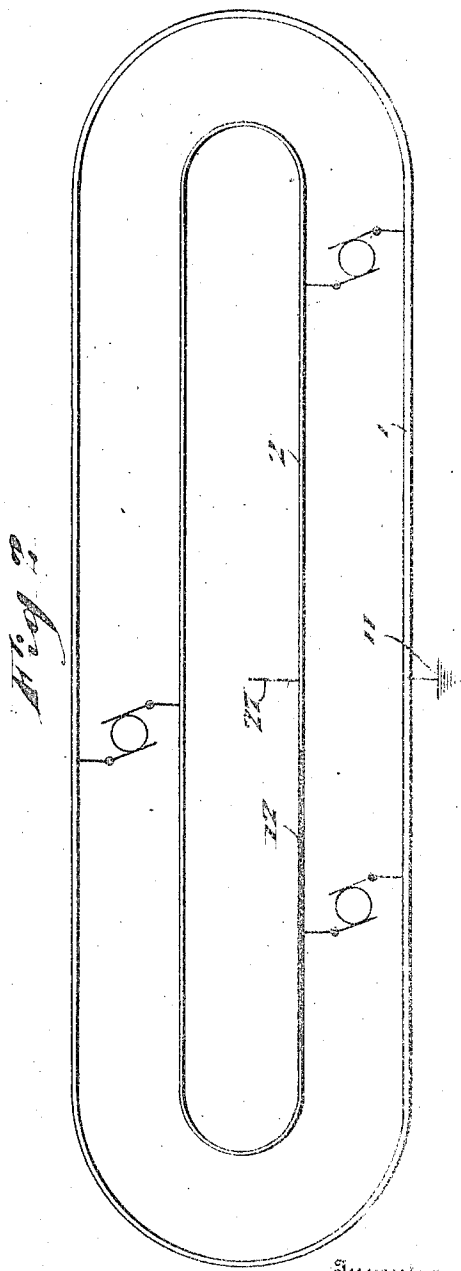
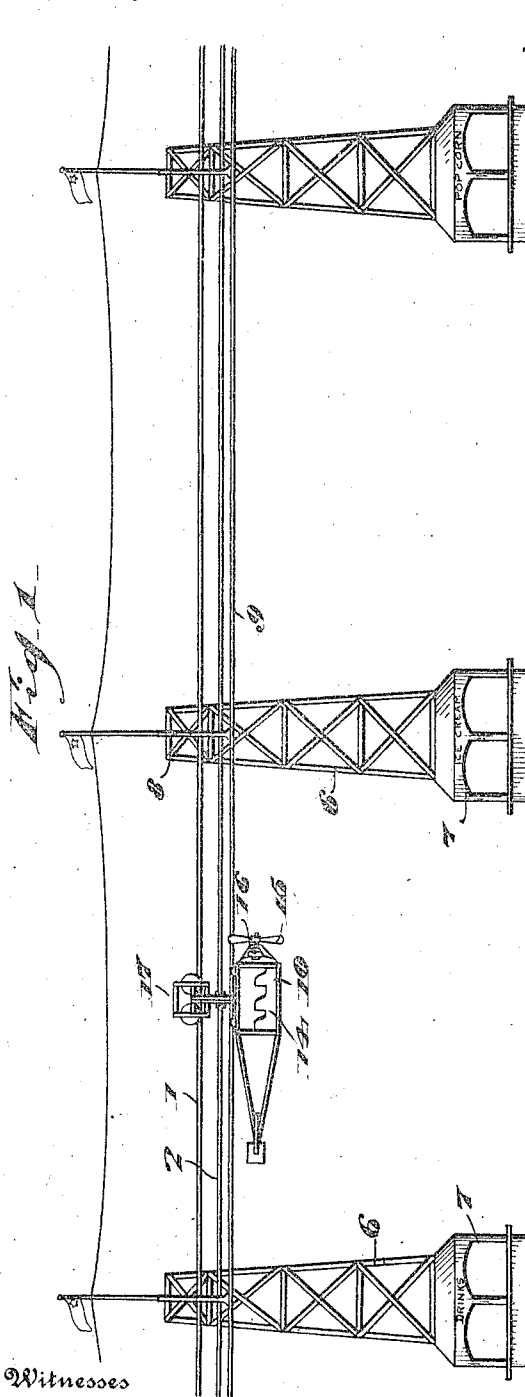


T. E. WADE.
AERIAL AMUSEMENT APPARATUS.
APPLICATION FILED JULY 30, 1913.

1,093,506.

Patented Apr. 14, 1914.

3 SHEETS-SHEET 1.



Witnesses

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A. C. Hines

Inventor

Thomas E. Wade

By

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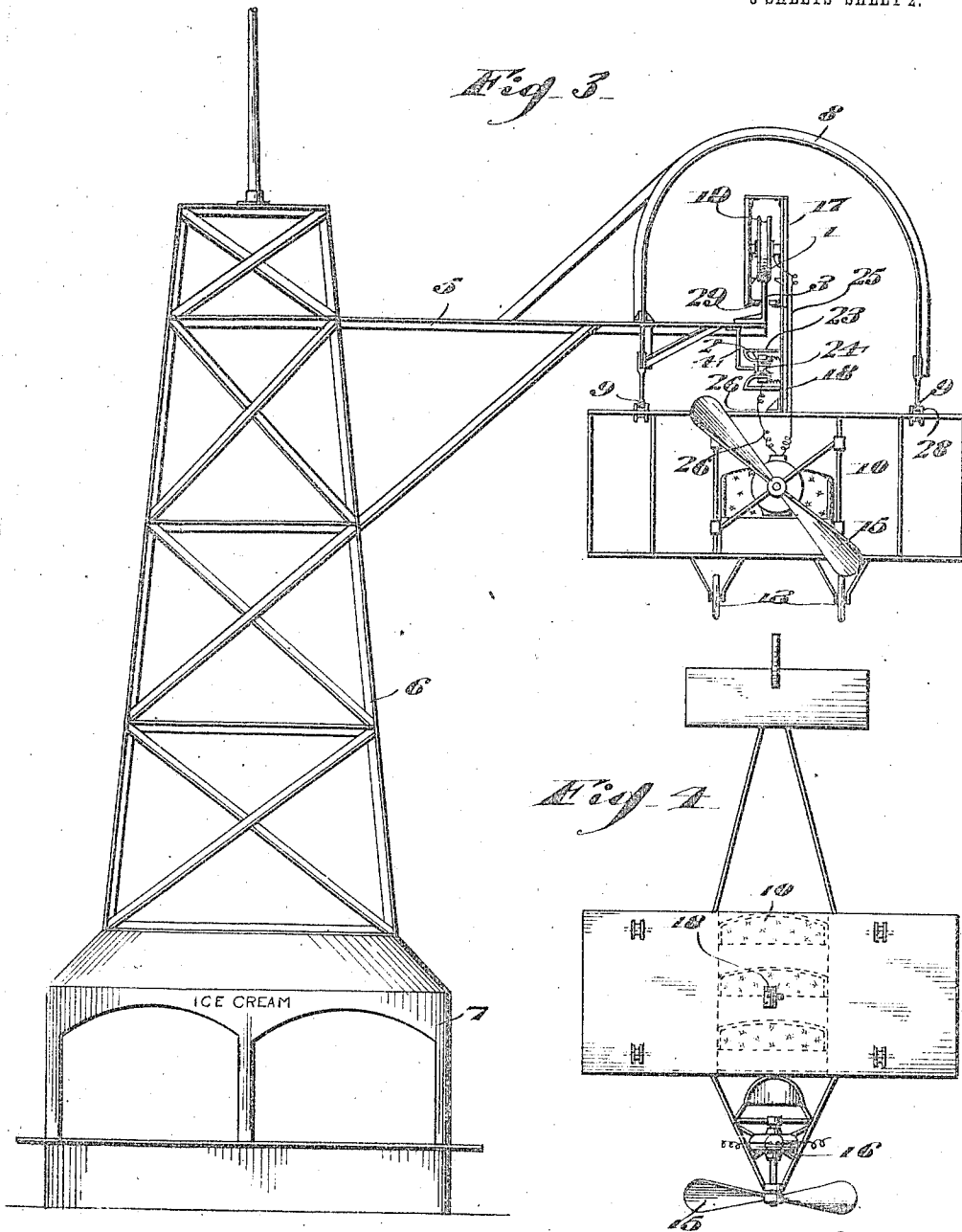
Attorney

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3 SHEETS-SHEET 2.



Witnesses

Thos. P. Remond.
A. A. Kines.

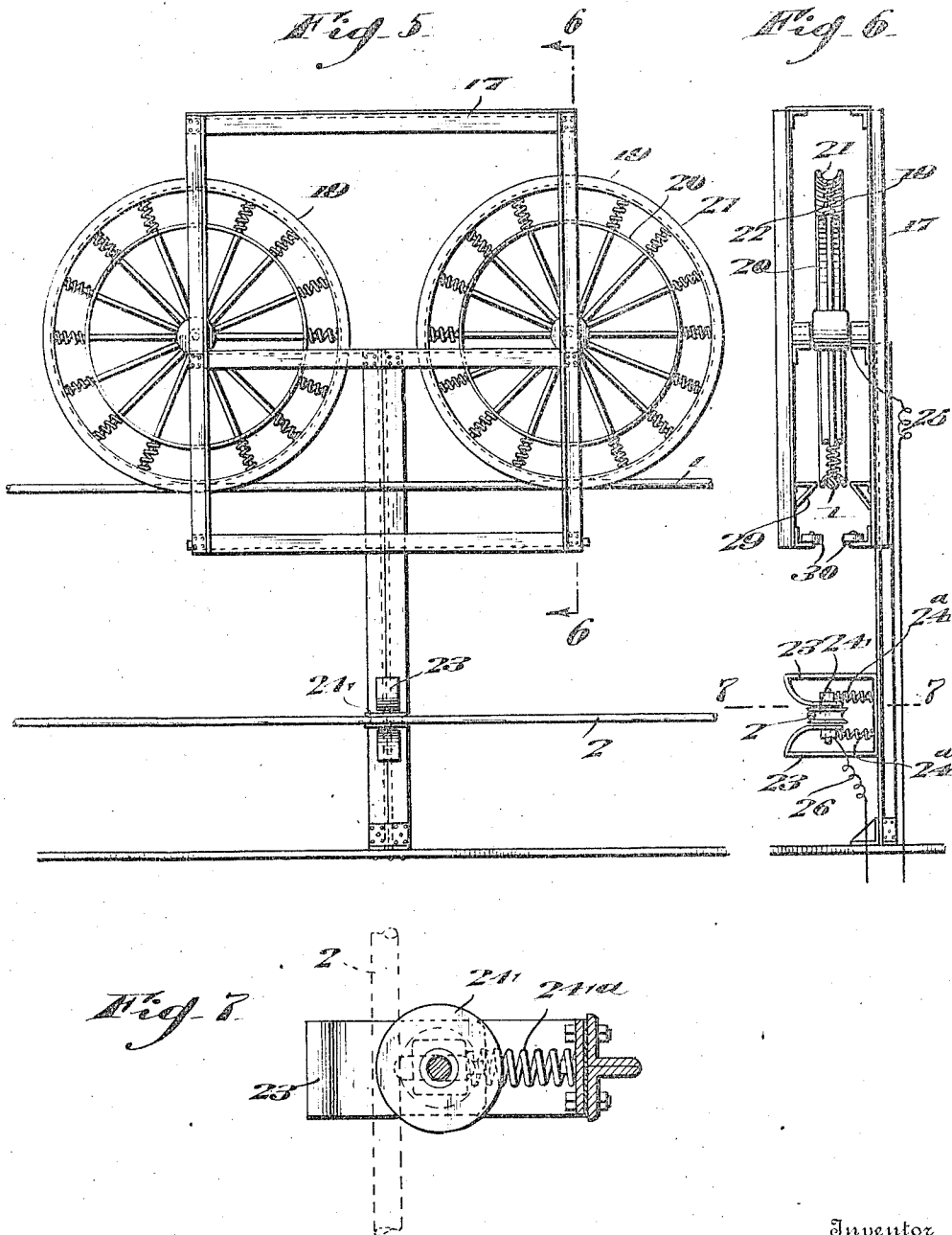
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3 SHEETS—SHEET 3.



Witnesses.

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UNITED STATES PATENT OFFICE

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AERIAL AMUSEMENT APPARATUS.

1,093,506.

Specification of Letters Patent.

Patented Apr. 14, 1914.

Application filed July 30, 1913. Serial No. 722,111.

To all whom it may concern:

Be it known that I, THOMAS E. WADE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Aerial Amusement Apparatus, of which the following is a specification.

This invention relates to an aerial amusement apparatus embodying the use of passenger cars or vehicles in the form of aeroplanes or of flying machines, held captive for traveling motion along a fixed line of travel, the object of the invention being to provide an amusement apparatus of this character in which a desired number of cars or vehicles may be used for transporting passengers in such a way as to simulate aerial travel.

A further object of the invention is to provide an amusement apparatus of the character described in which the cars or aeroplanes are arranged to travel along a track way, and are individually provided with propelling means for propulsion along the track way, the propelling devices of the several aeroplanes being, however, operated from a suitable source of primary power, such as an electrical feed conductor.

A still further object of the invention is to provide an aerial amusement apparatus of the character described embodying a track way of an electrical or other suitable form suspended from towers or like supports, and having a suitable starting point or station for the loading and unloading of passengers, together with suspended cars or aeroplanes, and means for supplying an electric current to the motors driving the propellers thereof, and suitable means for preventing the cars or aeroplanes from having undue oscillatory motion in any direction.

The invention consists of the features of construction, combination and arrangement of parts herein fully described and claimed, reference being had to the accompanying drawings in which:—

Figure 1 is a fragmentary elevational view of an aerial amusement apparatus embodying my invention. Fig. 2 is a diagrammatic view of the electric circuit, including the motors. Fig. 3 is a vertical transverse section through the supporting frame work and showing one of the suspended cars or aeroplanes. Fig. 4 is a top plan view of

one of the cars or aeroplanes. Fig. 5 is a side elevation, on an enlarged scale, of one of the wheeled supporting carriages or trolleys and the associated conductor rails. Fig. 6 is a vertical transverse section on the line 6—6 of Fig. 5. Fig. 7 is a horizontal section on the line 7—7 of Fig. 6.

In carrying my invention into practice, I provide a track way preferably of electrical form and composed of a cable or rail 1, below which is arranged a second cable or rail 2, the said cables or rails being respectively supported by brackets 3 and 4 from frame supports 5 carried by a series of towers 6. These towers may be arranged at any required distance apart and the lower portions 7 thereof may be in the form of booths for the sale of refreshments or for other purposes. The frame arms 5 also carry yokes 8 from which are hung parallel guard rails or cables 9. One of the cables or rails, as the cable or rail 1, may serve both as a track to support the cars or aeroplanes 10, of which any suitable number may be used, and as an electrical feed conductor for the supply of electric current from a suitable source of supply, as indicated at 11 in Fig. 2, while the other rail 2 may serve as a return conductor. A suitable landing stage or platform, not shown, is provided in practice for loading and unloading passengers, which platform may be reached by means of an inclined passage way, stairway or elevator, as preferred. One of the rails, as the rail 2, may be provided adjacent the passage way with a dead or insulated section 12, to prevent the transmission of current to a car or aeroplane while it is arranged at the starting point for the reception or discharge of passengers, as well as to prevent liability of danger at this point. Each car or aeroplane may travel by gravity at this point, or be manually manipulated, and for the purpose of supporting it while in loading or discharge position it is provided with suitable wheels 13.

Each car or aeroplane comprises a body simulating in appearance an aeroplane of any conventional type and having seats thereon for the reception of passengers. Each car or aeroplane is also provided with its own driving propeller 15 operated by an electric motor 16, the propeller in action propelling the car or aeroplane around the track way so that the vehicle in its travel will closely simulate the operation of an

aeroplane making an actual flight in the air.

Each car or aeroplane is suspended for travel from and along the track rail or cable 1 by a trolley or wheeled carrier frame 17 having one or more bracket arms 18 to which the body of the car or aeroplane is rigidly attached. On said trolley or wheeled frame are journaled supporting and current collecting wheels 19 each having an inner rigid frame 20 and an outer grooved rim 21 between which are disposed coiled cushioning springs 22, allowing the trolley to yieldingly support the body to permit of an up and down motion of the aeroplane to a determined degree to compensate for such motions of the vehicle under wind pressure, while obviating any liability of the displacement of the wheels from the track rail or cable. The hanger arm 18 carries a pair of spaced brackets 23 on which is journaled a grooved wheel 24, which runs in contact with the rail 2 and forms a conducting element, said wheel being urged into contact with said rail by springs 24^a. Current passes from the supporting and collecting wheels 19 through one or more conductors 25 to the motor 16 of each car, and thence passes through a conductor 26 to the pulley 24 and return conductor 2, forming a complete circuit for the supply of current to the motor to drive the propeller 15. The outer ends of the brackets 23 are made relatively divergent so as to guide the wheel 24 back into engagement with the track 2 in the event that there should be any momentary displacement due to lateral or vertical oscillations of the car or aeroplane in its course of travel.

In practice, it will be understood, of course, that the passengers enter the aeroplane at the landing stage or starting point, and the vehicle is then moved past the dead point 12 in the conductor rail 2 and started on its path of travel. As soon as it passes such point 12 current flows from the rail 1 to and through the motor 16 and thence to the rail 2, which may be provided with a suitable ground connection, as at 27. The operation of the motor 16 drives the propeller 15, which propels the car or aeroplane at a determined rate of speed around the trackway and back again to the starting point, where the passengers are discharged and the car or aeroplane loaded for the succeeding trip. If desired, a driver or attendant may be employed on each car or aeroplane, and suitable means be provided for regulating the supply of current to the motor, so that the speed of the vehicle may be regulated while in flight as desired or to meet varying conditions.

In its course of travel the vehicle meets the ordinary wind currents and is hence given a certain degree of vertical and lat-

eral motion, so that it closely simulates the operation of an aeroplane in actual free aerial flight under comparatively still atmospheric conditions. For the purpose of limiting the vertical and lateral movements of each vehicle, I provide the upper surfaces of such vehicle with grooved wheels, rollers or projections 28 which are adapted to engage the guard rails 9, such projections being normally in loose engagement with said rails; so as to allow vertical and lateral motions of the vehicle, but to a restricted degree. I am also providing the sides of the wheeled carrier frame or trolley with projections 29 to prevent any possibility of accidental displacement of the wheels 19 from the rail or cable 1, and on such trolley or wheeled carrier frame may also be arranged friction rollers 30 for running contact with the bracket arms 3 in the travel of the supporting and collecting wheels past the points of support of such rail or cable.

It will be seen from the foregoing description that the invention provides an aerial amusement apparatus which is comparatively simple of construction, reliable and efficient in operation, and adapted for the safe transport of passengers from a suspended carrier, but that in the travel of each vehicle sufficient independent motion is permitted, together with the action of the revolving propeller, to present the illusion of the traveler making an actual aerial flight while at the same time ample safe guards are provided to obviate liability of danger in the operation of the device. Each car or vehicle is preferably independent of connection with another, and in practice cars or vehicles are run at a sufficient distance apart in order to avoid liability of collisions, although, as all the cars or vehicles are operated at a common speed, it will be apparent that even should a collision occur no damage of a material character can possibly result.

I claim:—

1. An aerial amusement apparatus comprising upper and lower coplanar conductor rails, an aerial vehicle, a carrier frame attached to the vehicle, upper vertically disposed supporting and conducting wheels carried by said frame and running upon the upper conductor rail, a lower horizontally disposed conducting wheel running in contact with one of the sides of the lower conductor rail, an electric motor on the vehicle, an aerial propeller driven by said motor, and conductors between the motor and the upper and lower conducting wheels.

2. An aerial amusement apparatus comprising a frame work, upper and lower coplanar conducting rails mounted on the frame work, an aerial vehicle, a carrier frame for suspending said vehicle, upper vertically disposed conductor wheels journaled on the

carrier frame and running upon the upper
conducting rail, a lower horizontally dis-
posed conductor wheel mounted on the car-
rier frame and arranged to ride in contact
with one side of the lower conductor rail,
an electric motor mounted on the vehicle, a
propeller driven by said motor, conducting
connections between the vertical and hori-
zontal carrier wheels and the motor, guard
rails upon the frame work on opposite sides
of the plane of the conductor rails, and
guard wheels upon the upper surface of the
vehicle arranged to engage said guard rails.

3. An aerial amusement apparatus com-
prising a supporting frame work, arms ex-
tending therefrom and carrying yokes, up-
per and lower coplanar conductor rails sup-
ported by the arms on a line between the
arms of the yokes, an aerial vehicle, a carrier
frame for suspending said vehicle, upper
vertically disposed conductor wheels jour-
naled on the carrier frame and running upon

the upper conductor rail, a lower horizon-
tally disposed conductor wheel mounted on
the carrier frame and running in contact
with one side of the lower conductor rail,
conducting connections between the motor
and the vertical and horizontal conductor
wheels, guard rails mounted upon the arms
of the yokes, guard wheels on the upper sur-
face of the vehicle arranged to engage said
guard rails, and upper and lower pairs of
stops disposed at opposite sides of the upper
conductor rail and adjacent portion of the
supporting frame work for engagement
therewith in cooperation with the guard
rails to limit the vertical and lateral oscilla-
tory movements of the vehicles.

In testimony whereof I affix my signature
in presence of two witnesses.

THOMAS E. WADE.

Witnesses:

CHARLES WADE,
M. CAMPBELL.