

Brothers Armand and Henri Dufaux were the sort of artist/engineer/inventors one finds all over the world in the late 1800s, when motorized transport was a field open to anyone with an idea for making wheels or wings move. As no ‘pattern’ or ‘best practices’ had been settled in the fields of autos, motorcycles, or planes, in their mechanical function, principles of physics, or their motive power, inspiration and weeks of labor in a workshop might result in the founding of an empire, or a whole new genre of transportation.



Born in France (Chens sur Léman), the sons of Baroness de Rochefort Luçay, Henri (b. Sep 18, 1879) was a talented painter, studying at the [Ecole des Beaux Arts in Paris](#), Florence, and Geneva. Armand (b. Jan 13, 1883) studied mechanical engineering, and by 1898 the brothers had built their first clip-on engine for a bicycle. A year later they founded HADF (Henri Armand Dufaux Brothers) with Francis and Edward Cuillery Demole, based in Carouge, a suburb of Geneva. The Dufaux brothers, while French, had long family ties with Switzerland, and Geneva specifically, as their grandfather Henri Rochefort took refuge there after escaping exile (as immortalized by Manet) by Napoleon III during the Second Empire of France, for demanding restoration of the free press, and democratic life in general.



Escaping tyranny by rowboat: the Dufaux's grandfather Henri Rochefort immortalized by Edouard Manet in 1881.

In 1898 the brothers Dufaux designed their first light motorcycle engine, which could be attached to a bicycle. By 1900 they patented a 1/4hp motor, which could propel a bicycle to 21km/h. The brothers were naturally interested in competition, and Armand won his first motorcycle race at Clement-St-Cergues in 1901. The name 'Motosacoche' (literally, 'engine in a bag') appeared on their work in 1903, and was coined from their enclosure of their clip-on bicycle engine within a metal

shroud. Motosacoche Dufaux and Co. (MSADC), a public company, was established in 1905, with a further factory shortly built in Turin (Societa Meccanica Italio-Ginevrina – est. 1908), and another satellite factory in Lyon. Clearly the little engines were popular!



The Motosacoche; a small engine unit within a metal shroud, attachable to any standard bicycle.

Motosacoche was also established in England, initially as H&A Dufaux England Ltd. Osborne Louis de Lissa was their sales agent from 1908, and established the little 1 1/4hp motocyclette in competition around England, with JS Holroyd ('a great pedaller' – and he would have been!) and de Lissa himself as 'works' riders. The reliability of the little machines gave them a series of gold medals in 'road' trials, and at times theirs was the only machine to make the course, as in this photo at Amulree Hill during the Scottish Six Days Trial, with Holroyd aboard.



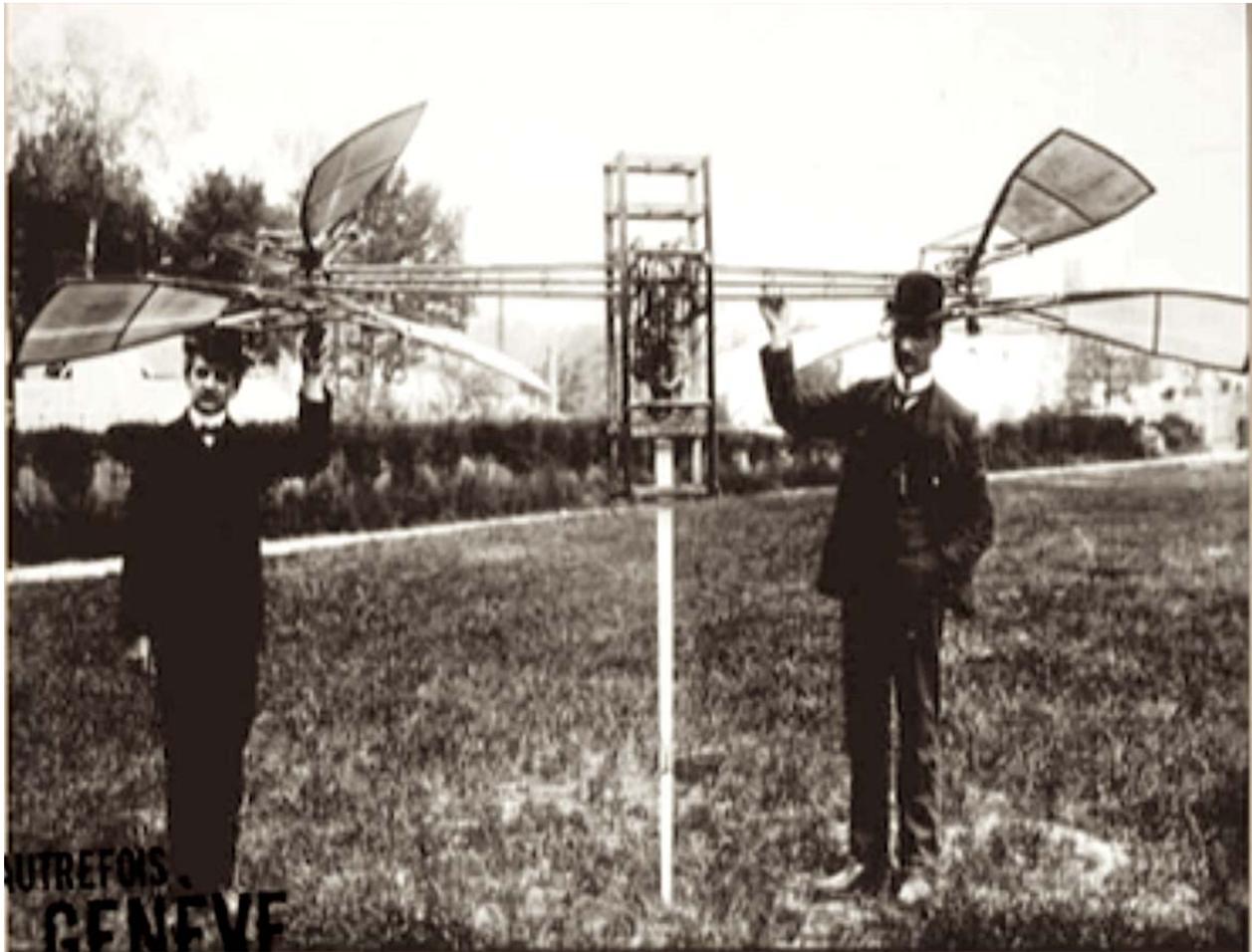
JS Holroyd's performance in road trials in the early years proved the reliability of the Swiss motor.

While they produced a fantastic moped, Motosacoche the company was growing and clearly needed to expand into the proper motorcycle market. Motorcycles Acecas Geneve (MAG) was founded around 1908 to sell 'loose' motorcycle engines to other manufacturers. The MAG engine was known for its excellent construction, and some of their models produced power on par with JAP, the gold standard at the time. In Britain from the 'Noughts through the 1920s, the MAG engine was used by Brough Superior, Matchless, Zenith, Royal Enfield, etc. In Europe, the MAG engine became, like JAP in England, near ubiquitous in the industry, powering the likes of Standard, Neander, Condor, Dresch, Monet Goyon, etc. MAG became a very successful company, with tens of thousands of motors sold.



A period advertising poster, suggesting the world's militaries might be interested in a powered lightweight motorcycle. This poster was clearly produced before 1914!

Simultaneously with the expansion of their motorcycle business, the brothers Dufaux, who were equally interested in flight, directed more of their personal attention to building airplanes and helicopters. As early as 1904 they built model helicopters and planes with variable-tilt propellers, and invented the concept of the 'VTOL' airplane. Their model helicopter of 1905 was demonstrated at the time as 'proof of concept' for the founders of European aviation: Louis Bleriot (who also made motorcycles), Alberto Santos-Dumont, Clement Ader, Henri Farman, Gabriel Voisin, Captain Ferber, etc. The Dufaux brothers tasted success in airplane flight in 1909, becoming the first Swiss plane to fly with a pilot aboard.



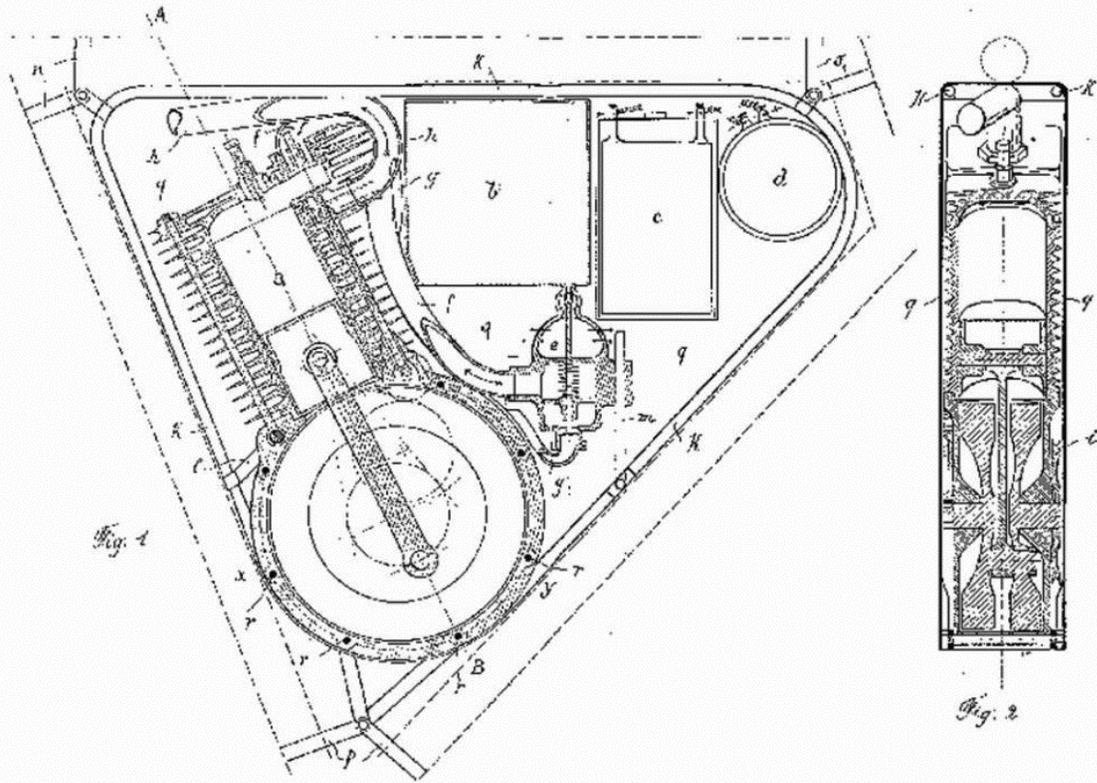
The Dufaux brothers with their pilotless helicopter of 1905; the first successful powered flight in the world.

As with another motorcycle pioneer, [Glenn H. Curtiss](#), the lure of wings proved greater than wheels, or at least was the next big challenge captivating the world's attention. In 1909 the brothers sold their percentages of Motosacoche to pursue aircraft manufacture. Henri worked in aviation through the 1920s in France, before moving to the automotive industry, where he invented a hydraulic shock absorber for automobiles in the 1920s, which were widely used in the industry.



Armand Dufaux in 1910 with one of the brothers' biplanes, with a 7-cylinder radial engine.

Armand gave up the motor/flight business entirely and returned to his paintbrush by 1913, teaching at the [Ecole des Beaux Arts](#) in Paris, his lifelong passion – and that was a very long life indeed, as he only died in 1980! Today the brothers Dufaux are recognized as real pioneers for their vision, and success in the earliest days of the motorcycle and aircraft industries. Their actual first helicopter model can be seen in the Arts et Metiers museum in Paris, while their Motosacoche and MAG handiwork can be seen at just about any European motorcycle show.



A patent drawing explaining the Motosacoche concept, with fuel and oil containers, and a battery for ignition. The engine pulley drove a belt drive to the rear wheel, with a jockey wheel bolted on the frame seat tube for tensioning the belt and providing a freewheel.