

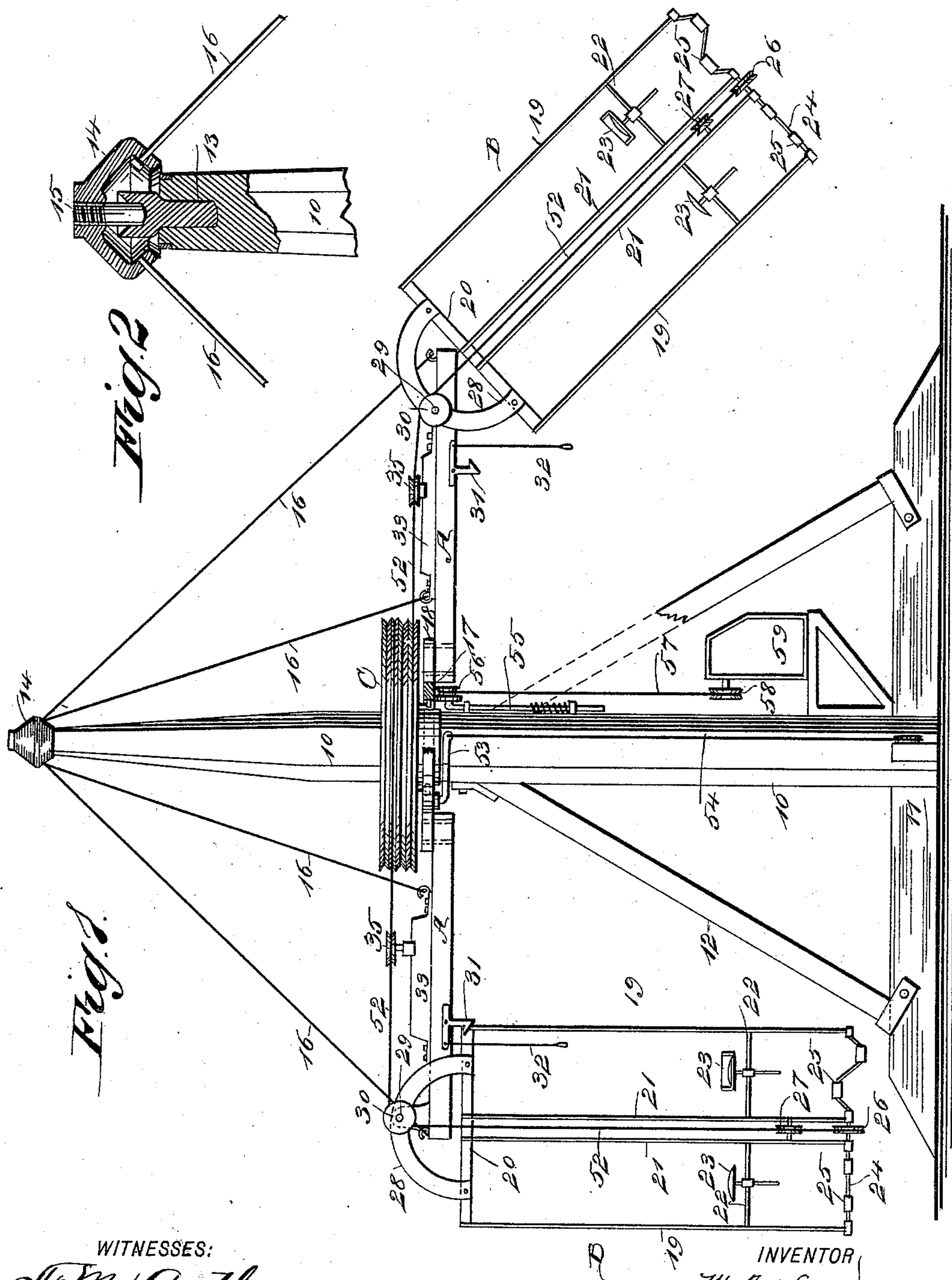
(No Model.)

2 Sheets—Sheet 1.

M. T. WESTON.  
CARROUSEL.

No. 540,127.

Patented May 28, 1895.



WITNESSES:

*F. Mc Ardle.*  
*J. A. Acker.*

INVENTOR

*M. T. Weston*

BY

*Munn & Co.*

ATTORNEYS.

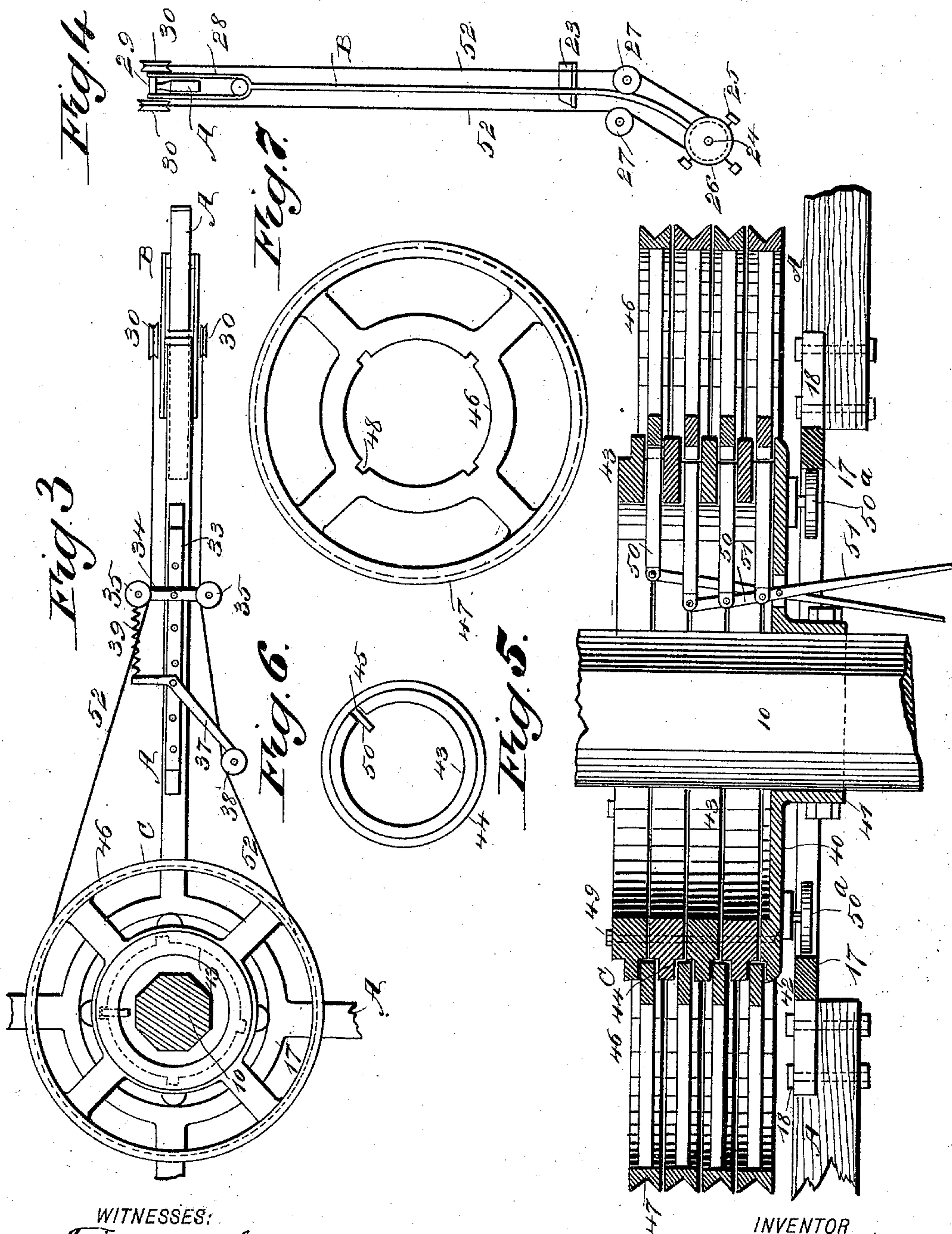
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WITNESSES:

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# UNITED STATES PATENT OFFICE.

MILTON T. WESTON, OF KENTON, OHIO, ASSIGNOR TO THE HALCYON CYCLE COMPANY, OF SAME PLACE.

## CAROUSEL.

SPECIFICATION forming part of Letters Patent No. 540,127, dated May 28, 1895.

Application filed June 14, 1894. Serial No. 514,578. (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, and it has for its object to provide a device of that character in which the carriages may swing outward from their supporting arms, assuming an inclined position, the position varying according to the velocity at which the supporting arms are turned, and furthermore to provide a means whereby each carriage will be provided with its own driving mechanism, and all the carriages be connected with a multiple drum, each section of the drum being connected with but one carriage; and a further object of the invention is to provide means whereby any section of the drum may be drawn into or out of gear with the driving mechanism of the carriage with which it may be connected.

A further object of the invention is to construct a carousel embodying the features above set forth, the construction being simple, durable and economic.

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 of the improved carousel, illustrating one of the carriages in a vertical and the other in an outwardly-inclined position. Fig. 2 is a vertical section through the upper portion of the mast and a pivotal support for the carriage-carrying arms. Fig. 3 is a section taken through the mast above one of the carriage-supporting arms, illustrating the said arm and the mechanism carried thereby in plan view. Fig. 4 is an edge view of one of the carriages. Fig. 5 is an enlarged vertical section taken through the multiple drum and illustrating its connection with the carriage-supporting arms. Fig. 6 is a detail view of one of the parts, com-

prising a portion of one section of the multiple drum; and Fig. 7 is a detail view of the second part, completing one of the drum-sections.

In carrying out the invention a mast 10 is fixed in a suitable base 11, and is stayed by braces 12. The mast is provided with a cup 13, located at its upper end, and above the said cup a substantially conical cap 14, is located, carrying a pivot pin 15, which enters and turns in the said cup, as shown in Fig. 2. This cup may be filled with oil, thus keeping the pivot pin 15 always lubricated. Links, guy ropes or rods 16, are attached to the cap 14, and extend downward, being attached to horizontal arms A, said arms being made to surround the mast, and the links 16 are secured to the arms preferably at their outer ends and near their inner ends, as illustrated in Fig. 1. The arms A are connected by a ring 17, the ring being provided with extensions 18, bolted or otherwise secured to the inner ends of the arms A, whereby the said arms are held removed from the mast 10; and the ring 17 is of much greater diameter than that of the mast which it surrounds.

A carriage B, is supported from each arm A, preferably from a point at or near the outer end of the arms, as shown in Fig. 1. These carriages may be of any approved construction, but are preferably made as shown in Figs. 1 and 4, comprising two side bars 19, curved downwardly at their lower ends and connected at their upper ends by a cross bar 20, together with two vertical bars 21, located one at each side of the center, which central bars are attached to the upper cross bar 20, and extend downward usually as far as the side bars 19, and are correspondingly curved. The side bars and center bars of the carriage are connected by cross bars 22, which are adapted to support seats 23, two seats being illustrated in connection with each carriage; and a crank shaft 24, is journaled in the side and central bars of each carriage at its lower end, and the said crank shaft is provided with two sets of pedals 25, one below each seat and within easy reach of the occupant of the seat. A pulley 26, is secured upon the shaft 24, between the two central bars 21, and a pulley 27, is likewise journaled in front of and at



the rear of the said central bars, as illustrated in Figs. 1 and 4.

The carriages are connected with the arms A each by means of a sling 28, and each sling usually consists of two segmental bars, illustrated in Fig. 4, one of them passing upward at each side of an arm A; and the bars are pivoted upon a shaft 29, carried either directly or through the medium of brackets by the upper portion of the arm with which they are to be connected, and upon this shaft 29 a friction pulley 30, is located, one at each of its ends.

A latch 31, operated by a cord 32 within easy reach of the occupant of the carriage, is adapted to lock the carriage in a perpendicular position, as illustrated at the left in Fig. 1; but when the latches are disconnected from the carriages, and the arms A are rotated, the carriages will swing outwardly, as shown at the right in Fig. 1, the degree of inclination depending entirely upon the velocity at which the arms are revolved.

A bracket 33, is secured upon the upper face of each arm A, and each bracket has adjustably connected thereto a transverse plate or bar 34, as shown in Fig. 3, carrying at each end a guide pulley 35; and a tension arm 37, is likewise adjustably secured to each bracket between the transverse bar 34 and the mast, as shown in Fig. 3.

The tension arms 37, are of angular construction, and carry at the outer end of their longer member a friction wheel or guide pulley 38, the outer end of the shorter member being connected with an adjacent fixed support, usually with the cross bar 34, by means of a spring 39.

A hub 40, comprising a disk-like plate having a flange 41 located adjacent to a central opening, is secured to the mast 10 by bolts passed through the flange into the mast, the mast extending through the opening in the hub, and the said hub is provided with an annular recess 42 in its upper face at its periphery, as illustrated in Fig. 5. This hub is adapted to support a multiple or composite drum C, and each section of the said drum is made up of an inner ring 43, and an outer ring 46. The inner ring 43, as is shown in detail in Fig. 6, is provided with a peripheral rib 44, formed upon the center of its peripheral face, thus providing a recess at top and bottom of the rib, as shown in Fig. 5; and in the under face of each of the ribs 44, at a predetermined point therein in its circumference, a recess 45 is made.

The outer ring 46 of the drum section is provided with a central opening, adapted to fit into the recessed portion of the inner ring 43, the wall of the said inner opening being provided with recesses 48, as shown in Fig. 7, and the periphery of the said wheel is provided with a circumferential groove 47, as shown in Fig. 5.

In building up the drum an outer section 46 is made to enter the recess 42 in the hub

40, as shown in Fig. 5. An inner section 43, is then placed upon the hub, its rib 44 extending over the outer ring just placed in position. Another outer ring is now entered over the inner section just placed, resting upon the outer surface of its rib, and a second inner section is then made to engage with the first one laid in place, and the drum is thus built up until an outer and an inner portion are provided for each section of the drum, and one section is built up for each arm A used in the machine. The drum having been built up as far as may be desired, the various inner rings 43 are connected together and with the hub by means of one or more bolts 49. Thus the inner rings are stationary, while the outer rings of each section are free to turn upon the inner ones; but any one outer ring of any one section may be held stationary through the medium of a locking bar 50, one of which bars is held to slide in the opening or recess 45 in the peripheral portion of each inner member of a section of the drum, as is likewise shown in Fig. 5, and these locking bars are manipulated through the medium of levers 51 connected with them and extending downward through an opening in the hub. In Fig. 5 the two members of the uppermost section of the drum C, are shown connected in this manner, while the members of the other sections are illustrated as disconnected, the outer members being free to turn upon the inner ones.

Each carriage is provided with an endless belt 52, which travels over the lower driving pulley 26 of the carriage, upward in engagement with the guide pulleys 27, thence over the guide pulleys 30 located upon the arm A to which the sling of the carriage is connected, and the said belts passing from the pulleys 30 are passed over the guide pulleys 35, adjustable upon the arm, and around one of the outer members of one section of the drum, the belt being likewise carried to an engagement with the tension pulley 38. The pulleys 35, are intended to take up the stretch of the belts by adjusting them upon the arm, while the spring-controlled tension pulley 38 will take up the slack when a person is working the machine.

A brake arm 53, is fulcrumed upon the mast, provided with a head adapted for engagement with the under face of the connecting ring 17 of the carriage supporting arms, as illustrated in Fig. 1; and the said brake may be applied through the medium of a rope or chain 54, leading downward to the base. A spring-controlled arm 55, may likewise be placed upon the mast below the ring 17 of the arms, the said spring-controlled arm being provided with a grooved wheel 56 at its upper end, held in frictional engagement with the said ring 17 and connected by a belt with a pulley 58, attached to the shaft operating the mechanism of an organ 59, as shown in Fig. 1. Thus music is produced automatically by the movement of the carousel. The



arms are guided in their rotary movement around the mast by means of friction rollers 50<sup>a</sup>, shown in Fig. 5, which are attached to the hub 40 of the multiple drum C, and engage with the inner peripheral surface of the said ring 17.

In operation, if only one carriage is occupied, the drum section with which the driving belt of that particular carriage is connected is rendered stationary through the medium of its shifting lever 50, as the outer member will be locked to the inner member, while the outer members of the drum sections of all of the other carriages will turn loosely upon their inner members, as shown in Fig. 5. The persons in the carriage occupied may now work the pedals 25 of that carriage, and by so doing will manipulate the belt 52, and it, by frictional engagement with the drum section with which it is connected, will cause the arms to be turned around the mast, and if the carriage is disconnected from its latch, the carriage will swing outward, as shown in Fig. 1 at the right, and the persons operating the pedals 25 will not have to turn the driving belts of all of the other carriages that are unoccupied; but it is obvious that any two, or all of the carriages may be occupied, and the occupants of each carriage will contribute to the operation of the arms.

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

1. In a carousel, a mast, arms held to revolve around the mast, carriages carried by the said arms, having pivotal connection therewith, whereby they may swing outward influenced by the revolving movement of the arms, a sectional drum on the mast, a guide pulley on the pivot of each arm a driving mechanism located in the carriages and a driving connection between the said mechanism and the drum sections, said connection passing over the guide pulley on the pivot of each arm, substantially as and for the purpose specified.

2. In a carousel, a mast, arms held to revolve around the mast, carriages carried by the said arms and having pivotal connection therewith, whereby they may swing outward influenced by the revolving movement of the arms, a driving mechanism located in the carriages and acting to revolve the arms, latches carried by the said arms, adapted to hold the carriages in perpendicular position, and shifting devices whereby the driving mechanism of any carriage may be prevented from operating upon the arm supporting it, as and for the purpose specified.

3. In a carousel, a mast, arms held to revolve around the mast, carriages having a sling connection with the said arms, a driving shaft located upon each carriage, a multiple drum located upon the mast, each section of the drum comprising a fixed inner and a rotary outer member, a drum section being provided for each carriage, a driving connection between the driving mechanism of each carriage and the outer member of the drum section, and coupling devices, whereby the inner and outer members of any of the sections may be rigidly connected, as and for the purpose set forth.

4. In a carousel, a mast, arms held to revolve around the mast, carriages having a sling connection with the said arms, a driving shaft located in each carriage, a multiple drum located upon the mast, each section of the drum comprising a fixed inner and a rotary outer member, a drum section being provided for each carriage, a driving connection between the driving mechanism of each carriage and the outer member of a drum section, and coupling devices whereby the inner and outer members of any of the sections may be rigidly connected, guide pulleys engaging with the driving connection between the drum sections and the driving shafts of the carriages, and tension pulleys likewise engaging with the said driving connections, the two sets of pulleys being adjustably located upon the arms supporting the carriages, as and for the purpose specified.

5. In a carousel, the combination with a mast, arms held to revolve around the mast, and carriages carried by the arms, of a multiple drum, each section comprising an inner and outer ring, a separate and independent means for locking the rings of each section together, and belts passing around said multiple drum and operated from the carriages, substantially as described.

6. In a carousel, the combination with a mast, arms held to revolve around the mast, and carriages carried by the arms, of a multiple drum, each section consisting of an inner and outer ring, the outer ring being adapted to turn on the inner ring, a locking bar for each section, said bar sliding in the inner ring and engaging the outer ring to lock said outer ring stationary, means for operating said bars, and belts passing around said multiple drum and operated from the carriages, substantially as described.

MILTON T. WESTON.

Witnesses:

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J. R. STILLINGS.