

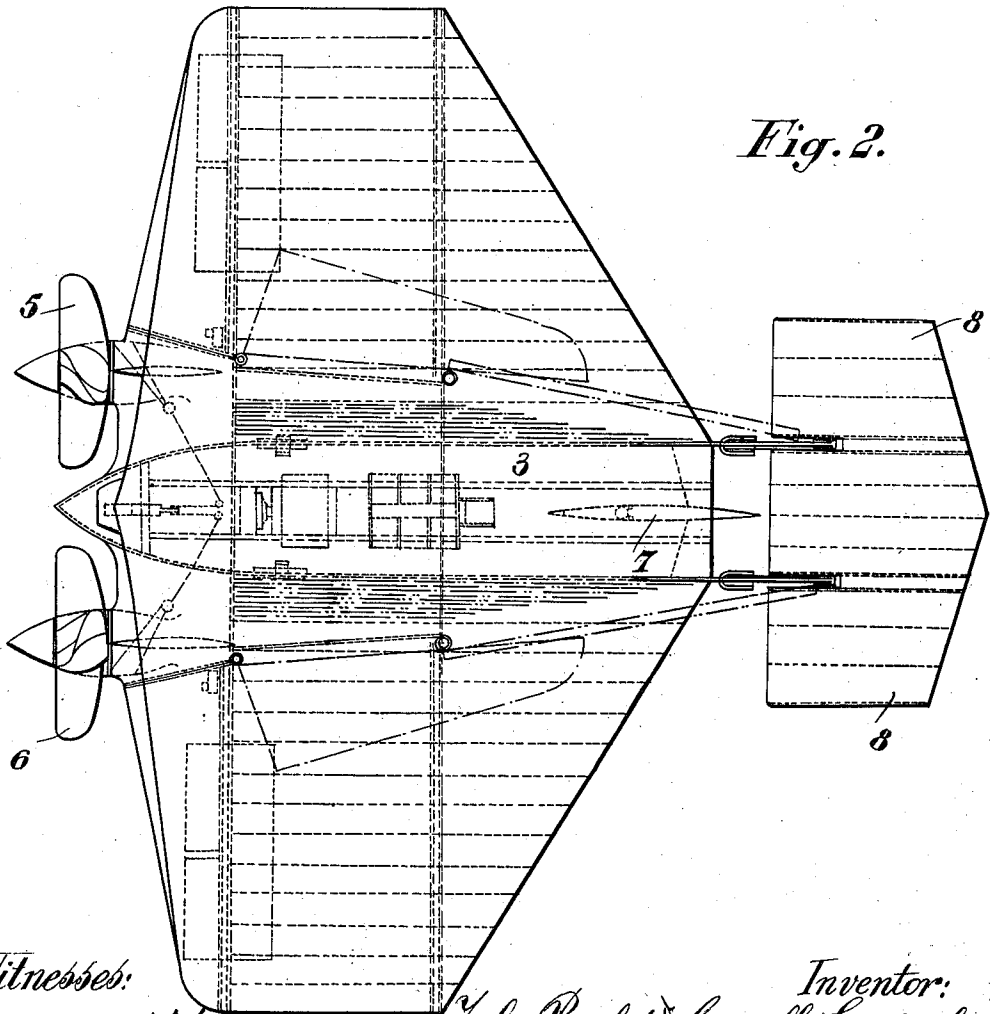
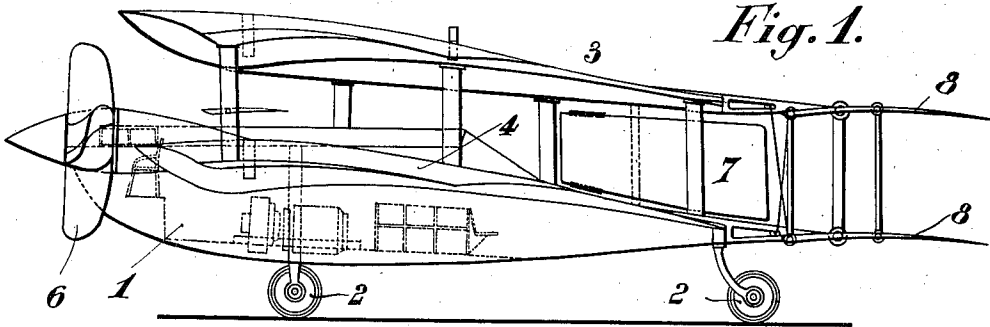
J. RACLOT & C. ENDERLIN.
FLYING MACHINE.

APPLICATION FILED MAY 18, 1911.

Patented Apr. 9, 1912.

3 SHEETS—SHEET 1.

1,023,096.



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3 SHEETS—SHEET 2.

Fig. 3.

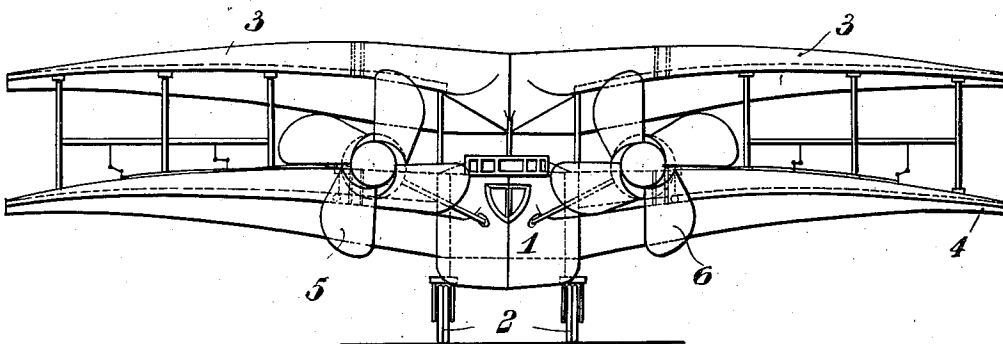
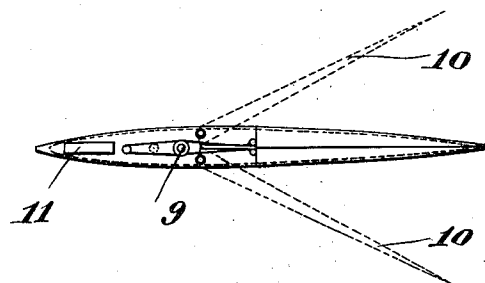


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5.

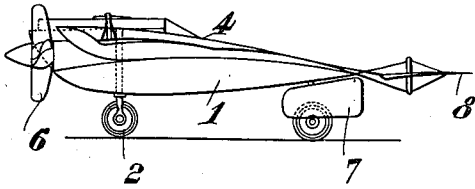


Fig. 7.

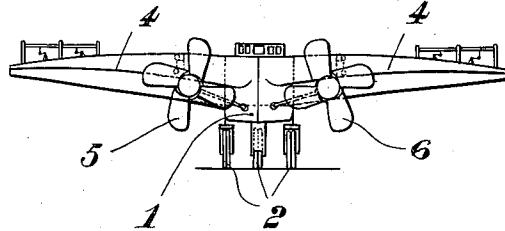


Fig. 6.

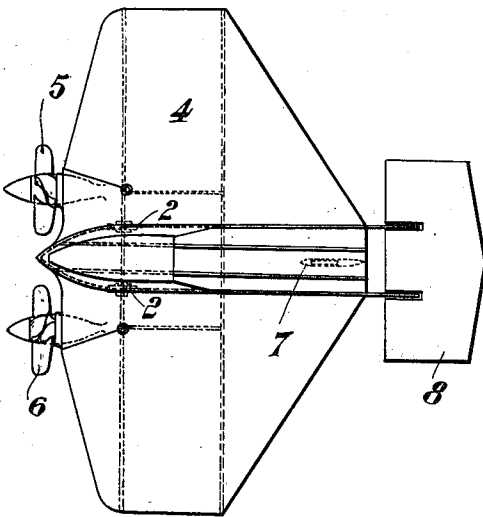
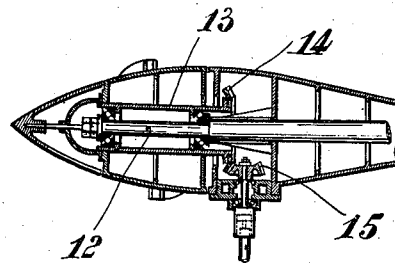


Fig. 8.



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UNITED STATES PATENT OFFICE.

JULES RACLOT AND CAMILLE ENDERLIN, OF ST. MAUR-DES-FOSSÉS, FRANCE.

FLYING-MACHINE.

1,023,096.

Specification of Letters Patent.

Patented Apr. 9, 1912.

Original application filed May 2, 1910, Serial No. 558,753. Divided and this application filed May 18, 1911.
Serial No. 628,119.

To all whom it may concern:

Be it known that we, JULES RACLOT and CAMILLE ENDERLIN, both citizens of the Republic of France, and residents of St. Maur-des-Fossés, Seine, France, have invented certain new and useful Improvements in Flying-Machines, of which the following is a specification.

This invention relates to a flying machine and more especially to flying machines of the kind described in our application No. 558,753 of which the present application is a division.

The object of this invention is to provide a flying machine with one or more superposed supporting surfaces, characterized by the following main points: 1°.—The screw propellers are mounted in such a manner that the air be forced under the supporting surfaces and they carry the driven gears as part of their hubs. 2°.—The vertical rudder comprises two wings which may be opened like screens round a vertical shaft so as to produce a great resistance to the forward propulsion; this arrangement combined with the forcing of the air under the supporting surfaces by the screw propellers, allow the apparatus to rise nearly vertically.

The accompanying drawings show by way of example several forms of embodiment of the flying machine which forms the subject matter of this invention and in these drawings: Figure 1 is a side elevation view showing the whole apparatus, constructed as a double deck aeroplane, unfolded and ready for starting. Fig. 2 is a top plan view of same. Fig. 3 shows it in front elevation of same. Fig. 4 is a top detail view of the vertical rudder. Fig. 5 is a side elevation view showing the ensemble of a flying machine constructed in the form of a single deck aeroplane according to the present invention. Fig. 6 is a top plan view of same. Fig. 7 shows a front elevation view. Fig. 8 is a horizontal view section showing the mounting of the transmission gear of the screw propeller.

In the form of embodiment shown by Figs. 1 to 3 the flying machine comprises a car or body 1 mounted on four wheels 2 and provided in the usual manner with two superposed, spaced supporting planes 3 and 4. In front of the latter are mounted the two propellers 5 and 6 which are positioned

in such a manner that they force the air under the said planes.

The vertical rudder 7 of the machine is positioned behind the car, and in front of the horizontal rudder 8. As clearly shown by Fig. 4, this horizontal rudder which is adapted to oscillate round the vertical shaft 9 is provided with two vertical hinges round which two screens 10 are adapted to oscillate these screens being shown in an opened condition by dotted lines and being normally closed by springs 11 acting on pulleys. Cables which are directly actuated by the pulleys allow of the rear part of the rudder to be unfolded so as to oppose a great resistance to the propulsion of the apparatus.

The shaft of oscillation 9 of the entire rudder is arranged in such a manner that the latter is relatively balanced. The propelling screws 5 and 6 are mounted on the two front arms of the car. The shafts 12 on which these screws rotate (Fig. 8) are stationary and tubular and the hubs 13 of the screws rotate freely on said shafts under the action of a large beveled wheel 14 meshing with a small beveled gear wheel 15 rotating at the same speed as the motor. The small pinion 15 is mounted into a removable plug serving as a bearing and allowing of an easy and rapid taking into pieces. The reduction of speed is thus performed on the hub of the screw propeller itself whereby the transmission gear becomes lighter while complicated torsional tractional and flexional strains are done away with which ordinarily takes place in transmission gears of this kind. The transmission gear is provided in this case with universal or knuckle joints.

The function of the apparatus will be readily understood with the aid of the preceding specification. It will be observed however that owing to the fact that the propellers 5 and 6 force the air directly under the carrying planes and that the vertical rudder 7 may be positioned so as to oppose a great resistance to the propulsion, the apparatus will be able to rise nearly on its standing place. It will be sufficient to this end to have a motive power which be sufficient to impart to the apparatus a speed which is the double of that necessary to the sustaining.

The apparatus described may be con-

structed in the form of a single deck aeroplane or comprise more than two superposed carrying planes showing all the same characteristic features.

5 Figs. 5, 6 and 7 show the general aspect of a single deck aeroplane. The reference numerals designate therein the same members as the corresponding numerals of the other figures.

10 Having now fully described our said invention, what we claim and desire to secure by Letters Patent, is:

1. A vertical rudder for aeroplanes, comprising an approximately oval-shaped body
15 pivotally mounted for bodily movement on the line of its maximum minor dimension, said body being longitudinally divided in rear of said pivot to provide sections and means for pivotally mounting said sections
20 with relation to the body.

2. A vertical rudder for aeroplanes, comprising an approximately oval-shaped body pivotally mounted for bodily movement on the line of its maximum minor dimension,

said body being longitudinally divided in 25 rear of said pivot to provide sections, and means for pivotally mounting said sections with relation to the body, and means for simultaneously operating said sections.

3. A vertical rudder for aeroplanes, comprising a body having its side walls converging forwardly and rearwardly from a transverse line in advance of the longitudinal center of the body, a pivotal connection for the body as an entirety arranged on said 35 maximum transverse line, said body being divided on the longitudinal central line in rear of said pivot to form sections, and means for pivotally mounting each of said sections. 40

In testimony whereof we have hereunto set our hands in presence of two witnesses.

JULES RACLOT.
CAMILLE ENDERLIN.

Witnesses:

H. C. COXE,
JOHN BAKER.