Dec. 23, 1924. 1,520,592

G. MONGILLO

AMUSEMENT APPARATUS

Filed Dec. 8, 1921 3 Sheets-Sheet 1

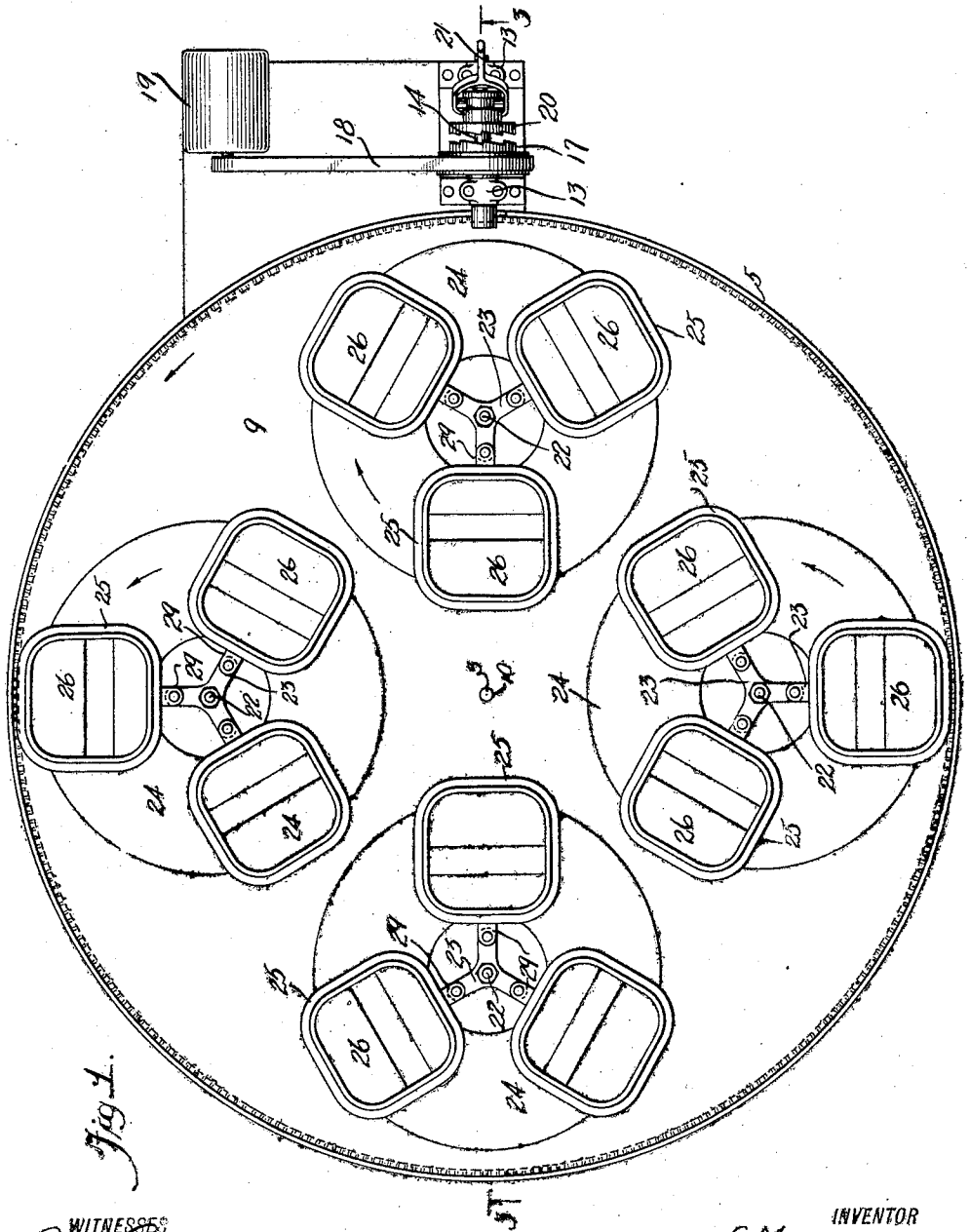

Fig. 1.

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AMUSEMENT APPARATUS

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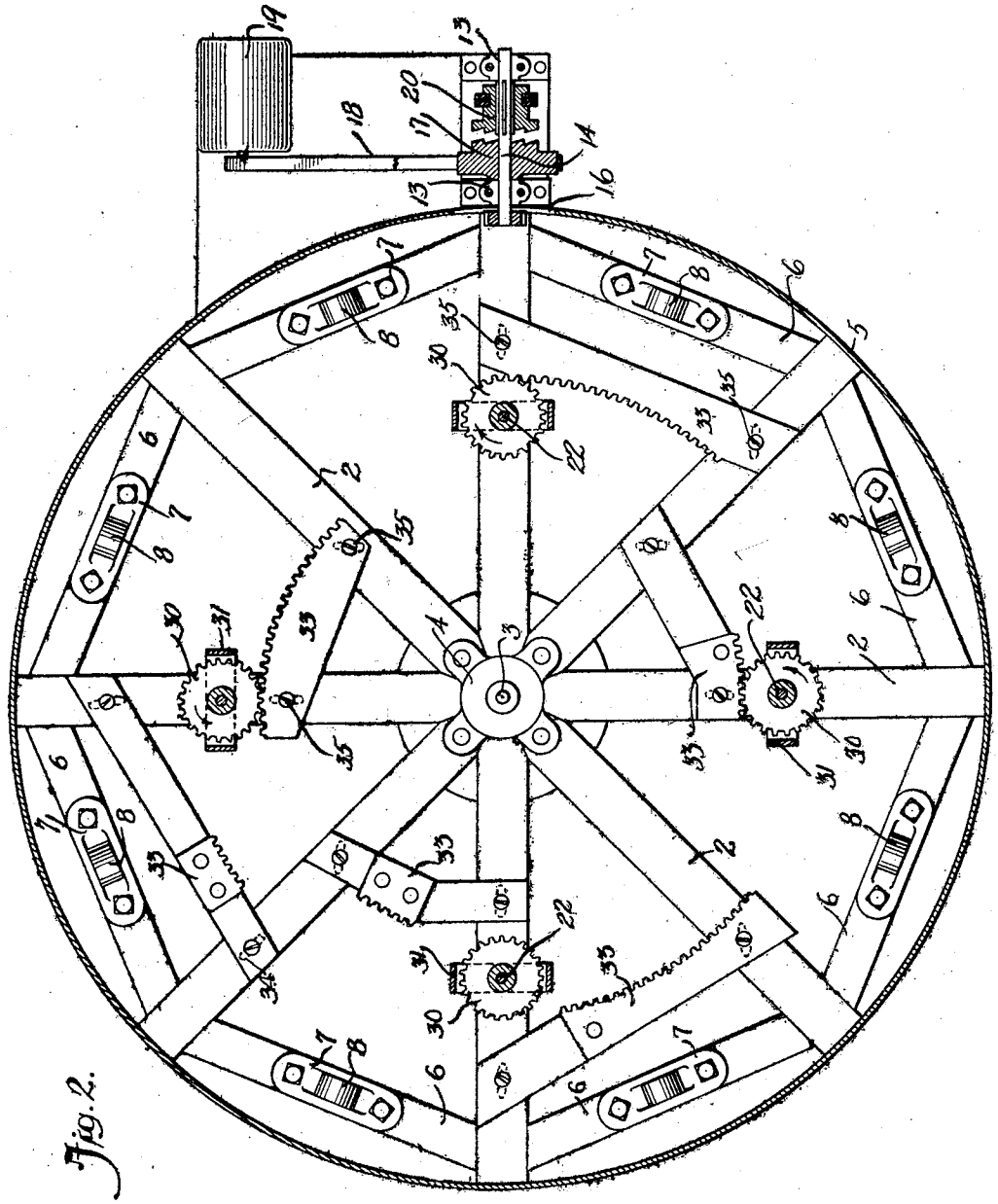

Fig. 2.

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AMUSEMENT APPARATUS

Filed Dec. 8, 1921 3 Sheets-Sheet 3

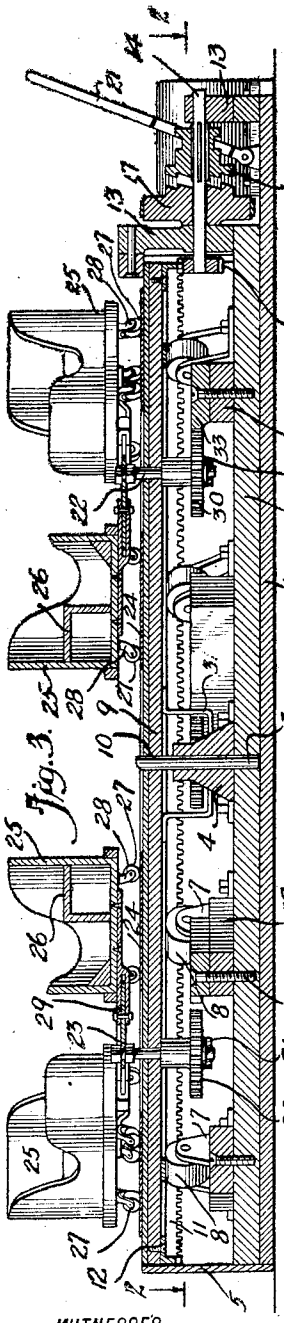

Fig. 3.

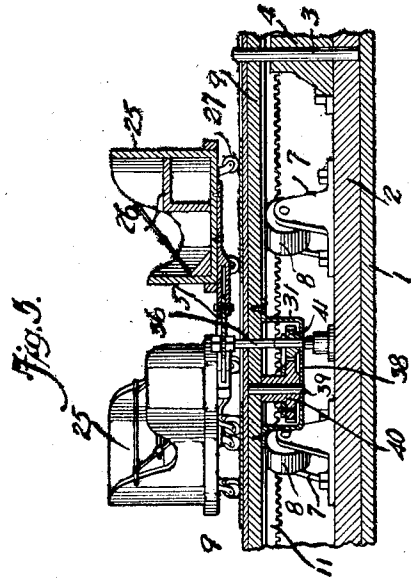

Fig. 5.

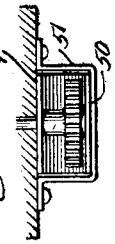

Fig. 7.

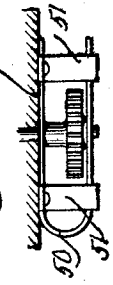

Fig. 6.

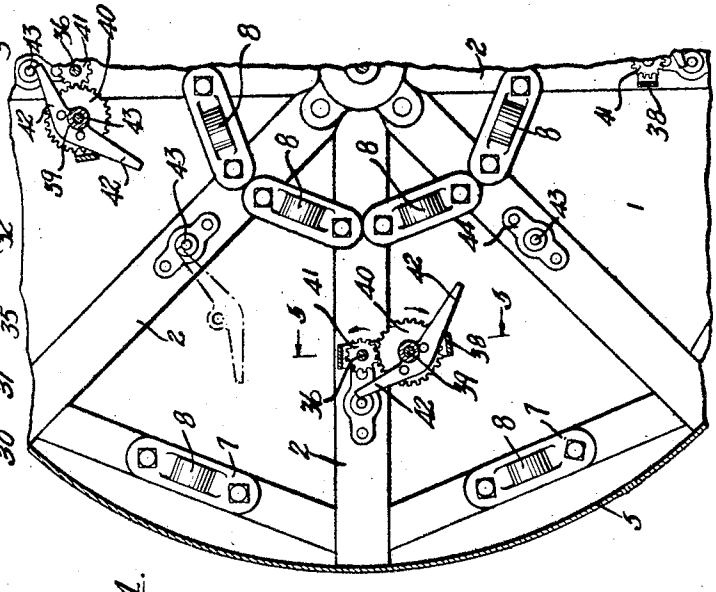

Fig. 4.

WITNESSES

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Patented Dec. 23, 1924. 1,520,592

UNITED STATES PATENT OFFICE.

GIACOMO MONGILLO, OF DERBY, CONNECTICUT, ASSIGNOR OF ONE-THIRD TO JOHN MONGILLO, OF SALAMANCA, NEW YORK, AND ONE-THIRD TO JOHN J. BENNETT, OF ANSONIA, CONNECTICUT.

AMUSEMENT APPARATUS.

Application filed December 8, 1921. Serial No. 520,965.

To all whom it may concern:

Be it known that I, GIACOMO MONGILLO, a citizen of the United States, and a resident of Derby, in the county of New Haven and State of Connecticut, have invented a new and Improved Amusement Apparatus, of which the following is a full, clear, and exact description.

This invention relates to improvements in amusement apparatus, an object of the invention being to provide a novel form of apparatus in which a number of passenger cars are given an unusual movement by an improved operating mechanism.

A further object is to provide a device of this character which will furnish the thrills in demand at amusement resorts, and yet, which will be safe to ride upon.

Still another object is to provide a device of this character, which will be simple and practical in construction, strong, durable and efficient in use, neat and attractive in appearance, and comparatively inexpensive to install and operate.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings:

Figure 1 is a top plan view of my improved amusement apparatus;

Figure 2 is a view in section therethrough on the line 2—2 of Figure 3;

Figure 3 is a view in section on the line 3—3 of Figure 1;

Figure 4 is a fragmentary plan view of the device with the turn table removed, illustrating a slight modification; and

Figure 5 is a fragmentary detail view in section on the line 5—5 of Figure 4.

Figures 6 and 7 are fragmentary detail views illustrating modified means for supporting the actuating mechanism for the cars.

Referring in detail to Figures 1, 2 and 3 of the drawings, it will be seen that I have used the reference numeral 1 to designate a base or bed plate for my improved apparatus. Upon this bed plate there are provided a number of foundation braces or strengthening bars 2, radiating from a common center, as seen most clearly in Figure 2. These braces are preferably formed with interfitting inner ends and at the junction of all the braces, a central post 3 is mounted in a block 4 supported upon the inner ends of the braces in any approved manner. A circular wall 5 is mounted upon the bed plate 1.

The outer ends of the braces 2 are connected by reinforcing bars 6, and brackets 7 secured upon the upper face of the bars 6 provide mounting for rollers 8. A turn table 9 is formed with a central opening 10 receiving the upper end of the post 3. This turn table is supported upon the rollers 8 and is formed of any strong, durable material suitable for the purpose. It will be noted that the rollers 8 are arranged around the outside of the turn table and the turn table may be strengthened in any approved manner to prevent bending or buckling in the center.

A ring gear 11 is secured around the edge of the under face of the turn table 9 by any suitable securing devices, indicated at 12. The teeth of the ring gear are presented downwardly. Outside of the enclosing wall 5 and mounted upon the bed plate 1 are a pair of bearing blocks or journal boxes 13 providing bearings for a shaft 14. The shaft 14 carries a pinion 15. This pinion is located within an opening 16 in the side wall 5 and is engageable with the teeth of the ring gear to rotate the platform when the shaft 14 is turned. Any approved means might be utilized for turning the shaft. I have illustrated a clutch member 17 loosely mounted upon the shaft 14 and driven by a power transmitting device 18 from the drive shaft of a suitable motor 19. I have also shown another clutch member 20 keyed to the shaft 14 and slidable into engagement with the clutch member 17 upon operation of a clutch fork 21. It will thus be seen that power may be applied to the shaft by merely using the clutch fork to throw in the clutch.

Relatively short vertical shafts 22 are journaled in the turn table 9 and are arranged so that each shaft is at the same distance from the center of the table and at the same distance from the adjacent shaft. The shafts project above and below the table and spiders 23 are fixed to the upwardly extending ends thereof. Arranged around each shaft upon the top of the turn table is a cir-

cular runway or track 24, preferably of sheet metal or other durable material.

I have used the reference numeral 25 to designate passenger cars adapted to conveniently accommodate two or three passengers. Each car comprises a body portion having a seat 26 and is supported upon a number of casters 27 mounted in brackets 28 which are turnable freely to prevent skidding of the cars as they are swung about, first in one direction, and then in another, as will be more fully hereinafter explained. Attached to each car is a forwardly presented tongue 29 pivotally connected at its forward end to one of the arms of one of the spiders 23. In the preferred form of the device, there are four of the tracks 24 arranged upon the turn table and there are also preferably three cars connected to each spider and movable upon each track.

From the foregoing description it will be apparent that an alternate rotary motion of the shafts 22 will operate through the medium of the spiders to swing the cars 25 first in one direction and then in another. I have provided a novel means for accomplishing this movement of the shafts 22. The shafts adjacent their lower ends carry gear wheels 30 and may, if desired, have their lower ends mounted in depending U-shaped brackets 31 secured to the under face of the turn table and straddling the gear wheels. Blocks 32 secured upon the braces 2 serve to support arcuate racks 33. It will be noted that slots, such as 34, are provided in the blocks 32 and that the securing devices 35 for the racks pass through these slots and engage in the bars 2 so that the racks may be adjusted to the proper position and may also be adjusted to take up wear on the teeth.

These racks are arranged in staggered relationship and are of varying lengths. Some of the racks have their teeth presented toward the outside of the turn table and some have their teeth presented toward the central post 3. They are so arranged that the teeth of the racks are engaged by the gear wheels 30 when the turn table 9 is revolved. I preferably arrange the racks in such a manner that the gear wheels 30 are turned first in one direction and then in another, as seen most clearly in Figure 2 of the drawings.

The operation of the device is as follows: The shaft 14 is driven causing the pinion 15 which is in engagement with the ring gear 11 to turn the table 9, which carries the shafts 22. As the table is turned, the gear wheels 30 come in contact with the racks 33 and are turned first in one direction and then in the other, as will be apparent from the drawings. As these gear wheels are turned, the shafts 22 are compelled to turn carrying with them the spiders 23. The tongues 29 of the cars 25 being connected to the spiders cause the cars to be swung on the tracks 24. The alternating motion of the gear wheels of course causes an alternate and irregular swinging movement of the cars. It will thus be seen that the tracks 24 are constantly moving in one direction while the cars mounted upon the tracks are being swung back and forth thereon.

Referring now to Figures 4 and 5 of the drawings, wherein I have illustrated a modified means for swinging the cars upon the tracks, it will be seen that I have shown shafts 36 journaled in the turn table 9 and carrying spiders 37 to which the passenger cars 25 are attached. These shafts are likewise journaled with their lower ends in hanging U brackets 38 and carry adjacent their lower ends pinions 41. Pins 39 are secured between the brackets 38 and the under face of the turn table. Mounted to rotate upon these pins are gear wheels 40 meshing with the pinions 41. The gear wheels 40 carry laterally extending arms 42. With this form of the device I do away entirely with the racks and substitute for the racks upstanding posts 43 mounted upon the bars 2 in suitable sockets 44.

The operation of this form of device is as follows: As the table is turned carrying with it the shafts 36, the arms 42 engage with the upright posts. Continued travel of the turn table operates through the medium of the arms to turn the gear wheels 40 which carry the arms. These gear wheels intermeshing with the pinions 41 cause turning of the shafts 36 and spiders 37 and consequent swinging of the cars 25. It will be noted that the posts 43 are arranged in staggered relationship so that the travel of the arms 42 is successively interrupted, causing the gear wheels 40 to be alternately rotated in opposite directions and giving substantially the same movement to the cars as the mechanism illustrated in the preferred form of the device.

In Figures 6 and 7, I have illustrated a modified means for supporting the gear wheels 30. In these drawings, it will be seen that U-shaped brackets 50 have one arm secured to the under face of the turn table 9 and that other U-shaped brackets 51 having their extremities secured to the under face of the turn table straddle and support the free arms of the brackets 50 thereby providing a firm mounting for the car actuating means.

Although I have illustrated and described certain of the preferred embodiments of the invention, it will be noted that numerous slight changes and alterations might be made in the general form and arrangement of the parts described without departing

from the invention, and hence I do not wish to limit myself to the precise details set forth, but shall consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. An amusement apparatus, comprising a rotary turn table, a shaft supported in the turn table, a member fixedly secured to the shaft, a plurality of cars mounted to move on the turntable and pivotally connected to said member, a pinion fixed to said shaft, and a plurality of independent and adjustable racks of varying lengths and in staggered relation and engageable in turn by the pinion when the turn table is revolved to impart rotary motion first in one direction and then in the other to said member on the shaft and thereby swing the cars in different directions on the turn table.

2. An amusement apparatus, comprising a support, rollers on the support, a turn table guided by the support and mounted on rollers, tracks on the turn table spaced from the center thereof, shafts mounted centrally in the tracks, spiders on the upper ends of the shafts, a plurality of wheeled cars on each track, tongues pivotally connecting the cars with the spiders, and means under the turn table for alternately imparting motion to the shafts to turn the same in opposite directions, said means comprising a pinion and fixed segmental racks on the table and arranged in staggered relation.

3. An amusement apparatus, comprising a support, rollers on the support, a turn table guided by the support and mounted on rollers, tracks on the turn table spaced from the center thereof, shafts mounted centrally in the tracks, spiders on the upper ends of the shafts, a plurality of wheeled cars on each track, tongues pivotally connecting the cars with the spiders, segmental racks fixed to the support under the turn table in staggered relation, and pinions carried by the shafts engaging the racks.

4. An amusement apparatus, comprising a support, rollers on the support, a turn table guided by the support and mounted on rollers, tracks on the turn table spaced from the center thereof, shafts mounted centrally in the tracks, spiders on the upper ends of shafts, a plurality of wheeled cars on each track, tongues pivotally connecting the cars with the spiders, segmental racks fixed to the support under the turn table, pinions carried by the shafts engaging the racks, and U shaped brackets fixed to the turn table and supporting the lower ends of said shafts.

5. An amusement apparatus, comprising a base, a rotary turntable, a plurality of shafts carried by the turntable, a pinion on each shaft below the turntable, an armed member secured to each shaft above the table, a plurality of wheeled cars pivotally secured to the armed member of each shaft, and a plurality of segmental toothed members of varying lengths and in staggered relation, the teeth of some of the members being on their outer faces and the teeth of others on their inner faces, and means for adjustably securing the toothed members to the base.

GIACOMO MONGILLO.