(No Model.)

M. T. WESTON.

CAROUSEL.

No. 510,746. Patented Dec. 12, 1893.

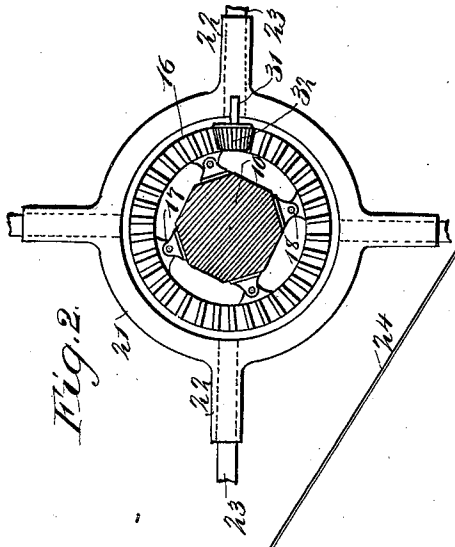

Fig. 2.

Fig. 1.

Fig. 4.

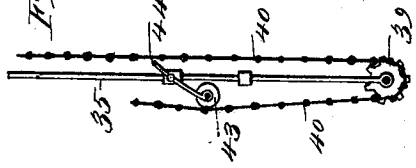

Fig. 3.

WITNESSES:

F. M. Ardle

C. Sedgwick

INVENTOR

M. T. Weston

BY Munn & Co

ATTORNEYS.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MILTON T. WESTON, OF KENTON, OHIO, ASSIGNOR OF ONE-HALF TO METELLUS THOMSON, OF SAME PLACE.

CAROUSEL.

SPECIFICATION forming part of Letters Patent No. 510,746, dated December 12, 1893.

Application filed August 4, 1893. Serial No. 482,387. (No model.)

To all whom it may concern:

Be it known that I, MILTON T. WESTON, of Kenton, in the county of Hardin and State of Ohio, have invented a new and Improved Carousel, of which the following is a full, clear, and exact description.

My invention relates to an improvement in carousels or merry-go-rounds, and it has for its object to so construct the carousel that it may be readily set up upon a lawn, in a hall, or other desirable place, and when not required for use whereby the machine may be dissected and stored away in parts.

Another object of the invention is to provide a device which will be simple and economic, whereby the arms to which the carriages are to be secured may be supported upon a mast in a manner to turn freely around it.

A further object of the invention is to so improve the driving mechanism that in addition to being simple in its construction and arrangement, the driving mechanism may be operated upon to stop the revolution of the arms at any time desired.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation, partially in section, of the improved carousel. Fig. 2 is a horizontal section through the mast, taken practically on the line 2—2 of Fig. 1. Fig. 3 is a detail view, illustrating a tightener applied to one of the driving belts connecting the carriage with the driving mechanism; and Fig. 4 is a detail face view illustrating a ratchet wheel secured on one of the arm shafts hereinafter referred to.

In carrying out the invention a mast 10 is provided of any suitable size, which mast, however, is preferably made tapering longitudinally and somewhat polygonal in cross section. At the foot of the mast horizontal base beams 11, are detachably secured in any suitable or approved manner, and these base beams are strengthened and held in horizontal position through the medium of braces 12, connected with them and with the mast. The mast is provided at its head with a pivot pin 13, upon which a cap 14, is pivotally mounted, said cap being provided with a marginal flange 15, as shown best in Fig. 1. A circular toothed track 16, surrounds the mast at any desired point, preferably at a point near its center of height and the teeth of the said circular track are preferably beveled.

The track is adapted to have vertical movement upon the mast to a greater or less extent, and this is accomplished by locating upon the mast sockets 17, as shown in both Figs. 1 and 2, the sockets being located both above and below the track; and a series of rods or pins 18, is vertically secured to the inner face of the circular track, and the said rods or pins have sliding movement in the sockets 17.

The circular track has attached to its under side rods 19, extending downward at opposite sides of the mast, and these rods are connected with the members of a forked lever 20, which is fulcrumed upon the mast, and in connection with the lever any form of locking device may be used. Therefore, it will be observed that by raising and lowering the lever the track may be raised or lowered upon its bearings.

A hub 21, is held to turn loosely around the mast below the circular track, and the said hub is provided with any desired number of radial brackets 22, extending horizontally from its periphery, as shown best in Fig. 2. The brackets are preferably made angular in cross section, and each bracket has bolted or otherwise removably secured to it the inner end of a carriage arm 23, said carriage arms consisting of beams of suitable thickness and of any desired length, and they are so called because they are supports for the carriage A employed.

The carriage arms and the hub are supported independently of the mast proper, and really revolve around the mast, the supports of the said arms consisting of two rods 24 and 25 connected with each arm, the rods 24, being secured to the outer ends of the arms and to the flange of the pivoted cap 14, while the

rods 25, are connected with the arms at their inner ends and with the pivoted cap.

Each of the rods 24 and 25 is provided with a turn-buckle 26, and by this means the carriage arms may be raised or lowered as circumstances may require. The hub and carriage arms have guided movement around the mast, which is effected usually by attaching to the bottom of the hub a ring 27, as shown in Fig. 1, and projecting downward from the ring spindles 28, upon which friction rollers 29, are loosely mounted, and the friction rollers are adapted to travel upon the periphery of a band 30, secured firmly to the mast. Each arm is provided with suitable bearings in which a shaft 31, is mounted, and each shaft at its inner end is provided with a beveled gear 32, which meshes with the teeth of the circular track 16; and at its outer end each shaft carries a sprocket wheel 33, loosely mounted upon the shaft, and each sprocket wheel is provided with a spring-controlled dog 33^a, as shown in Fig. 4, which is in constant engagement with a ratchet wheel 34, secured upon the shaft adjacent to the sprocket wheel. The dog 33^a is pivoted eccentrically on the sprocket wheel 33 and is held in engagement with the ratchet wheel 34 by the spring 33^b secured to the dog and to the sprocket wheel. The surfaces of the ratchet wheel and of the dog are grooved or roughened and when the sprocket wheel is turned in the direction indicated by the arrow, the dog cannot slip on the surface of the ratchet wheel 34, and the sprocket wheel and ratchet wheel will turn together; but when the sprocket wheel is turned in the reverse direction the dog will slide over the face of the wheel 34.

A carriage A, heretofore referred to, is suspended from each arm at or near its outer end in such manner that the carriage will not move laterally in any direction, being perfectly rigid; and the carriages are preferably made as shown in Fig. 1, in which they are shown double, comprising three body rods 35, arranged at suitable distances apart and secured to the carriage arms; and between the outer and inner rods saddles 36, are supported, preferably of the nature of bicycle or tricycle saddles; a shaft 37, is journaled in the lower portion of the body rods 35 of a carriage, and the said shaft is provided with a pair of pedal cranks 38 beneath each seat, the pedal cranks beneath one seat being at right angles to the ones beneath the next seat, so that when the occupant of one seat finishes a downward stroke the occupant of the next seat in the same carriage will just commence his downward stroke. In this manner the revolution of the crank shaft 37, is rendered continuous.

Each crank shaft is provided at its inner end with a sprocket wheel 39, and each sprocket wheel is connected by a chain belt 40 with the sprocket wheel 33 on the arm of the shaft 31 above it.

Each carriage is provided with a guard 41, to prevent persons from being injured by possible contact with the chain 40; and the supporting rods 35 of the carriage are provided with handles 42, arranged adjacent to the saddle, adapted to be gripped by the occupant of the carriage.

In order that the chain belts 40, may be kept constantly taut, a tightener is employed in connection with each belt, comprising a friction pulley 43, which engages with the rear stretch of the belt, as shown in Fig. 3, and a spring 44, upon which the pulley is mounted, the spring being adjustably attached to the inner supporting rod of the carriage.

The ratchet wheels 34 are employed on the arm shafts 31 to prevent a person in any of the carriages from working the pedal shafts backward, or endeavoring to retard the movement of the machine and thus bring strain to bear upon the gearing, as by means of the ratchet wheels and the peculiar connection with the sprocket wheels of the said shafts such an action is rendered impossible.

Wherever it is possible the parts are put together with pins or hooks in order that the machine may be expeditiously and conveniently dissected, or the parts readily put together again.

This machine is simple, it is durable and it is capable of being set up wherever it may be desirable to place it; there is no strain upon any of the gearing, and the revolving mechanism is supported entirely from the top of the mast.

In order to render the structure as rigid as possible the several carriage arms 23, are connected by longitudinal braces 45, two of which braces are shown in Fig. 1, but are shown as broken away near the arms.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a carousel or merry-go-round, the combination, with a mast, and a circular toothed track adjustably attached thereto, of a hub loosely encircling the mast, carriage arms attached to the hub, carriages suspended from the said arms, a pivotal support between the arms, hub and upper portion of the mast, driving shafts located in the carriages, driven shafts located upon the arms, a driving connection between the arm shafts and the carriage shafts and the arm shafts and the toothed track, and means, substantially as shown and described, for raising and lowering the circular track, thereby carrying it into or out of engagement with the arm shafts, as and for the purpose set forth.

2. In a carousel, the combination, with a mast, a ring secured firmly upon the mast, a circular toothed track surrounding the mast and having vertical adjustment thereon above the ring, and a cap pivotally mounted upon the upper end of the mast, of a hub loosely encircling the mast between the track and ring, friction rollers carried by the hub and engaging with the ring, arms projected from the hub, adjustable supports connecting the

arms and pivoted cap, carriages supported from the arms, drive shafts located in the carriages, driven shafts located upon the arms and having gear connection with the circular track, a belt connection between the arm shafts and the carriage shafts, and a shifting lever connected with the circular track, as and for the purpose specified.

3. In a carousel, the combination, with a mast, base arms removably connected therewith, braces removably connected with said arms, a cap pivotally mounted upon the mast, a ring secured upon and surrounding the mast, and a circular track provided with beveled teeth, surrounding and having vertical adjustment upon the shaft above the ring, of a hub loosely encircling the mast between the track and ring, friction rollers carried by the hub and engaging with the ring, an adjustable support between the arms and the cap, carriages supported by the arms, crank shafts located in the carriages, provided with pedal cranks in sets, the sets being arranged at angles to each other, shafts mounted upon the arms, having gear connection with the track, sprocket wheels loosely mounted upon the arm shafts, provided with dogs engaging ratchet wheels secured to the shafts, a belt connection between the sprocket wheels of the arm shafts and the crank shafts of the carriages, and a spring-controlled tightener engaging with each belt, as and for the purpose set forth.

MILTON T. WESTON.

Witnesses:
SIMON B. DE TRAY.
JAMES WATT.