

N. FISCHER.

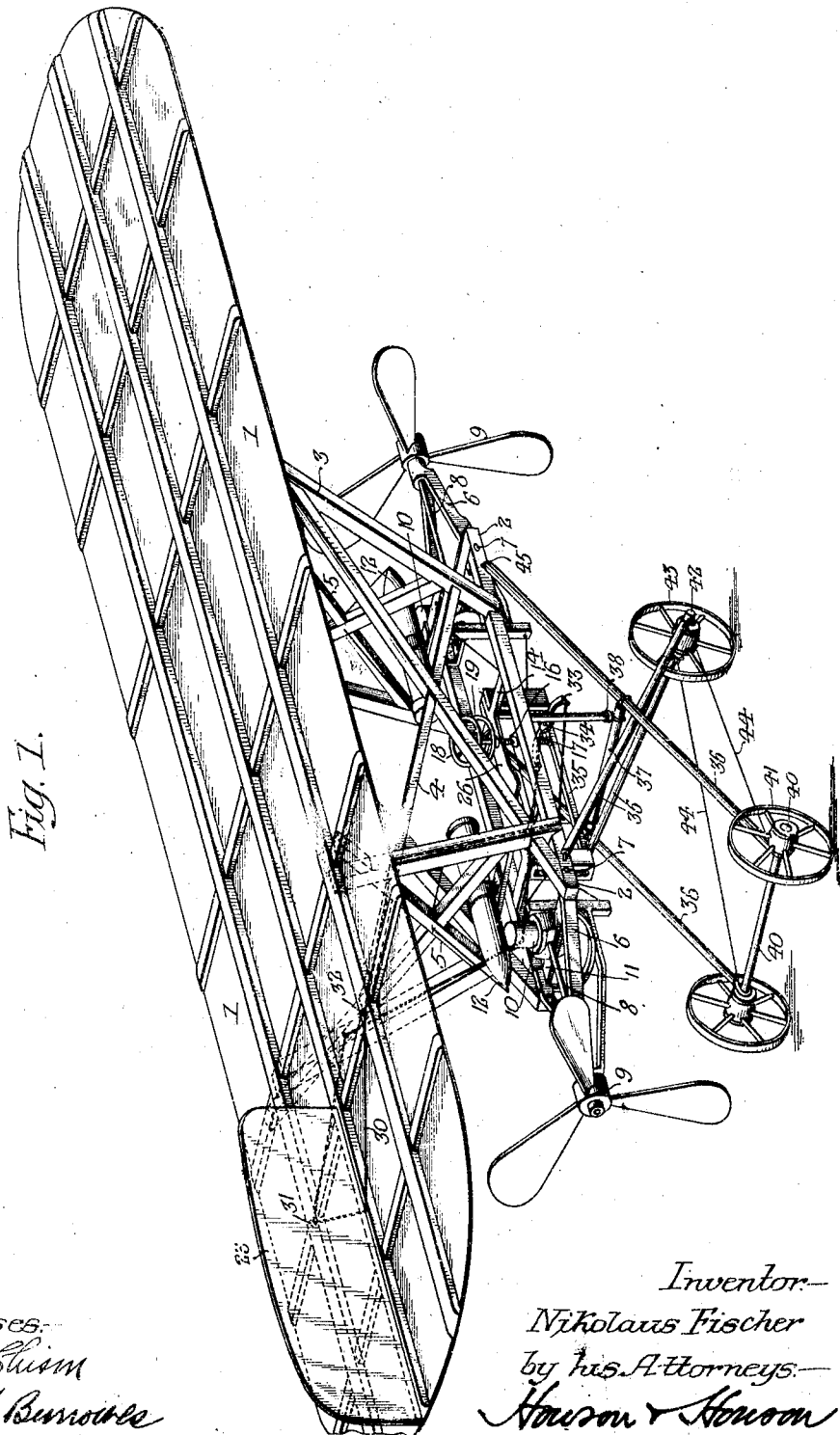
AEROPLANE.

APPLICATION FILED MAR. 10, 1911

1,058,573.

Patented Apr. 8, 1913

3 SHEETS-SHEET 1.



Witnesses:
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Willard A. Bernoulli

Inventor:
Nikolaus Fischer
by his Attorneys:
Harrison & Harrison

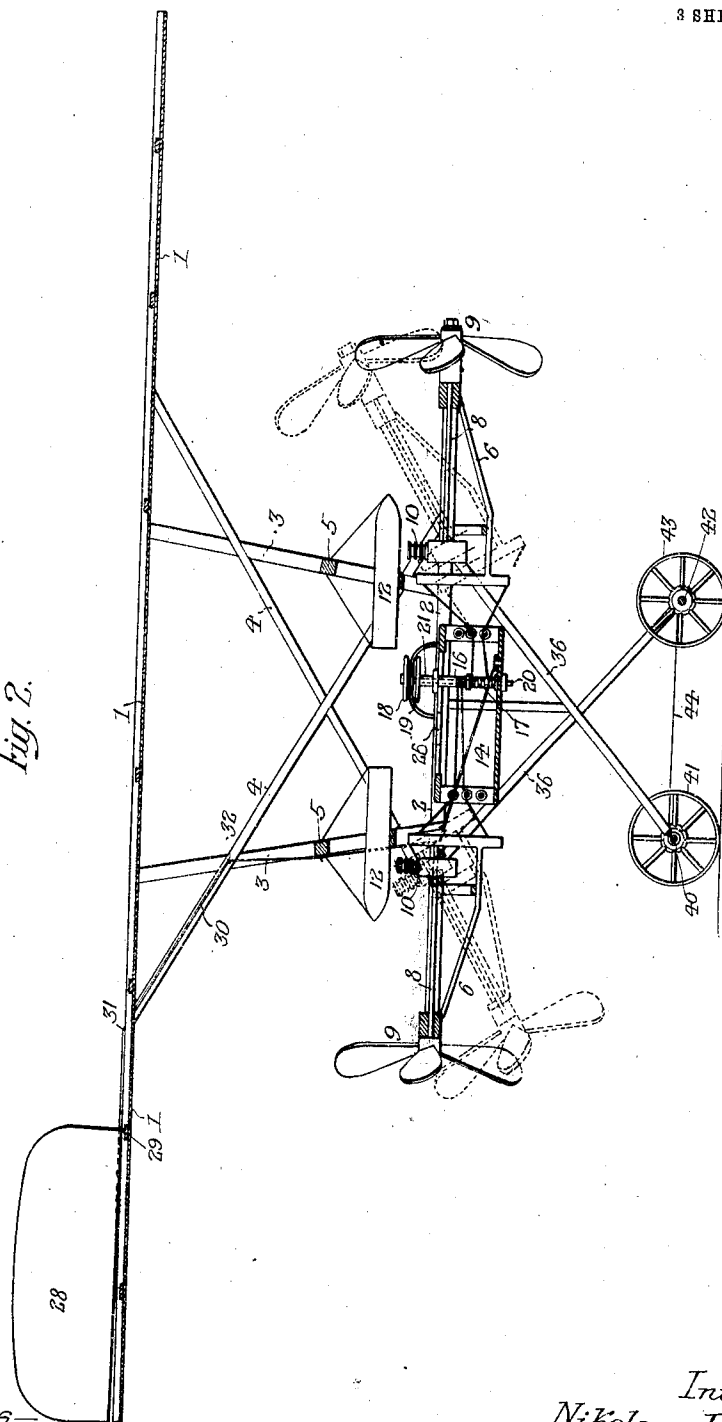
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3 SHEETS-SHEET 2.

Fig. 2.



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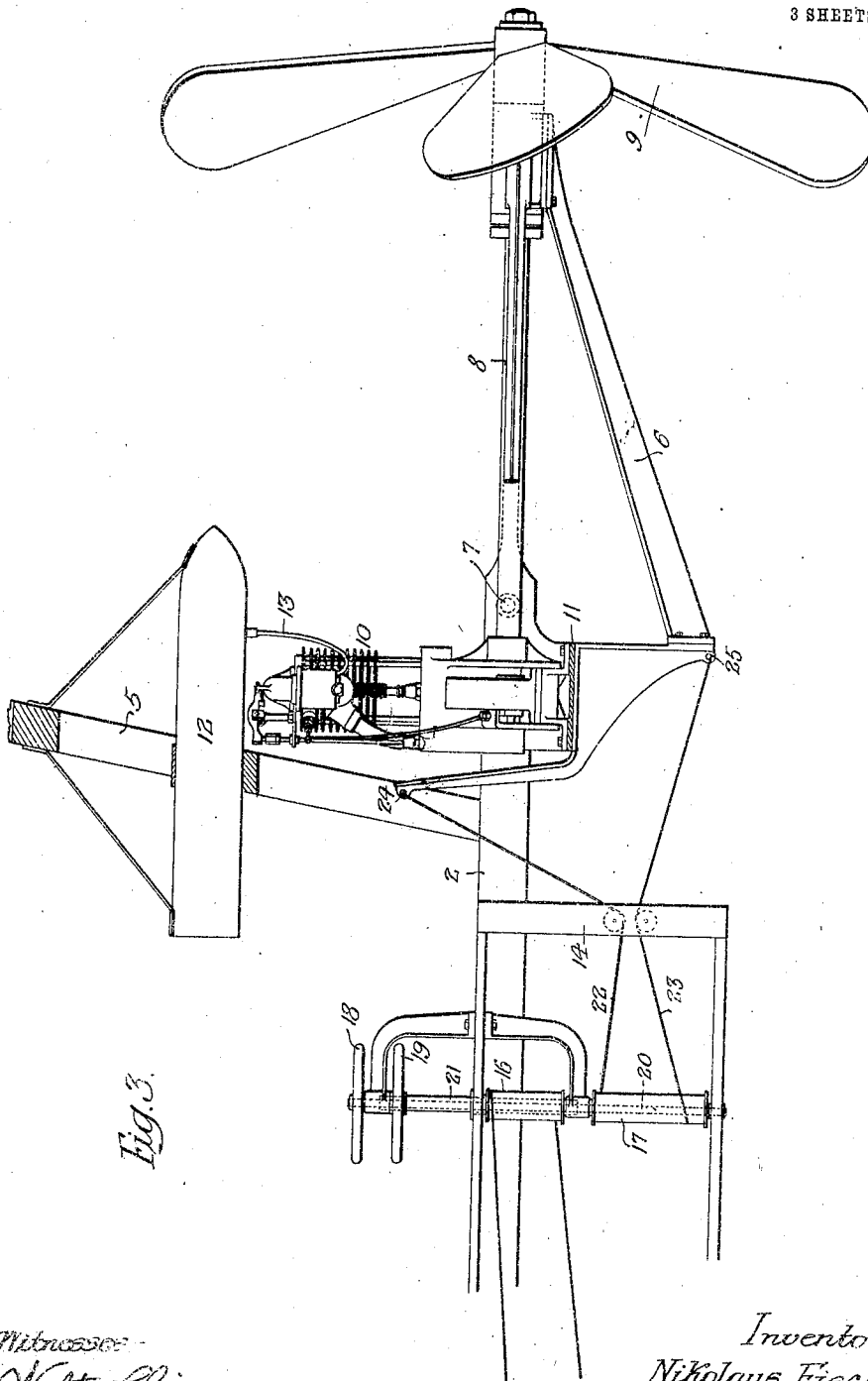


Fig. 3.

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UNITED STATES PATENT OFFICE.

NIKOLAUS FISCHER, OF PHILADELPHIA, PENNSYLVANIA.

AEROPLANE.

1,058,573.

Specification of Letters Patent.

Patented Apr. 8, 1913.

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To all whom it may concern:

Be it known that I, NIKOLAUS FISCHER, a subject of the Emperor of Austria-Hungary, having declared my intentions of becoming a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Aeroplanes, of which the following is a specification.

My invention relates to flying machines of the heavier-than-air type, and one object of my invention is to provide an aeroplane with means whereby the propeller or propellers and the driving means therefor may have their angle of rotative movement with respect to the rest of the aeroplane changed at the will of the operator with a view of assisting ascent or descent as the case may be.

A further object of my invention is to provide a long narrow monoplane structure which is capable of ascent and descent in narrow spaces.

A still further object of my invention is to dispose the weight of the operating means, plus the weight of the operator at such point below the plane as to insure that they will act as a pendulum keeping it always in an upright position, and a still further object of my invention is to provide simple means under direct control of the operator for effecting the tilting movement of the propellers and their driving means at such an angle to the longitudinal line of the structure that ascent and descent can be accomplished in short distances.

These and other features of my invention are more fully pointed out hereinafter, reference being had to the accompanying drawings, in which:

Figure 1, is a perspective view of an aeroplane embodying the features of my invention; Fig. 2, is a side elevation of the same, partly in section, and Fig. 3, is an enlarged side elevation of part of the aeroplane structure illustrating certain details of my invention.

In Fig. 1, 1 represents the plane surface which in this particular instance is a single or monoplane. 2 represents a framework disposed below the plane and upon which it may be supported by diagonal spars or struts 3 suitably braced by cross members,

those at the sides being indicated at 4 and those at the ends being indicated at 5; the whole forming a stiff yet relatively light structure.

At the ends of the horizontal portion 2 of the framing, projecting brackets 6 are provided, which may be pivoted at 7 to the said framing; in which brackets shafts 8 are journaled carrying propellers 9 at the ends of the same; said shafts, extending inwardly from the ends of the structure and being connected to the cranks of suitable motors 10 which may be of the internal explosion type. These motors are carried by cross members 11 connected to the brackets 6.

Above the engines, I may mount suitable gasoline or fuel tanks 12, suitably carried by the framing and these tanks will have proper connection with the cylinders of the motors, for instance by means of a flexible tube 13. The brackets carrying the propellers are preferably rigidly connected to the cross members 11 supporting the engines, as clearly indicated in Fig. 3, and this whole structure is pivotally connected to the side elements of the framework at the points 7.

A supporting structure 14 is carried by the framework; being preferably disposed at the central portion of the same and extending longitudinally of the structure, and this supporting structure carries a pair of drums 16 and 17 having operating wheels 18 and 19, preferably mounted one above the other and provided with ratchet mechanism or other similar holding means; each of said drums being movable independently of the other as desired, or simultaneously if desired. One of said drums is carried by a shaft 20 and the other by a sleeve 21 surrounding said shaft. Connections between said drums and the brackets carrying the sets of motors and propellers may be made by suitable cords or ropes 22 and 23, connected at 24 and 25, respectively, so that upon movement of either one or both of said drums the brackets will be moved on their pivots correspondingly and the propellers and motors will be raised or lowered, as the case may be, as indicated by the dotted lines in Fig. 2.

A seat 26 may be provided for the opera-

tor; being carried by the supporting structure 14 adjacent the controlling wheels 18 and 19.

On the upper surface of the plane I preferably provide a rudder 28, vertically disposed, which may be pivoted at 29, and is preferably provided with controlling cords or ropes 30 extending from a point 31 at the rear of the pivot connection, thence through suitable eyes 32 or around idler pulleys to a foot steering bar 33 pivoted at 34 to a longitudinal bar 35 of the supporting structure 14 below the drums 16 and 17 and within easy reach of the operator so that said rudder may be readily moved by the feet as desired.

The rudder serves to effect changes in the direction of the movement of the aeroplane structure to right or left, while the tilting of the propeller wheels will effect changes in the vertical movements of the same, in ascent or descent, as the case may be.

It will be understood, of course, that both propellers may be shifted in both directions so that sharp changes in ascent and descent may be provided for by shifting one propeller up and the other down and vice versa.

The structure may be mounted upon a suitable wheeled base comprising side rods 36, which may be spaced apart by a bar 37, which is in turn braced and supported by bars 38 depending from the horizontal frame; one pair of said rods 36 extending rearwardly to an axle 40, having wheels 41, while the other pair extends forwardly, and may be connected at their lower ends to an axle 42 carrying a single wheel 43. In addition these rods may be tied together where they pass each other. To prevent spreading of the wheel base fore and aft, the axles 40 and 42 may be connected together by wires or rods 44. The rods of the supporting structure may be and preferably are hooked to the platform or framing 2 of the aeroplane structure as indicated at 45 so that they may be readily unshipped when it is desired to pack the aeroplane.

The aeroplane structure forming the subject of my invention is quite stable, the framing being so located below the plane as to act as a pendulum which effect is enhanced and increased in value by the presence and weight of the operator.

Being narrow, the structure may ascend and descend in narrow places, streets &c., and by reason of the angle which may be given the propelling means the ascent and descent may be quickly accomplished and in short distances.

I claim:

1. The combination, in an aeroplane, of a plane structure, a framing suspended therefrom, brackets pivotally journaled at opposite ends of said framing, propeller wheels,

shafts carrying the same, motors for driving said shafts, said motors, shafts and propellers being carried by the pivotally journaled brackets and movable therewith, a supplemental supporting frame carried by the main framing and interposed between the motors and providing a seat for the operator, a pair of telescoping shafts substantially vertically disposed and journaled in said supplemental frame, drums carried by said shafts, cords connected to the pivotally journaled brackets carrying the driving means and the drums, and means for turning said shafts whereby said cords may be wound on the drums to simultaneously shift the position of both of the pivotally journaled brackets and the driving means carried thereby.

2. The combination, in an aeroplane, of a plane structure, a framing suspended therefrom, brackets journaled at opposite ends of said framing, propeller wheels, shafts carrying the same, motors for driving said shafts, said motors, shafts and propellers being carried by the pivotally journaled brackets and movable therewith, a supplemental supporting frame carried by the main framing and interposed between the motors and providing a seat for the operator, a pair of telescoping shafts substantially vertically disposed and journaled in said supplemental frame, said shafts being independently operable, drums carried by said shafts, cords connected to the pivotally journaled brackets carrying the driving means and said drums, means for operating said drums whereby the cords may be wound thereon to simultaneously shift the position of the pivotally journaled brackets and the driving means carried thereby, a rudder mounted above the plane, a foot lever, and cords connected to the rudder and foot lever whereby movement of said rudder may be effected.

3. The combination, in an aeroplane, of a plane structure, a framing suspended therefrom, brackets journaled at opposite ends of said framing, propeller wheels, shafts carrying the same, motors for driving said shafts, said motors, shafts and propellers being carried by the pivotally journaled brackets and movable therewith, a supplemental supporting frame carried by the main framing and interposed between the motors and providing a seat for the operator, a pair of telescoping shafts substantially vertically disposed and journaled in said supplemental frame, said shafts being independently operable, drums carried by said shafts, independent cords connecting each of the pivotally journaled brackets carrying the driving means with said drums, means for operating either one of said drums whereby its cord may be wound thereon to shift the position of one of the

pivotally journaled brackets and the driving means carried thereby, said means serving also for the simultaneous operation of both drums to shift the position of the brackets and the driving means carried thereby in opposite directions.

In testimony whereof, I have signed my

name to this specification, in the presence of two subscribing witnesses.

NIKOLAUS FISCHER.

Witnesses:

MURRAY C. BOYER,

WM. A. BARR.