

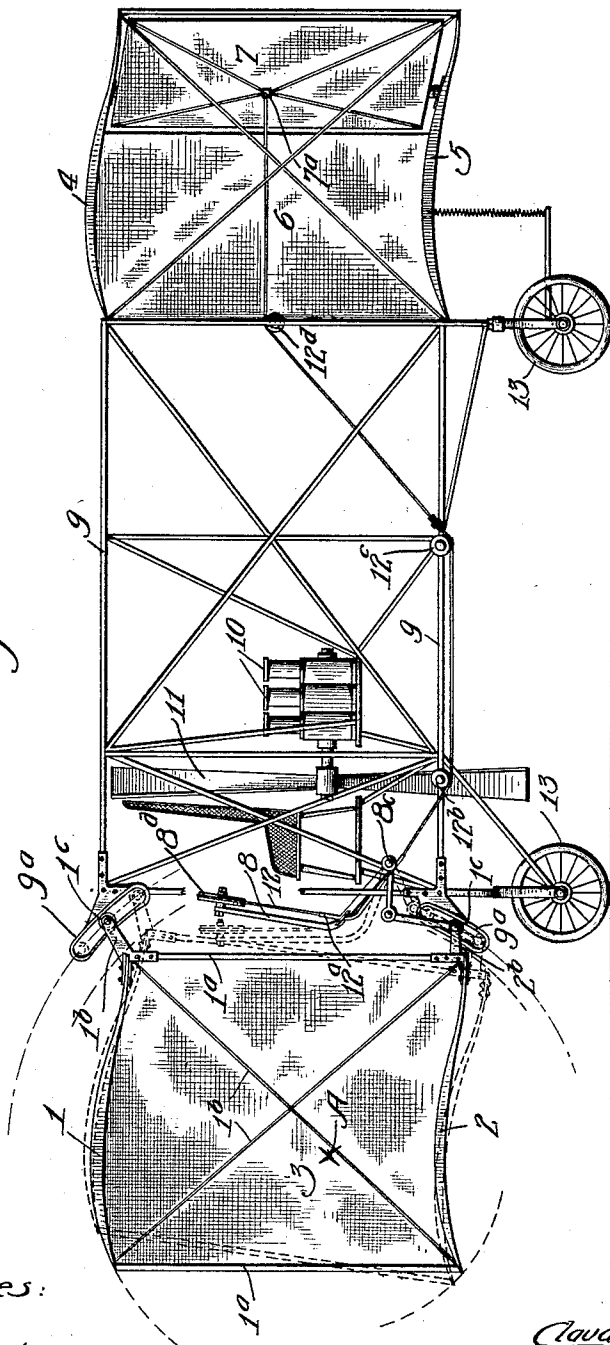
C. BABB.
FLYING MACHINE.
APPLICATION FILED NOV. 2, 1911.

1,048,272.

Patented Dec. 24, 1912.

3 SHEETS-SHEET 1.

Fig. 1.



Witnesses:

Geo. J. Huting.
Elmer E. Rodabaugh.

Inventor:

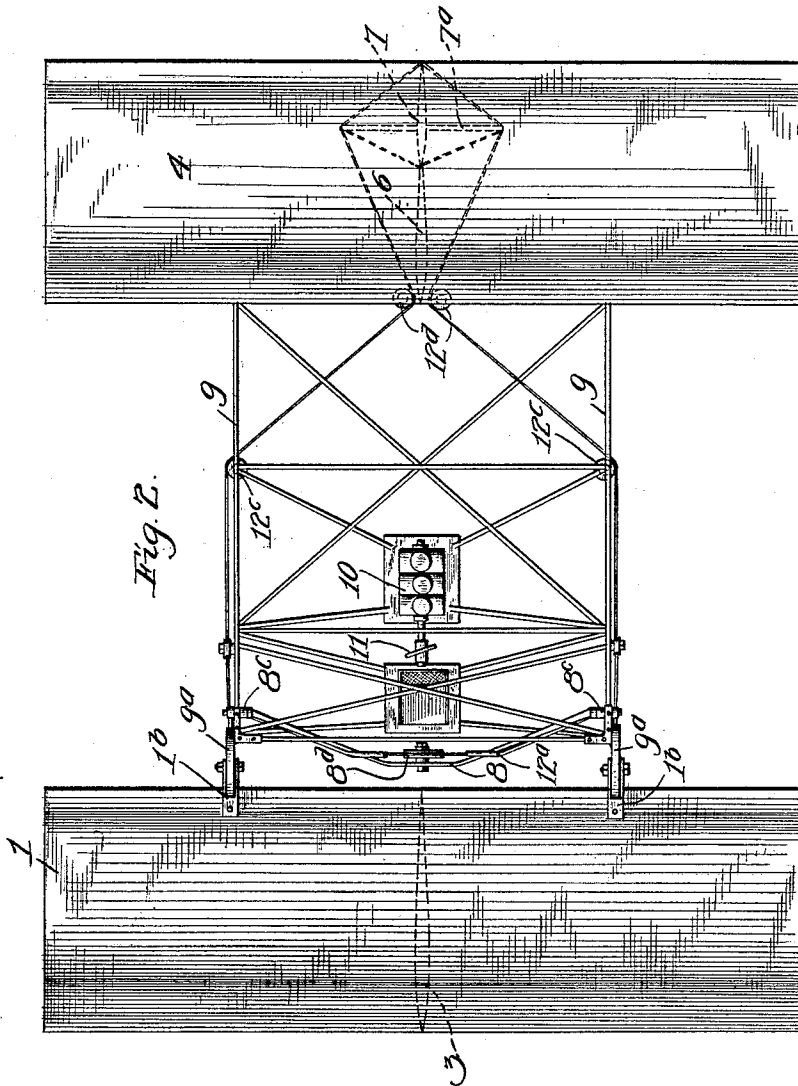
Claude Babb.
By A. B. Bowman
his Atty

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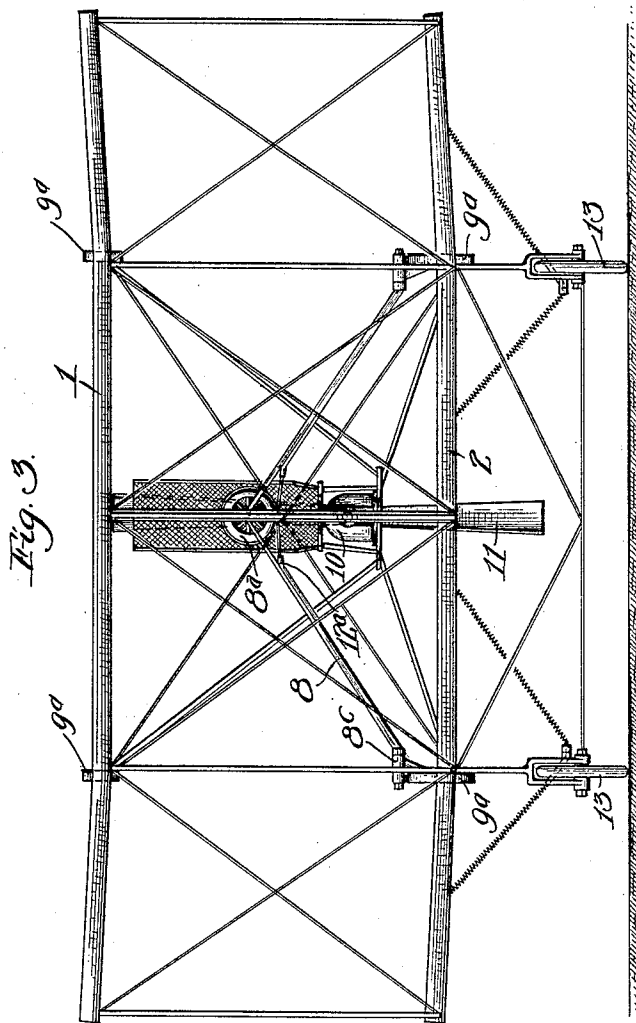
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3 SHEETS—SHEET 3.



Witnesses:
Geo. J. Huting.
Elmer E. Rodabaugh.

Inventor:
Claude Babb.
A. B. Bourman
his Atty

UNITED STATES PATENT OFFICE.

CLAUDE BABB, OF SAN DIEGO, CALIFORNIA, ASSIGNOR TO BABB AEROPLANE COMPANY, OF SAN DIEGO, CALIFORNIA, A CORPORATION OF CALIFORNIA.

FLYING-MACHINE.

1,048,272.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed November 2, 1911. Serial No. 658,130.

To all whom it may concern:

Be it known that I, CLAUDE BABB, a citizen of the United States, and a resident of San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Flying-Machines, of which the following is a specification.

This invention relates to flying machines and more particularly to that kind known as aeroplane or heavier than air machines.

The objects of the invention are, first, to provide a machine of such construction that the load and power pressure are located approximately at the center of gravity in said machine, second, to provide a novel means for maintaining the lateral balance or equilibrium of said machine, third, to provide such a machine in which the maintenance planes are shifted for raising and lowering the machine in the air, fourth, to provide a novel means for shifting said planes, fifth, to provide such a machine that is safe, simple and economical of construction and easily operated.

With these and other objects in view as will appear, my invention consists of certain novel features of construction, combination and arrangement of parts as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings, and to the characters of reference thereon, which form a part of this specification, in which:—

Figure 1 is a side elevational view of the machine, showing by dotted lines a variation of the position of the front planes. Fig. 2 is a plan view thereof, and Fig. 3 is a front end view thereof.

Similar characters of reference refer to similar parts throughout the several views.

My machine consists of two front planes, 1 and 2, front vertical plane 3, rear planes 4 and 5, rear vertical plane 6, rudder 7, guide lever 8, frame 9, engine 10, and propeller 11.

The two front planes 1 and 2 are spaced apart and placed one above the other and are held apart by means of uprights 1^a and are cross-braced by means of braces 1^b. Placed centrally and laterally between said front planes is the vertical plane 3 which fills the space at this place between said planes. The rear planes 4 and 5 are simi-

larly constructed and similarly braced and placed centrally and laterally between these planes 4 and 5 is the vertical plane 6, which fills a portion of the space at this place between said planes. It will be here noted that these planes 1 and 2 and 4 and 5 are of novel shape, having their rear sides curved upwardly, relatively to the main portion of the plane, which provides for holding the machine more steady than with the ordinary shaped planes; and also that the rear planes are stationary and the front ones are adapted to be varied to a limited extent. The remainder of the space between the rear planes is used for the rudder 7, which is pivotally mounted between these planes 4 and 5 and adapted to be shifted therein for turning the machine laterally. These vertical planes 3 and 6 are for the purpose of steadying the machine, and are adapted to maintain its lateral balance or equilibrium by reason of their forming pockets with the lower ends of the downwardly tipped upper planes, while the upper ends of the tipped planes will allow the air to escape, thus causing the machine to drop back to its proper position. These front and rear planes are spaced from each other, approximately twice their width, which by actual tests produces the best results.

Located in the frame 9 near the center of gravity of the machine and also near the center of the load and power pressure is the engine 10 which is directly connected to the propeller 11 which is the driving mechanism of the machine. Immediately in front of this engine and propeller is the operator's seat, so placed that the load is collected together near this point. Mounted on the front end of frame 9 are four links 9^a each of which is formed in an arc around the center of pressure A, between the planes. Connecting with the upper plane and the uprights 1^a are supports 1^b and 2^b, one on each side of the frame. Revolvably mounted on the extended ends of these supports are rollers 1^c which are adapted to roll in the links 9^a, thus allowing for the tilting of the two planes 1 and 2, and still maintaining the center of pressure at A. These planes 1 and 2 are manipulated by means of lever 8 which is rigidly connected to bar 8^a, which is pivotally connected to another bar 8^b, which connects with the support 2^b at the roller 1^c. This lever 8 is pivoted in the frame at

point 8^c. On the top end of the lever is revolvably mounted a hand wheel 8^d upon which is mounted a cable 12. The two ends of said cable extend downwardly through a pipe 12^a which is rigidly mounted near the pivot point 8^c and passes over rollers 12^b, 12^c and 12^d. The one end of said cable extends on one side of vertical plane 6, the other on the other side thereof, and both connect with levers 7^a, which extend laterally from rudder 7. This cable 12 and wheel 8^d are for the purpose of shifting the rudder 7. The wheel 8^d being mounted on the lever allows the operator to manipulate the front planes and also the rudder by simply gripping the wheel 8^d and turning it or moving the lever 8 forward or backward. The frame 9 is mounted on wheels 13, which are adapted to support the machine when it is resting on the earth.

Though I have shown and described a particular construction more particularly along the lines of a biplane, I do not wish to be limited to this particular construction, nor to the biplane construction, but desire to include a monoplane or other aeroplane and the construction substantially as set forth in the appended claims.

It is obvious that this machine is so constructed that its center of gravity and its load and power pressure point are approximately at the same point; that it will maintain its equilibrium automatically by reason of its peculiar construction, particularly the use of vertical planes in connection with the horizontal ones; that the angle of the machine relatively to the horizontal is easily shifted, thus providing means for raising and lowering it; that the machine is safe and simple in construction, and has no complicated parts, and that it is easily operated.

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

1. A flying machine comprising, front planes, a longitudinal vertical plane in connection with said planes, rear planes spaced apart therefrom some distance, means for shifting said front planes relatively to said rear planes without changing the center of pressure of said front planes, and means for propelling said machine.

2. In a flying machine, the combination of a frame, a biplane provided with a central vertical plane and shiftably mounted on the front end thereof, a biplane provided with a central vertical plane and with a pivotally mounted rudder rigidly mounted on the rear end thereof, propeller means mounted in said frame near the center of gravity of said machine, and means adjacent thereto for shifting said front biplane relatively to said frame, all substantially as set forth.

3. In a flying machine, a rectangularly shaped frame, arc shaped bearings mounted

on the front end of said frame at each corner thereof, a biplane provided with a lateral, centrally located vertical plane, and shiftably mounted in said arc shaped bearings, means for facilitating the shifting of said biplane in said bearings, and a stationary biplane rigidly mounted on the rear end of said frame provided with a lateral centrally located vertical plane and with rudder means in connection therewith, all substantially as set forth.

4. In a flying machine, a rectangularly shaped frame, arc shaped bearings mounted on the front end of said frame at each corner thereof, a biplane provided with a lateral centrally located vertical plane, and shiftably mounted in said arc shaped bearings, means for facilitating the shifting of said biplane in said bearings, a stationary biplane rigidly mounted on the rear end of said frame provided with a lateral centrally located vertical plane, and a rudder pivotally mounted in said biplane adapted to be operated by the operator, all substantially as set forth.

5. In a flying machine, the combination of a frame, a pair of aeroplanes spaced apart, one above the other, shiftably mounted on the front end of said frame, a longitudinal vertical plane mounted centrally between said aeroplanes, means for shifting said aeroplanes, two aeroplanes spaced apart one above the other rigidly mounted on the rear end of said frame, a longitudinal vertical plane centrally mounted between said aeroplanes, a rudder pivotally mounted between said aeroplanes filling the unoccupied space of said vertical plane, means for facilitating the operation of said rudder, and means mounted in said frame near the center of gravity of said machine for propelling said machine, all substantially as set forth.

6. In a flying machine, a supporting frame rigidly braced, a plurality of aeroplanes shiftably mounted on the forward end of said frame, a plurality of aeroplanes rigidly mounted on the rear end of said frame, longitudinal vertical planes mounted centrally in said aeroplanes, and a rudder pivotally mounted between two of said aeroplanes, all substantially as set forth.

7. A flying machine comprising, front planes mounted on the front end of a frame, rear planes mounted on the rear end of said frame and spaced apart thereby approximately twice the width of one of said planes, longitudinal vertical planes mounted on said front and rear planes for facilitating the maintaining of the machine's lateral balance, and means for shifting said front planes about the center of pressure of said planes.

8. In a flying machine, the combination of a rigidly braced rectangularly shaped frame, a biplane with the planes spaced apart one above the other, shiftably mount-

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ed on the front end thereof, a longitudinal
vertical plane centrally located in said bi-
plane, a biplane with the planes spaced
apart one above the other rigidly mounted
5 on the rear end of said frame, vertical
planes centrally located covering only a
portion of the vertical space between said
planes mounted therein, a rudder pivotally
mounted between said planes filling the re-
10 mainder of said space, means for operating
said rudder from near the front of said

frame, means for shifting said front biplane
and propelling means located near the cen-
ter of gravity of said machine in said frame,
all substantially as set forth. 15

In testimony whereof, I have hereunto
subscribed my name in the presence of two
subscribing witnesses.

CLAUDE BABB.

Witnesses:

ABRAM B. BOWMAN,
MARY A. BOWMAN.

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