

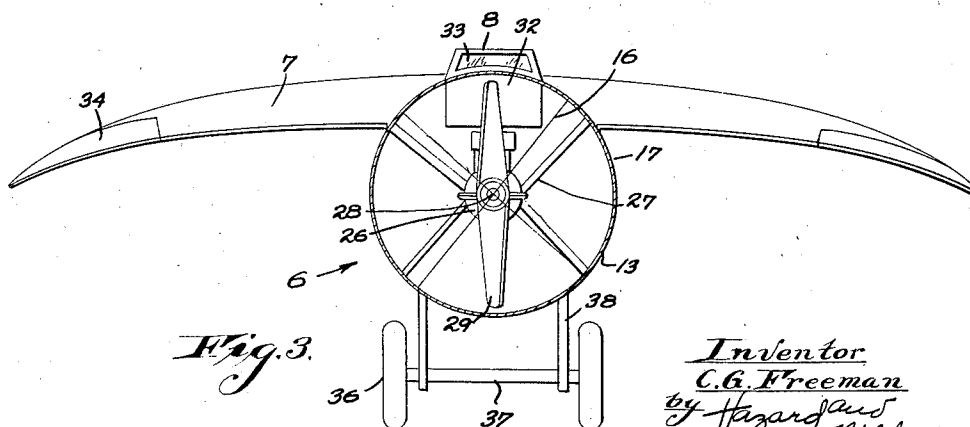
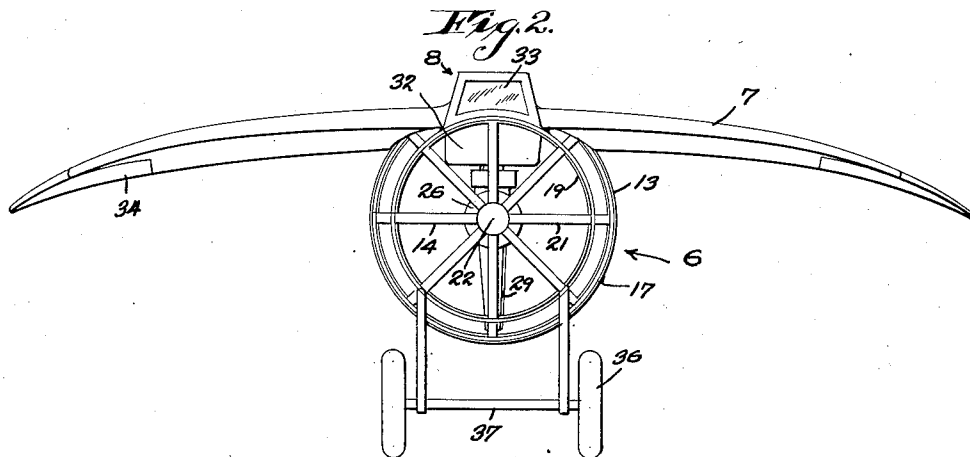
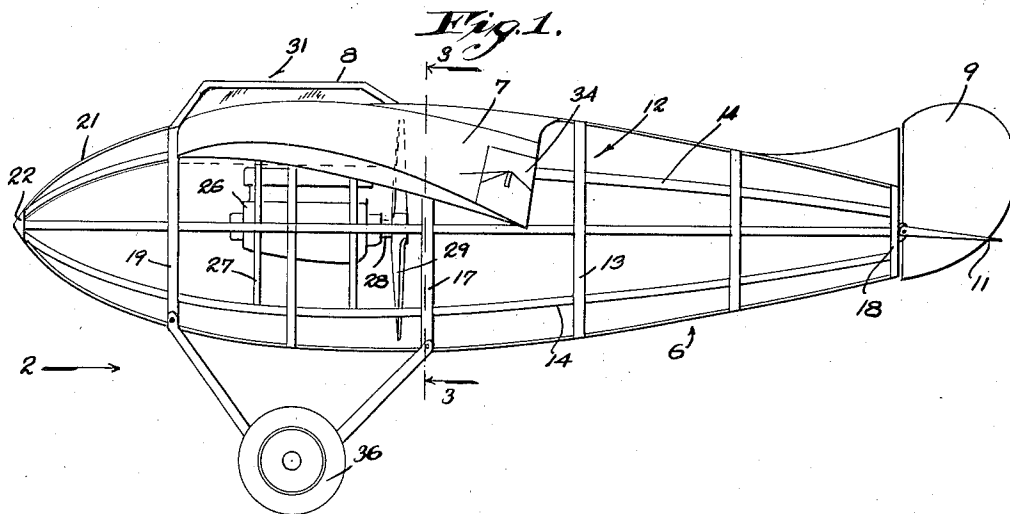
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AEROPLANE

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UNITED STATES PATENT OFFICE

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AEROPLANE

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This invention relates to aircraft, and more particularly to aeroplanes.

An object of the invention is the provision of an efficiently operating aeroplane of unusually simple construction, and yet which is possessed of all the strength, durability, and safety of aeroplanes constructed in the conventional manner.

A more detailed object is the provision of an aeroplane in which the fuselage is in the form of an open framework, with the result that it offers less wind resistance than those wherein the fuselage is covered.

A further object is the provision of an aeroplane in which only the supporting wings or aerofoils, and the direction controlling rudders, are covered, with the consequent reduction in total weight and cost of manufacture, as well as a decrease in air resistance.

A still further object is the provision of an aeroplane of the general class described, in which the propulsion means is mounted inside the open framework of the fuselage. Thus it may be seen that the propeller is surrounded by an open framework affording especial protection to the propeller, as well as to the motor itself, and minimizing the danger of injury by being struck by the whirling propeller.

The invention possesses other objects and advantageous features, some of which, with those enumerated, will be set forth in the following description of the invention's particular embodiment which is illustrated in the drawings accompanying and forming a part of the specification.

Referring to the drawings:

Figure 1 is a side elevation of an aeroplane embodying the principles of my invention.

Fig. 2 is a front elevation, the direction of view being indicated by the arrow 2 of Fig. 1.

Fig. 3 is a vertical, transverse sectional view taken upon the line 3—3 of Fig. 1, with the direction of view as indicated.

In terms of broad inclusion, the aeroplane of the present invention comprises a fuselage or body which is composed of suitably braced longérons, but which is left free of the conventional coverings, and which serves as a support for the wings or aerofoils, and the

vertical and horizontal rudders. The propulsion means, comprising preferably an internal combustion motor and a propeller operatively connected thereto, are disposed inside the open framework of the fuselage.

Specifically describing the preferred embodiment of the invention, my aeroplane comprises a fuselage indicated in its entirety at 6, upon which are mounted laterally extending wings or aerofoils 7, an enclosed cockpit or cabin 8, and vertical and horizontal rudders 9 and 11, respectively. The wings 7, and rudders 9 and 11, are constructed in the conventional manner, being composed of suitable ribs and braces (not shown) covered in any suitable manner, and with any suitable material, as clearly shown on the drawings. The fuselage 6, however, is not covered, and is formed of an open framework 12. This framework 12 comprises a plurality of circular braces or cross members 13, disposed in parallel planes and spaced at suitable intervals throughout the length of the fuselage. These braces 13 are rigidly held in position by a plurality of longérons 14, each of which is rigidly attached to all of the circular cross braces 13, which are preferably held in true circular form in any suitable manner such as by a plurality of wire guys 16.

The circular cross braces 13 are of gradually diminishing diameter from the brace 17 which is slightly forward of the center of the fuselage, toward the furthest aft brace 18; and also from the brace 17 toward the brace 19 which is furthest forward. Furthermore, the longérons 14 are deflected inward as at 21, and are joined at the nose 22 of the aeroplane, with the result that the entire fuselage 6 is roughly cigar-shaped.

Any suitable type of prime mover such as an internal combustion motor 26, is mounted inside the fuselage 6, by means of suitable engine supports 27 rigid with certain of the longérons 14. To the shaft 28 of the motor 26, a propeller 29 is secured, this propeller also being disposed inside the open framework of the fuselage 6.

The cabin or cockpit 8 is mounted in the fuselage 6, preferably above the motor 26.

Preferably the cabin or cockpit 8 is completely enclosed with any suitable material such as prepared fabric 32, with the upper, forward, and side portions, having inserts 33 of glass, or other suitable transparent material.

The controls for the motor 26, rudders 9 and 11, and ailerons 34 which are conveniently mounted in the wings 7, are properly disposed within the cockpit 8.

Landing gear comprising wheels 36 mounted on an axle 37, is secured to the under side of the fuselage 6, by a plurality of struts 38. Preferably the axle 37 is disposed directly below the motor 26 and cabin 8, with the result that the center of gravity of the entire craft, is only slightly aft of the points of support of the aeroplane when resting upon the landing gear.

It is believed obvious that because of the open nature of the fuselage 6, less wind resistance will be encountered during flight, than when the fuselage 6 is covered as in the case of the conventionally constructed aeroplane. Maneuvering of the craft, both during flight and when upon the ground, is in all respects, the same as with the conventional aeroplane, by the proper manipulation of the rudders 9 and 11, and ailerons 34, in a manner readily understood. Furthermore, in view of the elimination of the covering for the fuselage, a material decrease in the total weight of the aircraft, has been effected by employing the principles of my invention.

It is to be understood that the details of the invention as herein disclosed, are subject to alteration within the spirit or scope of the appended claims.

I claim:

1. In an aeroplane, a fuselage comprising an open fusiform framework, and propulsion means mounted completely inside said fuselage.

2. In an aeroplane, a fuselage comprising an open fusiform framework, wings extending laterally therefrom, propulsion means disposed completely inside said fuselage, and means for controlling the direction of movement of the aeroplane.

3. In an aeroplane, an open fuselage comprising a plurality of spaced circular braces and longérons secured thereto retaining the braces in parallel planes, wings extending laterally therefrom, a propeller and driving means therefor, said propeller and driving means being disposed inside said fuselage, and means for controlling the direction of movement of the aeroplane.

4. In an aeroplane, an open fuselage comprising a plurality of spaced circular braces and longérons secured thereto retaining the braces in parallel planes, said longérons converging toward each other at each end of said fuselage, wings extending laterally therefrom, a motor and a propeller coupled there-

to, said motor and propeller being disposed inside said fuselage, and means for controlling the direction of movement of the aeroplane.

In testimony whereof I have signed my name to this specification.

CLARENCE G. FREEMAN.

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