

F. LEBREIL & R. DESGEORGE.
AEROPLANE.
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976,582.

Patented Nov. 22, 1910.

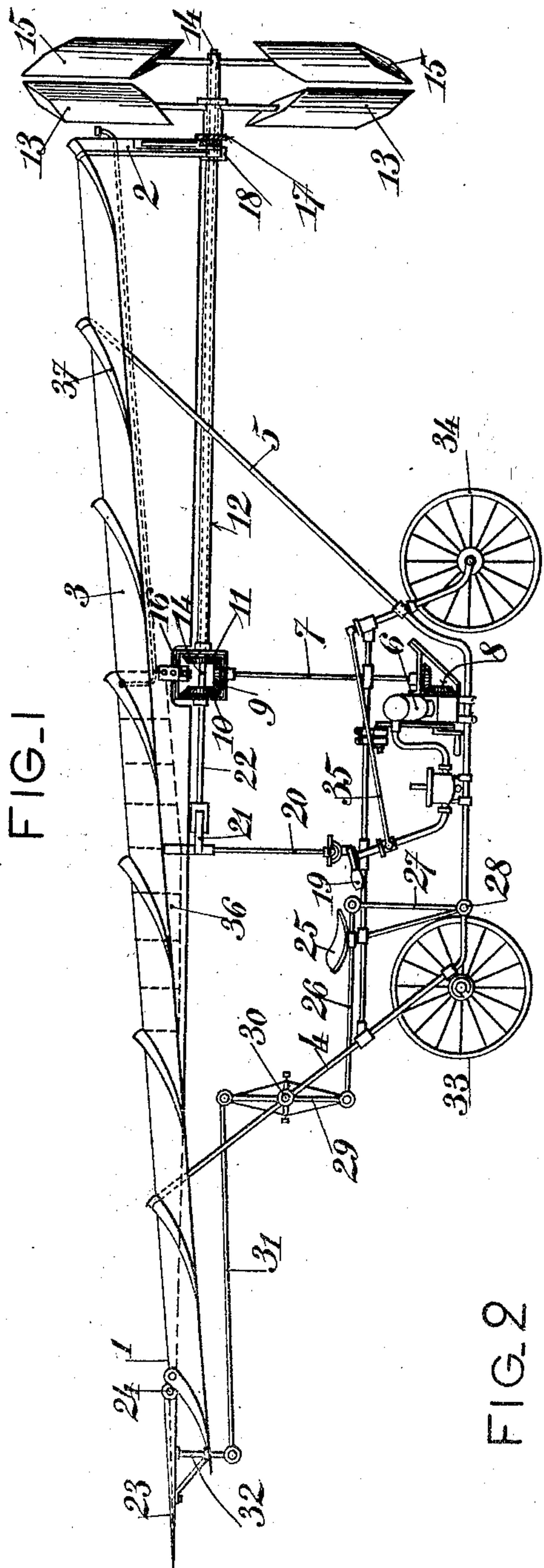


FIG. 1

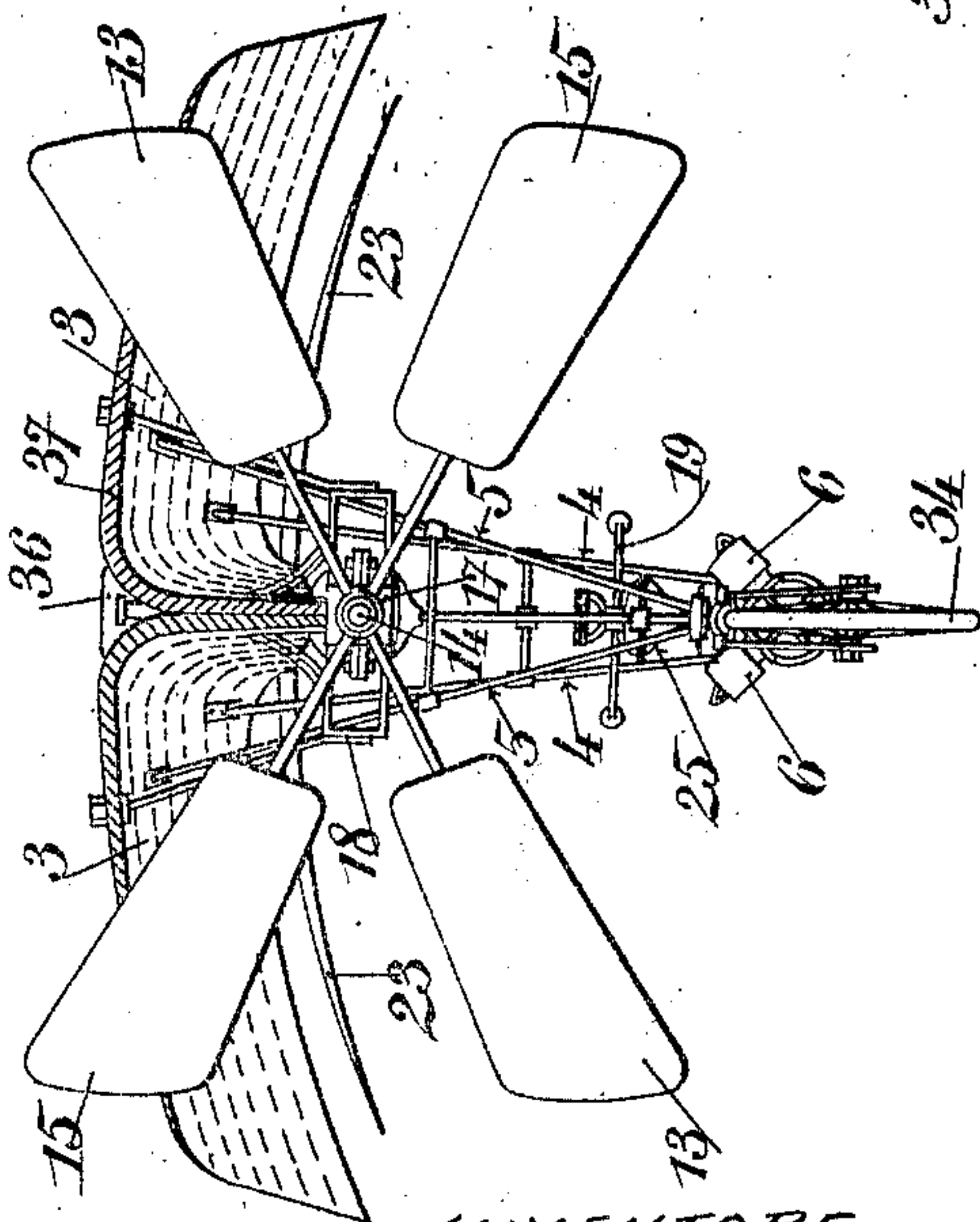


FIG. 2

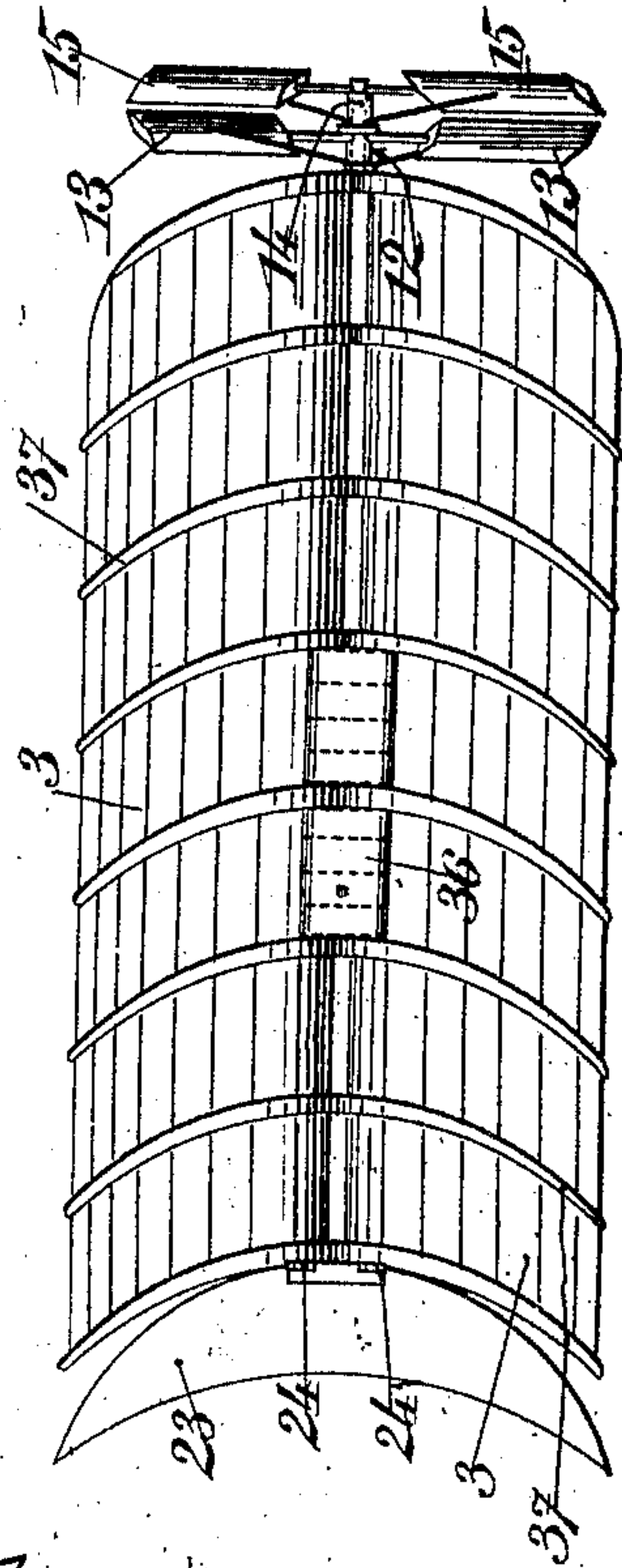


FIG. 3

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FRANÇOIS LEBREIL, OF VILLEURBANNE, AND RAOUL DESGEORGE, OF LYON, FRANCE.

AEROPLANE.

976,582.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, FRANÇOIS LEBREIL and RAOUL DESGEORGE, citizens of the French Republic, residing at Villeurbanne, (Rhône,) and Lyon, respectively, both in France, have invented certain new and useful Improvements in Aeroplanes, of which the following is a specification.

The aeroplane forming the subject matter of the present invention is supported or suspended by a surface which in shape and method of construction is similar to the hull of a navigable vessel. It is driven from the front by one or two propellers adapted to rotate about or on a single horizontal shaft which can be inclined laterally in either direction with respect to the longitudinal axis of the aeroplane for the purpose of effecting the steering.

The aviator's seat and the motor are suspended from about the center of this surface and maintain the desired balance. The elevating controller which can be single or double is operated by displacements of the aviator's seat and the direction of the propellers is regulated by means of a steering handle.

An embodiment of the invention is represented in the accompanying drawing in which—

Figure 1 is a longitudinal elevation of the improved aeroplane. Fig. 2 is a front end elevation. Fig. 3 is a plan view on a reduced scale.

The supporting surface is formed of a keel member 1, 2, disposed in a vertical plane having the shape of a very elongated triangle with rectilinear sides of which the apex is at the rear as at 1, and the base at the front as at 2. This keel is divided at its upper part into two symmetrical surfaces 3, 3 the transverse section of which is a curve with the concave side turned downwardly and of which the longitudinal sections are straight.

The car, which in the form shown is shaped as an elongated bicycle is suspended below the keel by four oblique stays 4, 4, 5, 5. The motor 6 is mounted between the two wheels and transmits movement to a vertical shaft 7 by means of beveled gearing 8 said shaft having at its opposite end a bevel wheel 9 meshing with two bevel wheels 10, 11 whereby the latter are driven in opposite directions. The bevel wheel 11 is keyed on a tubular horizontal shaft 12 which car-

ries at its forward end the propeller 13, and the bevel wheel 10 is keyed on a shaft 14 extending through said shaft 12 and carrying at its forward end the propeller 15. The two shafts as a whole can rotate about the axis of the wheel 9 on a pivot 16 mounted on the keel at a point near the center of its length and said shafts are carried at the forward end in a bearing 17 adapted for sliding movement in a horizontal guide 18.

The shafts 12 and 14 are manipulated or controlled by the handle bar 19, the movement of which is transmitted to a vertical shaft 20 carrying an arm 21 which actuates a projecting rod 22 fixed to the frame 10^a which connects the bevel wheels 9, 10, 11.

The aviator mounted on the saddle 25 can thus manipulate the handle bar 19 for steering the machine, and can also by displacing the saddle in a backward or forward direction operate the lifting rudder 23 pivoted at 24 to the rear end of the supporting plane for which purpose the said saddle is carried by a rod 26 connected at its forward end to an arm 27 pivoted at 28 to the frame of the car said rod being pivoted at its rear end to the lower arm of a lever 29, fulcrumed at 30 on a shaft carried to the rear stays 4.

The upper arm of the lever 29 is connected by a rod 31 to a bar 32 fixed to the lower surface of the rudder 23. The wheels 33 and 34 are provided for running on the ground as usual, the front wheel 34 serving also for steering and adapted to be controlled at the same time as the propellers by the handle bar 19 and connecting rod 35. It will be seen that the aviator can readily regulate the horizontal and vertical directions of movement of the apparatus from his seat and can also control the motor by any known or suitable means.

The apparatus can be constructed of any suitable material, but the supporting plane surface is preferably made of thin sheets of wood fastened to wooden ribs 37 arranged on the outside so that the concave parts have a completely smooth surface. The petrol reservoir 36 is located between the two wings in the space between two ribs 37 and can be divided into several communicating compartments divided by transverse partitions to prevent undue displacement of the liquid.

The propellers may be constructed of thin superposed sheets of wood in such a manner as cross the grain in the known manner.

The details of construction can be varied,

the accompanying drawing only illustrating an example of construction.

What we claim as our invention and desire to secure by Letters Patent of the United States is:—

5 In an aeroplane the combination of a supporting plane comprising two juxtaposed surfaces concave in transverse section and straight in the longitudinal direction, two
10 juxtaposed propellers located at the forward end of said plane and adapted for movement laterally of the longitudinal axis of said supporting plane, a car connected to said plane comprising a cycle structure, an
15 elevating rudder at the rear of said plane, a motor carried by the car, telescoping shafts

carrying the propellers, differential gearing driven by the motor for operating said shafts, means in the car for controlling the lateral direction of the propellers and simultaneously the movements of the forward wheel of the cycle; a movable saddle supported in the car and connections between said saddle and elevating rudder whereby the latter may be raised and lowered. 20

In witness whereof we have signed this specification in the presence of two witnesses. 25

FRANÇOIS LEBREIL.
RAOUL DESGEORGE.

Witnesses:

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