Dec. 16, 1958 M. R. CASTILLE 2,864,614

FERRIS WHEEL TYPE AMUSEMENT RIDE

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Fig. 1

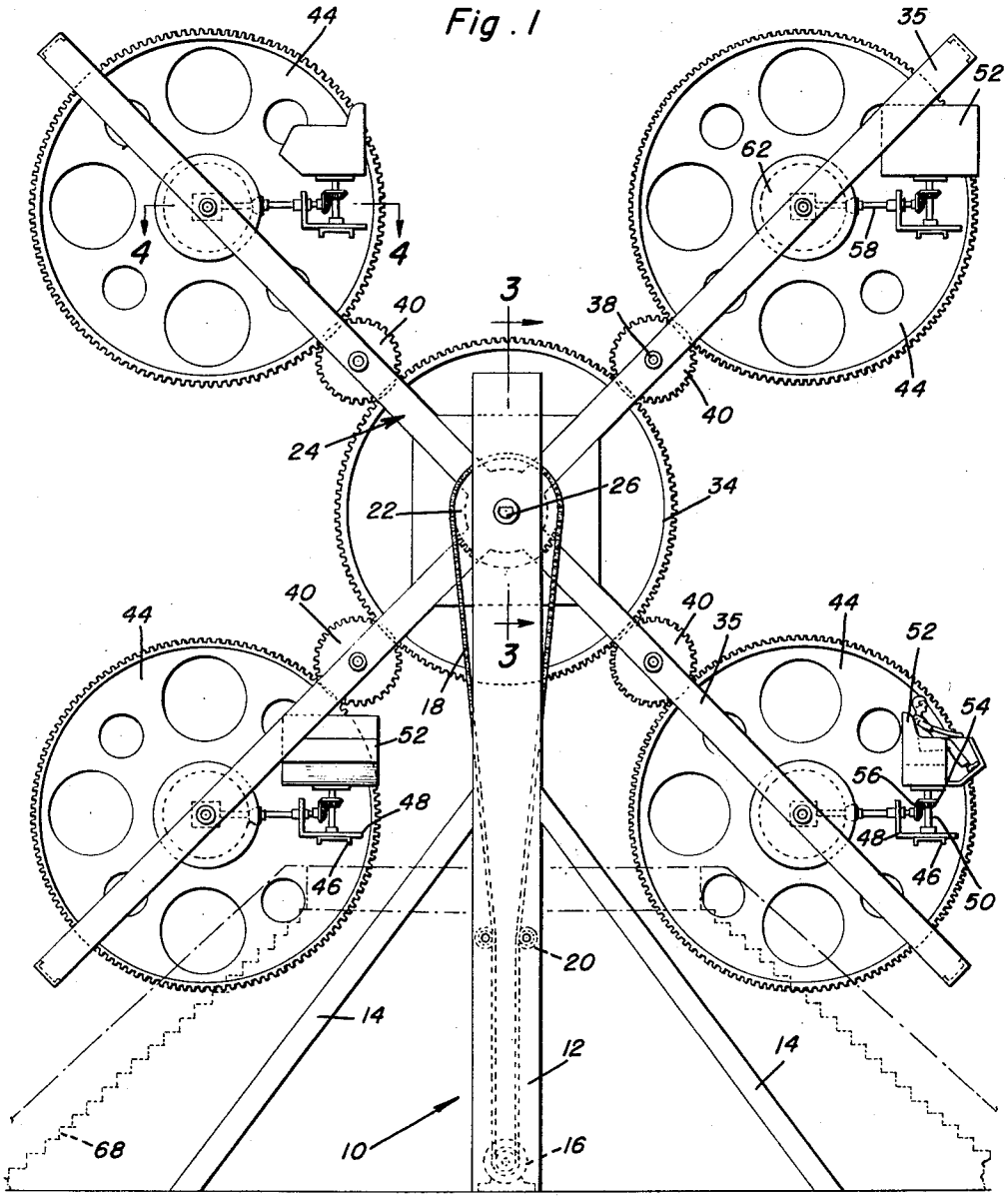

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Fig. 2

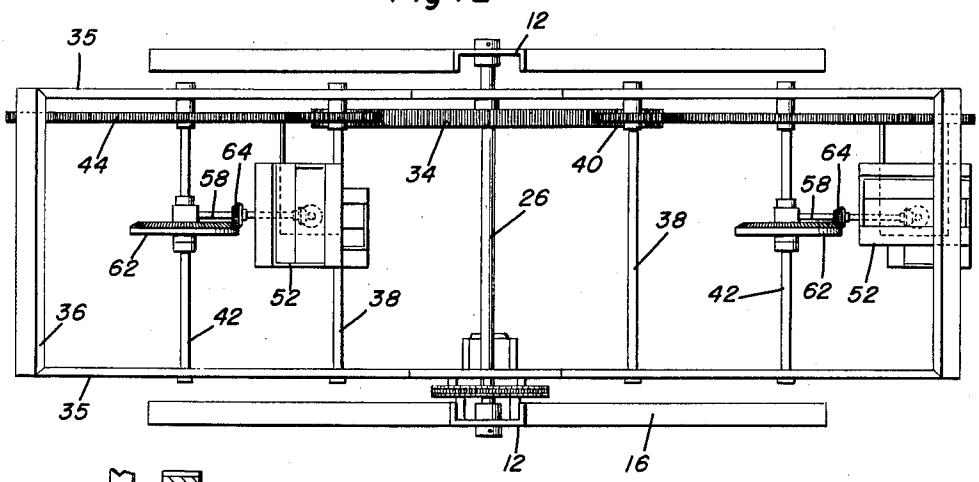


Fig. 3

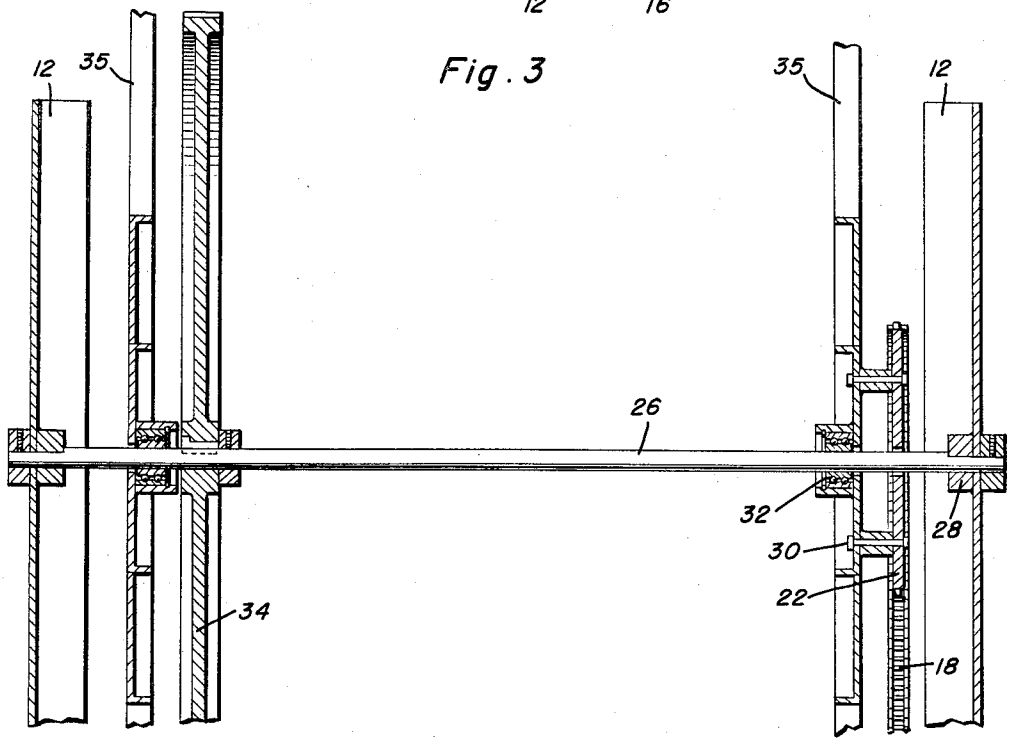
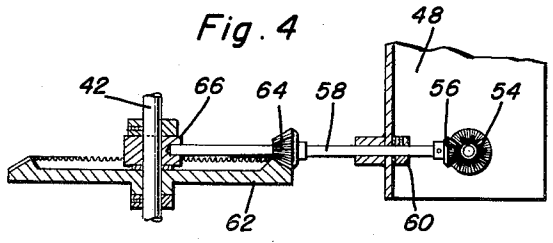


Fig. 4



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FERRIS WHEEL TYPE AMUSEMENT RIDE

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4 Claims. (Cl. 272—36)

The present invention generally relates to an amusement device and more particularly to an amusement ride specifically adapted for use in conjunction with amusement parks, carnivals, fairs or other similar orientations in which persons riding the device will enjoy the ride which is somewhat like that of a ferris wheel but includes additional movements not incorporated in ferris wheels.

An object of the present invention is to provide an amusement ride device generally simulating a ferris wheel which provides the riders with additional movements wherein the riders will find the ride highly entertaining, amusing and thrilling.

Another object of the present invention is to provide an amusement ride which is simple in construction, provided with several different types of movements employed simultaneously and relatively inexpensive to manufacture and maintain.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the amusement ride device of the present invention;

Figure 2 is a plan view of the construction of Figure 1;

Figure 3 is an enlarged detailed sectional view illustrating the mounting of the rotatable frame and other structural details taken substantially upon a plane passing along section line 3—3 of Figure 1; and

Figure 4 is a detailed sectional view taken substantially upon a plane passing along section line 4—4 of Figure 1 illustrating the details of the driving mechanism for rotating the occupant cart about a generally vertical axis.

Referring now specifically to the drawings, the numeral **10** generally designates the amusement ride device of the present invention. This device generally includes a pair of upright support members **12** having inclined braces **14** forming a supporting base with a power source designated by numeral **16** mounted adjacent thereto which may be any conventional power source such as an electric motor or an internal combustion engine with a suitable clutch mechanism being provided so that the operator of the ride device may properly control the operation thereof.

The details of construction of the vertical upright support members **12** and the braces **14** may be altered for permitting a construction which may be easily disassembled or assembled for ease of transportation which is necessary in devices of this nature which accompanying carnivals or fairs while the same device arranged in an amusement park may have a permanent type of supporting base along with an associated entrance ramp and landing area.

A chain drive is illustrated as including an endless chain drive **18** driven from the power source **16** and provided with idler sprockets **20** together with an enlarged

drive sprocket **22** secured rigidly to the point of intersection of four radial arms each of which is generally designated by numeral **24**.

The radial arms **24** are journaled on a transverse rod **26** mounted in a bracket or collar **28** on the upright support members **12**. The drive sprocket **22** may be attached to the arms **24** by suitable fastening bolts **30** with the sprocket **22** being in alignment with a sprocket driven from the power source **16**, whereby the radial arms **24** may be caused to rotate about the transverse rod **26** which is stationary. The arms **24** may be journaled on the rod **26** by suitable bearings **32** and prevented from longitudinal movement on the stationary rod **26** by any suitable means such as collars or the like. Mounted stationarily on the stationary rod **26** is a stationary gear **34** which is relatively large in diameter and is illustrated as being disposed adjacent one side of the amusement rod device although it may be disposed in the middle thereof for a purpose described hereinafter.

Each of the radial arms **24** generally includes a pair of spaced parallel rails **35** interconnected by an end member **36**. Disposed generally centrally of the rails **35** is a transverse shaft **38** having an idler gear **40** journaled thereon with the idler gear **40** being in meshing engagement with the enlarged gear **34**. Disposed exteriorly of the transverse shaft **38** is a second transverse shaft **42** having an enlarged gear **44** journaled thereon which is in meshing engagement with the idler gear **40** whereby the enlarged gear **44** will be rotated on the shaft **42**. Mounted on the enlarged gear **44** is a laterally extending bracket **46** having a right angular bracket **48** attached thereto, the vertical leg thereof being disposed inwardly. Rotatably mounted on the horizontal leg is a vertical rotating stub shaft **50** having a chair or occupant cart **52** mounted on the upper end thereof with the central portion of the shaft **50** having a bevel gear **54** thereon. The bevel gear **54** is in meshing engagement with a similar beveled gear **56** mounted on the end of a shaft **58** journaled in the vertical leg of the perpendicular bracket **48** and held in rotatable position by collar means **60**. An enlarged bevel gear **62** is secured to the stationary shaft **42** and is in meshing engagement with a bevel gear **64** on the shaft **58** which extends substantially to the shaft **42** and is journaled in a collar **66** as clearly shown in Figure 4.

In operation of the device, rotation of the arms **24** about the stationary shaft **26** will cause the small idler gears **40** to roll about the stationary gear **34** which in turn will cause rotation of the outer enlarged gears **44** so that the carts or chairs **52** will always be maintained in an upright position while they revolve about an axis formed by the shaft **42** on the enlarged gear **44** and at the same time revolve about an axis formed by shaft **26**. As the gear **44** revolves about the stationary shaft **42**, the stationary gear **62** will cause rotation of the shaft **58** thus rotating the chairs or carts **52** about a vertical axis formed by the vertical supporting shaft **50**. Thus, the occupants in the chairs or carts **52** will revolve about the center of the shaft **26** at the same time as they are revolving about the center of the shaft **42** and rotating about a vertical axis formed by vertical shaft **50**.

The meshing gears **34**, **40** and **44** may be moved to the central portion of their respective shafts and carts or chairs **52** may be mounted on both sides of the outermost gears **44** for increasing the riding capacity of the device and wherever necessary, thrust collars may be positioned by suitable setscrews for orientating the mechanism in the proper position for driving. Also, various anti-friction type bearings may be employed with suitable lubrication means for reducing the wear at wear points and increasing the life of the device while reducing the power necessary to drive the same.

The device may be provided with entrance and exit

steps or platform means **68** for facilitating the entry and exit of persons riding the device. The transverse end members **36** may be eliminated since the rods **38** and **42** will generally rigidify the construction sufficiently and this will enable better access to the chairs or carts. It is also pointed out that the chair or carts may be provided with any acceptable safety bar, strap or the like.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An amusement ride device comprising upstanding support members, a transverse rod mounted stationarily thereon, a stationary gear mounted on said transverse rod, a plurality of radially extending arm assemblies rotatably mounted on said transverse rod, means for rotating said arm assemblies about the transverse rod, an enlarged gear rotatably mounted on each radially extending arm, an occupant cart rigidly mounted on said enlarged gear to rotate therewith, an idler gear in meshing engagement with the stationary gear and the enlarged gear for driving the enlarged gear as the radial arms rotate so as to maintain said occupant cart upright, and means for rotating the occupant chair about a vertical axis during movement of the arms and the enlarged gear thus providing rotation of the occupant about a vertical axis while the occupant is revolving about the stationary rod and the rotational axis of the enlarged gear.

2. The combination of claim 1 wherein said means for driving the occupant cart includes a stationary bevel gear, a radially extending drive shaft having a driven bevel gear mounted thereon in engagement with the stationary bevel gear, a pair of bevel gears interconnecting said drive rod and said cart for rotating the cart upon rotational movement of the enlarged gear.

3. The combination of claim 2 wherein said cart is mounted on an L-shaped bracket, said bracket journalling said drive rod, said cart having a support shaft journaled on said bracket, one of said interconnecting pair of bevel gears being mounted on said support shaft.

4. The combination of claim 3 wherein said stationary bevel gear is mounted on a non-rotative shaft extending between the arms and supporting said enlarged gear, a collar on said non-rotative shaft journaling the inner end of said drive rod.

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