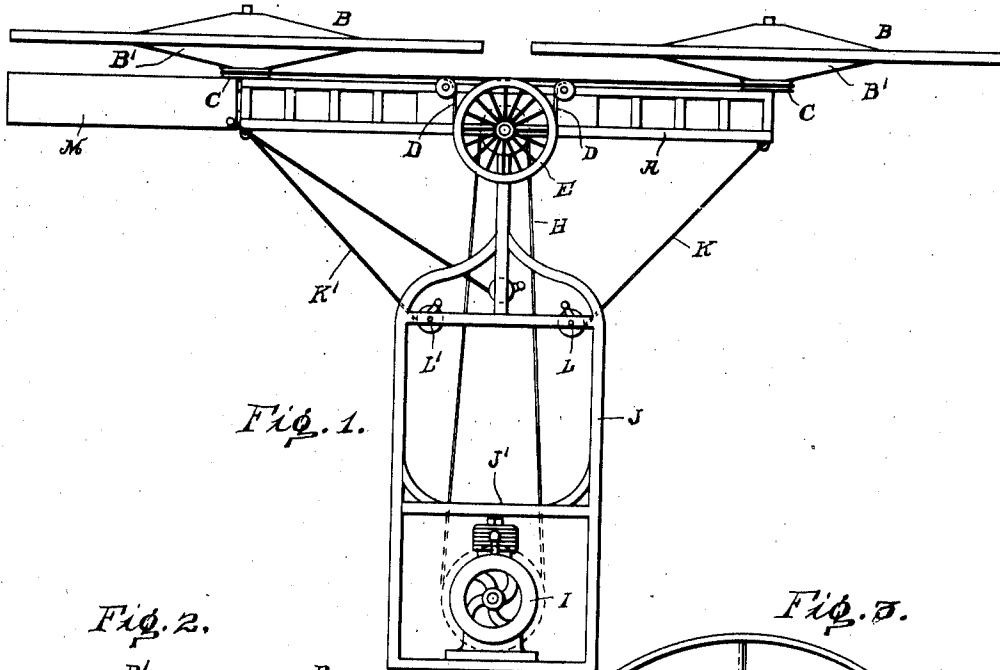
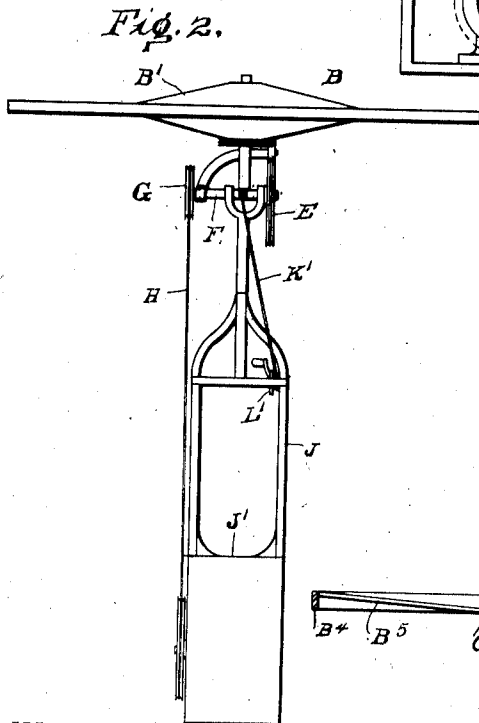
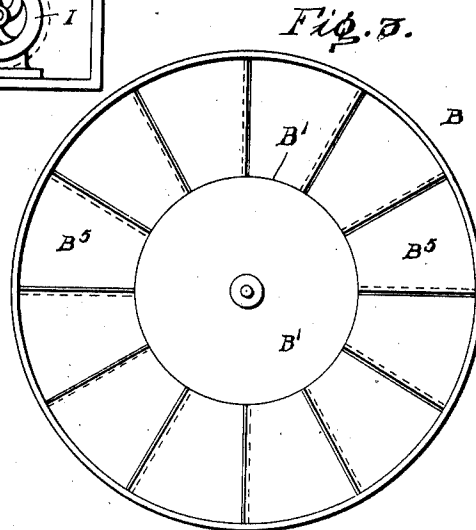
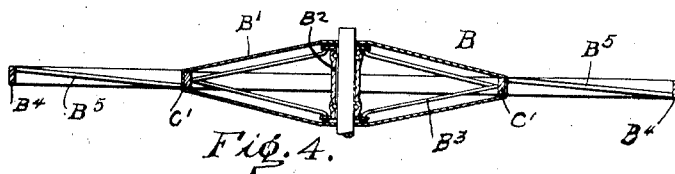


L. J. BROWN.
FLYING MACHINE.
APPLICATION FILED FEB. 5, 1906.

926,804.

Patented July 6, 1909.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LAFAYETTE J. BROWN, OF OAKLYN, NEW JERSEY.

FLYING-MACHINE.

No. 926,804.

Specification of Letters Patent.

Patented July 6, 1909.

Application filed February 5, 1906. Serial No. 299,402.

To all whom it may concern:

Be it known that I, LAFAYETTE J. BROWN, a citizen of the United States, residing at Oaklyn, county of Camden, and State of New Jersey, have invented a certain new and useful Improvement in Flying-Machines, of which the following is a specification.

My invention relates to a new and useful improvement in flying machines of the class known as aeroplanes, and has for its object to utilize mechanical propellers for lifting the machine in the air and for using the surfaces of these propellers as aeroplanes for sailing in any direction.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side elevation made in accordance with my improvement. Fig. 2, an end view thereof. Fig. 3, a plan view of one of the propellers. Fig. 4, a cross section of one of these propellers.

In carrying out my invention as here embodied, I provide a frame A which may be of any suitable construction, and journal in each end thereof one of the propellers B, the axis of these wheels being at right angles to the frame. Each of the propeller wheels consist of an inner rim C', which is secured to its elongated hub B² by means of the tangential suspension spokes B³. The inner rim C' is connected with an outer rim B⁴ by the propeller blades B⁵ and these blades are set at a very slight angle so that when the wheels are in action they must revolve at a very high rate of speed to effect the desired result, namely, lifting the weight of the machine and its occupant upward into the air, and when the wheels are not revolving they then serve as aeroplanes, and on account of the small angle at which the propeller blades are set are well adapted for this purpose.

In practice, I prefer to cover the central portion of the propeller wheels with air or gas tight silk B' or other material so as to avoid the spokes churning the air, and at the same time serve as parachutes or resistance

surfaces for permitting the gradual lowering of the machine when it is desired to light.

C represents a pulley which is secured to each of the propeller wheels B, and these pulleys are connected by the endless belt D to the drive pulley E, so that when the latter is revolved the propeller wheels B will also be revolved. The drive pulley E is secured upon the shaft F, the latter having secured upon its opposite end the pulley G which is connected by the belt H to the motor I.

J represents the hanging frame to which the motor is secured, and this frame may be so designed so to readily accommodate an occupant, said occupant sitting upon the crossbar J', and it is to be noted that the frame J is suspended from the frame upon the axis of the shaft F, the object being to permit the swinging of the frame A relative to the frame J without interfering with the transmission of power through the belts and pulleys to the propeller wheels. In order that this swinging movement of the frame A may be readily accomplished by the occupant, a cord or cable K is attached to the front end of the frame A, the lower end thereof being coiled upon the reel L, the latter having a crank handle in easy reach of the operator, and a similar cord K' is attached to the rear end of the frame A and is coiled upon the reel L', which is also provided with a crank handle within easy reach of the operator.

M is a rudder which is hinged to the rear end of the frame A and may be operated by any suitable mechanism.

In practice it is only necessary for the operator to start the motor to put the propeller wheels B in operation, and when these propeller wheels have reached a sufficient stage of rotation the machine will move upward, and when reaching a sufficient height for the purpose the rotation of the propeller wheels may be stopped and the frame A adjusted to such an angle relative to the frame J as to cause the machine to sail down and gradually incline the surfaces of the propeller wheels, serving as aeroplanes for this purpose. When the machine has reached an elevation below which it would not be safe to go, the frame A is again adjusted at right angles to the frame J and the propeller wheels put in motion when the machine will again rise up in the air, and the operation of sailing repeated in any direction determined

by the adjustment of the rudder and the angle of the frame A.

In aeroplane navigation it often happens that the changes of the upper air currents necessitate a positive force to give the operator control of the machine, and when such an occasion arises the result is had by setting the frame A at the proper angle and revolving the propeller wheels, which will then not only cause an upward or sustaining movement of the machine but will also cause a forward progressive movement thereof, which will be in proportion of the angle at which the frame A is set.

Having thus fully described my invention what I claim as new and useful, is—

1. In a machine of the type set forth, a frame adapted to have normal horizontal disposition, combined propellers and aeroplanes journaled in said frame each composed of a hub, an annular rim surrounding said hub, spokes connected to said rim and to said hub, a second annular rim of considerably greater diameter than the first named rim surrounding the latter and arranged concentric thereto, flat blades connected to said rims and disposed in said space therebetween, an air and gas tight fabric cov-

ering inclosing the hub ends, and extending around said first named rim on opposite sides thereof so as to inclose the periphery of said first rim and said spokes which connect said first rim and hub, and means connected to the hub to rotate same.

2. In a machine of the type set forth, a frame adapted to have normal horizontal disposition, a horizontal propeller at each end of said frame, a pulley secured to each of said propellers, a transverse shaft carried by said frame midway between said propellers, a drive pulley on said shaft, an endless belt engaging each of said propeller pulleys and having a portion thereof extending downwardly and engaged with said drive pulley, a swinging vertical frame, means for suspending said vertical frame from said shaft, driving means on said vertical frame, and a connection between said driving means and said shaft to rotate the latter.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

LAFAYETTE J. BROWN.

Witnesses:

MARY E. HAMER,
S. M. GALLAGHER.