F. W. THOMPSON, DEC'D.

S. P. THOMPSON, ADMINISTRATRIX.

AMUSEMENT APPARATUS.

APPLICATION FILED OCT 29, 1919.

1,388,130.

Patented Aug. 16, 1921.

4 SHEETS—SHEET 1.

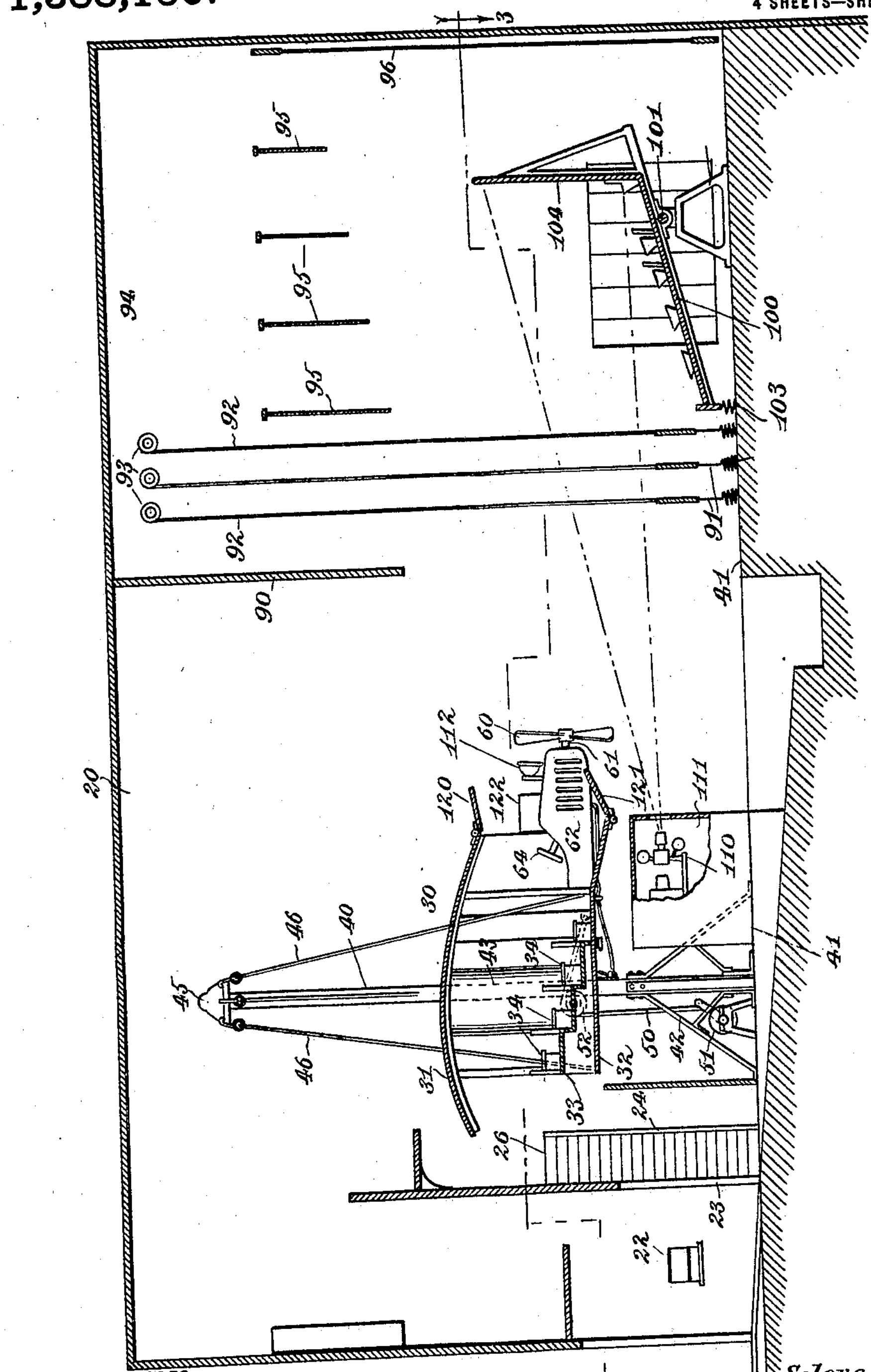

Fig. 1.

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[illegible]

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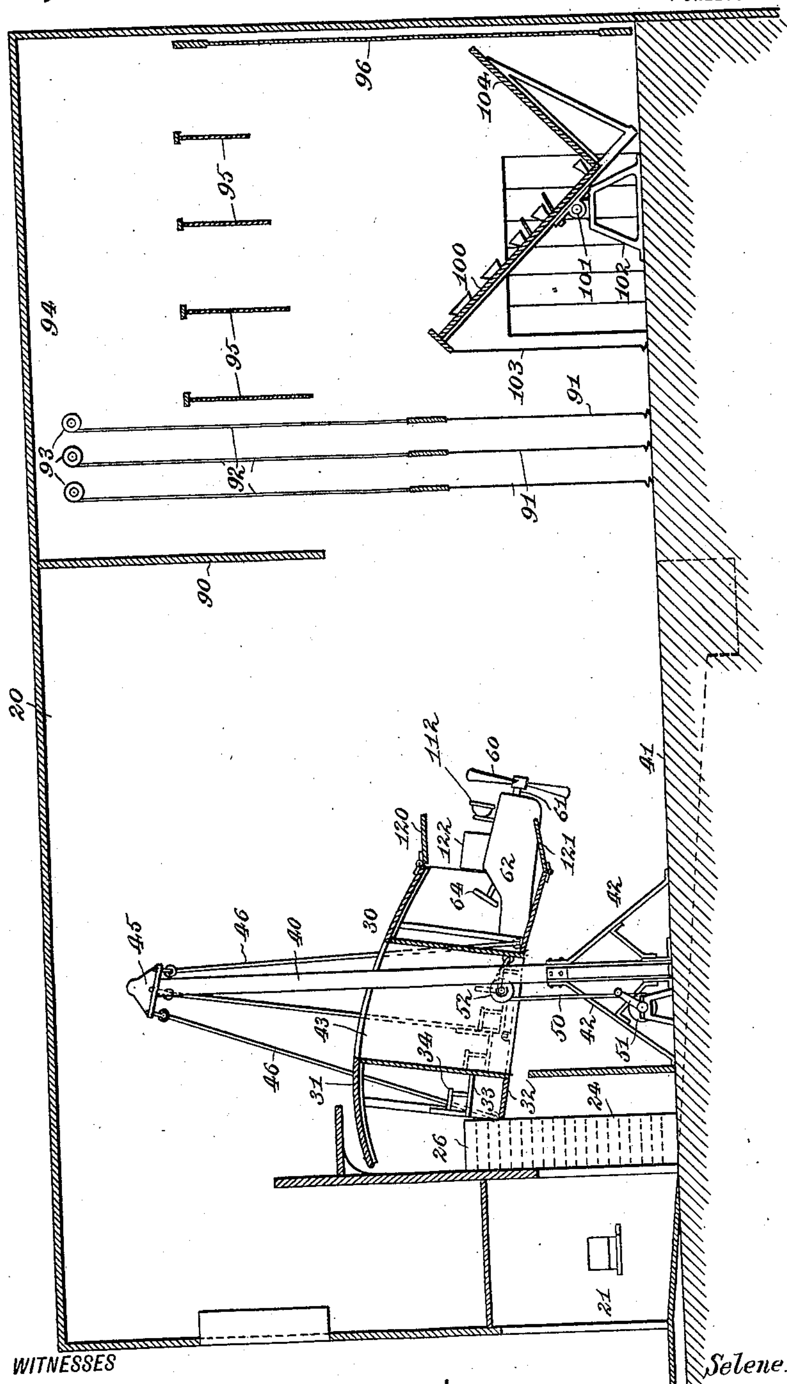

Fig. 2.

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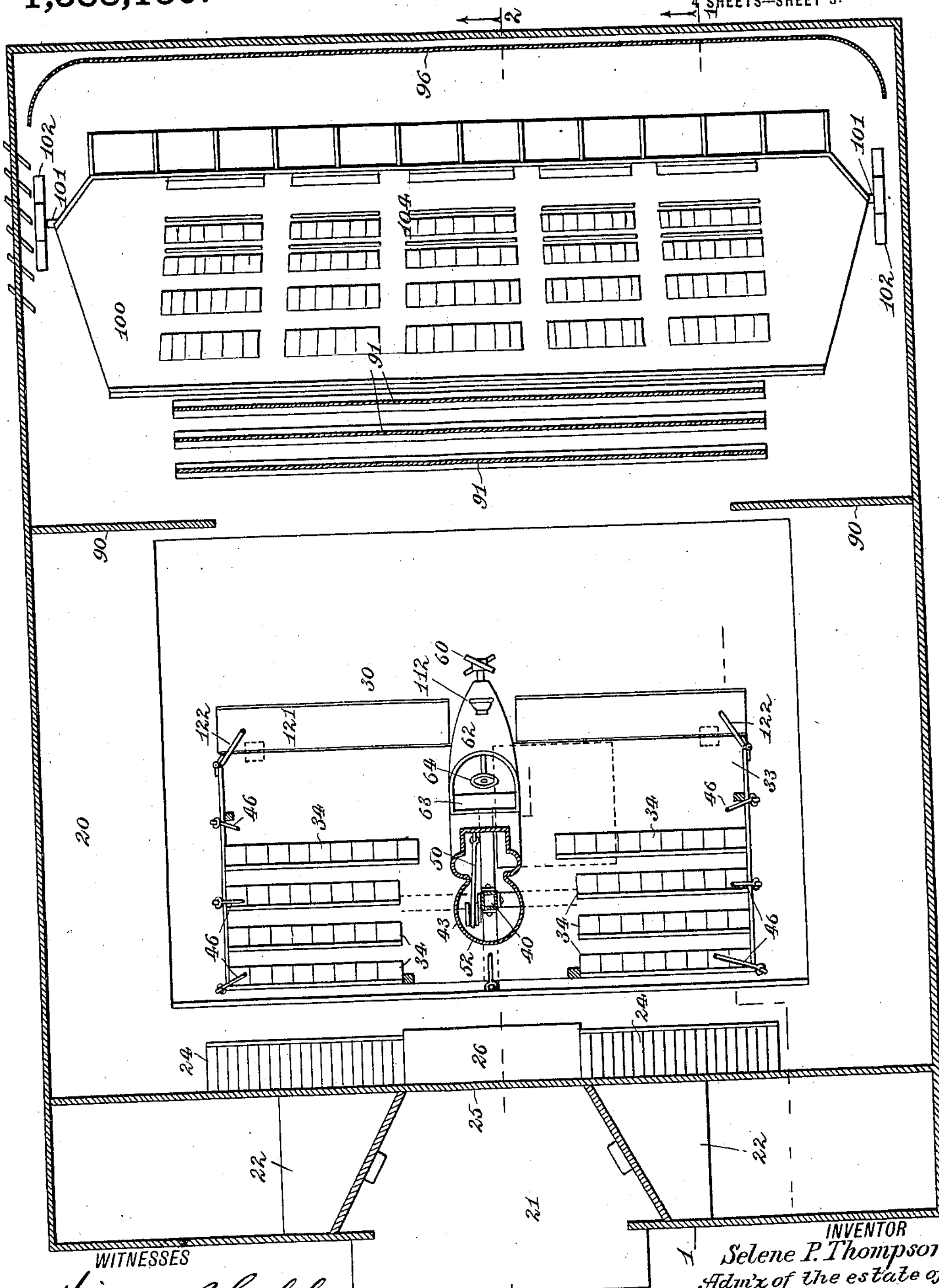

Fig. 3.

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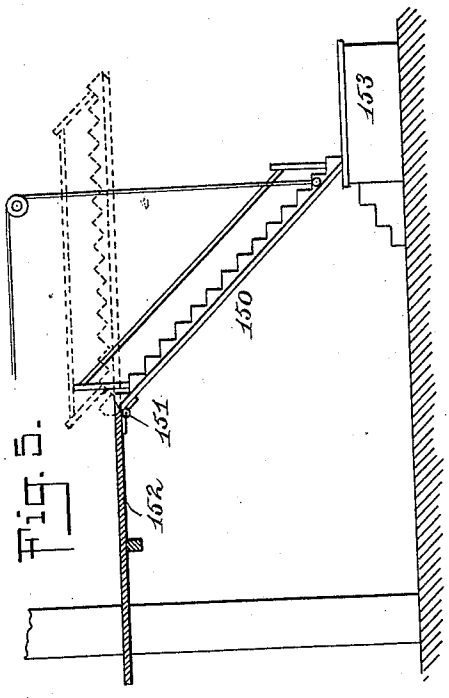

Fig. 5.

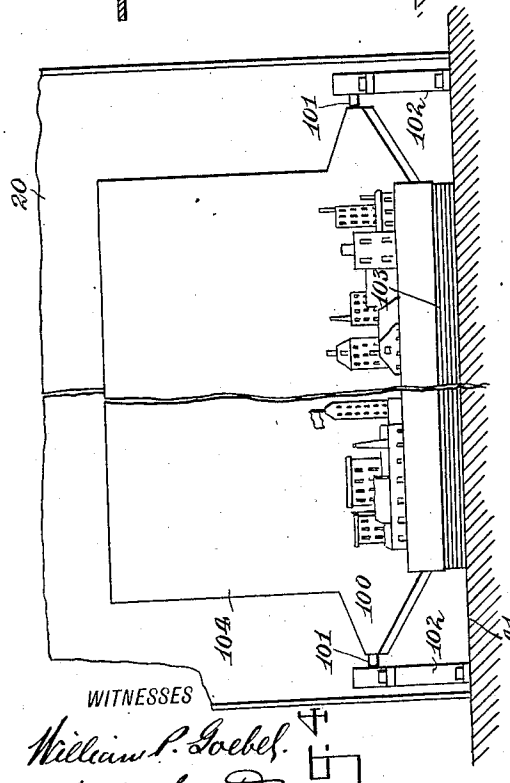

Fig. 4.

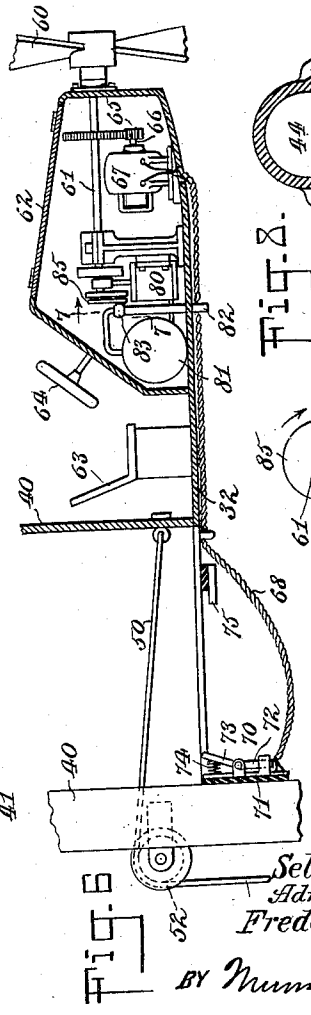

Fig. 6.

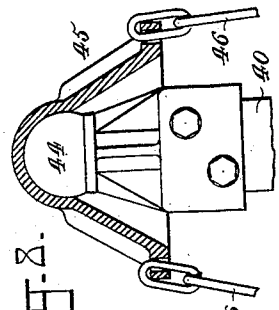

Fig. 8.

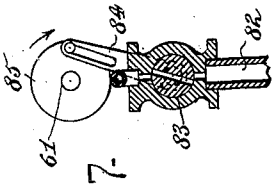

Fig. 7.

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UNITED STATES PATENT OFFICE.

FREDERICK WILLIAM THOMPSON, DECEASED, LATE OF NEW YORK, N. Y., BY SELENE P. THOMPSON, ADMINISTRATRIX, OF NEW YORK, N. Y.

AMUSEMENT APPARATUS.

1,388,130. Specification of Letters Patent. **Patented Aug. 16, 1921.**

Application filed October 29, 1919. Serial No. 334,329.

To all whom it may concern:

Be it known that I, SELENE P. THOMPSON, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, am administratrix of the estate of FREDERICK WILLLIAM THOMPSON, deceased, late a citizen of the United States and late a resident of the city of New York, borough of Manhattan, in the county and State of New York, who did in his lifetime invent a new and Improved Amusement Apparatus, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved amusement apparatus for use in pleasure resorts, exhibitions, fairs, parks, theaters and other shows and places, and arranged to accommodate a number of passengers at a time and to give the passengers the illusion of a trip in an aeroplane.

Another object is to facilitate the embarkation and disembarkation of the passengers.

Another object is to render the apparatus portable with a view to permit convenient transportation from one place to another and to allow of setting up the apparatus in a tent or other structure.

With these and other objects in view, the invention consists of certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal section of the improved amusement apparatus on the line 1—1 of Fig. 3;

Fig. 2 is a similar view of the same on the line 2—2 of Fig. 3;

Fig. 3 is a sectional plan view of the same on the line 3—3 of Fig. 1;

Fig. 4 is a front elevation of the rocking platform;

Fig. 5 is a sectional elevation of a modified form of the embarkation and disembarkation station;

Fig. 6 is an enlarged longitudinal central section of the forward end of the aeroplane and the mast;

Fig. 7 is an enlarged cross section of the valve mechanism, the section being on the line 7—7 of Fig. 6; and

Fig. 8 is an enlarged sectional side elevation of the cap on the upper end of the mast and from which the aeroplane is suspended.

The amusement apparatus is mounted in a suitable building or other structure 20 provided at the front with an entrance 21 having ticket booths 22, and connected by a door 23 with the interior of the structure to allow passengers to pass to the lower ends of stairways 24 arranged on the rear of the wall 25 defining the entrance 21. The upper ends of the stairways 24 lead to opposite sides of a platform 26 from which the passengers are adapted to pass onto a suspended passenger-carrying craft, preferably in the form of an aeroplane 30. This aeroplane 30 is provided with top and bottom wings 31 and 32, of which the bottom wing 32 is provided with a step platform 33 provided with seats 34 for accommodating the passengers. The step platform 33 is adapted to register at its rear high end with the platform 26 at the time the aeroplane 30 is swung into loading or unloading position, as shown in Fig. 2, it being understood that when the aeroplane 30 is in the normal position shown in Figs. 1 and 3 then the aeroplane is spaced from the platform 26. The seats 34 are arranged to seat the passengers facing forward.

The aeroplane 30 is suspended from the upper end of a mast 40 supported on the floor 41 of the structure 20 by the use of suitable braces 42, as plainly shown in Figs. 1 and 2. The mast 40 extends through a well 43 formed in the middle portion of the aeroplane 30 and this well is sufficiently large to permit free swinging movement forward and backward of the aeroplane 30. The upper end of the mast 40 is provided with a spherical bearing 44 on which is mounted to rock a cap 45 engaged by the upper ends of suspension rods 46 connected at their lower ends with the lower wing 32 to suspend the aeroplane 30 from the mast

40. The aeroplane, as previously stated, is normally in the position shown in Fig. 1, and in order to permit of swinging the aeroplane rearwardly for loading and unloading purposes, the following arrangement is made: A rope, cable or other flexible connection 50 winds at one end on a windlass 51 mounted on the floor 41 of the structure 20, and this flexible connection 50 extends upwardly and over a guide pulley 52 journaled on the mast 40 a short distance above the lower wing 32. The flexible connection 50 extends from the guide pulley 52 in a forward direction and connects with the forward wall of the well 43. It will be noticed that when the flexible connection 50 is wound up by the windlass 51 then a rearward pull is exerted on the aeroplane 30 whereby the latter is swung rearwardly into the loading and unloading position illustrated in Fig. 2. When the windlass 51 is released, the aeroplane 30 moves forward by its own gravity thus producing the illusion of flying in space, to the passengers in the aeroplane.

The flying effect is heightened by the use of a propeller 60 forming part of the aeroplane and arranged at the front thereof, as plainly indicated in the drawings. The shaft 61 of the propeller 60 is journaled in a housing 62 mounted on the forward end of the aeroplane and corresponding in shape to the usual car containing a pilot seated on a seat 63 arranged in front of the well 43, and in the rear of the housing 62. A steering and controlling wheel 64 is mounted on the housing and is within reach of the pilot seated on the seat 63. The shaft 61 is preferably driven by a gearing 65 from the shaft 66 of a motor 67, preferably of the electric type, and mounted within the housing 62. The feed wires 68 for the electric motor 67 connect with a switch 70 having a fixed insulated member 71 on the mast 40 and a pivoted member 72 provided with an arm 73 pressed on by a spring 74 to normally hold the switch members 71 and 72 in closed position. The arm 73 is adapted to be engaged by an actuating member 75 held insulated on the bottom plane 32. The switch 70 is connected in the usual manner with a source of electrical energy and hence when the aeroplane is in a normal position, shown in Figs. 1 and 6, then the motor 67 is running and the propeller 60 is rotated. When the aeroplane 30 is swung rearward into the loading and unloading position shown in Fig. 2 then the actuating member 75 engages the arm 73 and swings the switch member 72 into open position thus cutting off the electrical energy from the motor 67, and the latter and the propeller 60 come to a stop. When the aeroplane 30 is returned from the loading and unloading position to the normal position then the switch actuating member 75 releases the arm 73 to allow the switch member 72 to move into closed position thereby again connecting the source of electrical energy with the motor 67 to start and run the latter.

In order to produce the exhaust effect of a gasolene motor such as is used in the regular aeroplanes the following arrangement is made: The shaft 67 actuates an air compressor 80 connected with a tank 81 arranged in the housing 62 (see Fig. 6). The tank 81 is provided with an exhaust pipe 82 extending through the housing 62 into the surrounding space of the aeroplane. The exhaust pipe 82 is provided with a valve 83 on the stem of which is secured a slotted arm 84 connected with a crank disk 85 secured on the shaft 61. Now when the shaft 61 is rotated, the air compressor 80 charges the tank 81 with compressed air, which is now intermittently discharged through the pipe 82 owing to the alternate opening and closing of the valve 83 by the action of the crank disk 85 and the arm 84. The discharge of the compressed air through the pipe 82 produces the effect of the exhaust discharge of an internal combustion engine, and is sufficiently audible to be heard by the passengers seated on the seats 34. It is understood that the use of a regular internal combustion engine is not advisable owing to the dangerous exhaust gases of such engine.

The structure 20 is provided intermediate its front and rear with a proscenium 90 which divides the structure 20 into an auditorium and a stage, of which the auditorium or front portion contains the suspended aeroplane 30 or other passenger carrying craft while the stage or rear portion of the structure 20 contains the means for producing a realistic bird's-eye view visible to the passengers of the craft and representing any desired section of our globe to be traversed by the craft in its supposed flight, thus producing in the minds of the passengers the illusion of a real flight in a modern aeroplane or similar craft. In order to accomplish this result the following arrangement is made: In the rear portion immediately next to the proscenium 90 are arranged a number of drops 91 supported by ropes or cables 92 in the usual manner from drums 93 arranged in the flies 94 which also contain a number of sky curtains 95 to limit the upward vision of the passengers in the aeroplane 30. A background 96 is mounted on the extreme rear portion of the structure 20. Between this background 90 and the drops 91 is arranged a platform 100 adapted to contain a miniature representation of a city landscape, seascape or the like, and this platform is provided near its rear end with a shaft 101 journaled in a suitable stand 102 mounted on the floor 41 of the

structure 20. By the arrangement described, the platform 100 can be swung up and down to heighten the effect of the vision of the passengers on the aeroplane 30. The front end of the platform 100 is provided with a flexible apron 103 resting with its lower end on the floor 41 to prevent the passengers from looking under the platform 100. The rear end of the platform 100 is provided with an upright wall 104 adapted to form a screen for receiving images, preferably projected on to the front face of the wall by a projecting apparatus 110 mounted in a suitable housing 111 set on the floor 41 underneath the front portion of the aeroplane 30. This projecting apparatus is preferably in the form of a moving picture machine for throwing the desired images such as landscapes and the like on to the front face of the wall 104 to be viewed by the passengers on the seats 34 to heighten the illusion of traveling in an aeroplane. The projecting apparatus may also be used as a search light for throwing shafts of light on to the representation on the frame 100 or on to the back wall 104. A separate search light 112 is preferably mounted on the housing 62 to furnish a spot light for illuminating particular portions of the bird's-eye view on the platform 100.

In order to limit the vision of the passengers relative to the floor, ceiling and side walls of the structure 20, the forward ends of the upper and lower wings 31 and 32 of the aeroplane 30 are provided with hinged masking planes 120 and 121, and similar masking planes 122 are arranged at the sides intermediate the top and bottom planes 31 and 32. The masking planes 120, 121 and 122 are set at desired angles to form a moving proscenium thus giving a proper line of vision, exhilarating the flying motion by optical illusion, and masking, from the view of the passengers, all surroundings not intended to be shown.

The operation is as follows:

The aeroplane 30 is first drawn into loading and unloading position, as illustrated in Fig. 2, to permit the passengers to pass from the fixed platform 26 on to the step platform 33 and to the seats 34. When the aeroplane is loaded, a signal is given and the windlass 51 is released to allow the aeroplane 30 to swing by its own gravity forwardly and in doing so the switch 70 is closed and the motor 67 is started whereby the propeller 60 is rotated thus aiding the forward movement of the aeroplane 30. The running of the motor 67 causes the pump 80 to supply the tank 81 with compressed air, which is intermittently exhausted by the action of the oscillating valve 83, thus producing the effect of the exhaust of an internal combustion engine. It will also be noticed that when the propeller 60 is running air currents are set up and directed over the passengers, thus aiding in producing the illusion of flying in an aeroplane. It is understood that when the aeroplane is released it swings forward slightly beyond a central position, in which it is held by the forward pulling action of the propeller 60. Thus the pulling force exerted by the propeller 60 causes the suspended aeroplane 30 to quiver or vibrate and at the same time holds the aeroplane in about the same forward position but the propelling force of the propeller 60 is not sufficient to swing the aeroplane and its load forward beyond the slightly off center position.

When the aeroplane 30 swings forward, the folding scenic drops 91 are released and their sinking gives the effect of the aeroplane skimming over the roof tops. When the drops 91 move into lowermost position, the platform 100 and its back wall 104 come into the line of vision of the passengers and the latter behold the reproduction on the platform 100, which can be gradually swung upward or downward to aid the illusion. Simultaneously the passengers view the blue sky panorama with cloud effects on the background 96 while images of scenery are projected on the back wall 104 of the platform 100. The separate search lights 112 may now be used to throw a spot light onto any particular part of the platform 100 and its back wall 104 to heighten the effect, but, as previously stated, such light beams may emanate from the projecting machine 110. The representation on the platform 100 is preferably made in cutouts of sheet iron and may be illuminated by miniature lights (not shown).

From the foregoing it will be seen that a bird's-eye view is presented to the passengers of the aeroplane, and, as the latter is suspended and has a vibratory movement owing to the running of the propeller 60, an illusion of flying in an aeroplane is produced on the passengers.

Instead of fixed stairways 24 leading to the embarkation platform 26, use may be made of one or more stairways 150 (see Fig. 5), each hinged at its upper end at 151 to the lower plane 152 of the aeroplane to allow passengers to pass directly onto the aeroplane. The lower end of each stairway 150 is adapted to rest on a platform 155 erected on the floor 41 of the structure. After the passengers are seated on the aeroplane, the stairway 150 is swung up to provide the illusion that the aeroplane is disconnected from the ground. Suitable raising and lowering means for the stairway are provided.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. An amusement apparatus, comprising

a movable craft adapted to accommodate passengers, a driven propeller mounted on the craft, and means for swinging the craft rearwardly into loading position and for releasing the craft after it is loaded to allow it to move forwardly by gravity and aided by the propeller.

2. An amusement apparatus, comprising a movable craft in the form of an aeroplane having a lower plane forming a platform adapted to accommodate passengers, a driven propeller mounted on the craft, and means for swinging the craft rearwardly into loading position and for releasing the craft after it is loaded to allow it to move forwardly by gravity and aided by the propeller.

3. In an amusement apparatus of the type described, a platform mounted to rock up and down on a horizontal axis and provided with a miniature landscape, a back wall on the said platform and forming a screen moving up and down with the platform, and a projecting apparatus located a distance in front of the said platform and adapted to illuminate the said landscape and adapted to project images on to the said screen.

4. An amusement apparatus, comprising a suspended platform adapted to accommodate passengers and normally disposed in a central non-loading position, a motor mounted on the platform, a propeller mounted on the platform and driven by the said motor, and means for swinging the platform rearwardly from a central non-loading position into loading position and for releasing the platform after it is loaded to allow it to swing forwardly into central position by gravity.

5. An amusement apparatus, comprising a mast, an aeroplane having a central well through which extends the said mast, suspension means suspending the aeroplane from the said mast, a fixed embarkation and disembarkation station in the rear of the aeroplane, and means for swinging the aeroplane rearwardly against the said fixed station and holding it in this position for passengers to embark and disembark, the said means when released allowing the aeroplane to swing forwardly by its own gravity into a central position.

6. In an amusement apparatus of the type described, a platform mounted to rock up and down on a horizontal sidewise extending axis, a miniature landscape produced on the said platform, and a back wall erected on the rear of the platform and moving up and down with the same, the said back wall forming a screen adapted to receive and display projected images.

7. An amusement apparatus, comprising a suspended aeroplane having at the front end a motor driven propeller holding the aeroplane quivering in forward beyond normal central position and masking planes arranged forwardly on the top, bottom and sides of the aeroplane to provide a moving proscenium.

8. An amusement apparatus, comprising a suspended aeroplane having a motor driven propeller, masking planes arranged forwardly on the top, bottom and sides of the aeroplane to provide a moving proscenium, folding scenic drops arranged a distance in front of the aeroplane and adapted to sink on being released, and a rocking platform in front of the said drops and provided with a landscape.

9. An amusement apparatus, comprising a suspended aeroplane having a motor driven propeller, masking planes arranged forwardly on the top, bottom and sides of the aeroplane to provide a moving proscenium, folding scenic drops arranged a distance in front of the aeroplane and adapted to sink on being released, a rocking platform in front of the said drops and provided with a landscape, the platform having a back wall, and a projecting apparatus below the aeroplane and adapted to project images onto the said back wall.

10. An amusement apparatus, comprising a mast, an aeroplane suspended from the said mast and having top and bottom wings, of which the bottom wing is provided with seats for passengers, an embarkation and disembarkation station normally spaced from the rear of the aeroplane, a windlass, and a flexible connection connecting the said windlass with the said aeroplane to swing the latter rearwardly to move the said bottom wing in register with the station.

11. An amusement apparatus, comprising a passenger carrying craft provided with a propeller and with an electric motor driving the said propeller, means for imparting bodily movement to the said craft, and an electric circuit for the said electric motor and provided with a switch controlled by the movement of the craft.

12. An amusement apparatus, comprising a suspended passenger carrying craft provided with an electric motor, and with a propeller driven by the motor the action of the propeller holding the suspended craft quivering in forward beyond central position, and an intermittent air exhaust device driven from the said motor.

13. An amusement apparatus, comprising a passenger carrying craft provided with an electric motor and with a propeller driven by the motor, an air compressor driven from the motor, an air storage tank into which discharges the said air compressor, an exhaust leading from the said tank and provided with a valve, and means driven from the motor and connected with the valve to alternately open and close the same.

14. An amusement apparatus, comprising an inclosed structure having a proscenium

dividing the structure into an auditorium and a stage, a passenger carrying craft mounted in the said auditorium, and means arranged on the said stage and representing a realistic bird's-eye view of a section of the country, and means for manipulating the said craft to produce, in conjunction with the said representation, the illusion of traveling, in the minds of the passengers.

15. An amusement apparatus, comprising an inclosed structure having a proscenium dividing the structure into an auditorium and a stage, an aeroplane suspended in the auditorium and adapted to accommodate passengers facing the stage, means for imparting a to and fro movement to the aeroplane, drops on the stage adjacent the proscenium, and a movable carrier on the stage in the rear of the drops and provided with a scenic representation.

16. An amusement apparatus, comprising an inclosed structure having a proscenium dividing the structure into an auditorium and a stage, an aeroplane suspended in the auditorium and adapted to accommodate passengers facing the stage, means for imparting a to and fro movement to the aeroplane, drops on the stage adjacent the proscenium, a movable carrier on the stage in the rear of the drops and provided with a scenic representation, and a scenic background in the rear of the stage.

17. An amusement apparatus, comprising an inclosed structure having a proscenium dividing the structure into an auditorium and a stage, an aeroplane suspended in the auditorium and adapted to accommodate passengers facing the stage, means for imparting a to and fro movement to the aeroplane, drops on the stage adjacent the proscenium, a movable carrier on the stage in the rear of the drops and provided with a scenic representation, the carrier having a rising screen, and a projecting machine in the auditorium and arranged to display images on the said screen.

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