

C. L. JOHNSON.

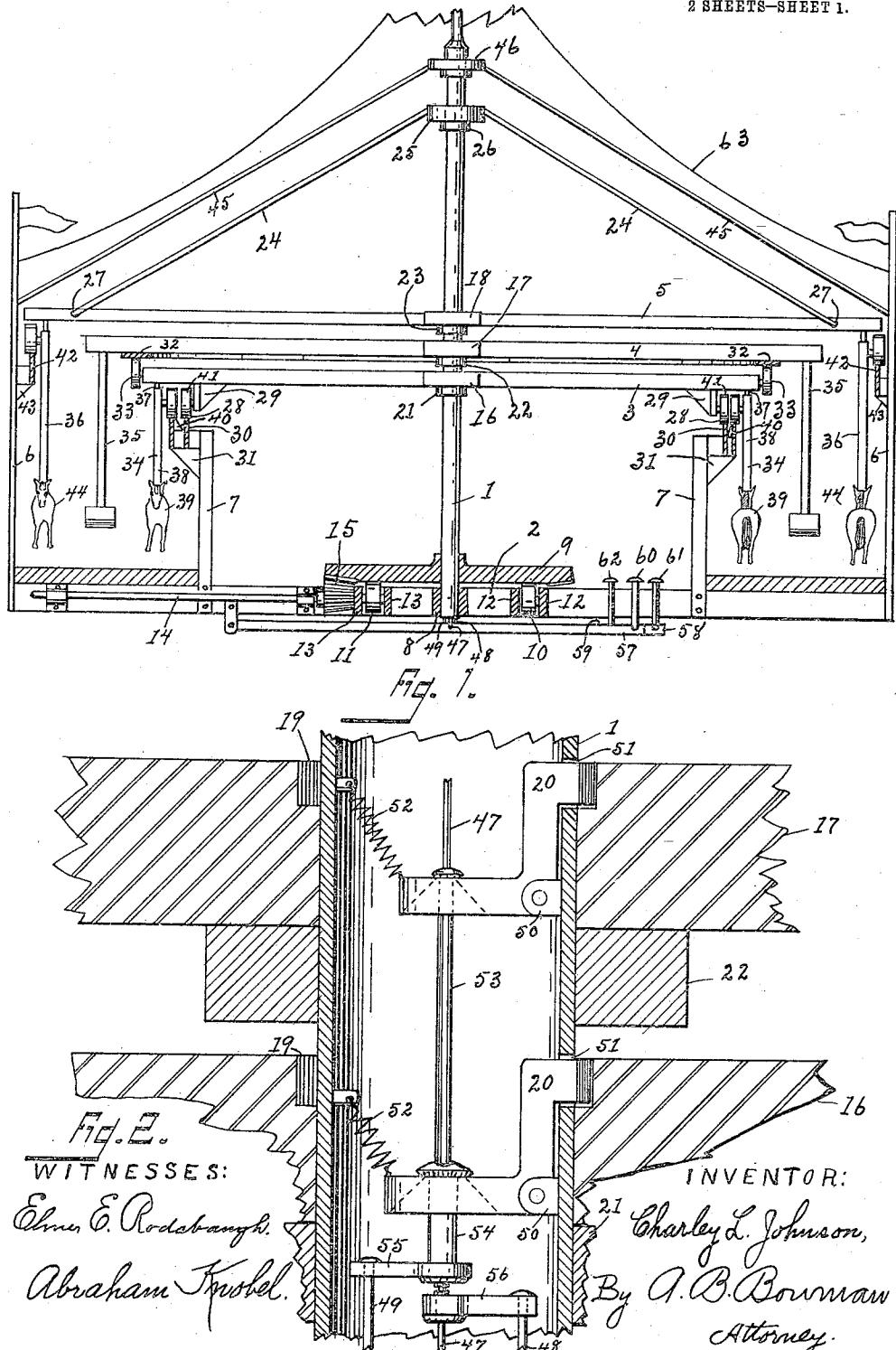
MERRY-GO-ROUND.

APPLICATION FILED NOV. 11, 1912.

1,127,361.

Patented Feb. 2, 1915.

2 SHEETS—SHEET 1.



WITNESSES:

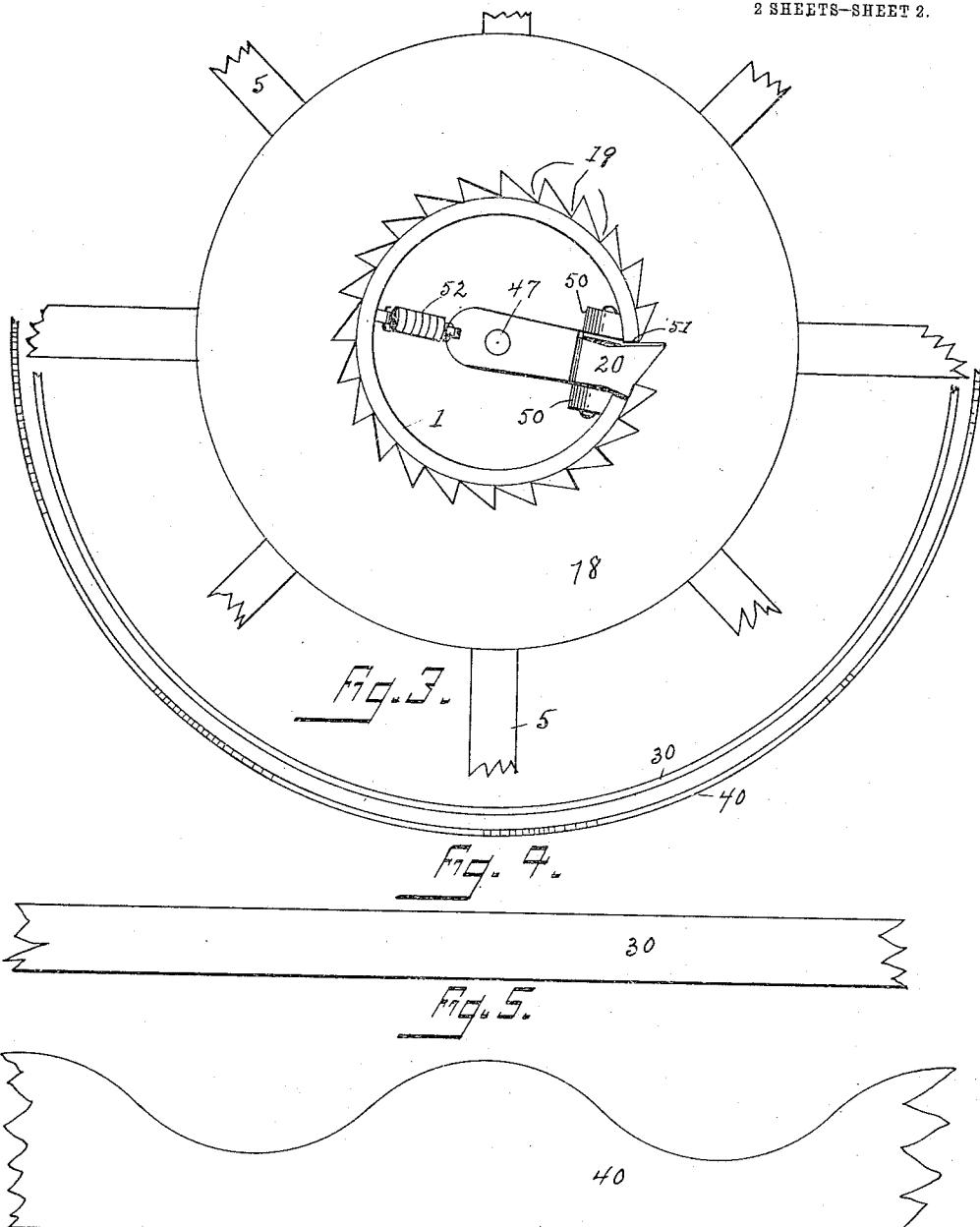
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UNITED STATES PATENT OFFICE.

CHARLEY L. JOHNSON, OF SAN DIEGO, CALIFORNIA.

MERRY-GO-ROUND.

1,127,361.

Specification of Letters Patent.

Patented Feb. 2, 1915.

Application filed November 11, 1912. Serial No. 730,564.

To all whom it may concern:

Be it known that I, CHARLEY L. JOHNSON, a citizen of the United States, and a resident of San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Merry-Go-Rounds, of which the following is a specification.

This invention relates to merry-go-rounds, and some of the objects of my improvement are, simplicity of construction, to attain new amusement features, facility of control, neatness of appearance, facility of assembling and taking down, and economy of power for operation. These and other objects I attain by means of the mechanism and apparatus illustrated in the accompanying drawings, in which:—

Figure 1 is a substantially central vertical section; Fig. 2, a fragmentary detail sectional view of the mast and the mechanism for controlling the speed of the sweeps; Fig. 3, a fragmentary top plan view of one of the spiders, the column, and the control mechanism; Fig. 4, a fragmentary plan view of a smooth track and a wave track; Fig. 5, a fragmentary elevation of a smooth track; and, Fig. 6 is a fragmentary elevation of a wave track.

Similar reference numbers refer to similar parts throughout the several views of the drawings.

A mast, 1, a base, 2, in which the mast is mounted sweeps, 3, 4, and 5, which are mounted upon the upper portion of the mast, outside supports, 6, and inner supports, 7, constitute the framework and main parts of the structure of the mechanism and apparatus. The mast 1 is preferably hollow and made of metal tubing and is rotatably mounted in a journal bearing, 8, in the base frame 2.

Upon the lower part of the mast 1 is rigidly mounted a bevel gear, 9, by means of which the mast is rotated. The under surface of gear 9 is preferably turned to form a smooth circular track under which are journaled on frame 2 anti-friction wheels, 10 and 11, in brackets, 12 and 13. By this means an anti-friction step bearing is provided for mast 1. A horizontal shaft, 14, is mounted in bearings placed on frame 2 and provided with a bevel pinion, 15, which meshes with gear 9 to impart rotary motion to the gear and the mast.

Overhead on mast 1 are mounted spiders,

16, 17, and 18, one above the other, in which are secured the sweeps 3, 4, and 5 in radial series. The spiders are loosely mounted upon mast 1 to adapt them for rotation independent of the mast, and each spider is formed with internal ratchet teeth, 19, by which, through the instrumentality of a ratchet pawl, 20, each spider and its sweeps may be rotated in the forward direction. Underneath the spiders are rigidly secured on the mast collars, 21, 22, and 23, upon which the spiders bear. The upper series of sweeps, 5, is supported in horizontal position by truss rods, 24, which extend from a spider, 25, resting upon a collar, 26, similar to spider 18, to the outer ends of the sweeps at 27. The bottom series of sweeps, 3, is supported by means of wheels, 28, mounted on brackets, 29, which in turn are mounted on the under side of the outer portion of each sweep. The wheels 28 travel upon a smooth circular track, 30, which is secured on brackets, 31, mounted upon the supports 7. The supports 7 are preferably secured to frame 2 at their lower ends. The series of sweeps 4 is preferably provided on its under side with a smooth track, 32, and the outer ends of the sweeps are supported in horizontal position by wheels, 33, mounted on the outer ends of the sweeps 3 and upon which the track 32 travels. It will thus be seen that the three series of sweeps may have independent rotation about mast 1, both mutually and in relation to the mast.

The outer ends of the sweeps of the several series are provided with vehicle pendants, 34, 35, and 36. The pendants 35 are rigidly secured in the ends of sweeps 4 and may be provided with hobby horses or chariots, or other carrying means. In the ends of sweeps 3 are rigidly mounted pendent guide rods, 37. Over these are telescoped tubes, 38, on which the hobby horses, 39, are mounted. On brackets, 31, is mounted a circular track, 40, formed with an undulatory tread surface. Wheels, 41, are mounted on studs on tubes 38 in such position that they are adapted to roll upon track 40. It will now be seen that as sweeps 3 carry the pendent rods 37 around, the wheels 41 roll upon track 40, and thus an undulating motion is imparted to the tubes 38 and the horses 39 mounted thereon, thus giving to the horses a galloping motion. Similar mechanism is provided on the outer ends of

sweeps 5. In this instance, the circular undulatory track, 42, is secured on brackets, 43, attached to outer supports 6. By this means, when sweeps 5 revolve above the 5 mast a galloping motion is imparted to horses, 44. The upper end of mast 1 is connected with the outer supports 6 at their upper ends by means of guide rods, 45, which are mounted at their one end in a stationary spider, 46, and at their opposite ends near the upper end of supports 6. Mast 1 has a journal bearing for its upper end in spider 46. It is now obvious that when the several series of sweeps are in motion, being mounted for independent rotation on mast 1, one series may revolve faster or more slowly than the others, and therefore one series of the horses or other vehicles may pass those of another series in their 10 course. By this means an additional element of pleasure for the occupants is introduced by a race between the adjacent vehicles of the different series. To facilitate this mode of operation, controlling means 15 are provided by which the speed of the several series of sweeps may be voluntarily controlled by the operator. This comprises a series of rods, 47, 48, and 49, which are indirectly attached to the pawls 20 of the several spiders 18, 17, and 16 respectively which 20 will be more particularly described herein-after. The pawls 20 are bell crank levers fulcrumed in brackets, 50, mounted on the inner wall of mast 1 and extending across 25 the axis of the mast. The end of pawl 20 (Figs. 2 and 3) protrudes through a slot, 51, and engages the ratchet teeth 19 in the spider. A tension spring, 52, attached at 30 one of its ends to the inner wall of the mast and at its opposite end to the free arm of 35 the pawl causes the pawl to normally protrude through slot 51 and engage the ratchet teeth of the spider. A tube, 53, is loosely mounted in the free arm of the middle 40 ratchet pawl, adapted to loosely receive the rod 47 and permit it to slide therein. A tube, 54, larger than tube 53, is similarly mounted in the lower pawl, through which 45 tube 53 passes. Rod 47 is loosely mounted 50 in the uppermost pawl 20. On tube 54 is secured a horizontal arm, 55. To this is connected rod 49. At the lower end of tube 55 56 is secured a horizontal arm, 56, in the extended end of which is mounted rod 48. The holes in the arms of pawls 20 in which 60 these rods and tubes are mounted are preferably elongated or tapered underneath, as indicated by dotted lines, to accommodate the angular movement of the arms on the rod 47 and the tubes when the pawls are operated. The rods 47, 48, and 49 all pass downward on the inside of the mast and protrude from the bottom of the mast. Here they are pivotally connected with horizontal levers, 57, 58, and 59, which are ful-

crumed at one end on base 2. The free end of the levers may be provided with upright pedal rods and pedal pushes, 60, 61, and 62.

The operation of the control mechanism will now be understood. Normally, all the 70 pawls 20 are in engagement with the ratchet teeth of the spiders, being held in such engagement by springs 52, and the pushes 60, 61, and 62 are in raised position. Power may now be applied through shaft 14, and 75 the several series of sweeps caused to revolve about the mast. When a suitable speed has been attained by the horses, the operator may press one of the pushes and thereby release one of the pawls 20, say the uppermost 80 one, from the spider 18. The outermost series of horses will now begin to lose speed, due to the friction in their various parts, and the series of vehicles on sweeps 3 and 4 85 will pass them. Thus the operator may unlock any one or two of the series and permit them to fall behind the others and in this way may vary the relative position of the horses or vehicles and provide an exciting race. A tent, 63, may surmount the entire 90 structure in the usual way.

It is obvious that with the mechanism and apparatus described a superior amusement feature is provided and this is accomplished in a simple and comparatively economical 95 manner, and that comparatively little power is required to operate the mechanism, especially when anti-frictional bearings are provided in the several spiders and wheels.

Having thus described my invention, so 100 that anyone skilled in the art pertaining thereto may understand its construction and use, I claim:—

1. A merry-go-round, comprising a central mast, means for rotating said mast, 105 sweeps in plural series extending radially from said mast, said series of sweeps being loosely mounted on the upper part of said mast and adapted for revolution mutually independently and independently relative to 110 said mast, stationary supports arranged in circular series beyond the reach of said sweeps, a similar series of stationary supports arranged concentrically with and between said mast and said outer series of 115 supports, a circular smooth track mounted upon the upper part of said supports, a circular undulatory track mounted on the upper part of said supports, vehicle pendent guides rigidly mounted in the ends of said 120 sweeps, and vehicle pends mounted for undulating motion on said guides.

2. A merry-go-round, comprising a central mast, means for rotating said mast, sweeps in plural series extending radially 125 from said mast, said series of sweeps being loosely mounted on the upper part of said mast and adapted for revolution mutually independently and independently relative to 130 said mast, and means for voluntarily con-

- trolling the speed of said series of sweeps, comprising internal ratchet teeth in the hubs of said sweep series, ratchet pawls mounted on the inside of said mast and protruding 5 through the wall of said mast, rods connected with said pawls and extending down within said mast, transverse levers connected with said rods, and terminal operating means connected with said levers.
- 10 3. A merry-go-round, comprising a central mast, means for rotating said mast, sweeps in plural series extending radially from said mast, said series of sweeps being loosely mounted on the upper part of said
- 15 mast and adapted for revolution mutually independently and independently relative to said mast, and means for voluntarily controlling the speed of said series of sweeps, comprising internal ratchet teeth in the hubs
- of said sweep series, ratchet pawls mounted 20 on the inside of said mast and protruding through the wall of said mast, rods connected with said pawls and extending down within said mast, transverse levers connected with said rods, and terminal operating 25 means connected with said levers, whereby the speed of each series of vehicles may be voluntarily controlled by the operator independently of the other series of sweeps.
- 30 In witness whereof, I have hereunto subscribed my name in the presence of two subscribing witnesses.

CHARLEY L. JOHNSON.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."