

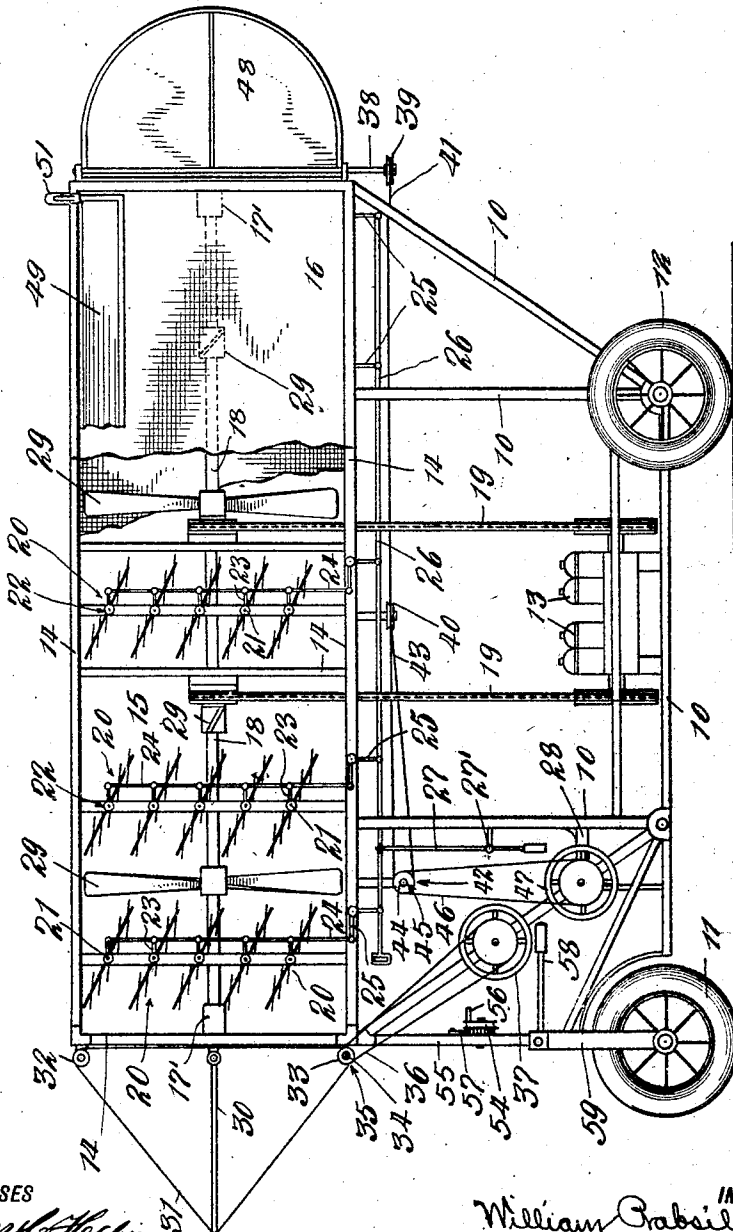
W. RABSILBER.
FLYING MACHINE.
APPLICATION FILED SEPT. 19, 1912.

1,065,394.

Patented June 24, 1913.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES
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M. Reimer.

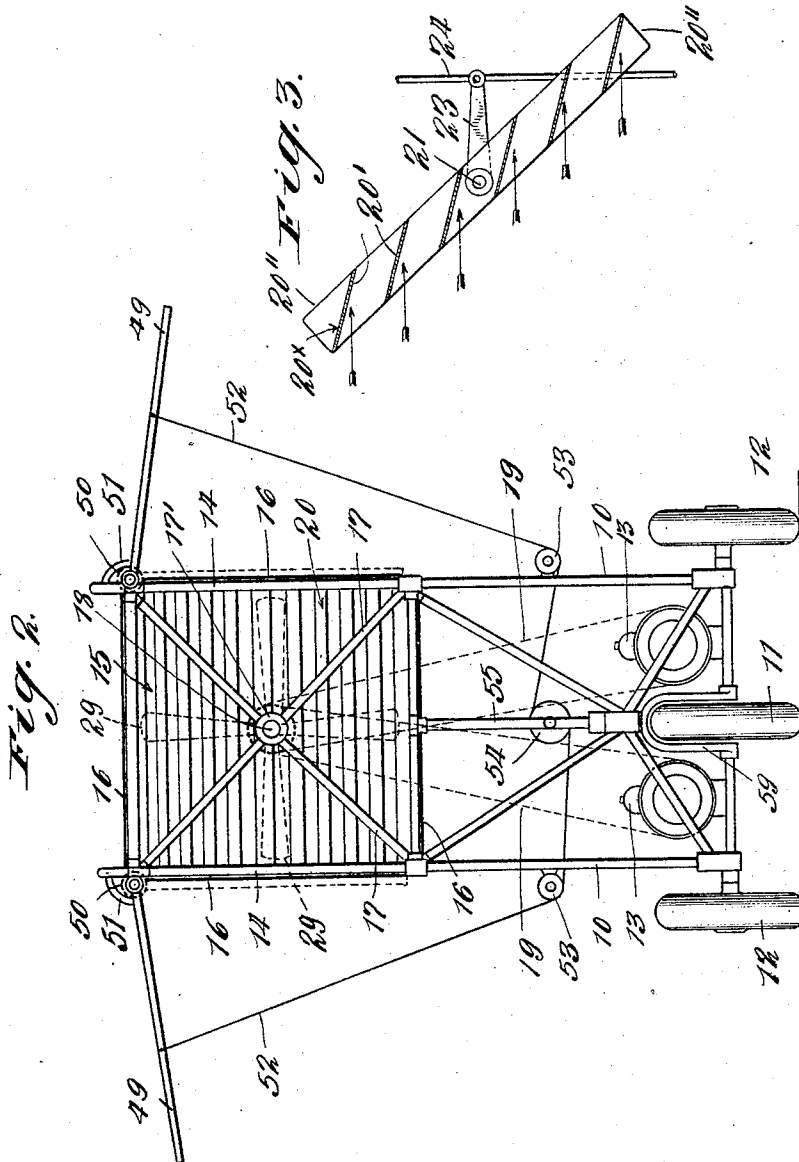
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UNITED STATES PATENT OFFICE.

WILLIAM RABSILBER, OF NEW YORK, N. Y.

FLYING-MACHINE.

1,065,394.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed September 19, 1912. Serial No. 721,113.

To all whom it may concern:

Be it known that I, WILLIAM RABSILBER, a subject of the Emperor of Germany, residing at the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Flying-Machines, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in flying machines and particularly to improvements in flying machines of the heavier-than-air type; and an object of this invention is to provide a flying machine which will be susceptible of practical use on ordinary highways as a self-propelled road-vehicle and which may be caused to rise into the air from a standstill or complete stop without speeding the machine along the road.

Another object of this invention is to provide a flying machine of the heavier-than-air type which may be maintained in the air at a standstill or complete stop without descending.

A third object of this invention is to provide a flying machine of the heavier-than-air type which will maintain its stability in the air under all conditions.

A fourth object of this invention is the provision in a flying machine of the heavier-than-air type of means which prevent the machine from descending at a dangerous speed and which will not in even narrow streets interfere with obstacles along the route, when the machine is operated as a self-propelled road-vehicle.

In the drawings illustrating the principle of this invention and the best mode now known to me of applying that principle, Figure 1 is a side elevation, somewhat diagrammatic in character, of my new flying machine; Fig. 2 is a front elevation thereof; and Fig. 3 is a sectional detail of one of the sustaining planes.

The frame-members 10 of the skeleton supporting frame of my new flying machine are carried by the front wheel 11 and the two rear wheels 12 and support a pair of motors 13 and the members 14 of the frame of a superimposed tubular body 15. The sides, bottom and top of the latter are closed by canvas or other suitable fabric 16, while its ends are open.

At each end of the tubular body 15 there is provided a shaft-supporting frame 17 in a bearing 17' in which is journaled one end of a centrally-disposed propeller-shaft 18 which is driven by the engines 13 through the rope (or chain) drives 19. In the tubular body 15 of the machine are mounted several sets of sustaining planes 20 which extend transversely between the side posts of the frame 14 of the body 15 and which are mounted upon horizontally-disposed rock-shafts 21 which extend from side to side of the latter and the ends of which are rotatably mounted in suitable bearings 22 in the side-posts of the frame 14. In each set the sustaining planes 20 are arranged one above the other in a vertical series. Each rock-shaft 21 is provided with a rocker arm 23 and the rocker-arms of the shafts of the same set of planes 20 are all pivotally connected to a common vertical adjusting slide-rod 24, so that there is one slide-rod for each set of sustaining planes. The lower end of each of the slide-rods 24 is connected through a bell-crank 25 with a main adjusting slide-rod 26 which may be moved back and forth lengthwise of the machine by means of a lever 27 which is fulcrumed at 27' and the lower end of which is arranged within convenient reach of the aviator, who sits in the seat 28. On the driving shaft 18 there are mounted propellers 29, which are arranged between the several sets of sustaining planes. At the front of the machine there is pivotally mounted a horizontally-disposed elevating plane 30 to the front end of which are attached the ends of a cord 31 which passes over the pulleys 32, 33. The lower pulley 33 is mounted upon a transverse shaft 34, upon one end of which is mounted another pulley 35 over which passes a rope 36 which connects the latter with the hand-wheel 37 arranged within convenient grasp of the operator.

By turning the hand-wheel 37, the operator may give the elevating plane 30 the desired inclination. At the rear of the machine there is journaled a vertically-disposed rudder-shaft 38, the lower end of which is provided with a pulley 39 over which and an intermediate pulley 40 passes an endless cord 41. The intermediate pulley is in turn connected with a pulley 42 by a cord 43. The pulley 42 is mounted upon a transverse shaft 44 one end of which carries a pulley

45 which is connected by the cord 46 with a second hand-wheel 47 arranged near the seat 28.

By turning the wheel 47 the shaft 44 is 5 turned and thereby turns the pulley 42 which, through the cords 41, 43, communicates motion to the pulleys 39, 40, respectively. On the rudder-shaft 38 is mounted the vertical rudder 48 and, when the pulley 10 40 is turned, the rudder 48 will be swung in the same direction. At each side of the tubular body 15 and near the top thereof, there is pivotally attached to the frame 14 of the same a wing 49 which is controlled 15 by a coil-spring 50 that tends to throw the wing 49 upwardly into the position shown in full lines in Fig. 2. Suitable stops 51 are provided for limiting the upward swing of the wings 49. To each of the latter there 20 is attached a cord 52 which passes over a guide-pulley 53 and is wound upon a windlass 54 mounted upon the center-post 55 (Fig. 2) and operable by means of a crank-handle 56, by turning which the wings 49 25 may be drawn down into the dotted-line position of Fig. 2. A suitable pawl-and-ratchet mechanism 57 holds the windlass 54 against turning in the opposite direction under the influence of the coil-springs 50 or 30 the pressure of the air.

As shown in Fig. 3, each sustaining plane 20 preferably consists of the side-pieces 20' in slots 20* in which are fitted the ends of the vanes 20'. By means of the steering-handle 58 the fork 59 of the front-wheel 11 35 may be turned to steer the machine when the same is used as a road-vehicle.

The operation of my new flying machine will now be readily understood and is substantially as follows: When it is desired to 40 drive the machine along an ordinary roadway as a self-propelled road-vehicle, the vanes 20' of the sustaining planes 20 are brought into a horizontal position and the 45 propeller shaft 18 is driven, thereby driving the propellers 29 which, reacting upon the air in the open-ended tubular body 15, propel the machine along the street. If now the operator desires to rise into the air with- 50 out speeding along the roadway, he tilts the planes 20 into the position shown in Fig. 3. A current of air is drawn through the tubular body 15 by the propellers 29 and this current of air, striking against the vanes 55 20' of the planes 20, creates an upwardly-acting force which will cause the machine to rise into the air from a standstill or full stop. After the current of air passes through one set of the planes 20, it is directed by the 60 next following propeller 29 against the next succeeding set of planes. If the machine be moving along in the air and it be desired to bring the machine to a full stop without de-

scending, the operator tilts the sustaining planes 20 still more and keeps the propellers 65 29 rotating. As before there is generated an upwardly acting force which acts upon the planes 20 and prevents the machine from falling, although the machine is at a stand- 70 still in the air. In the case of the failure of one or both of the engines, the wings 49 are thrown out and act like a parachute to sustain the machine so that it will not drop with dangerous swiftness to the earth. Moreover, since the heavy portions of the 75 machine (such as the engine and planes) are located at the bottom of the machine, the center of gravity of the same is very low, which tends to give stability to the machine and prevents it from being top-heavy. When 80 it is desired to move along a narrow street or roadway, the wings 49 may be folded to the sides of the frame of the body, as shown in the dotted lines in Fig. 2.

I claim:

1. A flying machine of the heavier-than-air type, including an open-ended tubular body; tiltable sustaining planes mounted therein; propellers mounted between said planes; and driving mechanism for actuat- 85 ing said propellers.
2. A flying machine of the heavier-than-air type, including an open-ended tubular body; a plurality of sets of tiltable sustaining planes mounted transversely of said 95 body, each set of said planes consisting of a series of planes arranged one above the other; a plurality of propellers which alternate with said sets of sustaining planes from front to rear of said body and direct the air 100 passing therethrough against said planes; and driving mechanism for actuating said propellers.
3. A flying machine of the heavier-than-air type, including a vehicle; an open-ended 105 tubular body carried thereby; tiltable sustaining planes mounted in said tubular body; propellers mounted between said planes; and driving mechanism for actuating said propellers.
4. A flying machine of the heavier-than-air type, including an open-ended tubular body; tiltable sustaining planes mounted in said tubular body; propellers mounted be- 110 tween said planes; driving mechanism for actuating said propellers; and foldable wings carried by said tubular body.

Signed at the borough of Manhattan, city, county and State of New York this eighteenth day of September, A. D., 1912, in the 120 presence of the two undersigned witnesses.

WILLIAM RABSILBER.

Witnesses:

JAMES HAMILTON,
E. I. MCCARTHY.