

P. SEILER.
AERIAL MACHINE.
APPLICATION FILED JUNE 13, 1910.

994,339.

Patented June 6, 1911.

Fig. 1.

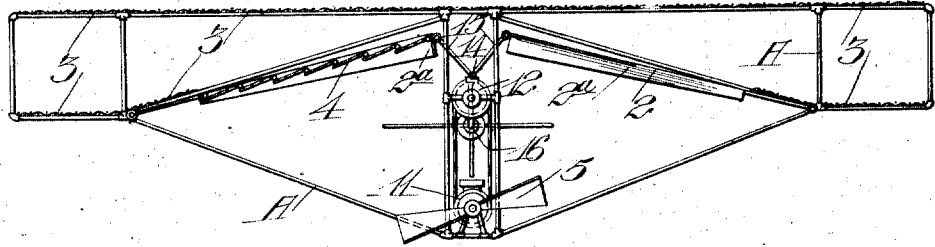


Fig. 2.

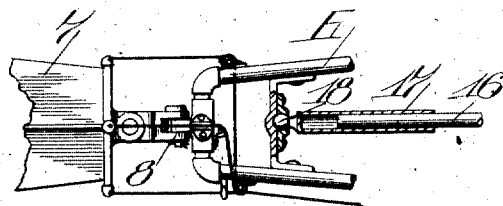
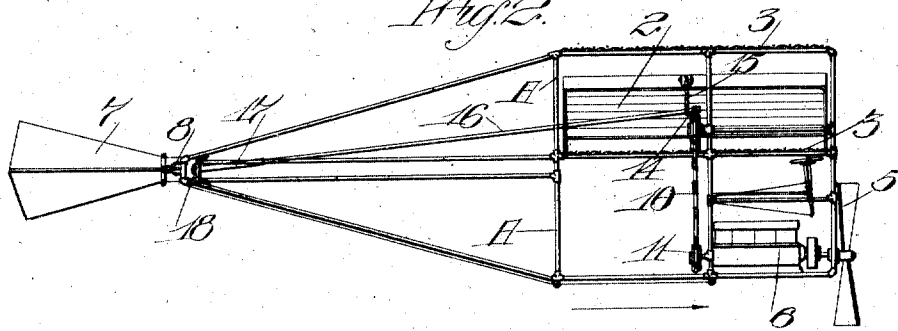


Fig. 3.

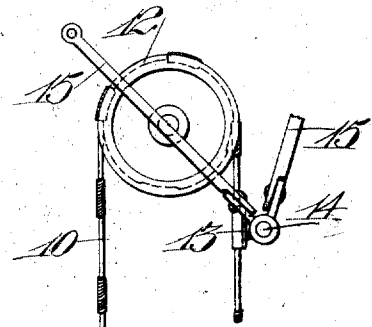


Fig. 4.

Witnesses
Chas. Keshberg
E. E. Maynard

Inventor
Paul Seiler
W. G. Strong
Attorney

UNITED STATES PATENT OFFICE.

PAUL SEILER, OF SAN FRANCISCO, CALIFORNIA.

AERIAL MACHINE.

994,339.

Specification of Letters Patent.

Patented June 6, 1911.

Application filed June 13, 1910. Serial No. 586,539.

To all whom it may concern:

Be it known that I, PAUL SEILER, citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Aerial Machines, of which the following is a specification.

My invention relates to an apparatus which is especially designed for aerial purposes.

It consists of a framework having exteriorly hinged or pivoted louver-like planes with the inner edges capable of vertical oscillation and means by which power is applied to move said planes.

It also comprises the combination of parts and details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a transverse view. Fig. 2 is a side elevation. Fig. 3 is an enlarged section of the rear end. Fig. 4 is an enlarged section of the mechanism to move the planes.

As shown in the drawings, A is a frame made of any suitable light material, as wood, bamboo or aluminum, and of such shape as to have the most rigidity. To the exterior parallel side members of the frame are hinged the movable planes or wings 2, and the inner edges of these planes approach the center so that power may be applied to move these inner edges, the outer edges forming the pivots about which the inner edges oscillate. Any suitable coacting planes 3 may be employed in conjunction with these movable planes 2. I have here shown these planes 2 as having down-turned flanges 4 along both the inner and side edges, these flanges being deepest at the inner edges and the side flanges gradually tapering to the hinged outer edges. The surface of these planes is formed by hinged vanes or louvers, so called, as shown at 4, the hinging of these vanes being such that when the planes are lifted the vanes or louvers will open downward, thus allowing air to escape freely through the planes. When the reverse movement occurs the louvers will immediately close, thus presenting a continuous surface for impact against the air, the effect of which will be to raise the apparatus. In conjunction with this means for raising the apparatus, I may employ one or more propellers 5 mounted upon a horizontal shaft and driven by any usual motor 6, which may be suitably located, preferably at the lower

part of the frame A. At the rear of the frame may be mounted a rudder 7, having horizontal and vertical blades and a hinged or pivoted connection, at 8, with means by which either portion of the rudder may be turned to assist in guiding the apparatus.

In order to operate the hinged planes I have shown an endless traveling flexible chain or rope 10, which is adapted to pass around the pulley 11 upon or driven by the engine shaft, and another pulley 12 located at a sufficient distance above the pulley 11.

13 is a clamp, which is fixed to the chain or rope 10, as shown, and by means of flexible or universal joints, as at 14, rods 15 have one end connected with it. The opposite ends are connected with the inner movable ends of the planes 2, and the operation will then be as follows:—The engine being in motion, the movement of the traveling belt or chain 10 carries the clamp 13 up and down to an extent dependent upon the distance between the pulleys 11 and 12, this being sufficient to give as great an amplitude to the movement of the planes as may be desired and sufficient to give the requisite elevating power when the vanes are in motion. As the clamp must travel around the peripheries of the wheels 11 and 12, it will be necessary to steady it in its movement and prevent twisting. This is effected by means of a rod, 16, which extends from the connection, 14, Fig. 2, rearwardly and enters the sleeve, 17, which is pivoted at 18, Fig. 3, and forms a continuation or extension of the rod, the connection being shown in Fig. 3 as in the form of a ball and socket joint, but it is obvious that any other flexible joint may be employed if desired. By reason of the rod, 16, entering the tube, as shown and described, said rod may have a lengthwise slidable movement which will allow sufficient movement to compensate for the lengthening and shortening caused by the travel of the belt and clamp.

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

1. In an aerial machine, a frame, planes or wings having their parallel outer edges hinged to the frame, and means by which their inner contiguous edges may be vertically oscillated.

2. In an aerial machine, a frame, planes or wings having their parallel outer edges hinged to the frame, and means by which

their inner contiguous edges may be vertically oscillated, said means including a motor and reciprocating mechanism connecting the motor with the inner edges of the wings.

5. 3. In an aerial machine, a frame, planes or wings having their parallel outer edges hinged to the frame, means by which their inner contiguous edges may be vertically oscillated, said means consisting of a flexible endless belt, vertically separated pulleys around which the belt passes, one of said pulleys being driven by the motor, a clamp carried by the belt, and connections between the clamp and the wings.
- 10 4. In an aerial machine, a frame, planes or wings having their parallel outer edges hinged to the frame, means by which their inner contiguous edges may be vertically oscillated, said means consisting of a flexible endless belt, vertically separated pulleys around which the belt passes, one of said pulleys being driven by the motor, a clamp carried by the belt, connections between the clamp and the wings, and a rod connecting the clamp to a fixed portion of the frame.
- 15 5. In an aerial machine, a frame, planes

or wings having their outer edges hinged to the frame parallel with its longitudinal axis, a motor, an endless traveling belt, connections between said belt and the movable edges of the wings, a rod having one end connected with the wing actuating means, and the other with a fixed part of the frame, and a telescopic joint to permit the rod to follow the movements of the wings.

6. In an aerial machine, a frame, planes or wings having their parallel outer edges hinged to the frame, and means by which their inner contiguous edges may be vertically oscillated, said wings having their surfaces formed with hinged louvers adapted to automatically open downwardly when the wings are lifted, and to close when the wings move downwardly.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PAUL SEILER.

Witnesses:

CHARLES A. PENFIELD,
Z. HASTINGS.