

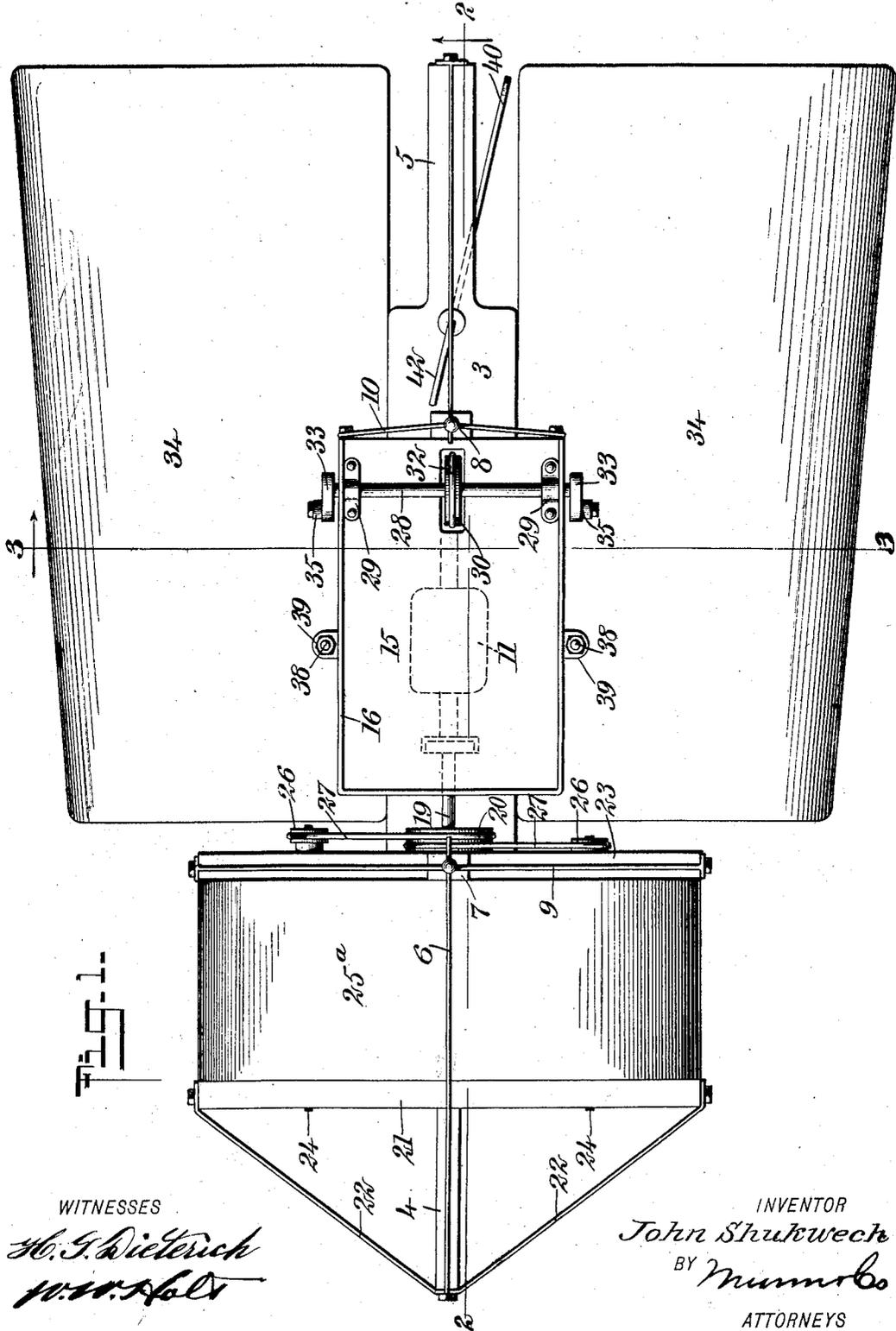
No. 850,800.

PATENTED APR. 16, 1907.

J. SHUKWECH.
AIR SHIP.

APPLICATION FILED NOV. 2, 1906.

2 SHEETS—SHEET 1.



WITNESSES

H. G. Dieterich
J. W. Holt

INVENTOR

John Shukwech
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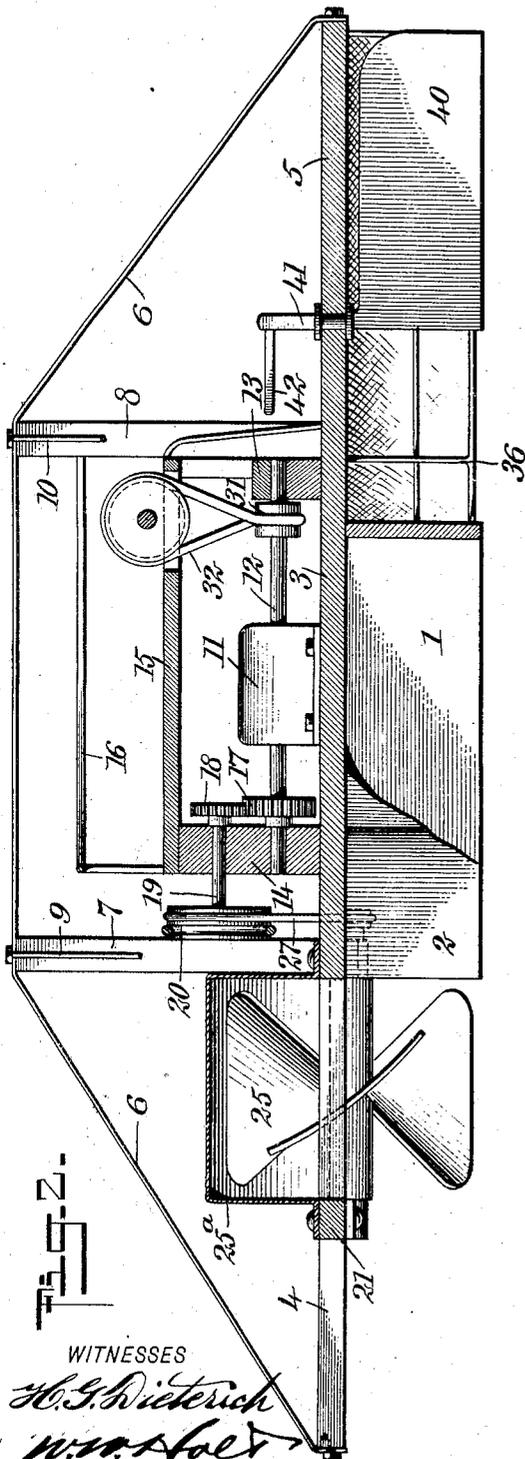
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Fig. 4-

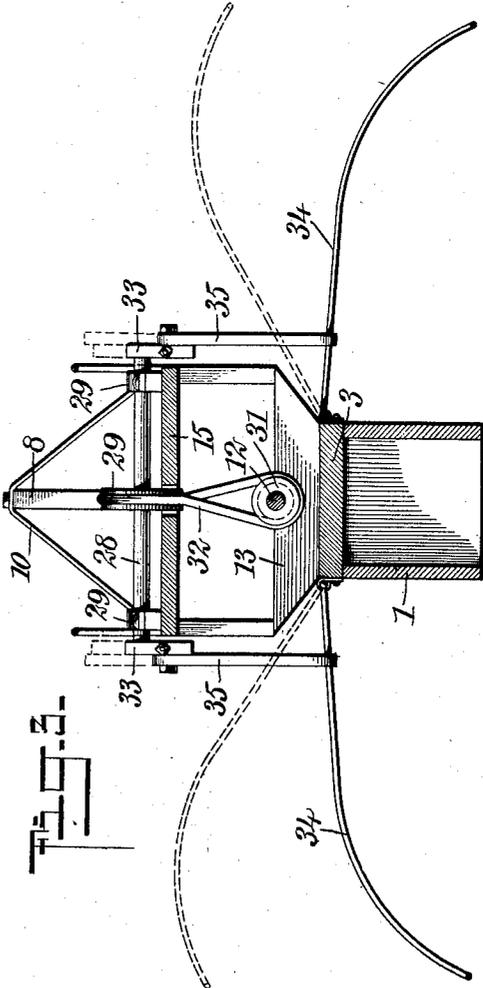
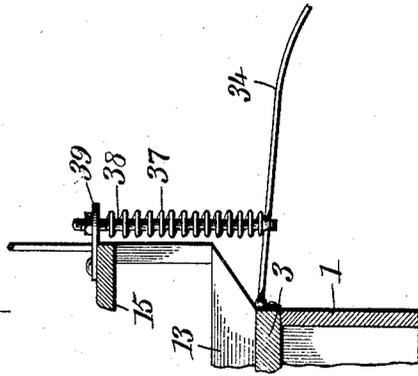


Fig. 3-

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UNITED STATES PATENT OFFICE.

JOHN SHUKWECH, OF NEW YORK, N. Y.

AIR-SHIP.

No. 850,800.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed November 2, 1906. Serial No. 341,723.

To all whom it may concern:

Be it known that I, JOHN SHUKWECH, a subject of the Czar of Russia, and a resident of the city of New York, borough of Manhattan, county and State of New York, have invented a new and Improved Air-Ship, of which the following is a full, clear, and exact description.

This invention is an improvement in air-ships, having among other objects to simplify the construction and improve the efficiency of this class of machines and provide for their easy control when in flight.

The invention, generally stated, consists of a ship having a main deck mounted on a supporting means for sustaining the weight of the ship when on the ground and maintaining it in an upright position when in flight. Wings are pivoted at each side of the ship, connected with suitable means for oscillating them, and propellers are journaled at each side at the bow of the ship and act to direct a current of air under each of the wings in driving the ship forward, which currents tend to force the wings upwardly.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the ship complete. Fig. 2 is a longitudinal sectional view of the same substantially on the line 2 2 of Fig. 1 looking in the direction of the arrow. Fig. 3 is a transverse section on the line 3 3 of Fig. 1 looking in the direction of the arrow, and Fig. 4 is a fragmentary transverse sectional view showing a spring as employed to normally force the adjacent wing downward.

The invention comprises a box-shaped support 1, for sustaining the weight of the ship on the ground when at rest and maintaining it in an upright position when in flight, said box being wedge-shaped at its forward end, as indicated at 2 in Fig. 2, for a purpose hereinafter made apparent.

Carried on the support 1 is a main deck 3, which is reduced in width at both its bow and stern ends, providing a bowsprit 4 and an extension 5, respectively. These are connected together by a guy 6, which is connected to the extremities and passes over the upper ends of masts 7 and 8, rising in spaced relation from the main deck 3. The masts 7 and 8 are further connected at each side of the ship by guys 9 and 10, respectively,

which render the ship strong and rigid and free from vibration when in flight.

Mounted on the main deck 3 near its center is a gasoline or other form of motor 11 which drives a driving-shaft 12, journaled at its ends in bearing-blocks 13 and 14, arranged transversely of the deck and supporting thereabove an upper deck 15, preferably surrounded by a rail or other closure 16. The shaft 12 has fixed to it adjacent to the bearing 14 a gear 17 in mesh with a gear 18, fixed to the inner end of a counter-shaft 19, the latter also having fixed to it at its forward end a double pulley 20.

Fixed to the bowsprit 4 is a cross-beam 21, which is braced by a guy 22, connected to the forward end of the bowsprit. This beam, in connection with a similar cross-beam 23, supports the bearings of propeller-shafts 24, longitudinally arranged at each side of the bowsprit and having fixed to them propellers 25, acting when rotated to drive the ship forward and force the air in a rearward direction below the main deck 3, said propellers having their upper halves covered with a hood or casing 25^a, attached to the beams 21 and 23. Fixed to each of the shafts 24 is a small pulley 26, which aline with the double pulley 20, carried by the counter-shaft 19 and connected therewith by a belt 27.

A shaft 28 is journaled transversely in bearings 29, carried by the upper deck, and has fixed to it a pulley 30, connected with a pulley 31, fixed to the driving-shaft 12 by a belt 32. Each end of the shaft 28 has fixed thereto cranks 33 for driving wings 34 through intermediate links 35. These wings are hingedly connected or pivoted at each side of the main deck 3. The shape of the wings, as best shown in Fig. 3, are downwardly curved at their outer ends and comprise an inner framework 36, partly shown in Fig. 2, which is covered over with canvas or other light material. It is obvious that a wing of this construction offers greater resistance when oscillated in moving downward than when drawn in an upwardly direction. For compensating for this difference are provided spiral springs 37, arranged on bolts 38 at each side of the ship, said bolts loosely passing through brackets 39, in which they are adapted to reciprocate.

When the motor is started, the propellers 35 and the wings 34 are set in motion through the intermediate mechanism, respectively acting to drive the ship forward and elevate

it. A current of air from each of the propellers is directed rearwardly, the wedge-shaped end 2 of the box 1 causing the currents to diverge and travel in a diagonal direction. These currents impinge on the downwardly-curved ends of the wings, tending to drive them, and consequently the ship, upwardly. As the wings move upwardly the springs 37 are compressed and compensate for the increased power required for their downward movement, as before stated.

For directing the machine in its flight any well-known form of rudder may be employed, that preferred (indicated at 40) being shown in Figs. 1 and 2 and having a vertical stem 41, journaled in the bow end of the ship, which is connected by a tiller 42.

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

1. An air-ship having a wing pivoted at each side thereof with downwardly-curved ends, a propeller journaled at each side and at the forward part of the ship adapted to direct a current of air under each wing, and means for causing said currents to diverge and impinge on the downwardly-curved portions of said wings.

2. An air-ship comprising a box-shaped support, a main deck carried by said support, wings pivoted at each side of the main deck, a propeller journaled at each side and forward of said deck, and a motor mounted on the deck operable to oscillate the wings and drive the propellers.

3. An air-ship comprising a main deck, wings pivoted at each side thereof, a propeller journaled at each side of the deck forward of the wings, a hood covering the upper half of said propellers, and means for causing the currents of air directed rearwardly when said propellers are in operation, to diverge, for the purpose described.

4. An air-ship comprising a main deck, a motor mounted on the main deck, a shaft journaled on said deck operable by the motor, an upper deck supported above the main deck, a crank-shaft journaled on the

upper deck, wings pivoted at each side of the main deck, means connecting the crank-shaft with said wings, and means connecting the driving-shaft and crank-shaft.

5. An air-ship comprising a box-support having a wedge-shaped forward end, a main deck carried by the support, wings pivoted at each side of the main deck, means for operating said wings, means for assisting said operating means when moving the wings in one direction, a propeller journaled at each side and forward of the main deck adapted to direct a current of air under each wing, and means covering the upper half of the propellers.

6. An air-ship having a wing pivoted at each side thereof, with downwardly-curved ends, means for oscillating the wings on their pivots, bolts fixed to the wings slidable in fixed bearings, and springs interposed between the wings and bearings surrounding said bolts.

7. An air-ship having a wing pivoted at each side thereof with downwardly-curved ends, a propeller journaled at each side and at the forward part of the ship adapted to direct a current of air under each wing, means inclosing the upper portion of said propellers, and means for causing said currents to diverge and impinge on the downwardly-curved portions of said wings.

8. An air-ship having a wing pivoted at each side thereof with downwardly-curved ends, a propeller journaled at each side and at the forward part of the ship adapted to direct a current of air under each wing, means for causing said currents to diverge and impinge on the downwardly-curved portions of said wings, means for oscillating said wings, and means for assisting said oscillating means in moving the wings in one direction.

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

JOHN SHUKWECH.

Witnesses:

CHAS. ROBINSON,
ISAAC H. FORD.