

"Winged Man Sweeps Skyward"

MOST DARING FEAT

EVER ACCOMPLISHED BY MAN

**ONLY CHANCE TO WITNESS THIS MARVELOUS
SCIENTIFIC WONDER**



Designed in May 1905 by Howard J. Montgomery for H. J. Montgomery's Aeroplane Demonstrations

John J. Montgomery is widely remembered for his milestone achievement in making the first successful flight in a heavier-than-air craft in the history of mankind. This was at Otay Mesa in San Diego County in 1883, and is today properly recognized by a historical marker.

Little known, however, is the fact that his greatest scientific contributions to man's conquest of the air were made in and around Santa Clara County. His discoveries and their practical applications are indispensable to controlled flight and are still utilized in the most modern of aircraft.

Montgomery's aeronautical discoveries took place while he was a professor of physics at Santa Clara College (now the University of Santa Clara.) These discoveries culminated in the development of his most advanced glider aircraft "The Evergreen." It was in "The Evergreen" during a series of flights at Montgomery Hill in which a tragic accident brought about his death in 1911.

Montgomery's years of experiments in the Santa Clara County area fully deserve recognition. These include those from 1896 to 1908 at the Leonard Ranch in nearby Aptos; and those at and near the campus of Santa Clara Community College which were the first successful heavier-than-air flights at altitudes of 3,000 to 4,000 feet.

Much misunderstanding has occurred about Montgomery's contributions to aviation from a statement in which he said, "...from 1893 to 1903 I gave no thought to flying." The actual meaning of his statement was

that he made no personal ascents, but rather experimented constantly.

In 1897, when furnished with laboratory and machine shop equipment at Santa Clara College, he developed a simple form of the air tunnel to further observe the value of degrees of camber in his air-foils. He also made an electric motored rotary flying arm on which his small glider could be spun to show its lifting power at various speeds. During these years he built one model after another until in 1902 he was making the parts for his 24 foot tandem wing glider with tail assembly at rear. In this he planned to have a pilot or "rider", as

he called him, to be raised to several thousand feet by means of a hot air balloon and then cut loose. By this time he knew his aircraft was completely safe with adequate controls and capable of maneuvering in any matter.

On March 16, 1905, Daniel John Maloney, a parachute jumper commissioned by Montgomery, made his first ascent by balloon-lift, and cut loose at 800 feet. Frightened at his situation, Maloney did not fully use the controls and in descent, brushed the tops of some fruit trees with some damage to the aircraft.

On March 17th, an alternate plane was used and Maloney, now with greater confidence, rose to 2,000 feet before cutting loose. He circled and maneuvered with full control and made a gentle, successful landing as planned. On March 20, 1905, he rose under the balloon in the John J. Montgomery tandem cambered wing craft to about 4,000 feet. When he cut loose, a violent upper air current over the Santa Cruz hills and mountains swept him northward up the Peninsula. He soon regained control and was able to work his way against the air currents. He returned to make a safe landing in the presence of many witnesses at Aptos, California.

On April 29th, Maloney was lifted by balloon in the Montgomery airplane to around 4,000 feet from the College campus above the City of Santa Clara. Representatives from 25 Bay Area newspapers with photographers and a crowd of some 1,500 passersby watched Maloney in the air. He circled, made figure 8's performed one somersault, glided upward and downward, did a barrel roll, and after approximately 20 minutes in the air descended to a gentle and successful landing. The tandem wing model had no landing gear. The pilot sat on a piece of carpet wrapped around the keel longeron with his feet on either side in two stirrups which were a part of the wing warp mechanism of the plane. The pilot working the rear edges down, together or alternately, created the same effect as the later Curtiss ailerons and that of modern flaps.



Justice Lorigan Frank Hamilton John J. Montgomery Daniel Maloney

Montgomery Hill Flights

Montgomery Hill rises in two shoulders with a shallow vale between. In October, 1911, on the crest above this vale (at a distance roughly of 4,400 feet north-easterly from San Felipe Road, and approximately 1,000 feet north of the junction of Yerba Buena Road with Villa Vista), John J. Montgomery laid a wooden track from which to launch his monoplane aeroplane glider now named "The Evergreen". From that point for two weeks, October 17-31, 1911, Montgomery and his mechanic, Joe Vierra, alternated at the controls in some 55 successful flights.

From the crest of the hill, the two pilots alternately flew the aeroplane toward the southwesterly fence line of the Thompson Family apricot orchard of the time. The straight distance was only 275 yards, so the pilots flew a serpentine course, to increase flying time and exercise of the controls.

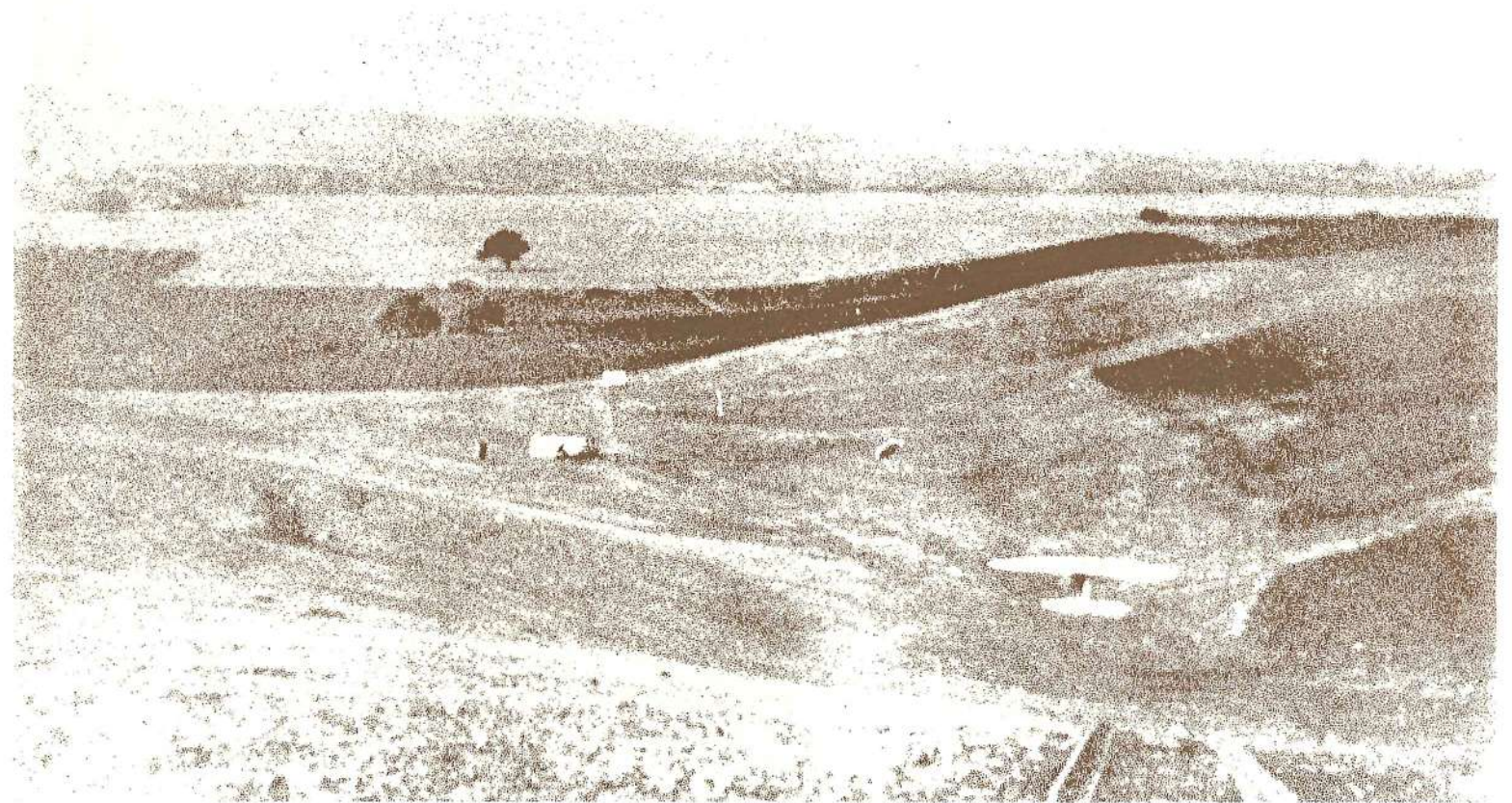
Photos of the flights were taken by Cornelius Reinhardt with Joseph Vierra's camera.

On October 31st, Montgomery said to Reinhardt, "Don't take a picture this time. I want to try something." In the opinion of aeronautical engineers who studied the photos of previous flights and the remaining wings and fuselage of the glider aeroplane, Montgomery changed the fixed angle of attack of the cambered horizontal airfoils

of his tail assembly. This with its rather large areaed fin was vertically adjustable through warping. The result of the change caused the aeroplane as it became airborne (13 feet above ground according to Reinhardt who stood 40 feet away, or 23 feet according to the account of Joseph Vierra) to rise up sharply. Reinhardt mentioned seeing the puzzled look on Montgomery's face, and that Montgomery threw himself forward to try to bring the front of the craft down. Instead, it stalled and sideslipped, striking on the right hand wingtip and overturning. Montgomery died of head injuries sustained in this crash.

In 1960, Richard E. Nieman, living southwesterly from Montgomery Hill, sought to identify the exact hill-site of the early Montgomery flights. Together with State Senator John F. Thompson and a photographer, they tramped over the ground getting different views until one was practically identical with a photo taken from the crest by Reinhardt in 1911.

Through Richard Nieman's efforts, the Santa Clara County Supervisors and the Greater San Jose Chamber of Commerce formed committees to commemorate the 50th year since



Montgomery's death on October 31, 1911. Commemorative exercises took place on November 11, 1961 in memory of John J. Montgomery's life work for aviation. Recognizing that his basic discoveries and design elements are still found in every modern aeroplane, the County of Santa Clara officially designated the flight hill as MONTGOMERY HILL and erected a temporary historical plaque beside San Felipe Road near Yerba Buena Road.

Elsewhere, Montgomery's early scientific observations and experiments in air and water currents

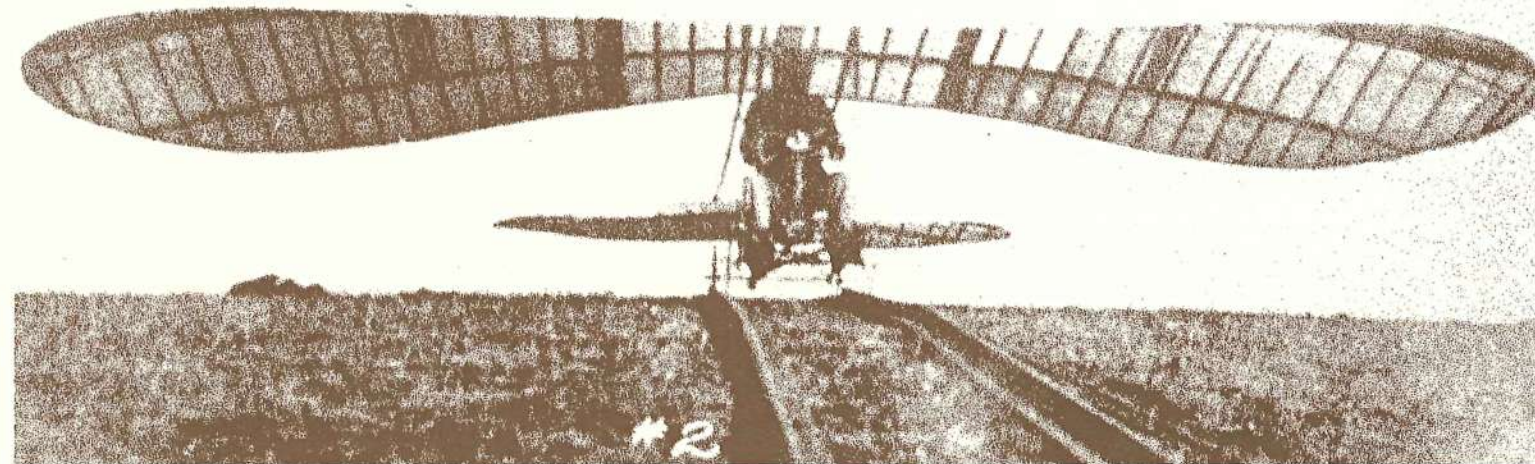
have also been recognized. The San Diego Chamber of Commerce erected a 90-foot stainless steel airfoil as a monument in 1950 at Otay Mesa, near the foot of San Diego Bay. This was to commemorate Montgomery's 600 foot controlled flight and safe landing of August 28, 1883.

Montgomery's years of careful scientific experiment and testing with cambered wings marks him as a truly great contributor to aviation. The site of his final flights, petitioned by the Santa Clara County Board of Supervisors for designation

as a State Historical Monument, was commemorated as California Registered Historical Landmark No. 813 on October 31, 1967.

Also, of further historical interest to note is that the Montgomery Hill area is a portion of the early Mexican Land Grant, Rancho Yerba Buena Y Socayre, for 24,332 acres made in 1883 to Antonio Chabolla. The hill pertains, in general, to the foothills of the Mount Hamilton Range and the high peak of Mount Santa Ysabel (4,223 feet). The hill rises to about 600 feet above sea level, and the launching site to about 338 feet.

Additionally, U.S. Patent #831,173 had been issued to J. J. Montgomery on September 18, 1906, for "An Aeroplane", using the word for the entire Montgomery flying machine with its cambered wings, its means of full control though without engine power.





MONTGOMERY HILL

THREE-QUARTERS OF A MILE NORTHEAST IS MONTGOMERY HILL, SITE OF THE 55 SUCCESSFUL FLIGHTS OF THE "AEROPLANE" OF JOHN JOSEPH MONTGOMERY WHICH DEMONSTRATED AERODYNAMIC DEVELOPMENTS STILL INDISPENSABLE TO MODERN AIRCRAFT. HERE THE BASIC PRINCIPLES OF AERODYNAMICS DISCOVERED BY MONTGOMERY WERE COMBINED BY HIS ENGINEERING SKILL AND TECHNOLOGY TO PRODUCE A HEAVIER-THAN-AIR FLYING MACHINE WHICH HAD COMPLETE CONTROL: THE CAMBERED WING, REAR STABILIZER, FLEXIBLE WINGTIPS, AND THE WING-WARPLING AILERON.

CALIFORNIA REGISTERED HISTORICAL LANDMARK NO. 819

PLAQUE PLACED BY THE STATE DEPARTMENT OF PARKS AND RECREATION IN COOPERATION WITH THE COUNTY OF SANTA CLARA AND THE UNIVERSITY OF SANTA CLARA, OCTOBER 31, 1967