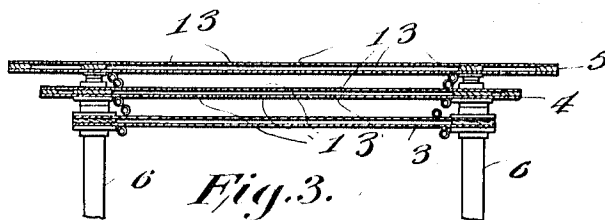
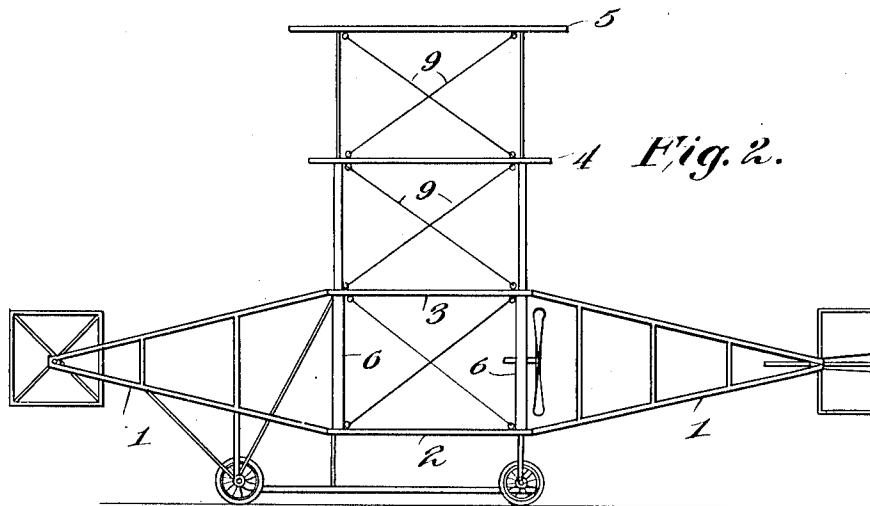
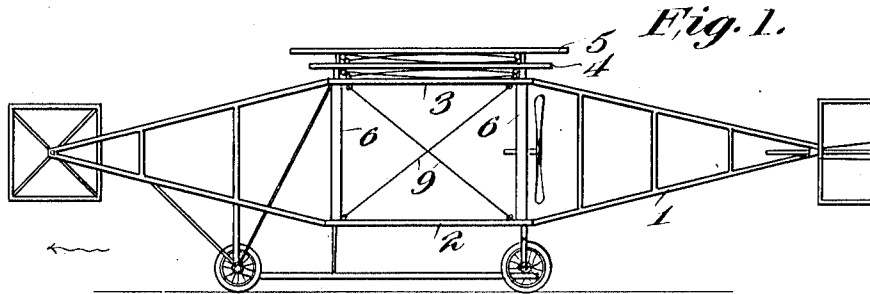


E. FUCHS.
FLYING MACHINE.
APPLICATION FILED MAY 10, 1911.

1,020,275.

Patented Mar. 12, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4.

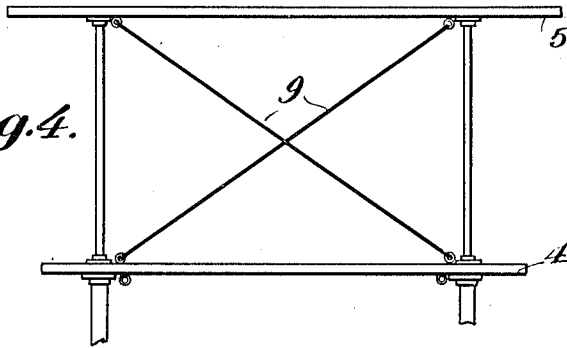


Fig. 5.

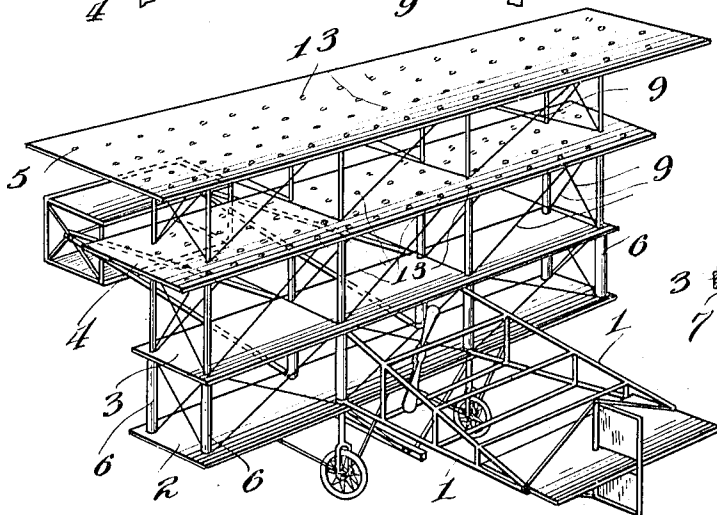
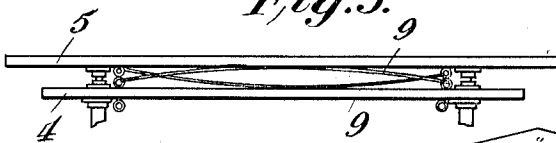
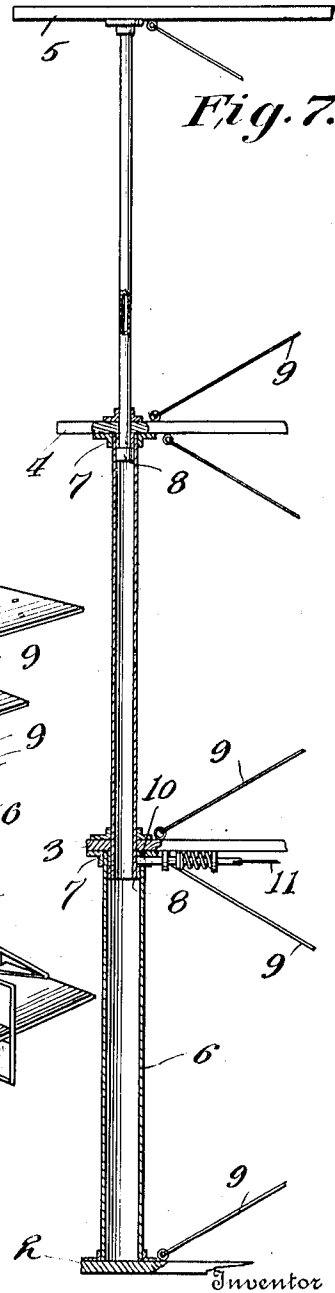


Fig. 6.

Fig. 7.



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UNITED STATES PATENT OFFICE.

ERNESTO FUCHS, OF GUADALAJARA, MEXICO.

FLYING-MACHINE.

1,020,275.

Specification of Letters Patent.

Patented Mar. 12, 1912.

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To all whom it may concern:

Be it known that I, ERNESTO FUCHS, a citizen of the United States of America, residing at Guadalajara, in the State and Republic of Mexico, have invented new and useful Improvements in Flying-Machines, of which the following is a specification.

This invention relates to flying machines of the heavier-than-air class, and its principal object is to provide a construction whereby a multiplane may be transformed into a biplane or other multiplane, or vice versa, at will, such construction embodying the use of two or more planes adapted to be coupled together in a unitary structure and adjustably connected so that they may be spaced apart when desired.

A further object of the invention is to provide a machine having a supporting surface of the character described, whereby the operator or pilot of the machine may, in the event of danger, permit the collapsed planes to spread out in superposed relation to operate as a parachute for the safe descent of the machine to the ground.

A still further object of the invention is to provide a novel construction or telescopic connections between the planes, whereby the latter may be readily and conveniently collapsed or extended either by the use of power or by means of the pressure of the wind acting thereon when the machine is in flight or falling from a height to the ground.

The invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a side elevation of a flying machine embodying my invention, showing the planes collapsed to provide a monoplane or biplane structure. Fig. 2 is a similar view, showing the planes extended or spread apart. Fig. 3 is a vertical transverse section through the collapsed planes, showing the air holes in the latter. Fig. 4 is an elevational view of two superposed planes of the series, showing the bracing connections between the same. Fig. 5 is a view similar to Fig. 4, showing the planes collapsed. Fig. 6 is a perspective view of the machine with all the planes extended for use. Fig. 7 is a vertical sectional view, showing the telescopic connections between the planes.

Referring to the drawings, 1 designates

the frame structure of a flying machine of any desired type, and 2 a base which may form a portion of the frame structure in a flying machine of the monoplane type, or the bottom plane of a flying machine of the biplane type, being constructed in the first instance simply as a bed or platform for the supporting surfaces *per se*.

Arranged in superposed relation above the base or lower plane 2 is a series of planes 3, 4 and 5, three in number in the present instance, although any desired number within the limits of safety may be employed. These planes are connected with each other and with the base or lower plane 2 by means of stanchions 6, which, for the purposes of the invention, are composed of tubes, the stanchion tubes of the base or lower plane 2 being fixed thereto, while the stanchion tubes of the remaining planes are formed and arranged to telescope within each other, as clearly illustrated in Fig. 7. By reference to this figure it will be seen that the stanchions which support the upper plane 5 are also rigidly fixed thereto, and that said stanchions are adapted to slide through openings in the planes 4, while the next underlying stanchions are adapted to slide through the plane 3 in the operation of collapsing and extending the planes. Suitable stops 7 are provided upon the upper ends of all the tubular stanchions except the top ones for coaction with stops 8 on the lower ends of the stanchions moving therein, whereby the outward or upward movement of the stanchions is limited, thus preventing disconnection of the same from each other. The planes are adapted, through the telescopic connections described, to be folded or collapsed downwardly upon each other to form a monoplane or biplane structure, and may be extended or spread in superposed relation to form a triplane or other multiplane structure having a greater number than two superposed surfaces.

Crossed stays 9 of wire or other suitable material are connected with the planes and stanchions to reinforce the planes when extended and said stays are adapted to fold down between the collapsed planes, as indicated in Fig. 5. Suitable latch devices 10 are provided upon the standards to interlock the standards together at the limits of their inward and outward movement, and these latch devices are adapted to be simultaneously retracted by controlling cords or

connections 11 extending to a suitable operating device, whereby the pilot or operator of the machine may any time release the movable planes to enable them to spread
5 out or to be collapsed as will be understood.

Preferably, the planes are provided with air holes or passages 13, arranged at intervals throughout the area of each plane, the air holes in the several planes being arranged on lines between each other or in such
10 manner as to lie out of registering relation. These air holes permit, when the planes are collapsed, of the drift of a limited amount of air through the planes to relieve the same
15 of excess pressure, and when the planes are extended or spread in superposed relation they adapt the same to serve the function of parachutes, so that the pilot or operator of the machine, by simply allowing the planes
20 to spread apart may secure the safe descent of the machine to the ground.

In practice, any suitable type of mechanism may be employed for extending the planes, or they may be manually spread
25 apart in converting the machine from a monoplane to a multiplane, or may, when the machine is in flight, be released and permitted to open or spread out under the pressure of the air thereon. I do not limit myself in this particular.
30

From the foregoing description, the construction and mode of use of my improved flying machine will be apparent, and it will be seen that it provides a machine whose
35 number of supporting surfaces may be conveniently varied, and which insures safety of descent in flights, as when the motor suddenly stops and the aviator is unable to glide in the usual manner to the ground.

40 Having thus described the invention, I claim:—

1. In a flying machine, a plurality of superposed supporting surfaces, telescopic stanchions slidably connecting said surfaces
45 to permit them to be collapsed or to spread open under air pressure, locking means for holding the elements of the stanchions in a fixed position, and means for releasing said locking means.

50 2. A flying machine provided with a plu-

rality of superposed supporting surfaces, connecting braces adapted to fold between said surfaces, and telescopic stanchions slidably connecting the surfaces to permit them
55 to be collapsed or to spread apart under air pressure, locking means for holding the surfaces in a fixed position, said means being operative to lock the sections of the telescopic stanchions together and means for releasing said locking means.
60

3. In a flying machine, a plurality of superposed supporting surfaces, telescopic stanchions slidably connecting said surfaces to permit them to be collapsed or to spread
65 open under air pressure, stops upon said stanchions for limiting the opening movement thereof, locking means associated with the stanchions for holding the same in a fixed position, and means for releasing said locking means.
70

4. In a flying machine, a plurality of superposed supporting surfaces, certain of said surfaces being provided with openings throughout the area thereof for upflow of
75 air, telescopic stanchions connecting said surfaces to permit them to be collapsed or to spread open under air pressure, stops associated with the stanchions for limiting the opening movement of the sections thereof, locking means for holding the sections of
80 the stanchions in a fixed position, and means for releasing said locking means.

5. A flying machine provided with a plurality of superposed supporting surfaces, telescopic stanchions slidably connecting the
85 surfaces to permit them to be collapsed or to spread apart under air pressure, braces connecting said surfaces and adapted to fold between the same, locking means associated with the stanchion sections for holding the
90 same in a fixed position, stops for limiting the outward movement of the stanchion sections, and means for releasing said locking means.

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

ERNESTO FUCHS.

Witnesses:

JUAN RAISER,
O. NEUMANN.