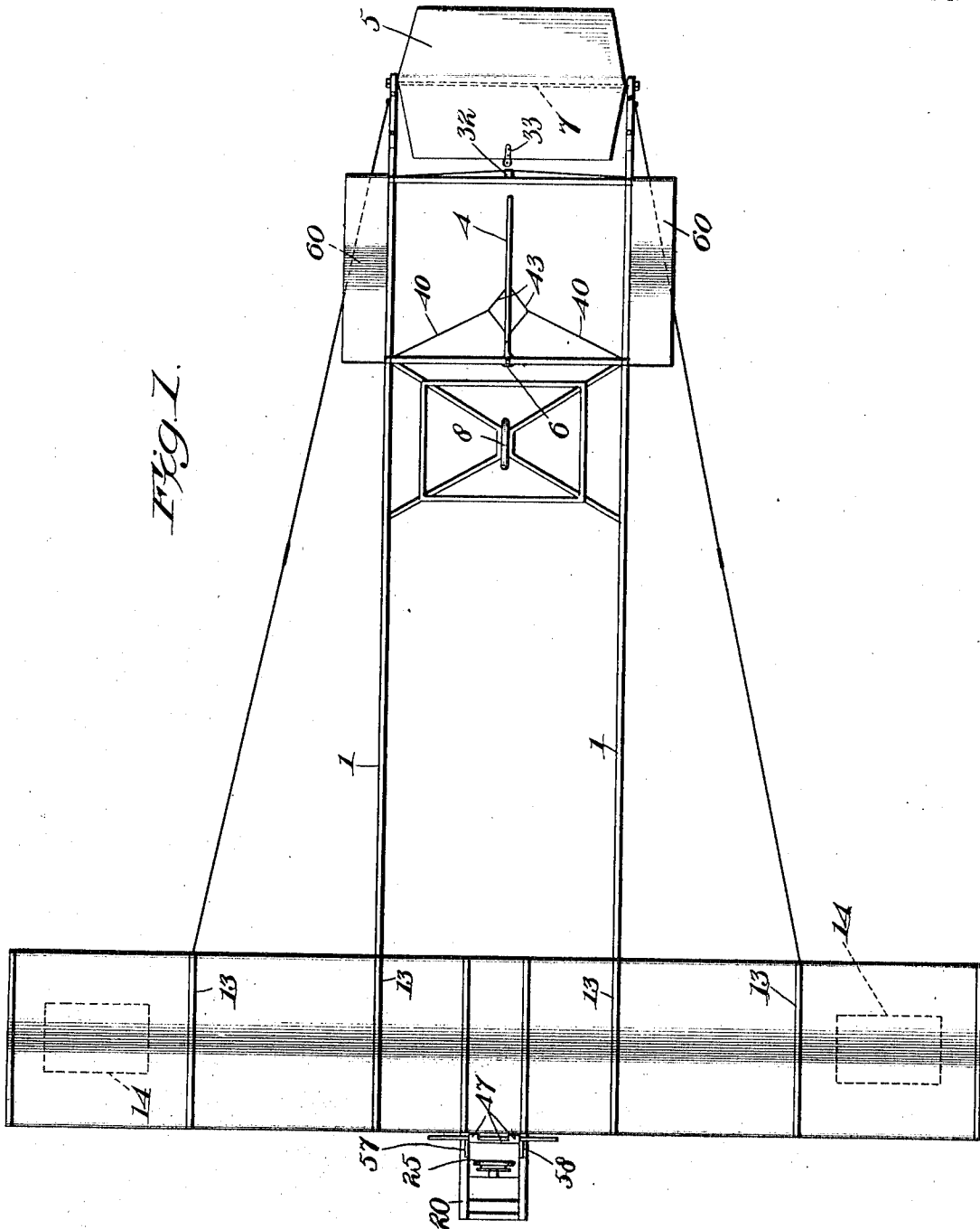


M. F. PATTON.
FLYING MACHINE.
APPLICATION FILED OCT. 14, 1910.

1,011,365.

Patented Dec. 12, 1911.

3 SHEETS—SHEET 1.



Witnesses

Geo. A. Byrnes.
Byron Bellings.

Inventor

M. F. Patton,
Wilkinson Fisher &
Witherspoon
Attorneys

M. F. PATTON.
FLYING MACHINE.

APPLICATION FILED OCT. 14, 1910.

Patented Dec. 12, 1911.

3 SHEETS-SHEET 2.

1,011,365.

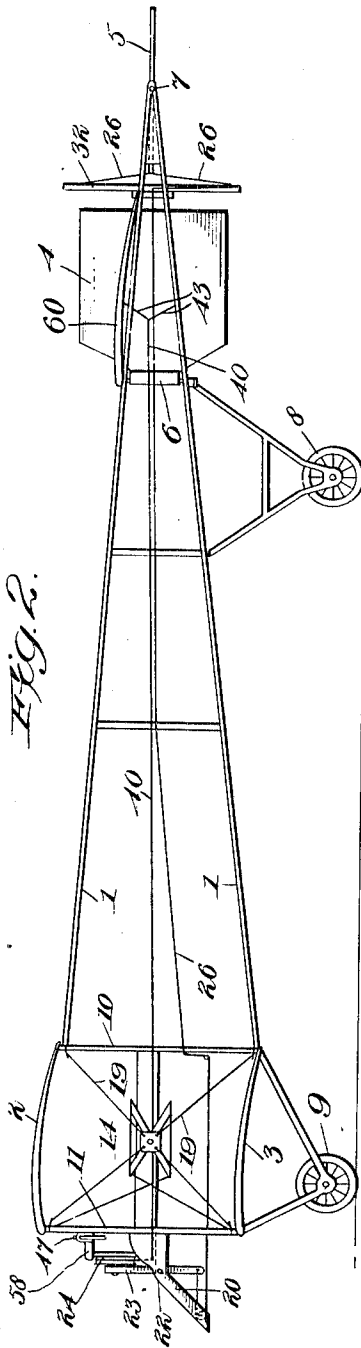


Fig. 2.

Witnesses
Geo. A. Byrce.
Byron B. Collings.

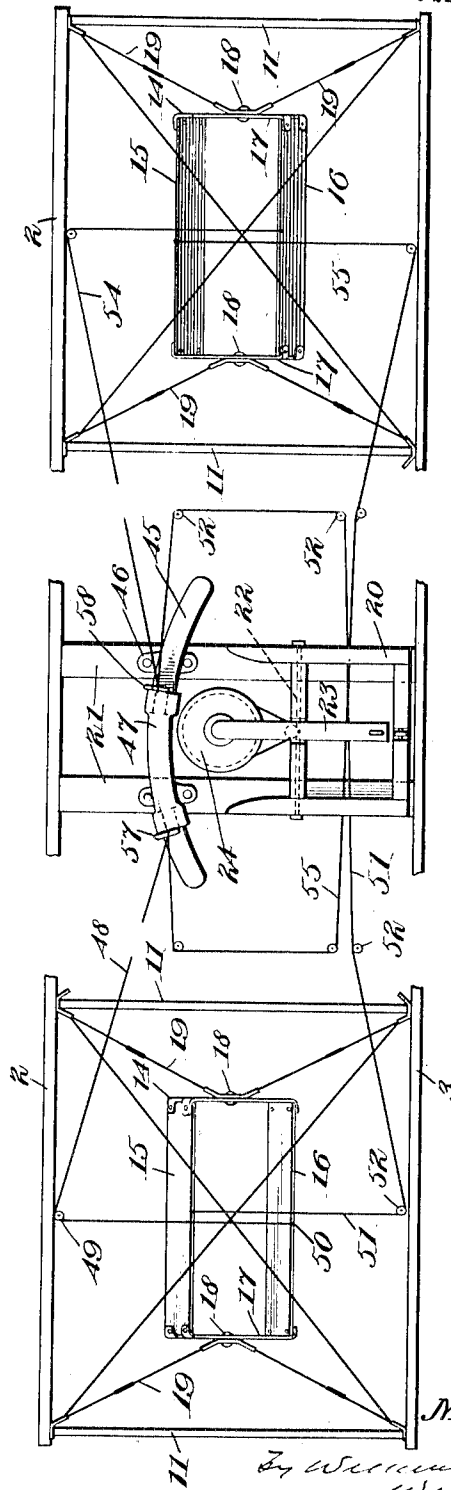


Fig. 3.

Inventor
M. F. Patton,
By Williamson Fisher
Attorney

APPLICATION FILED OCT. 14, 1910.

Patented Dec. 12, 1911.

3 SHEETS--SHEET 3.



Geo. A. Byrne.
Byron B. Collings.



M. F. Patton,
William Fisher
Williamson
Attorneys

UNITED STATES PATENT OFFICE.

MOSES F. PATTON, OF HOLLINS, ALABAMA.

FLYING-MACHINE.

1,011,365.

Specification of Letters Patent.

Patented Dec. 12, 1911.

Application filed October 14, 1910. Serial No. 587,116.

To all whom it may concern:

Be it known that I, MOSES F. PATTON, a citizen of the United States, residing at Hollins, in the county of Clay and State of Alabama, have invented certain new and useful Improvements in Flying-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to flying machines and has for its object the production of a machine which will be stable in flight, will be easily controlled by the operator, and one which will automatically right itself when inclined from its normal position.

To these ends the invention consists in the novel details of construction and combinations of parts more fully hereinafter disclosed and particularly pointed out in the claims.

Referring to the accompanying drawings forming a part of this specification in which like numerals designate like parts in all the views:—Figure 1 is a plan view of the essential portions of a flying machine built in accordance with my invention; Fig. 2 is a side elevational view of the parts shown in Fig. 1; Fig. 3 is a fragmentary elevational detailed view on an enlarged scale of the front portion of the machine; Fig. 4 is a diagrammatic view showing connections between the steering mechanism and the horizontal rudder; and Fig. 5 is a like view showing connections between the steering mechanism and the vertical rudder.

1 represents any suitable frame-work to which is secured at one end the supporting planes 2 and 3 and at the other end the vertical rudder 4 and a horizontal rudder 5. The vertical rudder is provided with a pivot 6 and the horizontal rudder with a pivot 7 supported in the frame-work as shown. The said frame-work also supports a rear roller 8 or other means to aid in lighting, as well as a front roller 9 which is preferably secured under the plane 3. The planes 2 and 3 are preferably separated by means of the upright frames 10 and 11 and said planes are preferably held in place by transverse pieces 13, as will be readily understood.

Between the planes 2 and 3 are supported what I term stabilizers 14 or ailerons which are preferably composed of an upper plane

15 and a lower plane 16, secured together by the upright framing 17 pivoted as at 18 to the frame-work or stays 19 supported from the uprights 10 and 11 as best shown in Figs. 2 and 3.

At the front of the machine is a suitable support 20 for the operator which is secured to the center uprights 21, and has pivoted thereto as at 22 a steering lever 23 carrying at its upper end the steering wheel 24 provided with the pulley 25.

As best shown in Fig. 4, a cord or other steering means 26 is made fast at one end 27 to the lower end of the lever 23, thence passing over a pulley 28 in the front of the machine, it passes to the rear over the guides or pulleys 29 and 30 supported by the frame-work until it reaches the guide or pulley 31 on the upright 32 in close proximity to the forward edge of the horizontal rudder 5 whence it passes down said upright 32 to the fastening 33 by which it is secured to the said rudder 5. Said cord 26 next passes from the fastening 33 to another guide or pulley 34 on the upright 32 thence over similar guides or pulleys 35, 36 and 37 back to the point 38 on the lower end of the lever 23 where it is again secured to said lever.

It is evident from the structure just described that if the lever 23 is moved on its pivot 22 said rudder 5 will turn upon its pivot 7, and that therefore the rear end of the machine will be either raised or depressed as the case may be. In like manner the cord or other connections 40 is attached at one end to the vertical rudder 4 whence it passes over suitable guides or pulleys 41 forward to the pulley 25 on the said wheel 24, thence around said pulley and over guides or pulleys 42 back to said vertical rudder 4 where it is suitably secured, as by means of the loops 43. It will likewise be seen that if the wheel 24 is turned on its pivot 44 the pulley 25 will cause the vertical rudder 4 to turn about its pivot 6 and to thereupon deflect the machine to the right or to the left as the case may be.

In the rear of the wheel 24 is provided a support 45 secured by brackets 46 to the uprights 21, and on said support slides the carrier 47 to one end of which is attached a cord 48 passing over the guide 49 and attached as at 50 to the lower plane 16 of one of the ailerons 14, so that if said carrier 47 is moved on the piece 45 toward the right as seen in Fig. 3, the said aileron will

elevated. To the topmost plane 15 of the same aileron is attached a cord 51 which passes over the guides 52 and is secured to the other end of the said carrier 47. It therefore follows that when the carrier 47 is moved in one direction the aileron will be raised through the cord 48 and when it is moved in the opposite direction, the aileron will be lowered through the cord 51. The other aileron is similarly operated by the cords 54 and 55 attached respectively to the lower and upper planes of said aileron, passing over suitable pulleys and secured respectively to opposite ends of the slide 47. The construction is such as will be clear from Fig. 3, that if the left hand aileron seen in Fig. 3 is tilted in the position shown, the right hand aileron will be tilted in the opposite direction and into the position also shown in said figure. It follows from this that when the left hand portion of the machine as seen in Fig. 3, is raised above the horizontal plane, the operator can by forcing the slide to the left bring the left hand aileron into the position shown, which will have a tendency to cause that side of the machine to lower or right itself, while the other aileron will likewise be in such position as to have a tendency to cause the right hand side of the machine to be raised. In other words, it is evident that these stabilizers enable the operator at will to raise or to lower either side of the machine, according to the position to which he moves the slide 47. The said slide 47 is preferably provided with arms 57 and 58 fitting on each side of the back of the operator and enabling him by simply moving his body to cause the said ailerons to be shifted into the desired positions for righting the machine.

The operation of my flying machine will be clear from the foregoing, but may be briefly summarized as follows:—The operator is seated upon the support 20 with the lever 23 and steering wheel 24 directly in front of him and with the slide 47 directly to his rear and fitting his back. When it is desired to move the machine to the right or to the left, he operates the steering wheel 24 which causes the vertical rudder 4 to deflect the machine in a manner well known. When it is desired to cause the machine to dive or to ascend, he pushes or pulls the hand wheel 24 together with the lever 23 so as to turn the latter upon its pivot 22 which, through the connections described moves the horizontal rudder 5 and thereby causes the machine to descend or to ascend. Finally when the machine is so tilted as to

make an angle with the horizontal plane, the operator by simply moving his body to the right or to the left will move the slide 47 and thereby so manipulate the ailerons 14 as to cause the lower side of the machine to automatically rise and the upper side of the machine to be automatically depressed. Of course should the operator desire to intentionally tilt the machine, he merely moves his body in the desired direction, and thereby causes the ailerons to depress and to raise the desired sides of the machine.

The plane 60 near the steering rudders serve to support and to steady the extreme rear end of the machine, and may be varied in size as desired.

It is evident that those skilled in the art may vary the details of construction and arrangement of parts without departing from the spirit of my invention, and therefore I do not wish to be limited to such features except as may be required by the claims.

What I claim is:—

1. The combination with an aeroplane provided with a frame, and a seat for an aviator mounted on said frame; of ailerons therefor disposed to either side of said seat; and a means for moving said ailerons comprising an arcuate member secured to said frame adjacent said seat; a carrier slidably mounted on said arcuate member and adapted to engage with the body of the aviator; and cords connecting said carrier with the ailerons and adapted to move the latter through the body movements of the aviator, for the purpose set forth.

2. The combination with a biplane having a support for an aviator; of ailerons therefor located between the planes and disposed to either side of said support; said ailerons comprising each two planes having rigid connecting frames; stays connecting the planes of the bi-plane; said rigid frames pivotally mounted on said stays; an arcuate member located adjacent the support; a carrier slidably mounted on said arcuate member; arms on said carrier adapted to engage the body of the aviator; and cords connecting said carrier with the aileron planes and adapted to move the latter through the body movements of the aviator, for the purpose set forth.

In testimony whereof, I affix my signature, in presence of two witnesses.

MOSES F. PATTON.

Witnesses:

T. A. WITHERSPOON,
R. M. PARKER.