

Oct. 22, 1929.

H. G. TRAVER
AMUSEMENT RIDE

1,732,248

Filed Aug. 12, 1927

Fig. 2.

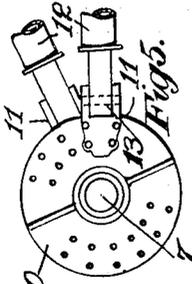
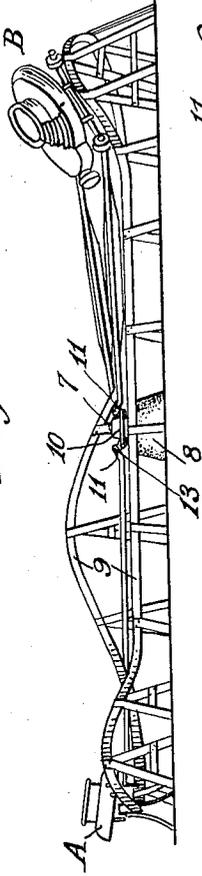


Fig. 4.

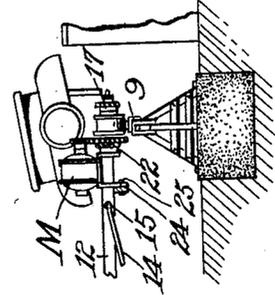


Fig. 5.

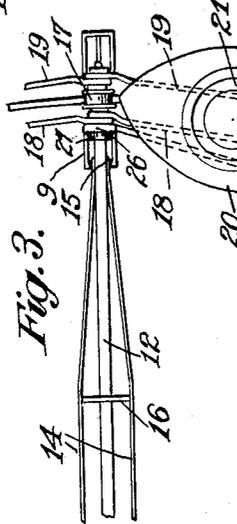


Fig. 6.

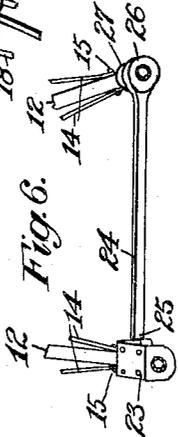
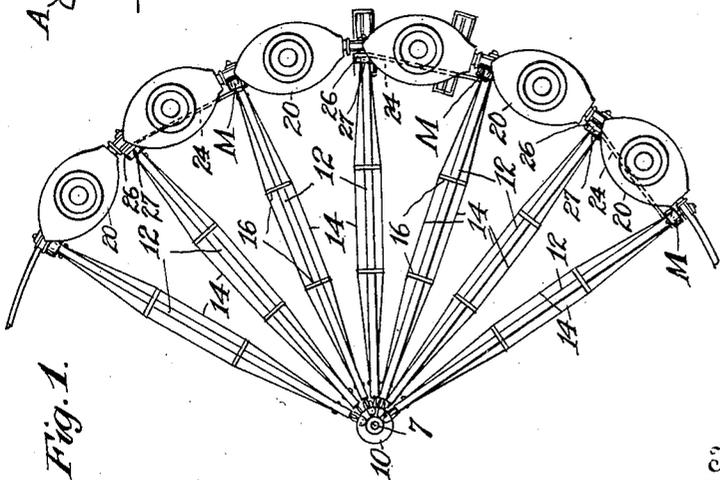


Fig. 1.



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AMUSEMENT RIDE

Application filed August 12, 1927. Serial No. 212,401.

This invention relates to amusement rides, and particularly of the type as disclosed by my co-pending application Serial No. 80,098 wherein a circular undulated track is arranged concentric with a fixed support from which extend radial sweeps connected at the inner ends to means mounted on the support to rotate with the sweeps about the support in a horizontal plane and having a pivotal connection with said means to have movement on a horizontal axis whereby the outer ends of the sweeps are adapted to have independent movement in a vertical direction, the sweeps being supported by traction wheels at the outer ends upon the track, adjacent sweeps being connected and maintained in spaced relation by a pair of rigid links pivotally connected at the ends with the sweeps, and said links having mounted and carrying thereon passenger carrying cars. The sweeps are rotated about the central support and thereby the cars propelled about the track by motors mounted upon the sweeps with transmission gearing between the motor and a traction wheel to propel the latter. To prevent the torsional driving strains and stresses of the motor being transmitted as a rotative force to the sweeps with the possibility of twisting and fracturing of the sweeps or the pivotal support of the sweeps at the inner ends the motor is loosely mounted on the sweep and to maintain the motor in upright position and take up the torsional driving strain thereof a rigid brace is fixed at one end to the motor support and the other end is connected with a sweep connecting link. However, in the operation of the ride as adjacent sweeps assume different elevations as they are propelled about the undulating track the links assume different positions one relative to the other with the result that said brace while taking up the driving strain in certain positions of the sweeps and link there is a distortion thereof in other positions of the link, due to the weaving and irregular movement of the links as adjacent sweeps ride up and down the undulations of the track, which movement is transmitted to the motor brace not only distorting the brace but also the motor supporting bracket and driving con-

nection between the motor and wheel, or else fracturing the connection of the brace with the motor or link and rendering the same inoperative.

It is the object of the present invention to provide improved means for overcoming this disadvantage whereby the motor carrying sweep in all positions of the sweeps will be relieved of the torsional driving strain of the motor in transmitting its power as a propelling force to a traction wheel, and to provide means for this purpose which is simple in construction and efficient in use.

In the drawing accompanying and forming a part of this specification Figure 1 is a plan view of a portion of the track structure showing a series of car carrying sweeps in relation thereto and rotatably mounted at the inner ends upon a support relative to which the track is concentrically arranged.

Figure 2 is an elevational view of the track structure of the ride and showing two series of oppositely disposed car carrying sweeps arranged in relation thereto.

Figure 3 is a plan view of a pair of car carrying sweeps to show the arrangement of the connection of the car carrying links thereto with a motor carrying bracket mounted on one sweep and showing the means connected thereto for taking up and relieving the motor carrying sweep of the torsional strains of the motor.

Figure 4 is a detail view showing the traction wheel support of a sweep upon the track structure and the mounting of the motor thereon as well as the driving connection between the motor and traction wheel.

Figure 5 is a plan view of the means for rotatably supporting the inner ends of the sweeps upon the support centrally of the track and the arrangement of the connection to permit of the outer ends of the sweeps to have movement in a vertical direction; and

Figure 6 is a detail view looking at the end of a pair of adjacent sweeps and showing the means in relation thereto for taking up the torsional driving strains of the motor.

In the embodiment of the invention illustrated a vertical support 7, which is in the nature of a pivot, is carried by a suitable

structure, in the present instance being supported by embedding the same in a concrete made of tubing this torsional strain of the motor would tend to distort or twist and fracture the sweeps. To obviate this and relieve the sweeps of this torsional driving strain of the motors they are fixed upon brackets loosely mounted on the sweeps. These brackets may be of suitable form but are preferably of U shape and mounted upon the sweeps by engaging the same in openings in the legs of the bracket with the connecting portion upon which the motor is fixed at the top of the sweep, as clearly shown in Figure 6. By this arrangement the motor bracket and sweep may have rotative movement one relative to the other. In order that the torsional driving strain of the motor in transmitting its power to the traction wheel will not effect rotative movement of the motor bracket on the sweep I provide rigid means fixed to the motor or motor supporting bracket and loosely connected to an adjacent sweep, and comprising a rod or bar 24 fixed to the inner leg of the motor bracket below the sweep, as at 25, said rod extending to an adjacent sweep and loosely connected thereto by a head 26, which may be constructed integral with the rod, or the rod may be connected thereto, said head being engaged upon the sweep in interposed relation between the inner links 18 and a collar 27 fixed on the sweep. As the sweeps move to different vertical positions one relative to the other there will be in effect a relative movement of the motor bracket on the one sweep and the connection 26 of the rod upon the other sweep, and the torsional rotative driving strain of the motor transmitted to the sweep as a lateral thrust rather than a rotative twisting strain.

It will be obvious that various modifications may be made in construction and arrangement of parts without departing from the scope of the invention.

Having thus described my invention, I claim:

1. In amusement rides, a support, a track concentric with the support, a plurality of sweeps rotatably mounted on and extending radially from the support and arranged to have movement in a vertical direction, links connected to the outer ends of and spacing the sweeps, wheels carried by the sweeps for traction engagement with and supporting of the sweeps upon the track, a driving motor loosely mounted on a sweep operatively connected with the traction wheel carried by said sweep, and means having a fixed connection with the motor and loosely mounted directly on an adjoining sweep to take up the torsional driving strain of the motor in transmitting the power thereof to the connected traction wheel.
2. In amusement rides, a support, an undulating track concentric of the support, a plurality of radial sweeps mounted at one

structure, in the present instance being supported by embedding the same in a concrete made of tubing this torsional strain of the motor would tend to distort or twist and fracture the sweeps. To obviate this and relieve the sweeps of this torsional driving strain of the motors they are fixed upon brackets loosely mounted on the sweeps. These brackets may be of suitable form but are preferably of U shape and mounted upon the sweeps by engaging the same in openings in the legs of the bracket with the connecting portion upon which the motor is fixed at the top of the sweep, as clearly shown in Figure 6. By this arrangement the motor bracket and sweep may have rotative movement one relative to the other. In order that the torsional driving strain of the motor in transmitting its power to the traction wheel will not effect rotative movement of the motor bracket on the sweep I provide rigid means fixed to the motor or motor supporting bracket and loosely connected to an adjacent sweep, and comprising a rod or bar 24 fixed to the inner leg of the motor bracket below the sweep, as at 25, said rod extending to an adjacent sweep and loosely connected thereto by a head 26, which may be constructed integral with the rod, or the rod may be connected thereto, said head being engaged upon the sweep in interposed relation between the inner links 18 and a collar 27 fixed on the sweep. As the sweeps move to different vertical positions one relative to the other there will be in effect a relative movement of the motor bracket on the one sweep and the connection 26 of the rod upon the other sweep, and the torsional rotative driving strain of the motor transmitted to the sweep as a lateral thrust rather than a rotative twisting strain.

It will be obvious that various modifications may be made in construction and arrangement of parts without departing from the scope of the invention.

Having thus described my invention, I claim:

1. In amusement rides, a support, a track concentric with the support, a plurality of sweeps rotatably mounted on and extending radially from the support and arranged to have movement in a vertical direction, links connected to the outer ends of and spacing the sweeps, wheels carried by the sweeps for traction engagement with and supporting of the sweeps upon the track, a driving motor loosely mounted on a sweep operatively connected with the traction wheel carried by said sweep, and means having a fixed connection with the motor and loosely mounted directly on an adjoining sweep to take up the torsional driving strain of the motor in transmitting the power thereof to the connected traction wheel.
2. In amusement rides, a support, an undulating track concentric of the support, a plurality of radial sweeps mounted at one

5 head 10 in the form of a disk is rotatably mounted on said support to which are fixed bifurcated brackets 11 with the bifurcated portions extending laterally thereof in which the inner ends of the sweeps 12 are supported upon pivot pins 13 to have movement on a horizontal axis to permit of the outer ends of the sweeps to have independent movement in a vertical direction, alternate sweep supporting brackets being fixed to opposite sides of the head, as clearly shown in Figure 5. The sweeps are of tubular structure and to reinforce the same tie rods 14 are fixed at opposite ends, as at 15, to the sweeps and engage braces 16 intermediate the ends fixed upon the sweeps. The outer ends are tractionally supported upon the track rail by a wheel 17 having a flange at the opposite ends for engagement at opposite sides of the rail, said wheels being rotatably mounted on means carried by the sweeps. The sweeps are connected and maintained in spaced relation by rigid links arranged in parallel pairs 18, 19 with the links 18 juxtaposed at one side of the traction wheels and the links 19 at the opposite side of said wheels. Passenger carrying cars 20 in simulation of a tumble bug having a circular seat 21 in the top are mounted upon the sweep connecting links in a suitable manner, but as this does not constitute an essential feature of the present invention detailed illustration and description thereof is not deemed necessary. These cars are arranged in series or a train, in the present instance two of such series A and B being shown although preferably only a single series or train is utilized, and each series comprises a predetermined number of cars, six cars and seven sweeps being utilized in the present instance as shown in Figure 1.

The sweeps and thereby the cars are propelled about the track by electric motors M carried by certain of the sweeps, three having been found sufficient to propel a series of six cars as shown in Figure 1. The motors are operatively connected with the traction wheels to drive the same by suitable power transmission gearing, that shown in the present instance comprising sprocket wheels fixed to the motor shaft and the traction wheel with a sprocket chain passing around said sprocket wheels, as shown at 22 in Figure 4. It will be obvious that were the motors fixed upon the sweeps that the torsional driving strain in the transmitting of the power of the motor to the traction wheel would be transmitted as a rotative force to the sweep upon which the motor is mounted and transmitted as a twisting force upon the pivot supports 13 of the sweeps with the possibility of breaking the same. Furthermore, the sweeps being

ported by embedding the same in a concrete made of tubing this torsional strain of the motor would tend to distort or twist and fracture the sweeps. To obviate this and relieve the sweeps of this torsional driving strain of the motors they are fixed upon brackets loosely mounted on the sweeps. These brackets may be of suitable form but are preferably of U shape and mounted upon the sweeps by engaging the same in openings in the legs of the bracket with the connecting portion upon which the motor is fixed at the top of the sweep, as clearly shown in Figure 6. By this arrangement the motor bracket and sweep may have rotative movement one relative to the other. In order that the torsional driving strain of the motor in transmitting its power to the traction wheel will not effect rotative movement of the motor bracket on the sweep I provide rigid means fixed to the motor or motor supporting bracket and loosely connected to an adjacent sweep, and comprising a rod or bar 24 fixed to the inner leg of the motor bracket below the sweep, as at 25, said rod extending to an adjacent sweep and loosely connected thereto by a head 26, which may be constructed integral with the rod, or the rod may be connected thereto, said head being engaged upon the sweep in interposed relation between the inner links 18 and a collar 27 fixed on the sweep. As the sweeps move to different vertical positions one relative to the other there will be in effect a relative movement of the motor bracket on the one sweep and the connection 26 of the rod upon the other sweep, and the torsional rotative driving strain of the motor transmitted to the sweep as a lateral thrust rather than a rotative twisting strain.

It will be obvious that various modifications may be made in construction and arrangement of parts without departing from the scope of the invention.

Having thus described my invention, I claim:

1. In amusement rides, a support, a track concentric with the support, a plurality of sweeps rotatably mounted on and extending radially from the support and arranged to have movement in a vertical direction, links connected to the outer ends of and spacing the sweeps, wheels carried by the sweeps for traction engagement with and supporting of the sweeps upon the track, a driving motor loosely mounted on a sweep operatively connected with the traction wheel carried by said sweep, and means having a fixed connection with the motor and loosely mounted directly on an adjoining sweep to take up the torsional driving strain of the motor in transmitting the power thereof to the connected traction wheel.
2. In amusement rides, a support, an undulating track concentric of the support, a plurality of radial sweeps mounted at one

ported by embedding the same in a concrete made of tubing this torsional strain of the motor would tend to distort or twist and fracture the sweeps. To obviate this and relieve the sweeps of this torsional driving strain of the motors they are fixed upon brackets loosely mounted on the sweeps. These brackets may be of suitable form but are preferably of U shape and mounted upon the sweeps by engaging the same in openings in the legs of the bracket with the connecting portion upon which the motor is fixed at the top of the sweep, as clearly shown in Figure 6. By this arrangement the motor bracket and sweep may have rotative movement one relative to the other. In order that the torsional driving strain of the motor in transmitting its power to the traction wheel will not effect rotative movement of the motor bracket on the sweep I provide rigid means fixed to the motor or motor supporting bracket and loosely connected to an adjacent sweep, and comprising a rod or bar 24 fixed to the inner leg of the motor bracket below the sweep, as at 25, said rod extending to an adjacent sweep and loosely connected thereto by a head 26, which may be constructed integral with the rod, or the rod may be connected thereto, said head being engaged upon the sweep in interposed relation between the inner links 18 and a collar 27 fixed on the sweep. As the sweeps move to different vertical positions one relative to the other there will be in effect a relative movement of the motor bracket on the one sweep and the connection 26 of the rod upon the other sweep, and the torsional rotative driving strain of the motor transmitted to the sweep as a lateral thrust rather than a rotative twisting strain.

end on the support to have rotative movement in a horizontal plane about the support and the outer ends to have movement in a vertical direction, wheels on the sweeps to tractionally support the outer ends of the sweeps on the track, a motor loosely mounted on a sweep and having a driving connection with the wheel on said sweep to drive the same, a rigid brace fixed at one end to the motor mounting on the sweep and loosely engaged at the opposite end on an adjoining sweep to take up the torsional driving strain of the motor.

3. Amusement rides as claimed in claim 2, wherein the driving connection between the motor and traction wheel comprises sprocket wheels fixed to the motor shaft and wheel, and a chain passing around the sprocket wheels.

4. In amusement rides, a support, an undulating track concentric with the support, a plurality of sweeps, means rotatably mounted on the support to which the sweeps are connected at one end to extend radially outward therefrom and participate in the rotative movement thereof and permit the free ends of the sweeps to move in a vertical direction, means connecting the outer ends of the sweeps and permit of undulating movement of the sweeps in a vertical plane one independent of the other, wheels to tractionally support the outer ends of the sweeps on the track, a motor mounted loosely on a sweep and having a driving connection with the traction wheel supporting said sweep, and means having a fixed connection with the motor mounting and loosely mounted directly on an adjoining sweep to permit independent vertical movement of said sweeps one relative to the other and take up and relieve the motor carrying sweep of the driving stresses of the motor in transmitting its power to the traction wheel.

5. In amusement rides, a support, an undulating track concentric with the support, a plurality of sweeps mounted at one end on the support to extend radially therefrom and rotate in a horizontal plane about the support and permit the outer ends to have independent movement in a vertical direction, wheels on the sweeps to tractionally support the same upon the track, a pair of rigid parallel links pivotally connected at the ends with adjacent sweeps to connect and space adjacent sweeps and permit of undulating movement of the sweeps in a vertical direction one independent of the other, one of said links being arranged at each side of the sweep supporting traction wheels, passenger carrying cars carried by said links, a bracket loosely mounted on a sweep, a motor fixed on said bracket and having a driving connection with the wheel on said sweep to drive said wheel, and rigid means fixed at one end to the bracket and loosely mounted at the opposite

end on an adjacent sweep to take up and relieve the motor carrying sweep of the torsional driving strains of the motor.

Signed at New York city, in the county of New York and State of New York, this 30th day of June, 1927.

HARRY G. TRAVER.

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