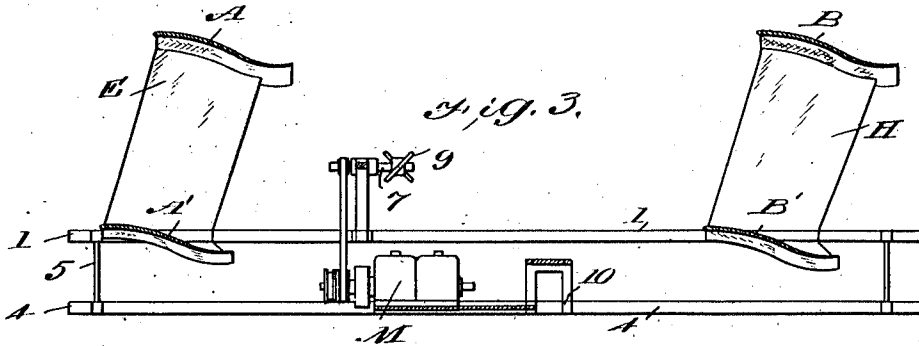
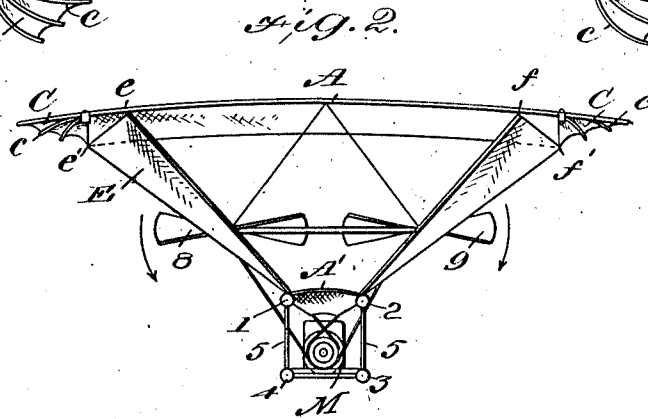
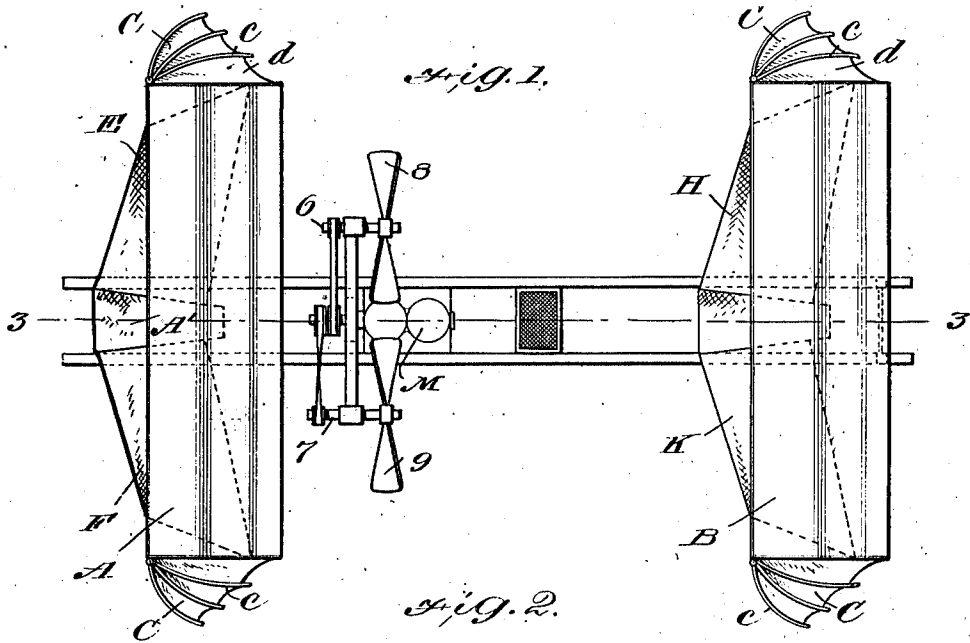


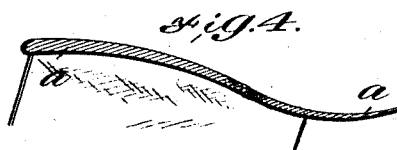
P. & C. ZAMPOL.
AEROPLANE.
APPLICATION FILED OCT. 6, 1909.

1,003,851.

Patented Sept. 19, 1911.



WITNESSES
H. C. Bamy
L. A. Stanley



INVENTORS
PETER ZAMPOL
CHARLES ZAMPOL
BY *Munn & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

PETER ZAMPOL AND CHARLES ZAMPOL, OF NEW YORK, N. Y.

AEROPLANE.

1,003,851.

Specification of Letters Patent. Patented Sept. 19, 1911.

Application filed October 6, 1909. Serial No. 521,189.

To all whom it may concern:

Be it known that we, PETER ZAMPOL and CHARLES ZAMPOL, citizens of the United States, and residents of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Aeroplanes, of which the following is a specification.

Our invention relates to improvements in aeroplanes and it consists in the combinations, constructions, and arrangements of parts herein described and claimed.

An object of our invention is to provide supporting planes of such construction that they tend to maintain the equilibrium of the machine as a whole.

A further object of our invention is to provide supporting planes and side planes so disposed toward each other that not only is the equilibrium of the device maintained but each serves as a lifting or resistance element.

A further object of our invention is to provide means for protecting the ends of the supporting planes in case the latter should dip downwardly and come in contact with an obstacle in its path.

Further objects and advantages will appear in the following specification and the novel features of the device will be particularly pointed out in the appended claims.

Our invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view showing one embodiment of our invention, Fig. 2 is a front view, Fig. 3 is a section along the line 3—3 of Fig. 1, and Fig. 4 is a section through one of the main supporting planes from front to rear.

In carrying out our invention, we provide a frame which may be of any approved construction. In the drawings we have shown this frame as comprising the four rods 1, 2, 3, and 4, secured together by the braces 5. In the main frame is disposed a driving motor M which may also be of any approved type. This motor is connected to the shafts 6 and 7, bearing the propellers 8 and 9, respectively. The motor is preferably situated on one side of the center of the machine, as shown in Fig. 3. The operator's seat 10 is on the opposite side of the center.

The construction thus far described is ordinary, and forms no part of our invention.

At A and B, we have shown the main supporting planes which are disposed at the

front and rear of the device, as shown in Figs. 1 and 3. These planes are warped in a double curve. Fig. 4 shows a section of one of these planes. It will be observed that the front portion is curved upwardly, as shown at a so as to form an inclined surface, offering resistance to the air. The rear portion a^2 is curved in the opposite direction. At the ends of the planes A and B, we provide a flexible portion C. It consists of the flexible ribs c covered with canvas or other material d . The normal position of this flexible portion c is that shown in Fig. 1, but it may be closed together like a web, always extending again when the closing pressure is relieved.

Secured to each end of the plane A and extending downwardly are the side planes E and F, while similar side planes H and K are secured to the ends of the plane B. The rear edge of these planes comes out to the ends of their respective supporting planes to which they are joined at their tops, but are inclined inwardly, as shown in Fig. 2, so that their forward edges contact with the main supporting plane nearer to the center of the device. Thus the forward edges of the planes E and F contact with the main supporting plane A at e and f , respectively, while their rear edges contact with the plane at e' and f' . Below the main plane A is a smaller plane A', while a similar plane B' is below the rear supporting plane B.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The aeroplane as disclosed by us is provided with the usual rudders and other necessary parts, (not shown). The disposition of the side planes and the supporting planes in the manner described above tends to maintain the equilibrium of the machine, for when the machine tips, there will be a resistance against the lower surface of the side plane, on the side which is tipping downwardly and also a resistance on the upper surface of the side plane which is being tipped upwardly. Moreover, the motor and frame work being the heavy parts of the device tend to make the center of gravity low, and these parts tend to descend when any tipping occurs, thus automatically righting the machine. The side planes, as stated before, are inclined inwardly so as to present a resistance, or lifting surface when the machine is being urged forward. The rearward in-

clination of the side planes tends to strengthen the device, since the greater part of the strain comes in a horizontal direction, and therefore, part of this strain is taken
5 up in direct tension on the side planes.

In case the machine should descend and tip so that one of the supporting planes strikes the ground or any other obstacle, the flexible portion C which is thus engaged,
10 will give until the obstruction has been passed, when it will then open outwardly to its normal position. This takes up part of the force to which the plane is subjected, and renders the device less liable to injury.
15 The location of the planes at the forward and rear parts of the machine also adds to the equilibrium of the device.

We claim:

1. In an aeroplane, a frame, a main supporting plane disposed above said frame,
20 side planes extending downwardly from said main plane, said side planes being inclined inwardly toward the top of the forward edge, a small supporting plane at the lower ends of said side planes, a motor disposed
25 within said frame below said smaller supporting plane, and centrally thereof, and propellers disposed between said upper supporting plane and said lower supporting
30 plane.

2. In an aeroplane, a frame, a motor carried thereby, front and rear main supporting planes, disposed above said frame, side
35 planes extending downwardly and inwardly from each of said main planes, said side planes being inclined inwardly toward their forward top edges and being inclined rearwardly from their bottom edges to their top
40 edges, front and rear small supporting planes at the lower ends of the respective

front and rear side planes, said motor being disposed below said small supporting planes.

3. In an aeroplane, a frame, a main supporting plane disposed above said frame,
45 side planes extending downwardly from said main plane, said side planes being inclined inwardly toward the top of the forward edge, a small supporting plane at the lower ends of said side planes, and propellers disposed between said upper supporting plane
50 and said lower supporting plane.

4. In an aeroplane, a main frame, a main supporting plane disposed above said frame,
55 said main supporting plane being warped into a double curve from front to rear, side planes extending inwardly from said main plane, said side planes being inclined inwardly toward the top of the forward edge,
60 a small supporting plane at the lower ends of said side planes, said supporting plane tapering from front to rear, and propellers disposed between said upper supporting planes and said lower supporting planes.

5. In an aeroplane, an elongated frame,
65 a main supporting plane disposed above said frame, side planes extending downwardly from said main plane, said side planes being inclined inwardly toward the top of the forward edge and the lower part of each side
70 plane being parallel with the longitudinal axis of the main frame, a small supporting plane at the lower edges of said side planes, and propellers disposed between said upper supporting plane and said lower supporting plane.

PETER ZAMPOL.
CHARLES ZAMPOL.

Witnesses:

SOLON C. KEMON,
L. A. STANLEY.