

Hops and Flights

A Roll Call of Early Powered Take-offs

By CHARLES H. GIBBS-SMITH

M.A.(Harvard), F.R.S.A., F.M.A., Comp.R.Ae.S.

THIS is, we believe, the first time that a comprehensive account of the take-offs—and some failures—of the first powered aeroplanes has been published. It has been contributed by a historian, and results from the research undertaken for his work (to be published in the autumn by the Science Museum), entitled “The Aeroplane: An Historical Survey of its Origins and Development.”

IN this article are recorded what I believe to be the most important of the early powered take-offs—along with some interesting claims and one or two myths—which took place from about 1874 up to 1907 in America and on the Continent, and up to 1909 in Britain. Also included is the newly determined first passenger flight in 1908, as well as the results of other new research. The figures cited are the most authentic that can be found. This “roll-call” is revealing in many ways, but it becomes particularly interesting if viewed against the human background of effort, achievement, and lack of achievement.

In view of the fruitful development of petrol engine technology, aerodynamics, and glider pilotage by the close of the 19th century it was to be expected that all the threads would soon be gathered into the hands of someone who would arise and transform the “aeroplane dream” into a practical reality. As everyone knows, this was done by the Wrights, who built their first man-carrying glider in 1900, and by 1905 had achieved a fully practical powered aeroplane which could bank, turn, make circuits and figures-of-eight with ease, and remain in the air for over half an hour at a time. But, once arrived at this point, we are faced with one of the most extraordinary multiple mysteries of technological history. For no other man—or company of men—came even within shouting-distance of the Wrights; and this in spite of the vast resources of technical knowledge, the large amount of published work on aeronautics (including accounts of the Wrights’ gliders), personal talent, and enterprise, that then lay in the lap of Europe. It is well-nigh incredible that until November 1907 no individual or group in Europe managed to evolve an aeroplane in which a man could stay in the air for even one single minute. Even more incredible—in the land which invented the modern aeroplane, the land of Cayley, Wenham, Phillips and Pilcher—we could not produce a native-born citizen to build and fly an aeroplane for sixty consecutive seconds until December of 1909. In the light of this fiasco, the death of Percy Pilcher in 1899—on the eve of his powered experiments—appears to us now as certainly the greatest single tragedy in British aeronautical history. But our job here is to write history, not to bemoan it.

The criteria of powered flight must remain to some extent a matter of opinion; but it is a clear indication of misplaced—if understandable—loyalty, or of a lack of historical integrity, to claim as flights those performances which consist of accelerating along the ground and then leaping two or three times the length of a cricket pitch in a matter of two or three seconds. In this connection it is salutary to remember that, in July 1921, near Paris, M. G. Poulain took off and was airborne for 40ft (12.3 m) when riding a pedal cycle equipped with wings—he called it an *aviette*—relying solely on his momentum and the sudden tilting of his wings from the horizontal to an angle of incidence of about 6 deg.

Flight, to be so in any mature sense of the word, must not only be sustained beyond doubt, but controlled beyond doubt. Here the distance through the air (if there is a wind), and the duration of the flight, should always be taken into account. In the later tests—1906 and after—the considerable and rapidly growing body of aeronautical knowledge must also be considered when assessing a claim.

Finally, one cannot overemphasize the fact that it is actual concrete achievement, rather than mere effort—however com-

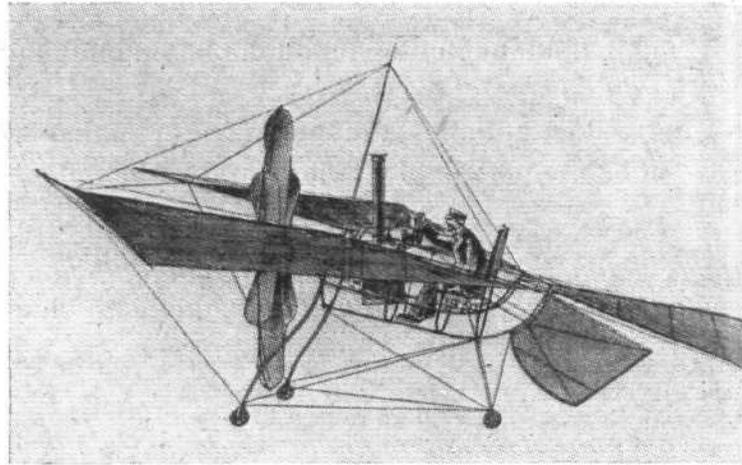


Fig. 1. Approximate configuration of F. Du Temple's man-carrying powered machine, circa 1874

mendable—that must count in history. In the cases recorded below, the difference between effort and achievement will, I think, be evident enough.

c.1874. Félix Du Temple (French). Charles Dollfus informs me that there is now no doubt that Du Temple, who flew the world's first successful powered model aeroplane about 1857, completed and had tested (with a young sailor as pilot) his patented man-carrying aeroplane (Fig. 1) about the year 1874; that it took off down an inclined ramp at Brest, and was airborne for a short while in what Dollfus calls a “short hop or leap.” The machine was powered by a hot-air engine. This is, therefore, the first take-off in history of a powered man-carrying aeroplane, but not solely under its own power.

1882 (July). I. N. Golubev on A. F. Mozhaiki's machine (Russian). Some—but not all—modern Soviet authorities claim that this steam-driven monoplane, with one tractor and two pusher propellers, made a short “flight” of 65-98ft (20-30 m) in July 1882; but even the supporters of the claim agree that the machine was given an accelerated take-off down a “ski-jump” ramp.

1890 (October 9). Clément Ader (French). Ader took off unassisted in his steam-powered *Eole* at Armainvilliers, and was airborne for “about 50 metres” (164ft). This *tentative*, as Ader himself called it, was a “very brief and not a sustained flight,” in Charles Dollfus’ words; but it is fair to say that it was the first take-off of a powered aeroplane solely under its own power. For the 1897 tests, see below.

1894. Sir Hiram Maxim (British, formerly American). Maxim's huge steam-driven aeroplane was tested at Baldwyns Park, Kent, in 1894, when it ran on rails, with upper guard-rails to confine it should it develop enough lift. With three on board, it did lift itself off the ground rails, but almost immediately fouled and broke the upper guard-rails, and was stopped by its pilot. This has occasionally, and frivolously, been claimed as a flight. A glance at the primitive control-system shows that it was a wise decision not to test the machine in a free take-off. Maxim abandoned this 1894 giant immediately after the crash, and did not build a “proper” aeroplane until his much-heralded machine of 1910: this, however, never left the ground.

1897 (October). Clément Ader (French). With his twin-engine and twin-propeller *Avion III* Ader made two tests, on October 12 and 14, 1897, at Satory, watched by official witnesses of the highest integrity (*vide* the reports). It used often to be said that on October 14 the machine made a few hops, but an examination of the detailed eyewitness reports shows clearly that on neither date did it ever leave the ground for an instant. In a classic and pathetic case of what might be called wishful remembering, Ader later claimed that on October 14 he had flown for 300 m (984ft);

Fig. 2. Karl Jatho's machine of 1903, with which he made powered hops

