

J. EDDY.
AEROPLANE.

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1,050,821.

Patented Jan. 21, 1913.

2 SHEETS—SHEET 1.

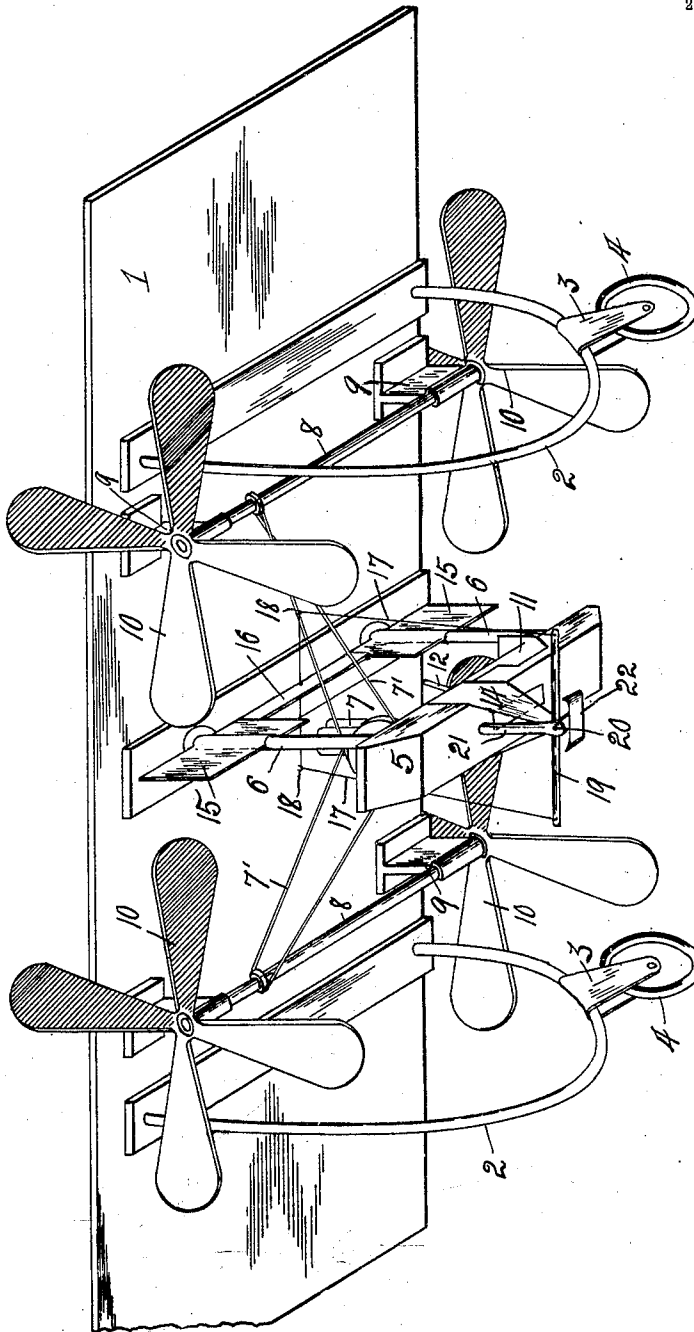


FIG. 1.

WITNESSES:

P. M. Runk.
C. H. Pills

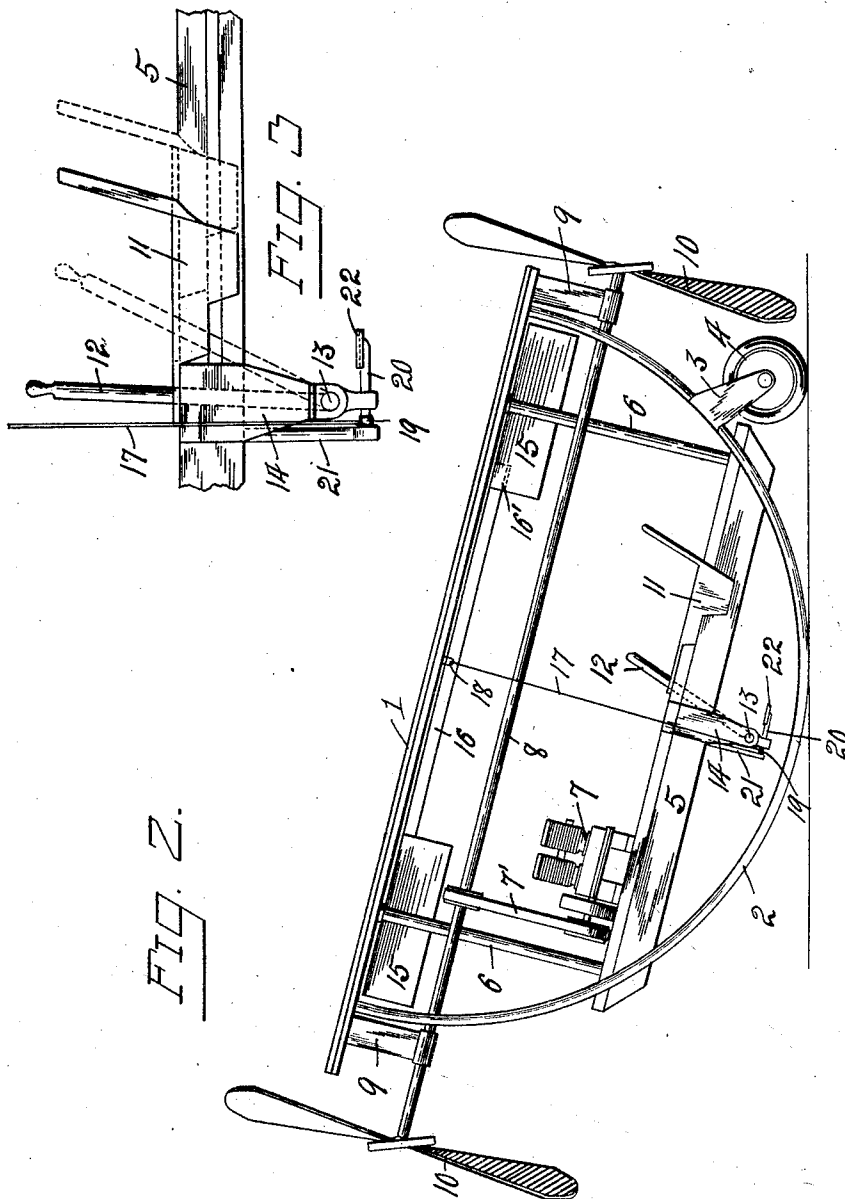
INVENTOR:

John Eddy.
By Owen & Owen.
His attys

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2 SHEETS—SHEET 2.



WITNESSES:

P. M. Pout
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UNITED STATES PATENT OFFICE.

JOHN EDDY, OF RIGA, MICHIGAN.

AEROPLANE.

1,050,821.

Specification of Letters Patent.

Patented Jan. 21, 1913.

Application filed April 8, 1912. Serial No. 689,282.

To all whom it may concern:

Be it known that I, JOHN EDDY, a citizen of the United States, and a resident of Riga, in the county of Lenawee and State of Michigan, have invented a certain new and useful Aeroplane; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

My invention relates to aeroplanes, and has for its object the provision of improved means for controlling the vertical tilting and the horizontal steering movements thereof, whereby to simplify the handling and control of apparatus of this character.

The invention is fully described in the following specification, and while, in its broader aspect it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a bottom perspective view of the apparatus embodying the invention. Fig. 2 is an end elevation thereof, and Fig. 3 is an enlarged detail of the sliding operator's seat and associated parts.

Referring to the drawings, 1 designates a plane of the apparatus, which, in the present instance, is of rectangular form and has the semi-circular supporting runners 2, 2 depending from opposite end portions thereof as indicated. Each of these runners is provided with a rearwardly and downwardly projecting leg 3, which carries a wheel 4 to cooperate with the runners 2 in supporting the apparatus with its plane in the forwardly inclined position indicated in Fig. 2.

A beam 5 is suspended from the plane 1 transversely thereof and midway between its ends by posts or rods 6, 6 projecting downwardly from the plane adjacent the forward and rear edges thereof. The beam 5 is intended to carry the motor 7, which is connected by belts 7' and suitable pulleys to propeller shafts 8, 8, one of which is hung adjacent to each end of the plane in bearings 9 depending therefrom. The propeller shafts 8 are provided at their ends with propeller wheels 10 as shown.

A seat 11 for the operator is mounted upon

the beam 5 for longitudinal sliding movements thereon, and the sliding movements thereof are controlled by a lever 12. This lever is fulcrumed below the beam 5, as at 13, to a bearing hanger 14 projecting downward from the central portion of said beam and has its upper end projecting upwardly through a registering opening in the bar and the forward portion of the seat 11, whereby a swinging of the lever 12 imparts a forward or rearward sliding movement to the seat, thus changing the position of the operator's weight relative to the center of the beam as it may be desired to tilt the plane upward or downward in making a flight.

The horizontal steering movements of the apparatus are controlled by rudders 15, 15, which are mounted for pivotal movements upon the upper ends of the posts 6, 6. These rudders are connected at their inner ends by a flexible strap or bar 16, which has at least one end attached to one of the rudders 15 for longitudinal sliding movements with respect thereto, as at 16'. The strap 16 is connected by cables 17, 17 projected in opposite directions from the center of the strap 16 through guiding members 18, 18 attached to the under side of the plane 1 and thence downward at opposite sides of the beam 5, and attached at their lower ends to the opposite ends of a horizontal rocker-bar 19, which is carried by a shaft 20 that is mounted in the lower end portion of the bearing hanger 14 and a hanger 21 projecting downwardly from the beam 5 in advance thereof. The shaft 20 stands in substantial parallelism with the beam 5 and carries a cross-piece or foot-rest 22 at its rear end in convenient reach of the operator, whereby he is enabled to control the rocking of the shaft 20 and cross-bar 19 with his feet. It is apparent with this manner of control for the guiding wings 15 that a rocking of the cross-bar 19 will communicate a flexing or bowing movement in one or the other of opposing directions to the strap or bar 16 and a consequent proportionate rocking of the rudders 15 in opposite directions whereby they, together with the member 16 will substantially represent an arc of the circle in which the apparatus is to turn.

In the operation of my improved aeroplane the operator in order to tilt the plane to cause a descent or ascent of the apparatus, moves the control lever 12 to change the position of the seat 11 relative to the beam cen-

ter so that the operator's weight will be thrown nearer or farther from the motor 7 as desired. In changing the course of the apparatus to the right or the left the operators rocks the shaft 20 and cross-bar 19 to effect a bowing of the bar 16 in connection with the rudders 15 in a desired direction.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

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

1. In an aeroplane, a plane, forward and rear rudders, a flexible connecting member therefor, and means movable to effect a bowing of said connection and a consequent proportional oscillation to the rudders.

2. In an aeroplane, a plane, a beam suspended therefrom, forward and rear rudders pivoted beneath the plane, a flexible con-

nection between the inner ends of said rudders adapted when bowed in either direction to impart proportional opposed pivotal movements to the rudders, and means attached to said beam and operable to effect a bowing of said connection.

3. In an aeroplane, a plane, a beam suspended therefrom and forming a seat for the operator, forward and rear rudders carried by said plane above said beam, a flexible bar connecting the inner ends of said rudders and operable to impart simultaneous rocking movements thereto, and means controlled by the operator's feet for moving said bar to rock the rudders.

In testimony whereof, I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

JOHN EDDY.

Witnesses:

C. W. OWEN,
S. T. KLOTZ.

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