

## Daniel Guggenheim Medal

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MEDALIST FOR 1932

*For development of the theory and practice of the Autogiro.*



JUAN DE LA CIERVA

A man of questing mind who dared to follow new and stimulating ideas was Juan de la Cierva y Codorniu, born September 21, 1895, at Murcia, Spain, educated in Murcia and Madrid, and graduated in 1919 from the Special Technical College in Madrid as an Ingeniero de Caminos, Canales y Puertos (civil engineer). His ambition had been to become an aeronautical engineer, but no technical school in Spain offered that branch of engineering.

In 1910, at the age of 15, he built two gliders with the help of some friends. The following year he built a mechanically-propelled airplane which flew unexpectedly well and was probably the first Spanish-built plane to take to the air.

In 1918 the Spanish Government opened an aircraft competition to provide fighters, reconnaissance and bombing machines for military use. There were many competitors for the first two types, so Cierva decided to build a bomber. Backed financially by his father and a friend, he developed a biplane powered with two Hispano-Suiza engines of 225 horsepower each. The plane had a capacity for carrying more than a ton of bombs or 14 passengers and two pilots, and incorporated new and original features, including an airfoil section developed by purely mathematical methods which Cierva himself devised. This promising machine crashed while being tested in May 1919, and was completely destroyed.

Convinced by this experience that the limitations of fixed-wing aircraft were too great to overcome, Cierva turned to the study of flying machines in which the wings would have motion relative to the body of the craft; more especially, those in which motion of the wings could be independent of any power applied directly to them. Thus the principal of the Autogiro was born.

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Cierva started developing Autogiros early in 1920. But not until January 1923, after the solution of a number of difficult technical problems, did he succeed in producing a craft capable of sustained flight. A series of straight-line flights was made at the Getafe Aerodrome near Madrid on the 17th of that month. On the 31st, at Cuatro Vientos Aerodrome, a complete circuit of approximately 4 kilometers was successfully flown at an altitude of more than 25 meters. In 1923 and 1925, two more machines were built and tested. By 1925 Cierva had produced an Autogiro capable of showing fully the possibilities of the system. In 1928 he was the first person to fly across the English Channel by Autogiro.

There followed a period during which he worked energetically with manufacturing companies in England, the United States, France, and Germany in producing and promoting Autogiros. Among these companies was the Autogiro Company of America, of which he was a director. Financial as well as technical success seemed almost within his grasp when he was killed in an air transport crash at Croydon Airport, England, on December 9, 1936.