

July 1, 1930.

G. F. MYERS

1,768,708

FLYING MACHINE

Original Filed May 7, 1921

2 Sheets-Sheet 1

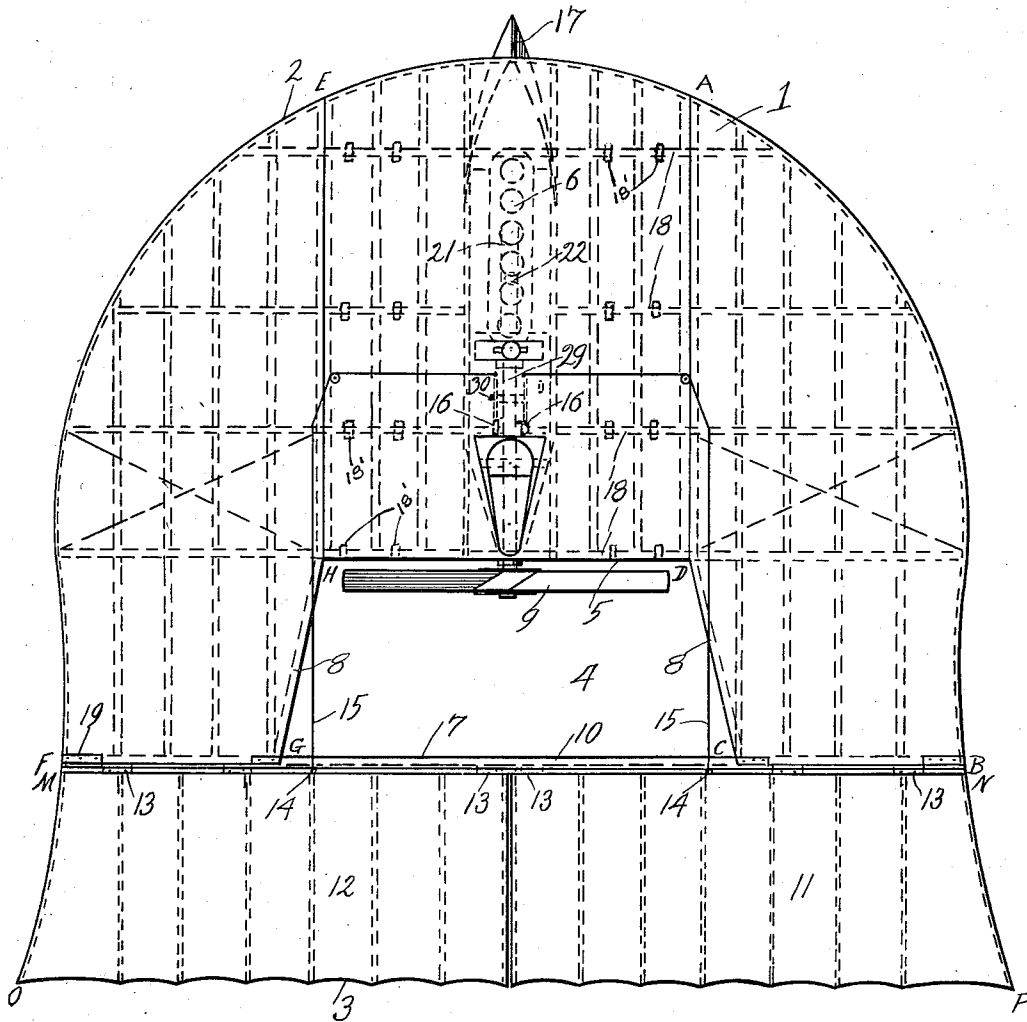


Fig. 1.

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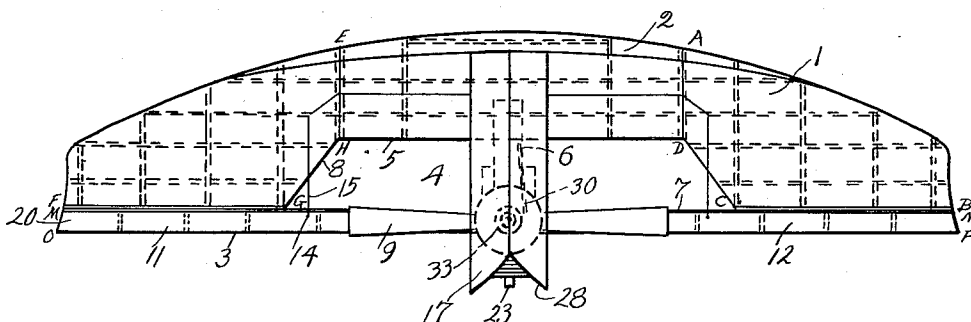


Fig. 2.

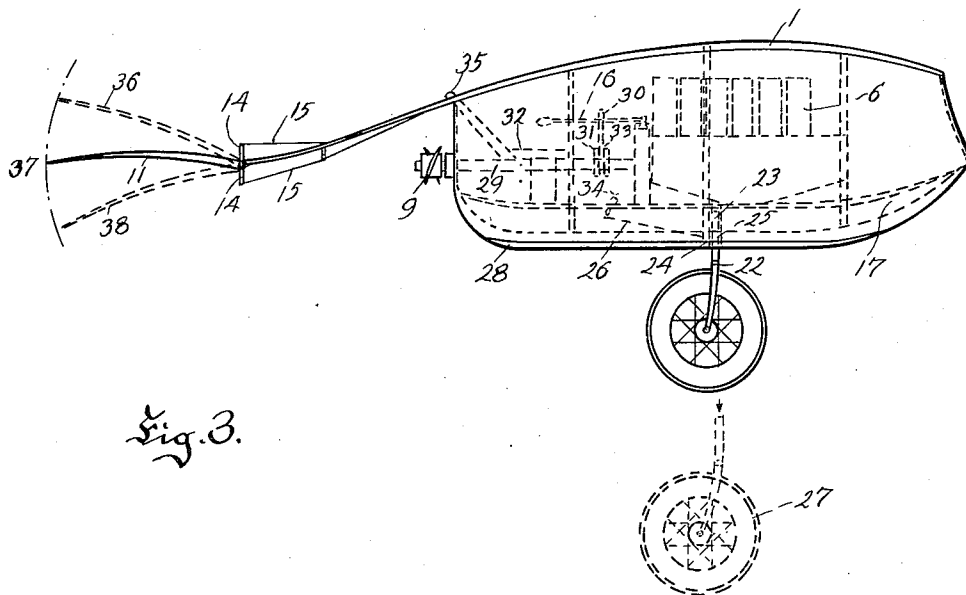


Fig. 3.

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UNITED STATES PATENT OFFICE

GEORGE FRANCIS MYERS, OF NEW YORK, N. Y.

FLYING MACHINE

Application filed May 7, 1921, Serial No. 467,700. Renewed April 16, 1929.

My invention relates to flying machines and comprises certain novel constructions and combination of parts, hereinafter described and specifically pointed out in the claims.

This application is in the nature of an improvement on my companion application 363,667, filed March 6, 1920, which was a companion application to 579,016, filed August 26, 1910, which was a companion application to 564,233, filed May 31, 1910.

In each of these applications I show a similarly shaped monoplane with rounded forward portion, and stabilizing planes trailing in the rear of the same, hinged thereto, and in close proximity therewith, one on each side of the longitudinal center line of the depending car or body.

Also in these applications I show that the aerofoil was divisible into separable sections as well as sundry other like subject matter.

In the drawings, Fig. 1 represents a plan view of a machine embodying my invention. Fig. 2 is a front elevation thereof, and Fig. 3 is a side elevation of the same.

The machine is constructed and operated substantially and preferably as follows:

The aerofoil of surface 1 of the aeroplane or flying machine has a rounded forward portion 2 as shown in Fig. 1 and a substantially straight edge 3 in the rear. The opening 4 is bounded by straight lines, the front part 5 being less in length than the rear part 7 which forms an additional advancing edge of greater length than if the sides 8 of the opening 4 were parallel.

In the opening 4 is placed the propeller 9 operated by the motor 6 the air from the said propellers first impinging on the transverse bar 10 and then on the independently and reversely operable ailerons 11 and 12. These ailerons are curved and are hinged to the bar 10 as at 13, and by means of upright rods 14, cords or cables 15 and levers 16 may be moved as desired from the seat 32 with back 35: that is the two ailerons 11 and 12 may both be lifted from the position 37 to the position 36 or depressed as at 38 simultaneously, or one may be lifted while the other may be depressed each the same angu-

lar distance or more or less as desired, or one may be moved and the other kept stationary or moved but a little, for turning the machine on its three principal axes.

The aeroplane is made in four sections 55 a car section, a right lateral section A—B—C—D, a left lateral section E—F—G—H and a rear or posterior section M—N—O—P comprising the ailerons 11 and 12 with the transverse bar 10. Any suitable means of fastening these four sections may be used, but I prefer to slide the transverse beams 18 into rings or pockets 18' in the top of the car section 17, and fasten the rear parts of said lateral sections by means of suitable clips 19 to the transverse bar 10.

It will be noticed that the lateral portions of the ailerons 11 and 12 flare out as at 20.

It will also be noted that the forward part 1 of the aeroplane is at a positive angle of incidence; while the after portion 11 thereof is at a different angle of incidence—at a zero angle of incidence, or horizontal. Of course when the aeroplane is moving through the air in a normal condition, that is in a substantially straight line and in stable equilibrium, the ailerons form a second surface for the impinging air to act upon as they are not working as ailerons or rudders. Therefore they give to the aeroplane another advancing edge, so the aeroplane has then two advancing edges following one another for the air to strike against: one on the advancing edge on the front portion of the aeroplane, and also an additional advancing edge on the front portion of the now motionless ailerons.

It will be further noted that the enclosed car 17 is mounted substantially flush with the top of the aeroplane surfaces on each side thereof; and that the cock pit or opening for the operator with seat 32 is the only break in the even top surface of the said aeroplane.

The detachable wheel 21 more particularly shown in Fig. 3 has its shank 22 designed to fit into the sleeve 23 attached to the car 17. A lever held in place by a spring 24 operates a catch 25 in said sleeve 23 which catch can be pulled out of said sleeve 23 by the intermediary of the cord 26, releasing the wheel

when desired. The wheel will then fall to the ground as shown in dotted lines 27 in Fig. 3.

In alighting the machine lands on the skids 28 which go to make up part of the car 17 of the machine.

In order that the propeller 9 shall not be broken when landing, its shaft 29 is provided with a ratchet wheel 33 moved by the lever 30 provided with a dog 31. When a landing is to be effected the motor 6 may be stopped and if the propeller should be in an upright position or in such a position that there is a possibility of its striking the ground before the skids 28 should strike, the lever 30 may be operated from the seat 32 to bring the propeller into a horizontal position as shown in the figures.

As the invention is in some of its aspects generic, I do not limit myself to the particular construction shown and described, but also contemplate the employment of such equivalents as fairly fall within the scope of the claims.

In this connection I may say that I do not limit myself to making the aerofoil of rounded contour, as I may make the same more like the planes shown in my said Patent 1,459,411, or my Patent 1,226,985; nor to making the trailing ailerons or stabilizers or lateral balancing rudders curved longitudinally, as I may make them flat or even curved downwardly as illustrated in the said companion applications; nor need they extend all the way across the rear portion of the machine. Also, although the beams or rods 18, or prolongations of the same, are used to fasten the side sections to the central sections, these bars or beams may project from the central section, or may be auxiliary bars or beams fastened to 18; they may be fastened directly to the car if desired. These members 18 being stout and strong no other or extraneous devices as struts or transverse members are needed to hold up the side sections, which therefore stand out rigidly, and are otherwise unsupported.

It must therefore be understood that I may make various changes in the form, proportion, size and detail of the various structures shown, the number and position of certain elements used, as well as the character of the motive power employed, without departing from the spirit of my invention.

Having described my invention I claim:

1. A flying machine comprising a propeller, a motor and shaft therefor, a ratchet wheel mounted on the said shaft, a pawl engaging the said wheel, and a lever for operating the said pawl, whereby the said shaft may be rotated independently of the said motor.

2. A flying machine comprising a fuselage, an operator's seat in the said fuselage, an engine mounted forwardly of the said

seat, a propeller mounted aft of the said seat, a shaft connecting the said engine and the said propeller and running underneath the said seat, a ratchet wheel mounted on the said shaft, a pawl engaging the said wheel, and a lever for operating the said pawl whereby the said shaft may be rotated independently of the said engine.

3. A flying machine comprising a ring-shaped aeroplane, a fuselage extending from the front edge of the forward portion of the said plane to the opening between the forward and rear portions of the same, a propeller mounted in the rear of the said fuselage and turning in the said opening, an engine, a shaft connecting the said engine and the said shaft, a ratchet wheel mounted on the said shaft, a pawl engaging the said wheel, and a lever for operating the said pawl whereby the said shaft may be rotated independently of the said engine.

4. A flying machine comprising an aerofoil having a recessed portion therein, a propeller mounted in the said portion, a motor and shaft for driving the said propeller, and means for rotating the said propeller independently of the said motor comprising a ratchet wheel mounted on the said shaft, a pawl engaging the said wheel, and a lever for operating the said pawl whereby the said shaft may be rotated.

5. A flying machine comprising an aeroplane having a substantially free periphery capable of being impinged by the air and having an opening within its periphery which is practically unobstructed and whereby an additional advancing edge is formed on the aeroplane the said opening being mounted along the longitudinal center line of the machine, a propeller mounted in the said opening, an engine, a shaft connecting the said engine and the said propeller, a ratchet wheel mounted on the said shaft, a pawl engaging the said wheel, and a lever for operating the said pawl whereby the said shaft may be rotated independently of the said engine.

In testimony whereof, I have hereunto set my hand this 4th day of May, 1921.

GEORGE FRANCIS MYERS.