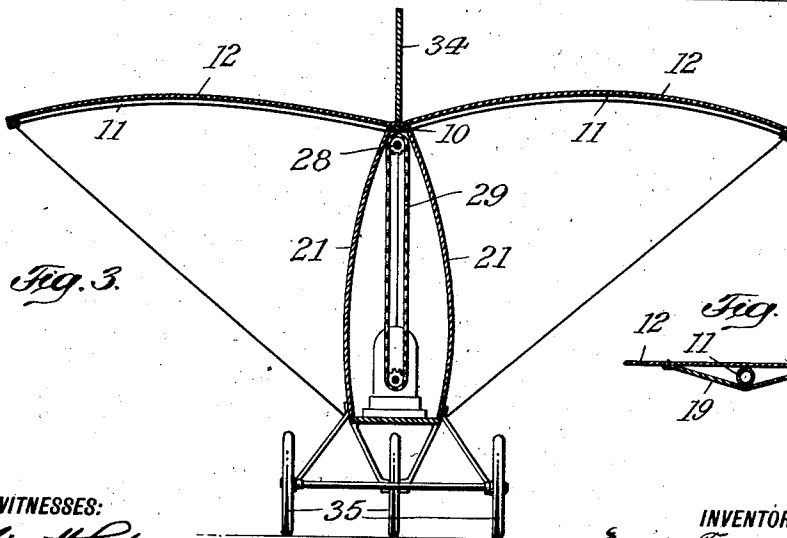
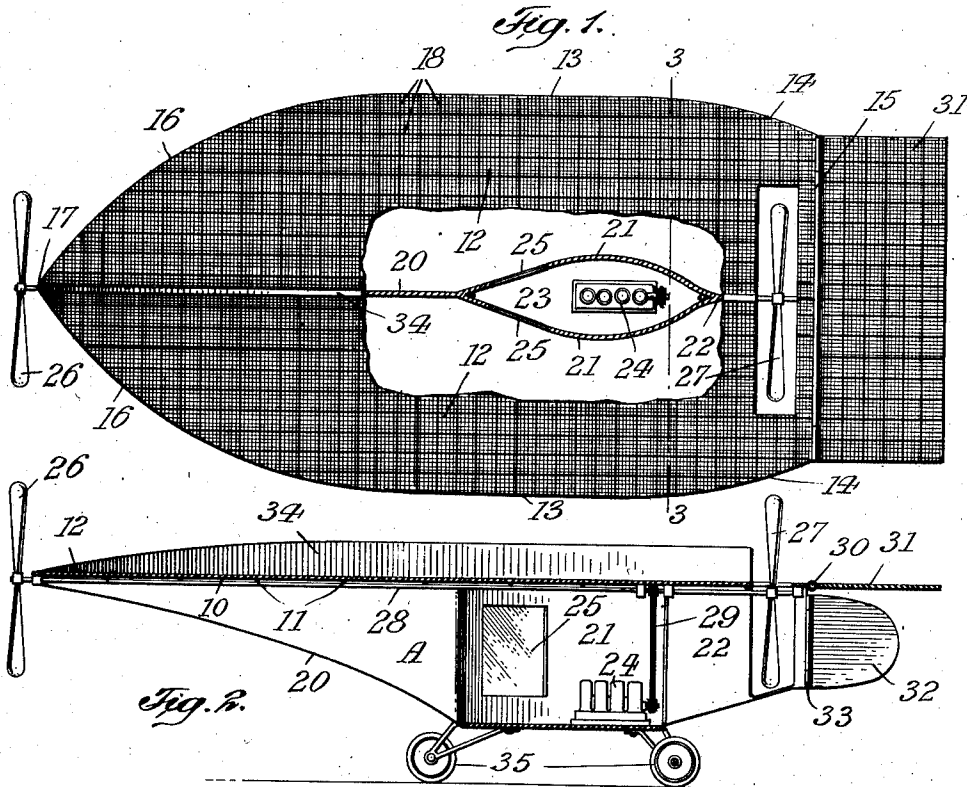


E. F. VON DREDEN & H. R. HOFMANN.
FLYING MACHINE.

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1,043,079.

Patented Nov. 5, 1912.



WITNESSES:

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ERNEST F. VON DREDEN AND HERBERT R. HOFMANN, OF NEW YORK, N. Y.

FLYING-MACHINE.

1,043,079.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed April 27, 1911. Serial No. 623,738.

To all whom it may concern:

Be it known that we, ERNEST F. VON DREDEN and HERBERT R. HOFMANN, both citizens of Germany, and residing at New York city, county and State of New York, have jointly invented a new and Improved Flying-Machine, of which the following is a specification.

This invention relates to a flying machine of the monoplane type which is adapted to readily cut through the air and is effectively protected against tilting. For this purpose the machine is made of elongated form with a pointed bow and is propelled in the line of its major axis, while a longitudinal fin and web extending along the top and bottom of the plane respectively serve to counterbalance lateral air pressure.

The invention also comprises various other features of novelty hereinafter more fully pointed out.

In the accompanying drawing: Figure 1 is a plan partly broken away and partly in section of a flying machine embodying our invention; Fig. 2 a sectional side elevation thereof; Fig. 3 an enlarged vertical cross section on line 3—3, Fig. 1; Fig. 4 a cross section through the covering, and Fig. 5 a cross section through a connection between frame and covering.

The frame of the flying machine comprises essentially an upper longitudinal rod 10 from each side of which extend laterally a plurality of arched ribs 11. These ribs constitute the supports for the carrying planes 12 which thus form a pair of wings having the configuration more fully shown in Fig. 1. That is to say the covering has parallel sides 13, slightly converging rear edges 14, a square back 15, a curved prow 16 and a sharp bow 17. By this peculiar form the flying machine cuts readily through the air while at the same time objectionable back suction is prevented.

The covering 12 is composed of a textile fabric woven with threads spun from the ramie fiber and possessing marked advantages over the canvas or similar coverings hitherto generally used. It does not absorb water, but readily sheds the same, does not shrink and being very smooth passes freely through the air similar to a bird's wing. It is preferred to reinforce the covering by interwoven strengthening threads or wires 18 interposed between groups of warp threads and also between groups of weft

threads. So also the fabric may be impregnated by a suitable fire proofing solution if desired. The covering 12 is secured to ribs 11 by a plurality of bottom strips 19 also made of ramie and secured to the main body of the covering at the right and left of each rib in such a way that each strip slopes uniformly from the center of the rib toward both edges, as more fully shown in Fig. 5. In this way each rib is pocketed while the sloping sides of the strips decrease the resistance against air pressure during flying, and at the same time prevent objectionable back suction.

From rod 10 depends a web A which is also made of ramie and is of the peculiar form shown in Figs. 1 and 2. This web is composed of a pointed front section 20, a pair of bulged central sections 21, and a tapering rear section 22. The bulged central sections 21 are so spaced as to form a cage 23 for the accommodation of the aviator driving motor 24, etc. The converging front portions of central sections 21 are provided with windows 25 made of isinglass. The front and rear propellers 26, 27 are mounted on a shaft 28 and are operated from motor 24 by a suitable chain drive 29. The rear propeller 27 is accommodated within a corresponding opening of covering 12 and web A. Back of propeller 27 there is hinged at 30 to the frame of square back 15 a horizontal rudder 31, while a vertical rudder 32 is hinged at 33 at the rear of web A.

For steadying purposes, there extends centrally over the covering 12, a longitudinal fin 34 having a pointed front end. This fin serves to counteract the pressure of side winds against web A, so that tilting of the air ship is prevented.

For starting and launching the flying machine, it is provided with runners or wheels 35 as usual.

It will be seen that the air ship constructed as described is of simple construction, offers a minimum resistance to the air and is not liable to tilt or get out of order. Furthermore the peculiar construction of the carrying plane materially increases the serviceability of the flying machine, as it is not liable to sag, rip, shrink or become water soaked.

We claim:

1. A flying machine comprising a frame, an oblong carrying plane supported there-

by and having an arched pointed bow and a contracted squared stern, and a web depending from said plane, said web being composed of a single front section, a pair of spaced central sections forming an intervening cabin, and a single rear section.

2. A flying machine comprising a frame, an oblong carrying plane supported thereby and having an arched pointed bow and a contracted apertured stern, a fin extending longitudinally over said plane, a web depending from the plane and formed of a pointed single front section, a pair of spaced central sections, and an apertured rear section, and a propeller accommodated within the apertures of the carrying plane and web.

3. A flying machine provided with a frame having a plurality of transverse ribs, a textile carrying plane extending over the same, and a plurality of transverse strips extending beneath the ribs from end to end and secured to the plane at a substantial distance from the ribs to form sides that slope uniformly from the center of the ribs to the outer edges of the strips, whereby the air is evenly deflected from the ribs during action.

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