

Nov. 2, 1926.

1,605,687

C. E. MORRIS

## CAROUSEL

Filed April 23, 1921

3 Sheets-Sheet 1

Fig. 1

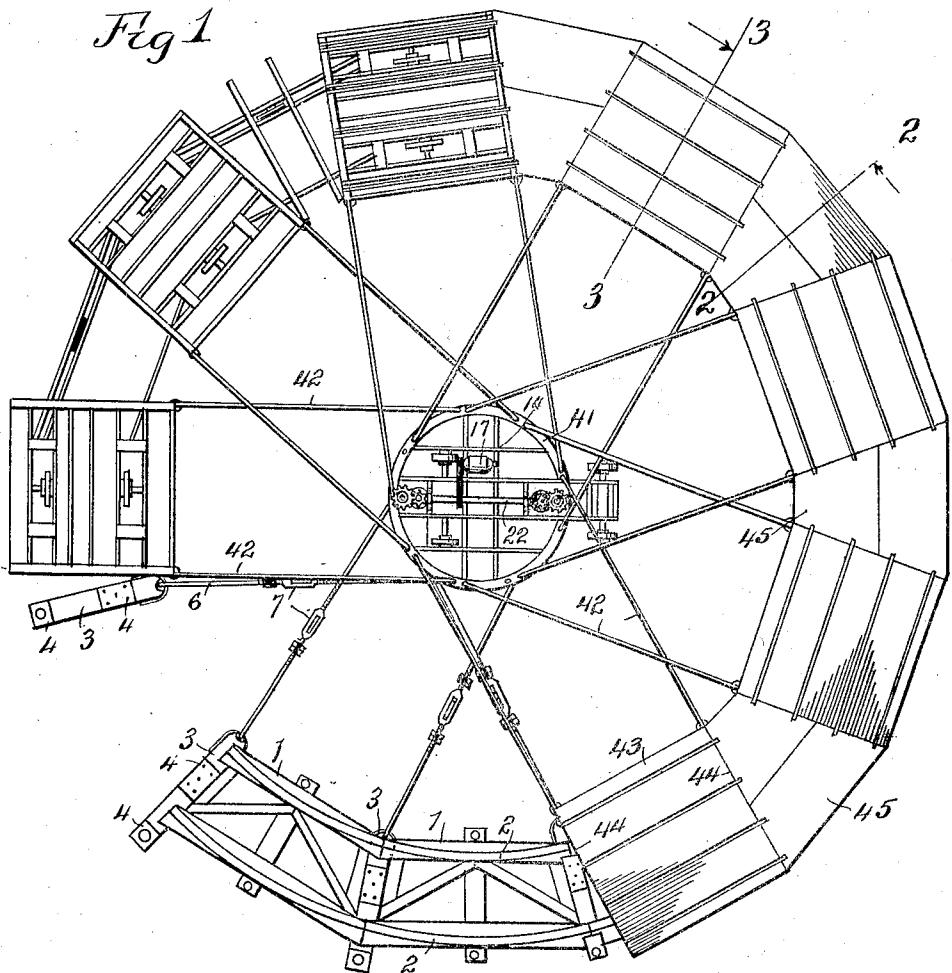


Fig. 2

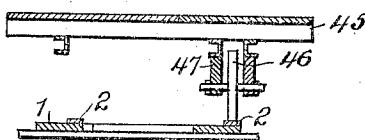
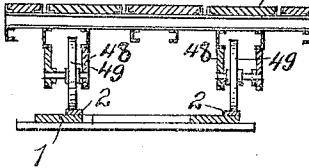


Fig 3 43

*WITNESS:*

WITNESS.



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Nov. 2, 1926.

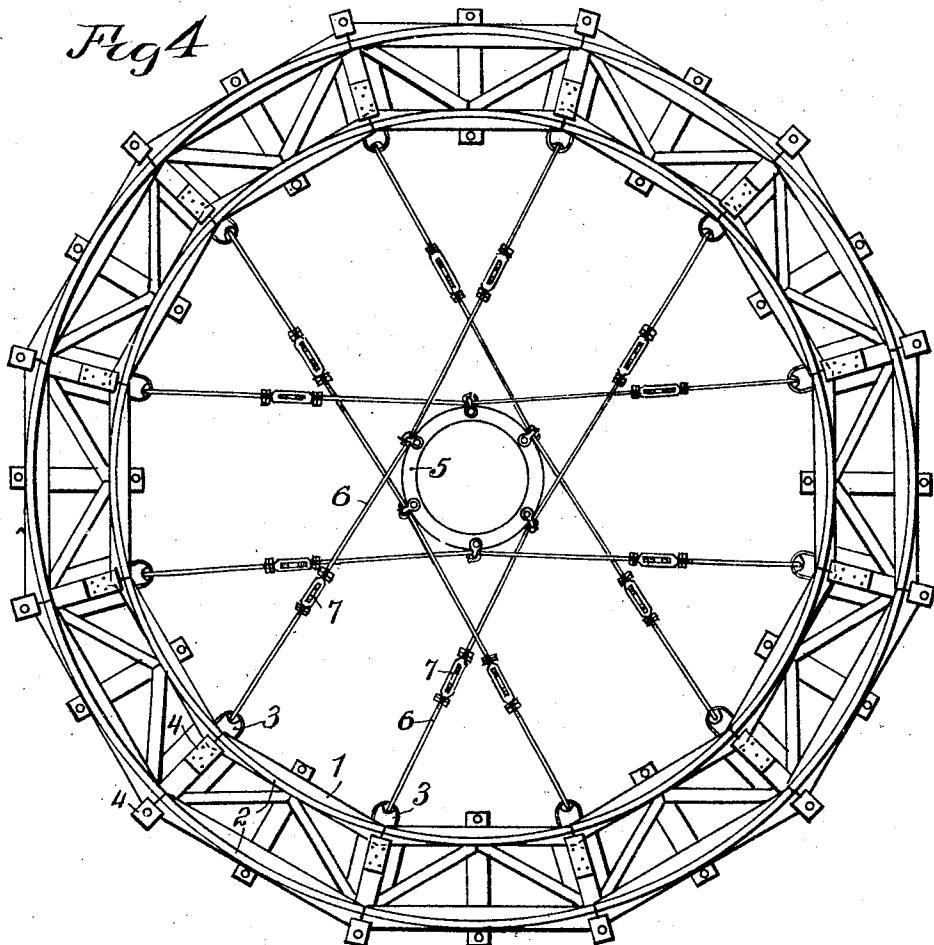
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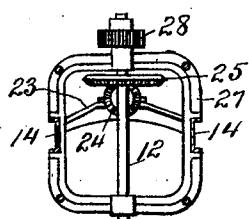
CAROUSEL

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3 Sheets-Sheet 2



*Fig 5*



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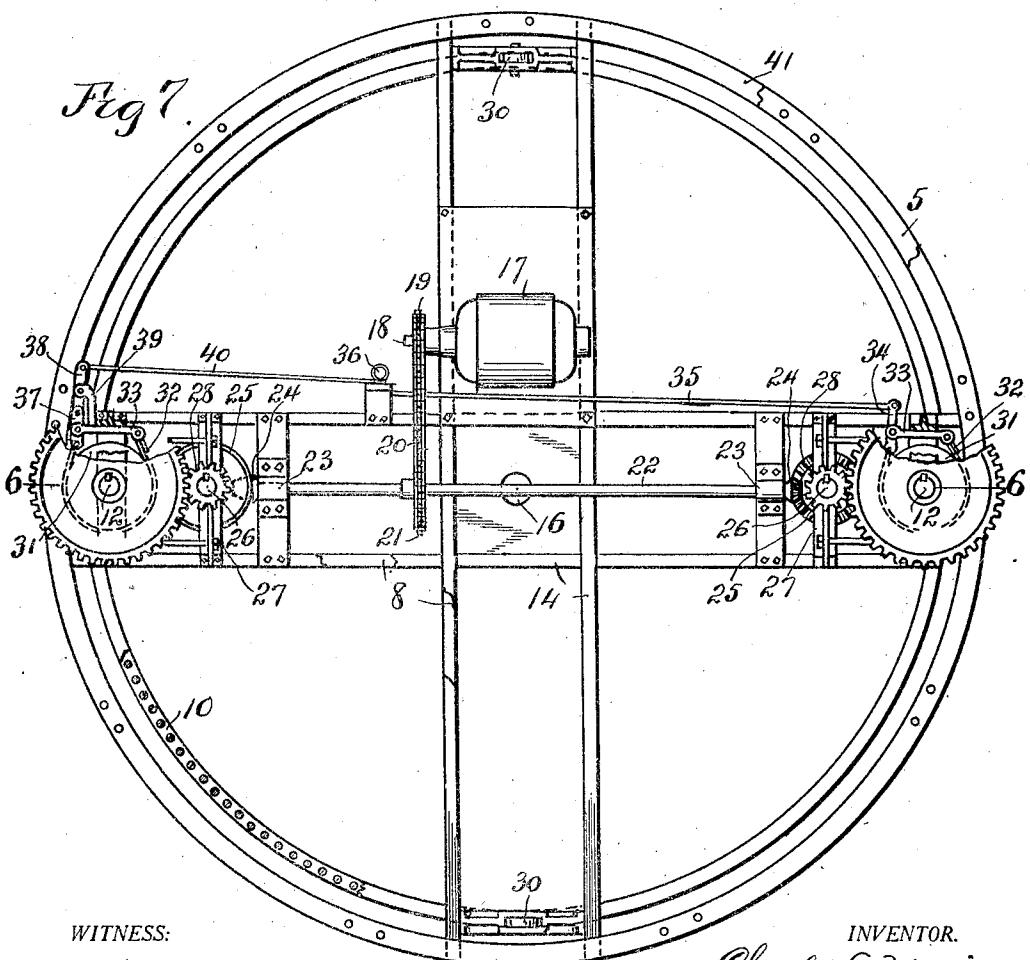
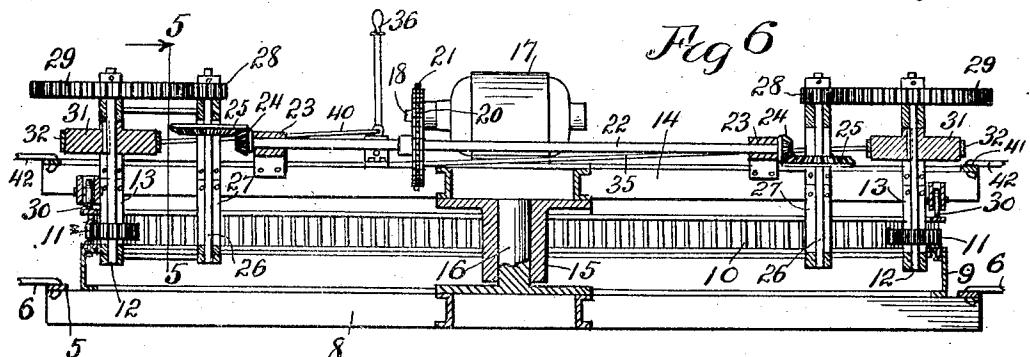
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## CAROUSEL

Filed April 23, 1921

### 3. Sheets-Sheet 3



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Patented Nov. 2, 1926.

1,605,687

# UNITED STATES PATENT OFFICE.

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## CAROUSEL.

Application filed April 23, 1921. Serial No. 463,898.

My invention relates to improvements in carousels.

One of the objects of my invention is to provide a center drive carousel, which is simple, cheap to make, readily assembled and disassembled for storage or shipment, which is durable and not liable to get out of order, which is strongly braced and which can be arranged compactly for storage or 10 shipping.

A further object of my invention is to provide novel driving means for revolving the platform.

Still another object of my invention is 15 to provide a novel platform.

A further object of my invention is the provision of novel means for bracing the track.

Another object of my invention is to 20 provide novel means for bracing the platform sections and for revolving the platform.

A further object of my invention is to provide a novel platform section adapted 25 for use in platforms of different diameter without alteration of the section and which is self-contained and adapted for separate storage and shipment.

The novel features of my invention are 30 hereinafter fully described and claimed.

In the accompanying drawings, which illustrate the preferred embodiment of my invention,

Fig. 1 is a plan view, partly broken away, 35 of my improved carousel apparatus.

Fig. 2 is a vertical section on the line 2—2 of Fig. 1.

Fig. 3 is a vertical section on the line 3—3 of Fig. 1.

Fig. 4 is a plan view of the track and its 40 anchoring means

Fig. 5 is a vertical section on the line 5—5 of Fig. 6.

Fig. 6 is an enlarged vertical sectional view on the line 6—6 of Fig. 7,

Fig. 7 is a plan view, partly broken away, 45 of the center drive mechanism and parts connected therewith.

Similar reference characters designate 50 similar parts in the different views.

The track which is annular and which may be circular or oblong, is composed of a plurality of self-contained sections, each comprising a frame 1, Fig. 4, which is

wedge-shaped in plan, and which supports 55 arcuate rails 2.

The frames 1 are supported at their ends by inwardly and outwardly adjustable ties 3, each of which has secured to its upper side two blocks 4, which are arranged to overlap, at their inner ends the adjacent 60 section frames 1 for holding the latter from outward or upward movement.

Centrally of the track is a horizontal annular anchoring member 5, which is connected by the tie rods 6, with the ties 3. 65 The tie rods 6 are disposed tangentially with reference to the center member 5, whereby the member 5 is held from any turning movement due to the torsional strain exerted by the driving mechanism.

Each tie rod may be provided with a turn buckle 7, by which the rod may be contracted or extended.

By means of the mechanism just described, 75 the track is anchored and the center member 5 is held from turning.

The ring member 5 is supported on a stationary frame 8, Figs. 6 and 7, and the latter supports an annular channel member 9, on which is mounted an annular horizontal gear wheel 10, having vertical pin teeth which are engaged at the inner side of the gear by two diametrically opposite pinions 11, respectively rigidly attached to two vertical shafts 12, mounted respectively 80 in bearings 13, which are supported by a central frame 14, provided with a central sleeve 15, revoluble on a vertical stud 16, provided centrally on the frame 8.

The frame 14 supports a suitable motor, 90 such as an electric motor 17, the armature shaft 18 of which has secured to it a sprocket wheel 19, which is connected by a sprocket chain belt 20, with a sprocket wheel 21, which is rigidly secured to a central 95 horizontal shaft 22, rotatably mounted in bearings 23, carried by the frame 14.

Rigidly attached to opposite ends respectively of the shaft 22 are two bevel gear wheels 24, which mesh respectively with 100 two bevel gear wheels 25, which are respectively rigidly secured to two vertical shafts 26, which are rotatably mounted respectively in bearings 27, carried by the frame 14.

The shafts 26 have respectively rigidly

secured to them pinions 28, which respectively mesh with spur gear wheels 29, which are respectively rigidly attached to the shafts 12, by which the pinions 11, are rotated.

When the motor 17 is operated, the pinions 11 will be rotated by the mechanism just described and by engaging with the annular gear 10, will effect a revolution of the frame 14. The latter may be provided with carrying wheels 30, arranged to travel on the upper side of the gear 10.

Braking means are provided consisting of two brake wheels 31, respectively rigidly secured to the shafts 12, and respectively embraced by two brake straps 32, each of which is attached at one end to a plate 33, secured to the frame 14. The other end of the strap 32, shown at the right, in Figs. 6 and 7, is attached to a lever 34, which is pivoted to the plate 33. The lever 34 is attached to one end of a rod 35, the other end of which is attached to a lever 36, below the fulcrum thereof.

The other end of the brake strap 32 shown at the left in Figs. 6 and 7, is attached to a lever 37, which is pivoted to the adjacent plate 33, and which has pivoted to it a lever 38, which is pivoted to a plate 39, supported by the frame 14. The lever 38 is attached to one end of a rod 40, the other end of which is pivoted to the lever 36, above the fulcrum thereof.

By swinging the lever 36 in the proper direction, brake straps 32 can be made to effect a braking pressure against the brake wheels 31, for slowing or stopping the revolving movement of the frame 14.

The frame 14 is provided with a horizontal ring member 41, to which are attached the inner ends of tie rods 42, the outer ends of which are attached to the inner sides of rectangular self contained platform sections 43, each of which has parallel ends 44, Figs. 1 and 3. The tie rods 42 are disposed tangentially to the ring member 41, thereby preventing any torsional movement, when the motor 17 is operated to revolve the platform through the intermediacy of the frame 14 and the ring member 41, and tie rods 42.

Intermediate of the platform sections 43 are wedge-shaped platform sections 45, which are rigidly secured to the adjacent ends of adjacent sections 43, and which are each supported by a carrying wheel 46, mounted in a bearing 47, secured to the under side of the section 45. The wheels 46 run on the outer rail 2 of the track.

Each section 43 is provided on its under side with bearings 48, in which are rotatably mounted two carrying wheels 49, arranged

to run respectively on the inner and outer rails 2.

By having the ends of each self contained platform section 43 parallel with each other, the sections are adapted to be used without change in platforms of different diameters.

By means of the construction above described, the revolving platform is retained in its proper operating position with respect to the track by the tie rods 42, and the center frame 14 which is rotatable on the stationary frame 8, the track being tied to the latter by the tie rods 6. The tangential disposition of the tie rods 6 and 42 with respect to the frames 8 and 14, prevents relative turning of the frame 8 with respect to the track and of the frame 14 with respect to the platform, which relative turning might, otherwise, occur due to the strain applied by the driving mechanism through the intermediacy of the pinions 11, and gear 10. By having the platform tied to the frame 14, and the latter revoluble on the frame 8, to which the track is anchored, no care need be used nor time lost in establishing proper relationship between the parts when they are being assembled, as these parts when connected together automatically effect the proper relationship between them.

I do not limit my invention to the structure shown and described, as many modifications, within the scope of the appended claims may be made without departing from the spirit of my invention.

What I claim is:—

1. In a carousel, a stationary member, a member revoluble on the stationary member, an endless track encircling said members, tie rods connecting the track and the stationary member and tangential to the latter, a platform revoluble on the track, tie rods connecting the platform and the revoluble member and tangential to the latter, and driving means connecting said members, substantially as set forth.

2. In a carousel, a stationary member, a member revoluble on the stationary member, an endless track encircling said members, tie rods connecting the track and stationary member and tangential to the latter, a platform revoluble on the track, tie rods connecting the platform and the revoluble member and tangential to the latter, an annular gear attached to the stationary member, a pinion meshing with said gear and rotatable on said revolving member, and means for rotating said pinion, substantially as set forth.

In testimony whereof I have signed my name to this specification.

CHARLES E. MORRIS.