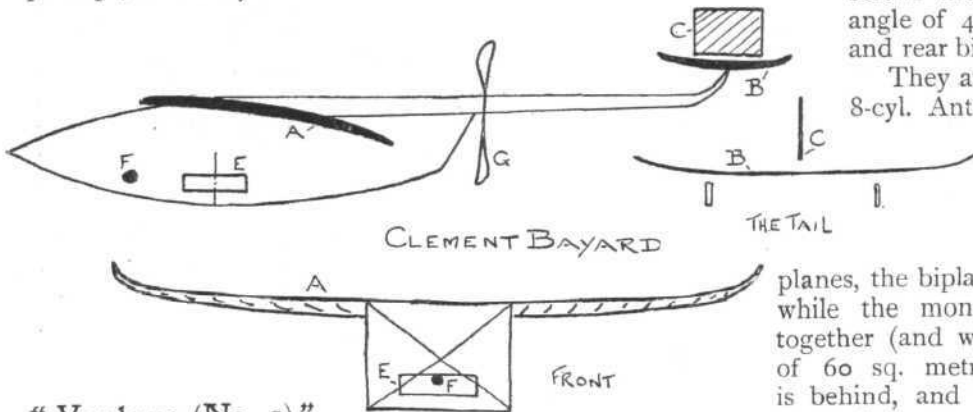


warp the same way at the same extremity of the machine, but opposite extremities move in contrary directions. The front edges of both planes are unaffected except, perhaps, indirectly.



CLEMENT BAYARD

"Breguet-Richet (No. 2)."

Helicopter-aeroplane, combining the principles of the lifting screw with the aeroplane pure and simple. The screws are two in number, and are placed at an angle of 40 degs. to the vertical between the front and rear biplanes.

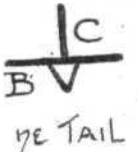
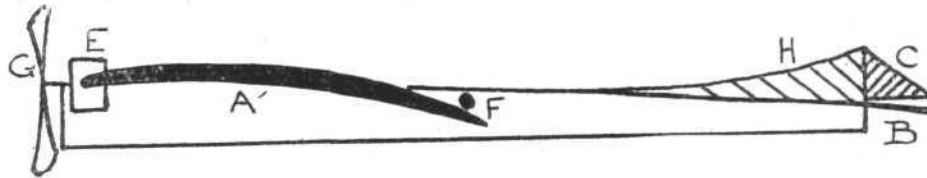
They are driven by bevel gearing from a 50-h.p. 8-cyl. Antoinette engine placed transversely, and are stated to give a starting lift of 300 kilogs. with a horizontal pull of 250 kilogs. at 300 r.p.m. Each screw has four flexible blades, and is 4.3 metres in diameter. Of the two main

planes, the biplane at the rear has a spread of 14 metres, while the monoplane in front is 10 metres across; together (and with a few other smaller planes) a total of 60 sq. metres surface is provided. The rudder is behind, and the elevator in front beneath the fixed monoplane.

Between the main plane are two horizontal steering planes, which twist in an inverse sense, and are controlled by a pedal. The machine weighs 550 kilogs., and has been constructed at Douai by M. Breguet; its frame is made entirely of steel. It is very large, and looks cumbersome, but is not very heavy for its dimensions.

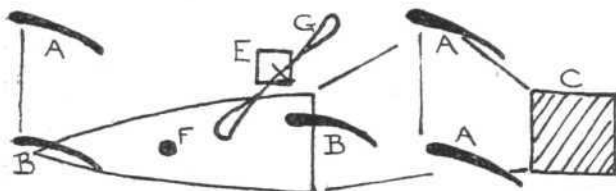
"Vendome (No. 2)."

Monoplane of birdlike appearance, constructed by M. Vendome. It is peculiar for its method of control. Two independent levers are used to warp the main wings either in the same or contrary sense, according as it is wished to ascend or steer. Quick steering is effected by pedal control of steering-tips superposed on the extremities of the main wings. At the rear is an elevator-tail set by a third lever. The tractor-screw is in front, direct-driven by a 3-cyl. Anzani engine.



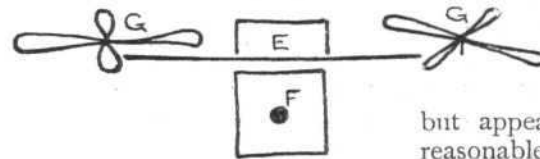
"Clement-Bayard."

Monoplane designed by M. Tatin and built by M. Chauviere for Messrs. Clement-Bayard, the well-known firm of automobile engineers, who have equipped it with an entirely novel type of engine made by themselves, which was illustrated in *The Automotor Journal* of December 26th, 1908, p. 1694. It is a remarkably



Side View

BREGUET No 2

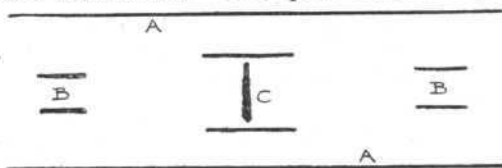


The Screws

"Voisin-Farman No. 1."

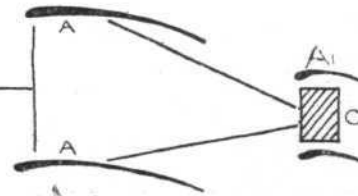
Biplane constructed by Voisin Frères on the lines of "Farman No. 1," and equipped with a dummy pilot to give reality to its setting over the grand staircase, where it looks for all the world as if about to fly off from the balusters. The general lines of this machine are the same as the "Delagrangé," and it presents the same workmanlike appearance which is characterising the Voisin productions. It is neither clumsily heavy nor flimsily light, but appears to have just a reasonable degree of rigidity which does the builders credit for their judgment in design.

substantial-looking machine, and a peculiar feature of its construction is the upward curvature of the tips of the main wings. All surfaces are covered with a light-coloured varnished silk, which looks at first glance like aluminium. The pilot sits in the bows, and the



Front View

LEJEUNE No 1



Side View

"Lejeune (No. 1)."

Biplane constructed by Messrs. Pischoff and Koechlin, of Billancourt, for M. Lejeune. It is a feeble looking job in bamboo and unvarnished linen, but is designed a little after the lines of the Wright machine in general appearance, although the controlling planes are quite different. There are two double elevators in front, situate some way apart, and a simple vertical rudder behind enclosed in a box-kite tail à la Voisin. The whole apparatus only weighs 150 kilogs., and is equipped with but a 12-h.p. 3-cyl. Buchet engine. The Wright system of chain transmission with twin propellers is used.

planes are attached to the centre of the girder frame. Carried by long wooden beams stretching out far behind is the elevator and rudder.