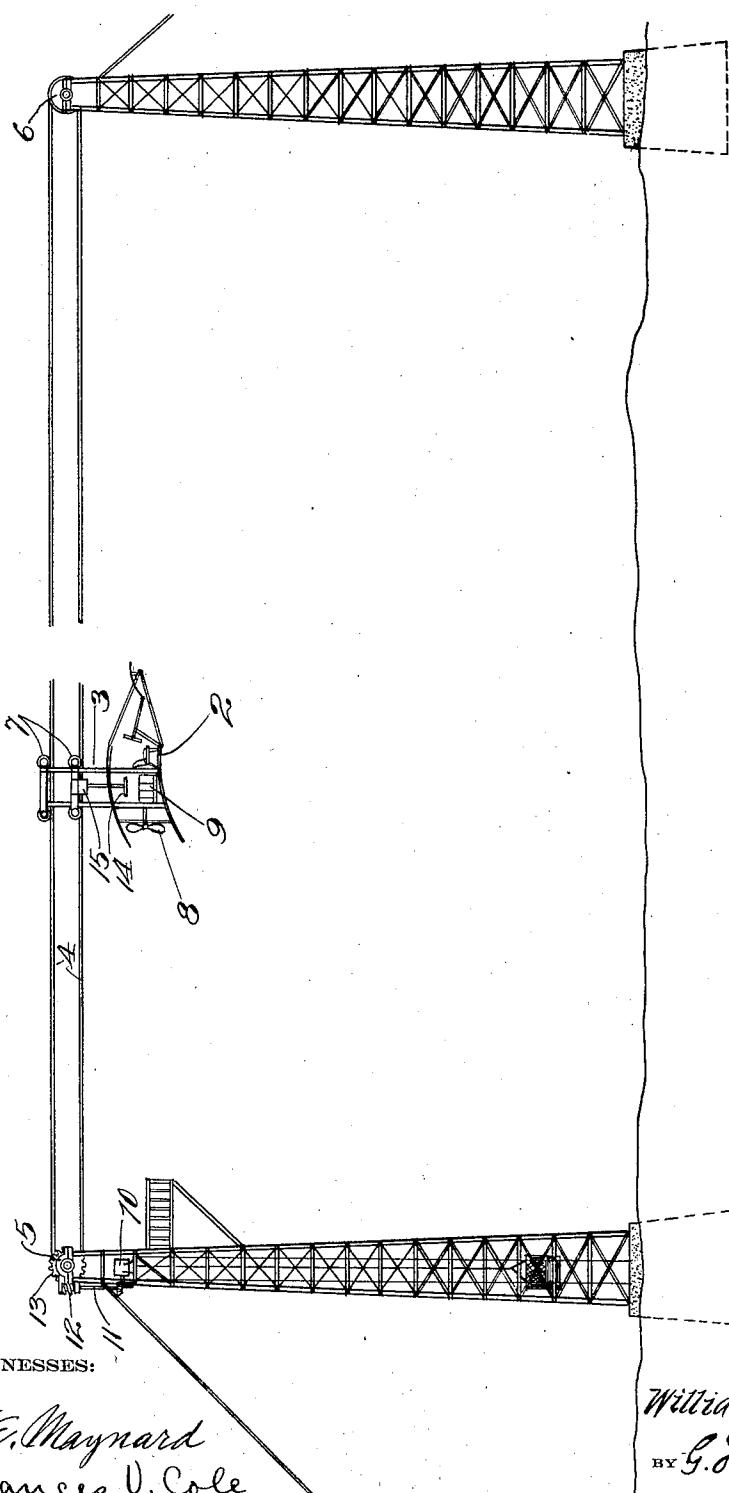


W. A. RAY.
AERIAL AMUSEMENT APPARATUS.
APPLICATION FILED JULY 3, 1912.

1,058,466.

Patented Apr. 8, 1913.



UNITED STATES PATENT OFFICE.

WILLIAM A. RAY, OF OAKLAND, CALIFORNIA.

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Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed July 3, 1912. Serial No. 707,451.

To all whom it may concern:

Be it known that I, WILLIAM A. RAY, a citizen of the United States, residing at Oakland, in the county of Alameda and 5 State of California, have invented new and useful Improvements in Aerial Amusement Apparatus, of which the following is a specification.

This invention relates to an amusement apparatus, and particularly to an aeroplane.

The object of the present invention is to provide a simple, safe and attractive amusement apparatus involving in an aeroplane closely simulating standard types, but being 15 supported and suspended upon a tramway or aerial cable upon which it may move independently, or by which it may be actuated in a course of flight; the car or aeroplane being designed to carry passengers and having 20 a propulsion means.

Another object is to evolve an aeroplane adapted to carry passengers, who may be novices or amusement seekers, and to so support the aeroplane that while it may be 25 driven by its own power, the liability of the fall of the vehicle is prevented; means being provided for the propulsion of the aeroplane independently of its own power.

The invention consists of the parts and 30 the construction and combination of parts as will be hereinafter more fully described and claimed, having reference to the accompanying drawing, in which the figure is a side elevation of the apparatus.

35 My invention comprehends the employment of a substantial and representative aeroplane 2, which may have the form of a monoplane, biplane or other aeroplane. Means 3 are provided for connecting the 40 aeroplane to a suspending cable or cables 4 which are rove around suitable pulleys 5 and 6. The suspending carriage 3 is provided with upper and lower sets of rollers 7, adapted to travel upon the cable strands 4; 45 the cables forming both a support and a guide for the aeroplane 2 during its flight.

In order to enhance the effect of passengers traveling by aeroplane, as 2, I provide the latter with a propeller 8, to which may 50 be connected a suitable motor 9 which may be a gas engine or electric motor; the propelling mechanism being adapted, when operating, to drive the aeroplane along its supporting cables 4. Should the propelling 55 mechanism on the aeroplane not be reversi-

ble, it is necessary to provide some means for advancing or drawing the car or aeroplane 2 to or from a landing platform or station, so that the passengers can alight or board the aeroplane. For the purpose of so 60 operating the aeroplane independently of its own power unit, I provide means for revolving one of the cable sheaves, as 5. This means consists of a motor 10 from which power may be transmitted through any suitable connections to the pulley 5. Power is transmitted in the present instance through a shaft 11, driving a worm 12 meshing with a worm gear 13 connected to the cable drum or sheave 5.

During the flight of the aeroplane 2, when it is operating under its own power, the carriage 3 is free to run upon the supporting cables 4 by means of its wheels 7 which are loose and capable of running freely upon 70 the cables, but when it is desired to operate the aeroplane 2 through means of the cables 4, then an operator or passenger in the aeroplane may manipulate a hand-wheel or other equivalent device 14 for operating a cable grip 15 which is arranged in juxtaposition with a cable 4, the grip being mounted on the carriage 3. When the grip 15 has been closed upon the cable strand 4, the motor 10 75 may be started so that the rotation of the drum 5 will actuate the suspending cables 4 and through means of the grip 15 the movement of the cable will carry the carriage 3 with its connected aeroplane 2.

Manifestly, the distance between the supporting sheaves 5 and 6 may be as great as desired, and in operation the aeroplane 2, after receiving passengers from a position adjacent to one or the other of the drums, will be driven by its own power from the engine 9, operating the propeller 8 along the aerial tramway. Meanwhile, the cable grip 15 has been set to open or free position so as not to interfere with the movement of the carriage upon the cables.

100 After the aeroplane has made its flight between the supporting drums 5 and 6 until it assumes an idle position with the motor 9 cut out, the operator in the aeroplane can set the grip 15 to bind upon the cable strand 4 and the operation of the motor 10 will then draw the aeroplane 2 to the starting station.

105 It is understood that the propelling mechanism 8—9 on the aeroplane may be of such type as to be reversible, so that the aeroplane 110

could be manipulated back and forth in either direction upon its supporting cable strands 4.

From the construction of my invention it is manifest that at no time is it possible for the aeroplane to become disconnected from its supporting cables 4, so that the safety of the passengers or amusement seekers is insured and yet all of the exhilarating excitement of an aerial flight is to be had by the occupants of the aeroplane.

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

- 15 1. In an amusement apparatus, the combination of an aeroplane, a supporting aerial endless-cable, a traveling carriage connecting the cable and the aeroplane, a propelling mechanism mounted on the aeroplane for moving the latter in one direction, means for driving the cable, and means on the carriage adapted to grip a portion of the cable for moving the aeroplane in a second and opposite direction.
- 20 2. In an amusement apparatus, the combination of an aeroplane, a supporting aerial

tramway, a traveling carriage connecting the tramway and the aeroplane, a propelling mechanism mounted on the aeroplane, means for driving the aerial tramway, and mechanism whereby the aeroplane may be positively coupled to the tramway so that it may shift the aeroplane independently of the aeroplane propelling mechanism.

3. In an aerial amusement apparatus, the combination of an aerial cable, drums upon which the cable is mounted, means for operating the cable, an aeroplane connected to said cable by a propelling means comprising a grip whereby the aeroplane and its carriage may be locked with relation to one strand of the cable, and a propulsion means on the aeroplane whereby the latter may be operated independently of the operation of the cable.

45 In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM A. RAY.

Witnesses:

JOHN H. HERRING,
GENEVIEVE S. DONELIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
