

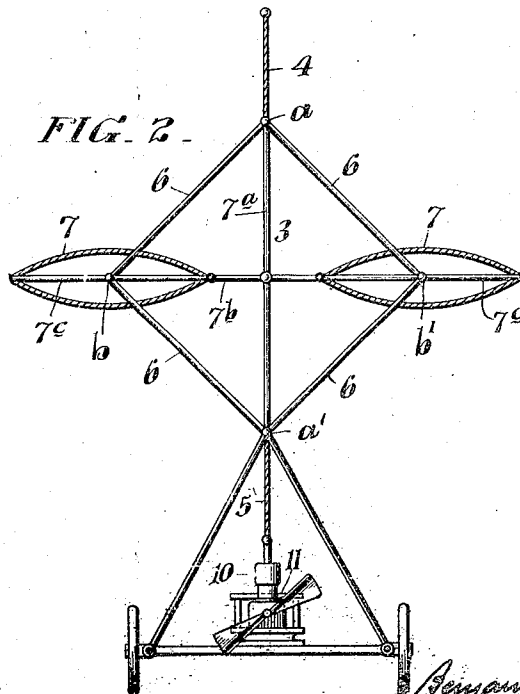
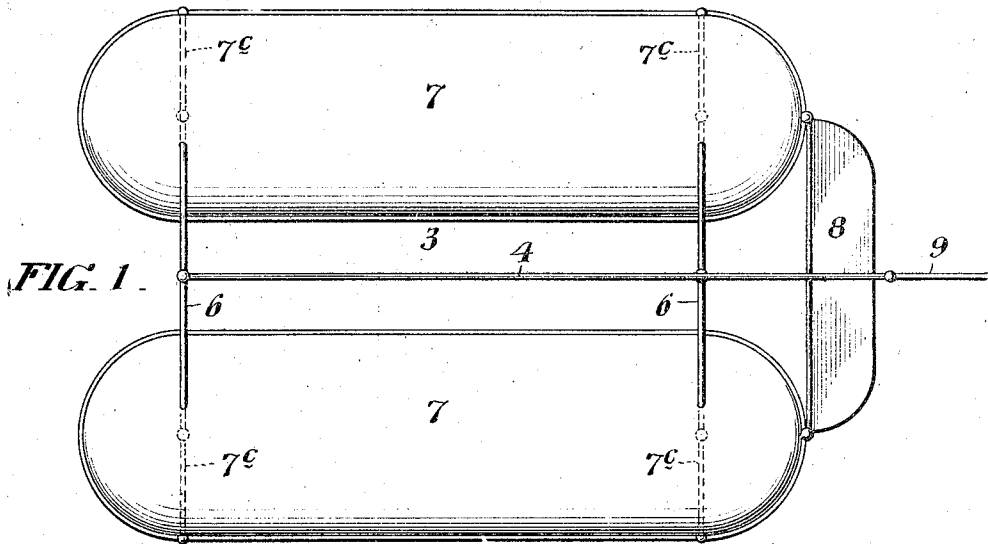
B. T. B. HYDE & A. GAUL, JR.

AEROPLANE.

APPLICATION FILED NOV. 23, 1912.

1,061,242.

Patented May 6, 1913



WITNESSES
Thomas M. Smith
Helen F. Miller

BY

Benjamin T. B. Hyde and
Andrew Gaul, Jr.
Jeffrey Douglas
INVENTORS
ATTORNEY

UNITED STATES PATENT OFFICE.

BENJAMIN T. BABBITT HYDE, OF NEW YORK, N. Y., AND ANDREW GAUL, JR., OF RIDGEFIELD, NEW JERSEY.

AEROPLANE.

1,061,242.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed November 23, 1912. Serial No. 733,074.

To all whom it may concern:

Be it known that we, BENJAMIN T. BABBITT HYDE and ANDREW GAUL, Jr., both citizens of the United States, respectively residing at New York, in the county of New York and State of New York, and at Ridgefield, in the county of Bergen and State of New Jersey, have jointly invented certain new and useful Improvements in Aeroplanes, of which the following is a specification.

Our present invention has relation to certain improvements in the constructive arrangement of an aeroplane of a type forming the subject-matter of an application for United States Letters Patent, Serial No. 697,841, filed by us under date of May 17th, 1912; and in such connection our present invention relates in particular to the shape, arrangement and position in conjunction with stabilizing fins of carrying wings or planes, to sustain a greater load weight per square foot viewed in respect to the entire area of the structure, as well as increased lifting power at a greater economy in horse power employed as compared to structures hitherto built of less weight but expending a greater horse power in lifting and carrying the same.

It is a recognized fact that the faster an aeroplane travels the greater weight it will carry. It has long been supposed that unless the carrying wings or planes were given considerable camber they would be practically ineffectual in lifting and carrying an aeroplane, but such theory has been exploded, but it is a fact that flat plane carrying wings or planes move through the air at greater speed and with the expenditure of less horse power than other shaped wings or planes so long as flights are confined to movements in substantially a horizontal plane, or so long as the aeroplane is maintained in a horizontal position, but the trouble is to uniformly maintain an aeroplane in flights in such condition for more than a second or so at a time, for as soon as such departs or assumes a slanting plane, head resistance is encountered with its retarding influence with respect to the speed of the aeroplane, and therefore, one of the principal objects of our present invention by the present constructive arrangement and position of the carrying wings or planes is to provide in an aeroplane practically for

the avoidance of back suction; and further to provide an aeroplane that can be driven at a greater speed with the expenditure of less horse power per square foot than heretofore was possible, and with far better carrying power due to the more uniform stabilizing of the aeroplane under variable encountering conditions in the air thereof.

A further object of our invention is not only the accomplishing of the above defined advantageous features in an aeroplane, but also better stability of the craft in the air both as to vertical and lateral performances in the presence of surrounding air currents and better sustained carrying load, with increased speed at a reduction in actual horse power required per square foot of surface.

The nature, scope and characteristic features of our present invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, in which—

Figure 1, is a top or plan view of an aeroplane embodying the defined main features in constructive arrangement of an aeroplane of our said invention; and Fig. 2, is a vertical central sectional view through the same.

Referring to the drawings 3, represents our invention embodied in a monoplane type of structure, but the same may be carried out in a biplane or other type of structure. The structure as illustrated, is provided with vertical stabilizing fins or members 4 and 5, connected with a central diamond-shaped framing 6, in cross-section, as clearly illustrated in Fig. 2.

7, 7, are carrying wings or planes of the structure, in shape preferably in cross-section, convex-convex, as clearly shown in Fig. 2.

8, is an elevator arranged in rear of the structure.

9, is a rudder or steering device.

10, is an engine.

11, is an aviator-station, and thereat is located the several means and appliances for controlling the engine and manipulating the elevating and steering devices of the craft.

The fins or members 4 and 5, extend vertically from apices α and α' , of the diamond-shaped framing 6, consisting preferably of steel tubing to give the greatest strength to the structure, and so as to maintain under any encountering air conditions the diamond

form thereof, and the lateral carrying wings or planes 7, 7, are suitably connected at one of their ends with a cross-bar 7^b, of the diamond-shaped framing central standard 7^a, thereof, and which cross-bar beyond two of the apices 6 and 6¹, of the diamond-shaped framing 6, are extended at 7^c, and engage the outer extremity of each of the carrying wings or planes 7, 7, to thereby steady the same for any air encountering conditions brought into contact therewith.

By the foregoing constructive arrangement of an aeroplane, better all around stability both vertically and laterally under most adverse conditions constantly met with is derived, avoiding thereby tendency to drifting, keeling or overturning of the craft.

Having thus described the nature and objects of our said invention, what we claim as new and desire to secure by Letters Patent is:—

1. In an aeroplane, a centrally arranged diamond-shaped framing, stabilizing fins or members arranged vertically and connected with apices of said framing and carrying wings or planes arranged laterally and connected with the centrally arranged rod of said framing, and the major portion of said wings or planes on both sides extending beyond apices of outlining fittings of said diamond-shaped framing and said central rod

in its extended portion providing securing means for the extended portion of said carrying wings or planes, to thereby provide steadier wings or planes for the vehicle in its operative position in the presence of variable flight encountering air conditions.

2. In an aeroplane, a centrally arranged diamond-shaped framing, stabilizing fins or members arranged vertically and connected with apices of said framing and convex-concave carrying wings or planes arranged laterally and connected with the centrally arranged rod of said framing, and the major portion of said wings or planes on both sides extending beyond apices of outlining fittings of said diamond-shaped framing and said central rod in its extended portion providing securing means for the extended portion of said carrying wings or planes, to thereby provide steadier wings or planes for the vehicle in its operative position in the presence of variable flight encountering air conditions.

In witness whereof, we have hereunto set our signatures in the presence of the two subscribing witnesses.

BENJAMIN T. BABBITT HYDE.
ANDREW GAUL, Jr.

Witnesses:

A. H. HACKER,
H. H. PARSONS.