

The Invention of the Airplane

The Wright brothers

Orville Wright (1871 - 1948) and Wilbur Wright (1867 - 1912) were two American brothers, aviators, engineers and inventors, who are generally credited with inventing, building, and flying the world's first successful airplane. They made the first controlled flight of a powered, heavier-than-air flying machine on December 17th, 1903, in Kitty Hawk, North Carolina. In 1905, the brothers developed their flying machine to make a practical fixed-wing aircraft. Although not the first people to build experimental aircraft, the Wright brothers were the first people to invent controls that made controlled powered flight possible.



The brothers' fundamental breakthrough was the invention of “*three-axis control*”, which enables the pilot to steer the aircraft effectively and to maintain its equilibrium. This method is still used today on all fixed-wing aircraft. The Wright brothers' focus was on the development of a reliable method of flight control. Using a homemade wind tunnel, the Wrights also collected much accurate data, enabling them to design and build wings and propellers that were more efficient than any before. Their first patent wasn't for a flying machine, it was for a system of aerodynamic control that manipulates surfaces.

They were skilled engineers, working for years in their shop with printing presses, bicycles, motors, and other devices. Their work with bicycles made them believe that an unstable vehicle can be controlled and balanced, with practice. Between 1900 and 1903, they conducted many glider tests, which developed their skills as pilots. Their bicycle shop assistant, Charlie Taylor, built their first airplane engine.



First flight of the [Wright Flyer I](#),
December 17, 1903, Orville piloting,
Wilbur running at wingtip.

The Wright brothers' status as “*inventors of the airplane*” is controversial. Many people believe that it was a Brazilian, Alberto Santos-Dumont, who was the true inventor of the airplane.

Alberto Santos-Dumont

Alberto Santos-Dumont (1873 – 1932) was a Brazilian inventor and aviation pioneer. He contributed significantly to the development of lighter-than-air and heavier-than-air aircraft. Santos-Dumont was the heir of a wealthy family of coffee producers. He dedicated himself to aeronautical study and experimentation in Paris, where he spent most of his adult life. In his early career he designed, built, and flew hot air balloons and dirigibles.

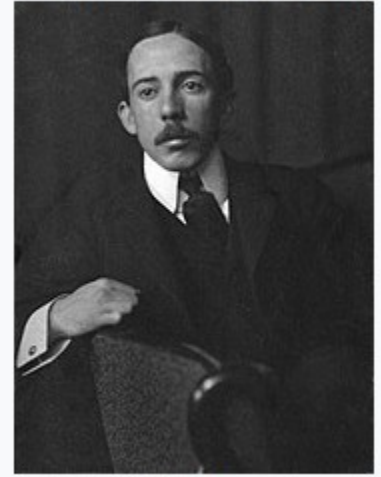
He won the “*Deutsch de la Meurthe*” prize on October 19th, 1901 for a flight that went around the Eiffel Tower, using a lighter-than-air airship.

He then changed his focus to heavier-than-air machines, and on October 23rd, 1906, his “*14-Bis*” made the first powered heavier-than-air flight in Europe, which was certified by the “*Aéro-Club de France*” and the “*Fédération Aéronautique Internationale*”.

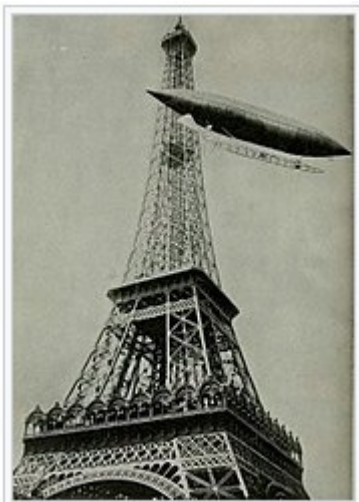
Santos-Dumont was convinced that aviation would bring worldwide peace and prosperity, consequently he freely published his designs and didn't patent any of his inventions.

Santos-Dumont is a national hero in Brazil, where it is commonly believed that he was the first person to demonstrate a practical airplane. Many roads, plazas, schools, monuments, and airports in Brazil are dedicated to him. He committed suicide in 1932.

Alberto Santos-Dumont



c. 1902



First official flight of the 14bis, 23 Oct. 1906, Bagatelle field.

Who really was the inventor of the airplane?

Ask anyone in Brazil who invented the airplane, and they will say Alberto Santos-Dumont, a *bon vivant* who was well known for his aerial skills, flamboyant clothes and high society lifestyle in Paris. The eccentric Brazilian was the first person to have his own personal flying machine. He kept his dirigible tied to a lamp post in front of his Paris apartment, and every night he flew to Maxim's for dinner. He also flew to the shops and to visit friends. Santos-Dumont believed that flight was spiritually soothing. He financed his lifestyle and flying experiments using money that he had inherited from his family. He was always impeccably dressed, and regularly took a gourmet lunch with him on his flights.

On November 12th, 1906, Santos-Dumont flew an airplane called the "14-Bis", 220 meters. Since it was the first public flight in the world, everybody in Europe called him the "*inventor of the airplane*". Later, Orville and Wilbur Wright said that they had flown an airplane in North Carolina, three years before. But, since they had not published their achievement, nobody knew about it. Some people claim that it is one of the biggest frauds in history, because nobody saw it, and they used a catapult to launch the airplane.

So – who was first?

The answer depends on how you define "*the first flight*" of an airplane. Henrique Lins de Barros, a Brazilian physicist and Santos-Dumont expert, argues that the Wright brothers' flight did not meet the criteria that defines a "*flight*". But, Santos-Dumont's flight met the criteria, which were:

- He took off unassisted
- He flew a predetermined distance
- He landed safely
- There were experts as witnesses

"The Wright brothers simply did not satisfy all of the criteria," says Lins de Barros. The Wrights launched their airplane with a catapult, consequently, it wasn't a true airplane, because it did not take off unassisted. Lins de Barros also says that the strong winds at Kitty Hawk were crucial for the Wrights' take-off, and there was no proof that it could take off in calm conditions.

Peter Jakab, chairman of the aeronautics division at the National Air and Space Museum in Washington, and a Wright brothers expert, says such claims are preposterous. He says that, when Santos-Dumont made his first flight, the Wright brothers had already flown many times, including one flight of 39 km in 40 minutes. He also says that the Wrights' first flight stayed in the air for nearly one minute, proving that it was a controlled flight. Claude Carrier, the director of the "French Center for the History of Aeronautics and Space", says that history considers that the Wrights flew before Santos-Dumont.

Marcos Villares, Santos-Dumont's great grandnephew says "There is a strong nationalist argument at play here. Flight was a very important step in human history, and in the history of technology. Both countries want to claim to be the first."

Recognition

Even if Santos-Dumont was not first, he deserves recognition for other contributions to society. He helped prove that air travel could be a practical means of transportation. According to his biographer, Paul Hoffman, "Just to show that the flying machine was practical is an incredible achievement." Santos-Dumont was also the first male civilian to use a wrist watch, after asking his friend, Louis Cartier, to make him a timepiece which he could use while flying.