said teeter member 8 provided with oppositely disposed plates 32 having lugs 34 which overlap the frame 28 as more clearly shown by Fig. 5. The mechanism for shifting the balancing device 26 longitudinally upon the teeter member 8 consists of handles 36, bell cranks 38 to which the handles 36 are fixed, links 40 pivotally connected to the lower ends of the bell cranks 38 and having their free ends connected by a transverse pin 42, and a plate 44 projecting upwardly from the intermediate portion of the frame 28 and provided with a series of vertical notches 46, any of which are adapted to receive the pin 42. The bell cranks 38 are mounted upon fulcrums 48 carried at the upper ends of the longer arms of U-shaped fittings 50 secured to the teeter member 8 at opposite sides of the notched plate 44.

Having described the teeter and the balancing means therefor, I will now proceed to describe the merry-go-round and the mechanism whereby it is rotated when the teeter is operated. As shown by Figs. 1 and 2, the merry-go-round embodies a skeleton rotary frame consisting of radially disposed arms 52 and braces 54. The arms 52 are connected at their inner ends to a cap 56 and provided at their outer ends with hangers 58 from which rods 60 are suspended for the purpose of carrying seats 62.

The cap 56 is mounted upon a vertically disposed rotary shaft 64, which is journaled

in the top 66 of the frame 2 and the bearing 68 of a cross bar 70 fixed to the opposite sides of the frame 2, Figs. 1 and 3. The braces 54 are secured at their outer ends to the arms 52 and at their inner ends to a revolvable head 72 supported upon a series of balls 74 which are disposed in a circular ball race in the upper portion 66 of the frame 2.

The shaft 64 is provided with a fixedly mounted bevel wheel 76 which intermeshes with diametrically opposed bevel wheels 78 and 80 fixedly mounted upon shafts 82 and 84 journaled in bearings 86 and 88, respectively, carried at opposite sides of the frame 2. The shafts 82 and 84 are provided with fixedly mounted cranks 85 and 87 which are operably connected to the upper ends of connecting rods 90 and 92 which are pivotally connected at their lower ends to cross heads 94 and 96, respectively.

The cross heads 94 and 96 operate in slideways 98 and 100 fixed to opposite sides of the frame 2, and said cross heads 94 and 96 are pivotally connected to the upper ends of links 102 and 104, which in turn are operably connected to short arms 106 and 108 of the respective U-shaped fittings 50. As shown more clearly by Fig. 8, the links 102 are arranged in pairs and one is provided at its lower end with a laterally projecting stud 110 adapted to extend through an eye 111 in the upper end of the arm 106. In making the connection the links 102 are spread apart to pass over the opposite sides of the arm 106, after which the stud 110 is passed through the eye 111 and into the eye in the lower end of the companion link 102, whereupon a sleeve 112 is slid downwardly upon the links to keep them from spreading apart and withdrawing the stud 110 from said eyes. The links 104 are connected to the arm 108 in the same manner as the links 102 are connected to the arm 106, as is evidenced by corresponding reference numerals with exponents a.

With the parts constructed and arranged as shown and described it is apparent that when the teeter is oscillated by passengers occupying the seats 11, rotary motion will be imparted to the merry-go-round through the intermediary of the intervening mechanism.

While I have shown and described the preferred construction, combination and arrangement of parts, I reserve all rights to such changes and modifications as properly fall within the spirit and scope of the invention as claimed.

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

1. In an apparatus of the character described, an oscillatory member, supporting means therefor, seats at the ends of said oscillatory member, stationary steps depending from said oscillatory member, foldable steps associated with said stationary steps, and spring means for normally holding said foldable steps in inactive position.

2. In an amusement apparatus, an oscillatory member, a supporting frame therefor, a vertical shaft journaled in said frame, passenger carrying means mounted upon said shaft to rotate therewith, a gear wheel fixedly mounted upon said shaft, a second gear wheel intermeshing with the first-mentioned gear wheel and mounted upon the supporting frame, and means actuated by the oscillatory member for driving said second gear wheel.

3. In an amusement apparatus, an oscillatory member, a supporting frame therefor, a vertical shaft journaled in said frame, passenger carrying means mounted upon said shaft to rotate therewith, a gear wheel fixedly mounted upon said shaft, a second gear wheel intermeshing with the first-mentioned gear wheel, a shaft journaled in the supporting frame and upon which said second gear wheel is fixedly mounted, a crank fixedly mounted upon said shaft, a connecting rod connected to said crank, a cross head connected to said connecting rod, a guide on the supporting frame for said cross head, and a link connected to said cross head and the oscillatory member.

4. In an amusement apparatus, an oscillatory member, supporting means therefor, a vertical shaft journaled in said supporting means, passenger carrying means mounted to rotate with said shaft, a bevel gear wheel fixedly mounted upon said shaft, two bevel gear wheels intermeshing with the first-mentioned gear wheel, shafts journaled in the supporting means and upon which said two gear wheels are mounted, and means for transmitting motion from the oscillatory member to said shafts.

5. In an apparatus of the character described, an oscillatory member, supporting means therefor, a vertical shaft journaled in said supporting means, mechanism for transmitting motion from the oscillatory member to said shaft, a cap fixedly mounted upon the shaft, arms radiating from said cap, passenger carrying means suspended from said arms, a ball bearing mounted upon the supporting means and including a head rotatable with the shaft, and braces connected to said head and the arms.

6. In an amusement apparatus, an oscillatory teeter member adapted to support a passenger at each end, rollers arranged to travel upon said teeter member, a frame connecting said rollers, means upon the teeter member for guiding said frame, and manually operable means mounted upon the teeter member for adjusting said frame towards either end of said teeter member.

7. In an amusement apparatus, an oscillatory teeter member adapted to support a passenger at each end, rollers arranged to travel upon said teeter member, a frame connecting said rollers, manually controlled levers mounted upon said teeter member, links pivotally connected to said levers, a transverse pin connecting said links, and a plate secured to the frame and provided with a series of notches any of which are adapted to receive said pin.

In testimony whereof I affix my signature.

WILLIAM F. NORRIS.