

C. E. LAMBURTH.  
 AEROPLANE.  
 APPLICATION FILED DEC. 12, 1910.

996,592.

Patented June 27, 1911.

4 SHEETS—SHEET 1.

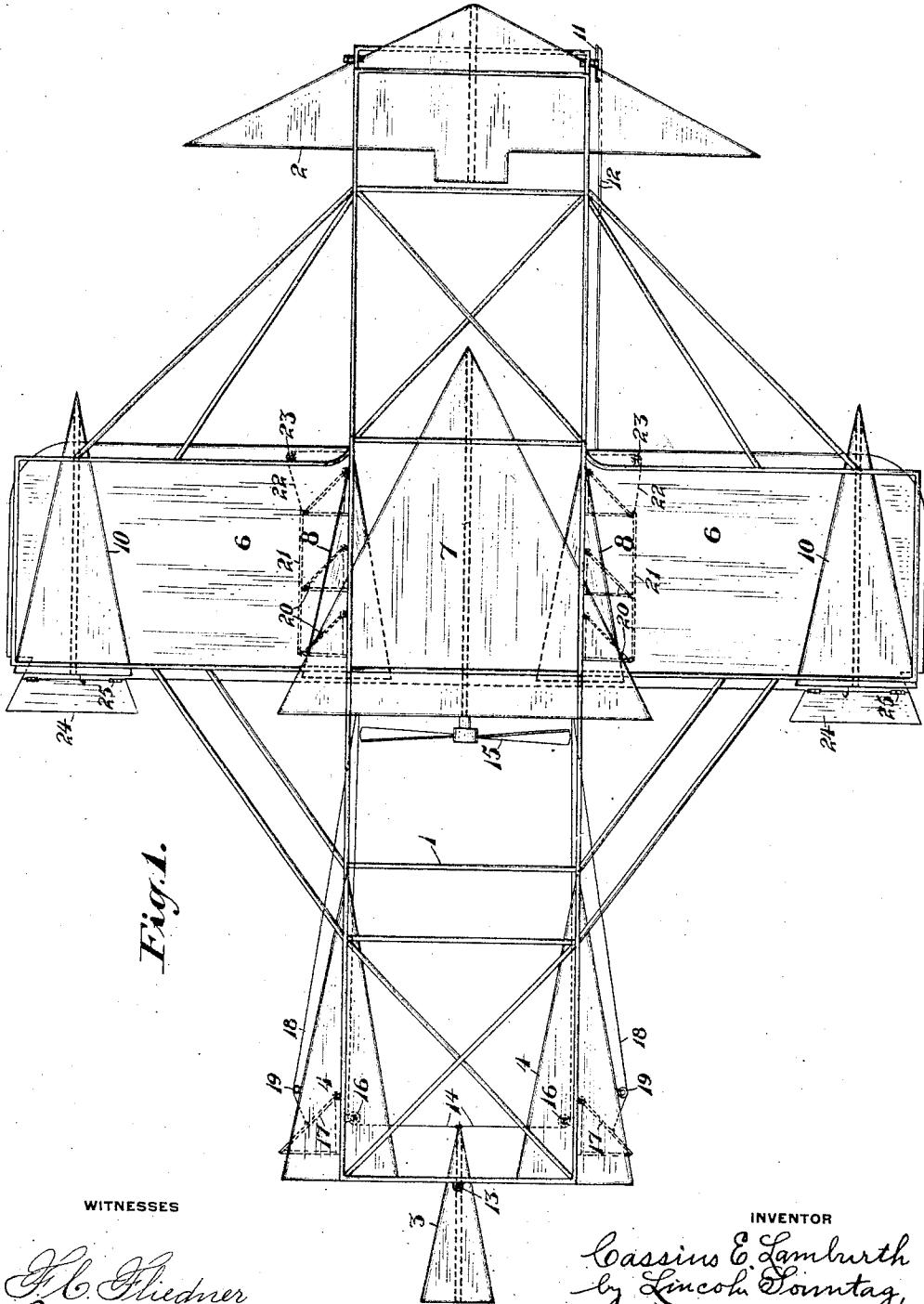


Fig. 1.

WITNESSES

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 Attorney.

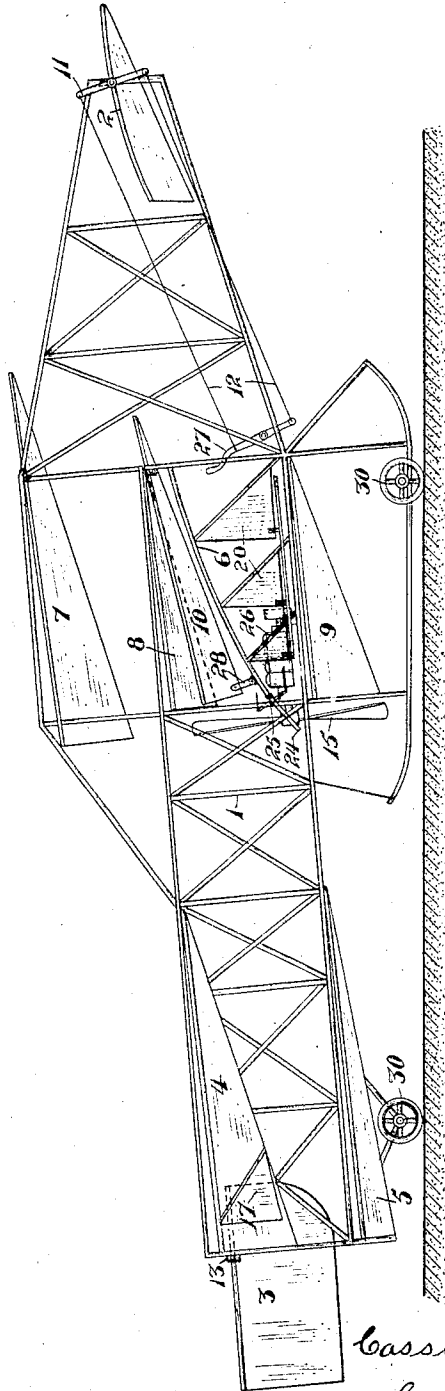
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4 SHEETS—SHEET 2.

*Fig. 2.*



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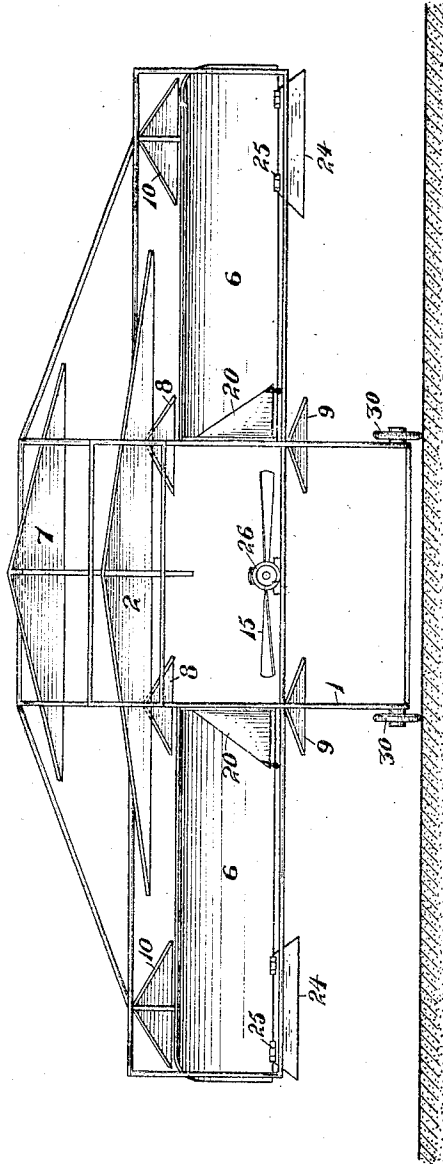
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4 SHEETS—SHEET 3.

*Fig. 3.*



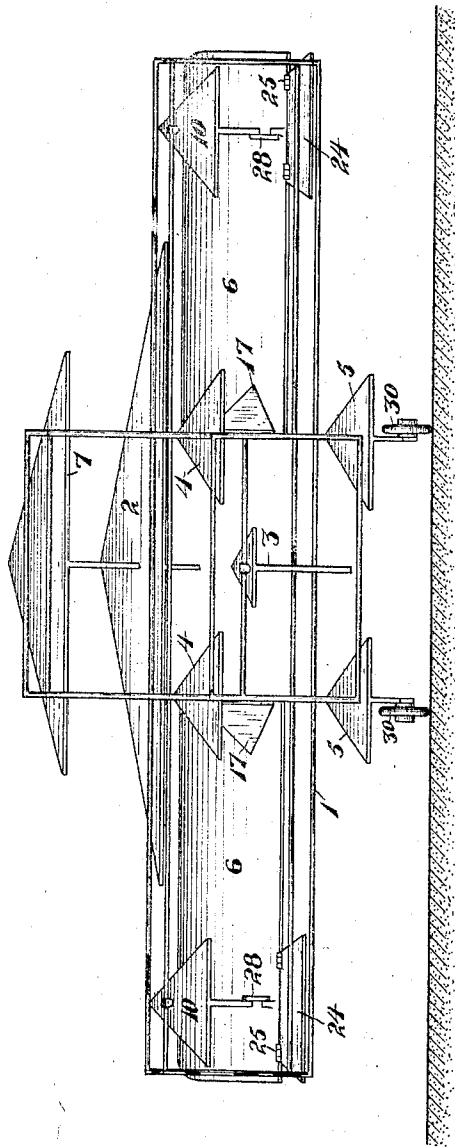
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*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

CASSIUS E. LAMBURTH, OF SAN FRANCISCO, CALIFORNIA.

AEROPLANE.

996,592.

Specification of Letters Patent. Patented June 27, 1911.

Application filed December 12, 1910. Serial No. 596,894.

To all whom it may concern:

Be it known that I, CASSIUS E. LAMBURTH, a citizen of the United States, residing at the city of San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Aeroplanes, of which the following is a specification.

My invention relates to improvements in aerial vessels.

The object of my invention is to provide an air-ship known as an aeroplane which will encounter a minimum of resistance in its passage through the air by reason of the improved shape, position and arrangement of its planes; which has great plane area giving it increased buoyancy, and which has improved means for compressing air so as to give the vessel unusual stability.

My invention consists in the novel construction and arrangement of parts shown in the accompanying drawings, described in the following specification and claimed in the appended claims.

Referring to the accompanying drawings, Figure 1 is a plan view of the vessel embodying my invention; Fig. 2 is a side view of said vessel at rest; Fig. 3 is a front view of said vessel at rest, and Fig. 4 is a rear view of the same at rest.

In the figures 1 represents the frame of the vessel. Steering plane 2 which is located at the front of the vessel is pointed and has a central longitudinal rib depending therefrom which is a peculiar feature of the pointed planes of said aeroplane as shown. A pointed rear steering rudder 3, being movable to the right or left, is pivotally mounted at 13 and is operated by cord 14 passing around pulleys 16 leading to any suitable point convenient to the operator. Located on each side of the vessel, upper and lower rear planes 4 and 5 and upper and lower front planes 8 and 9 are pointed and have each the depending rib or keel hereinbefore mentioned and are secured to the frame as shown in Fig. 2. Beneath plane 7 wings 6 and 6 extend transversely from the vessel and their front ends are connected to the frame. The said wings 6 are provided near their rear edges with links 28 which establish pivotal link connection between the rear part of wings 6 and the rear edges of planes 10, said planes 10 being placed above the

lateral ends of wings 6 and are pivoted to the frame near their front ends, and the said planes 10 are pivoted near their front ends and at their rear ends so that they may tilt and twist wings 6 and lessen their angle of incidence as the speed of the vessel increases in flight—this is done by the raising of the plane 10 by the air passing under the underside of planes 10 and lifting the outer portion of the rear half of wing 6 through its connection by the link 28, the outer half of wing 6 being particularly warped during the increase of speed.

Triangular plane 7 being hung centrally to the frame as shown in Fig. 2, the incidence and gravity as operating in the case of said plane are such that should the engine stop while the vessel is in flight, the plane would immediately incline or point to the earth, causing the vessel to glide down, and said plane being unobstructed at the top of the vessel, by reason of having the form of a triangle and being inclined as shown in Fig. 2 in the operation of the vessel admits freely at its front edges the incoming air and at its rear edge allows such escape of air as to reduce at the latter point the volume of such incoming air to about one-half, whereby air is retarded in its rearward movement and compressed under said plane, giving the vessel great stability on account of increase of the under pressure, as this pressure is against the front plane and the arrow pointed planes as well as said plane 7 by reason of similar construction and connections as illustrated.

Front plane 2, which is pivotally mounted as shown in Fig. 2, has a steering rod 11 operated by a lever pivoted to the frame, said lever being marked 27, a cord running from said lever to said rod and designated 12. An engine 26 and a propeller 15 are provided for the vessel, the same having suitable connections. Additional steering wings 17 are pivoted outwardly and sidewise on the rear planes 4 and are operated by cord 18 passing over pulley 19 and leading to a suitable point near the operator. Steering and stopping planes 20 are positioned on the right and left sides of the vessel beneath wings 6, and are connected by rods 21 and operated by cord 22 passing over the pulleys 23 and leading to a point near and convenient to the operator. Flaps 24 are hinged at 25 to wings 6 and are operated in any suit-

able manner, the same being equalizing planes to bring the vessel back to balance or a horizontal position. Planes 10 with flaps 24 are for lateral balance.

5 The diagonal braces extending and connected as shown in Figs. 1 and 2 are arranged so as to give the vessel considerable strength while not adding undue weight thereto. The cords or wires 12 as connected  
10 to steering rod and lever 27, one at the upper ends thereof and one at the lower ends thereof enable plane 2 to be inclined in either direction, being pivoted for longitudinal balance. The pointed planes as shown by  
15 reason of their acuteness and with keels inclining upwardly to their pointed ends enable the vessel in its flight to travel with the minimum of resistance while the keels are conducive to balance, one of the features of  
20 the vessel being its equilibrium of balance. Wheels 30 are provided so that the vessel may be moved on the ground.

To operate the vessel the aviator takes his place in the forepart of the ship in proximity to the lever 27 from which point he  
25 can control the engine and operate the movable wings and planes shown and described as conditions in the air require to accomplish the safe and rapid progress of the machine. The vessel is so arranged that cords  
30 or wires may be readily connected to any of the movable wings or planes thereof leading to the position of the aviator whereby the same may be operated by him as may be  
35 required.

Although I have described in connection with the drawings the construction and relative arrangement of the several elements of my invention, I do not desire to be confined  
40 to the same, as such changes may be made as regards construction, arrangement or connection of parts thereof to perform more or less of the functions thereof as referred to as clearly fall within the scope of my invention,  
45 without departing from the spirit thereof.

I claim:

1. In an aeroplane a frame, oppositely extending wings projecting laterally from  
50 said frame and pointed planes having keels pivoted at their forward and rearward ends to the upper side of said wings for lateral tilting.

2. In an aeroplane a frame, oppositely extending wings having flaps rearwardly  
55 hinged thereto, and pointed planes having keels pivoted forwardly and rearwardly to the upper side of said wings for lateral tilting.

3. In an aeroplane, a frame, oppositely extending wings having flaps rearwardly  
60 hinged thereto, pointed planes having keels lying in their longitudinal planes of symmetry and said keels pivoted at their forward and rearward ends to the upper side

of said wings and a pointed plane depending from the upper central portion of said frame.

4. In an aeroplane a frame, oppositely extending wings having flaps rearwardly  
70 hinged thereto near their lateral ends, and pointed planes having keels lying in their longitudinal planes of symmetry, and said keels pivoted at their forward and rearward ends to the upper side of said wings; a  
75 pointed plane depending from the upper central portion of said frame, and a front steering plane having a keel movably secured to the front end of said frame and a centrally pivoted steering rod connected to said  
80 steering plane.

5. In an aeroplane a frame, oppositely extending wings having flaps rearwardly  
85 hinged thereto near their lateral ends, and pointed planes having keels lying in their longitudinal planes of symmetry, and said keels pivoted at their forward and rearward ends to the upper side of said wings, a pointed plane depending from the upper  
90 central portion of said frame, a front steering plane having a keel pivoted to the front end of said frame, a centrally pivoted steering rod connected to said steering plane, a rear pivoted rudder provided with a keel,  
95 and a centrally pivoted lever connected at its upper and lower ends to said steering rod.

6. In an aeroplane a frame, oppositely extending wings having flaps rearwardly  
100 hinged thereto near their lateral ends, and pointed planes having keels lying in their longitudinal planes of symmetry, and said keels pivoted at their forward and rearward ends to the upper side of said wings; a  
105 pointed plane depending from the upper central portion of said frame; a front steering plane having a keel pivoted to the front end of said frame; a centrally pivoted steering rod connected to said steering plane, and  
110 a pair of upper pointed planes having keels and a pair of lower pointed planes having keels extending to the rear end of said frame, the members of each pair of said planes being positioned on opposite sides of  
115 said frame.

7. In an aeroplane a frame, oppositely extending wings having flaps rearwardly  
120 hinged thereto near their lateral ends, and pointed planes having keels lying in their longitudinal planes of symmetry, and said keels pivoted at their forward and rearward ends to the upper side of said wings; a pointed plane depending from the upper central portion of said frame; a plurality of steering and stopping planes mounted  
125 beneath said oppositely extending wings, and means in connection with said front steering plane for the movement thereof.

8. In an aeroplane a frame, oppositely extending wings having flaps rearwardly  
130

hinged thereto near their lateral ends, and pointed planes having keels lying in their longitudinal planes of symmetry, and said keels pivoted at their forward and rearward ends to the upper side of said wings; a pointed plane depending from the upper central portion of said frame; a plurality of steering and stopping planes mounted beneath said oppositely extending wings, a pair of upper pointed planes having keels and a pair of lower pointed planes having keels extending to the rear end of said frame, the members of each pair of said

planes being positioned on opposite sides of said frame, a pair of steering wings pivoted outwardly and sidewise to said upper pointed planes, and means in connection with said front steering plane for the movement thereof.

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

CASSIUS E. LAMBURTH.

Witnesses:

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M. V. COLLINS