

GUSTAVE O. ARLT, Editor

MRS. STAFFORD L. WARREN, Associate Editor

The Historical Society of Southern California QUARTERLY, DECEMBER, 1961

AMERICA'S FIRST INTERNATIONAL AIR MEET

By J. Wesley Neal

Merica's first international air meet, held January 10-20, 1910, on table-topped Dominguez Hill, a little more than half-way between Los Angeles and the Pacific Ocean, was a thrown-together, circus-like affair which astounded both its promoters and the public with its color and appeal. It also presaged the revolution which converted Los Angeles from an agricultural and touristic center to a major industrial city.¹

The whole thing began, you might say, at St. Louis, Missouri, in October, 1909, where Albert Bond Lambert, a leading industrialist and aviation enthusiast, had engendered sufficient interest and financial backing to attract outstanding American aeronauts.² The chief performer was Glenn H. Curtiss who, as the lone American entrant at the International Aviation Meet at Rheims, France, in August of that year, had won the Gordon Bennett Cup Race and the Prix de la Vitesse.³ Curtiss had received a guarantee of \$5,000.00 to fly his record-making biplane, the "Golden Flyer," at St. Louis.⁴

Highlight of the event was Curtiss's early-morning flight during Veiled Prophet Week, Missouri's Mardi Gras, when thousands of St. Louis Citizens turned out to watch the skilled pilot soar over trees and fields. The public's interest in Curtiss's flights moved Roy Knabenshue, one of America's pioneer balloonists and dirigible operators, to remark, "The aeroplane is here to stay."

Knabenshue, who promoted and managed many of the aviation events at which he appeared as performer, gathered a group of aviators, who were present at St. Louis, including Curtiss, and discussed the possibility of capitalizing upon the growing interest in aviation, especially heavier-than-aircraft. Their concensus called for the immediate scheduling of a first-class meet featuring aeroplanes and as many famous aviators as possible. Although name performers would carry the burden of responsibility for the show's success, open competition would be encouraged. Knabenshue had ballooned in Los Angeles as early as 1904. This fact, plus the approach of winter and the need for quick action, made Los Angeles the choice for a meet to be held in January, 1910.6

By late 1909, Los Angeles was looking for the stimulus which such an event could provide. The city, which had shown promise early in the century, had gone through a series of ups and downs which had climaxed in the famous, but localized, economic plight of 1908 still referred to, by remembering Angelenos, as "the year of the scrip." After-effects of this situation still prevailed in 1909 and no man in the community was in a position to know this better than Max Ihmsen, general manager of the Los Angeles *Examiner*.

Ihmsen was sitting in his Los Angeles office one day in 1909 when Dick Ferris walked in and introduced himself as the representative of Knabenshue and the other St. Louis aviators. Ferris, an early-day Billy Rose, had been charged with the responsibility for making contacts in Los Angeles and getting the ball rolling. Ihmsen was enthusiastic. He would be glad to organize local support and give the event every possible encouragement. He had, however, one suggestion: why not make the meet international in scope? "Let's bring in Europe," he said.⁸

Ihmsen cabled Edmund Cleary, an American acquaintance who was in Europe acting as manager for the French aeronaut, Louis Paulhan. Cleary agreed to bring Paulhan for a fee of \$50,000.00.10

There existed, in early 1910, a distinctively different viewpoint between Americans and Europeans regarding aviation. Ballooning and dirigible development still occupied the chief interest on this

side of the Atlantic. Save for a few pioneers, who had achieved fame, and a sprinkling of amateurs whose abilities were, as yet, unproved, the only Americans who could assert claim to competency and experience with heavier-than-air craft, both as builders and pilots, were Glenn H. Curtiss and the Wright brothers. In Ironically, Curtiss had achieved his greatest reputation as an aviator on the European Continent. The Wrights had seen their ideas incorporated into several European designs, but, except for token gestures, the United States government had shown little interest in the possibility of the aeroplane. In Ironical States are possibility of the aeroplane.

By contrast, through December, 1909, Europeans had achieved varying degrees of success.¹³ Huge cash prizes for outstanding aeroplane performances, plus encouragement from several European governments had fostered this development. Louis Paulhan, specialist in the daring or unique and one of the most colorful aviators on the Continent, was a product of this trend.

Louis Paulhan, born in France around 1884,¹⁴ was working as a ten-dollar-a-week tight-rope walker in a circus early in 1909. During the summer he found employment as a mechanic in the expanding Voisin aeroplane plant at Paris.¹⁵ Paulhan had married and was prepared to settle down to a career as a factory laborer when he was inspired to submit an entry in an aeroplane design competition which the aeroplane manufacturers, Voisin and Farman were sponsoring. Paulhan won first prize which was a new Farman biplane.¹⁶

About the same time, the Gnome engine manufacturers were looking for someone who would test and publicize their product.¹⁷ Paulhan accepted this responsibility, a happy choice. On August 25, at Bethany, France, soon after he had learned to fly, he set a dual distance and endurance record of eighty-three and seven-tenth's miles in two hours, forty-three minutes, twenty-four and four-tenths seconds. The feat made him world famous.¹⁸

Paulhan a small, delicate man with a slight, Gallic moustache, his wife Celeste, Edmund Cleary, and two aviation associates, Didier Masson and Eduard Miscarol, arrived in New York on January 3, 1910.¹⁹ Paulhan's aeroplanes consisted of two Bleriot monoplanes and two Henri Farman biplanes.²⁰ These were the only foreign machines to be seen at Dominguez.²¹ But they were probably representative of the highest development of European aeronautical science to that date. This was especially true of the Farman which was the first widely used aeroplane on the Continent.²²

Paulhan and his retinue found a rather strange reception com-

mittee awaiting them at the New York dock. For some time, Glenn H. Curtiss and the Wright brothers had been involved in a dispute which centered around the Wrights' claim that Curtiss was using, on his aeroplane, a stabilizing device — the aileron — which was a Wright invention, protected by patents.²³ The Wrights had also projected their claims into the field of European litigation, including France, where they insisted that the Farman aeroplane was likewise an infringement upon their patents.²⁴

The Wrights had sued Curtiss as early as September 30, 1909, in an effort to preclude his making or selling aeroplanes in violation of their patent rights.²⁵ Upon hearing of the California meet, in which Curtiss was to take part, they sought to prevent the event from taking place.²⁶

Paulhan and his company had just set foot on American soil, when Cleary was handed a summons directing Paulhan to appear in the United States Court of Appeals on the first Monday in February.²⁷ This action also originated with the Wrights who felt that Paulhan's Los Angeles appearance would cause them commercial damage.²⁸

The aviation committee exchanged telegraphic correspondence with the Wrights in which it was explained, not altogether truthfully, that the Los Angeles affair was to be a public service enterprise, free from the taint of commercialism.²⁹

A legal turn of affairs, however, worked to the advantage of the Dominguez Meet. On January 8, in Buffalo, New York, a Federal Court granted an order suspending, pending final action, the temporary injunction obtained by the Wrights prohibiting the manufacture and sale of aeroplanes by the Herring-Curtiss Company (Curtiss's factory at Hammondsport, New York). The suspension, which also brought temporary relief to Curtiss for his alleged patent infringement, was conditioned on the filing, by Curtiss, of a \$1,000.00 bond which would be forfeited in the event that damages were awarded to the Wrights. The order also gave Curtiss specific liberty to make flights at Los Angeles, and elsewhere, during the time the patent action was in litigation.³⁰

The most active of all Los Angeles bodies working in support of the meet was the ticket committee. Organized in twenty-four hours, this group soon had ready for distribution 416,000 tickets ranging in price from fifty cents for grandstand space to one dollar for box seats. For the privilege of parking and viewing the aviators from the comfort of their automobiles, citizens were also to be charged one dollar.³¹

Nor were the tub thumpers lacking in ingenuity. Curtiss's business associate, J. S. Fanciulli, released an announcement to the effect that he had consulted back issues of the local newspapers and had discovered that January winds in Los Angeles averaged three miles an hour.³²

The possibility of macabre accidents was suggested. Details of prior air mishaps were a feature of daily press stories: Santos-Dumont, the daring Brazilian aeronaut whose wing snapped, throwing him into fierce somersaults;³³ Mme. de la Roche, the French lady dare-devil, who hit a tree while flying near Chalons, France;³⁴ poor de La Grange, one of France's bravest and most distinguished pioneers aviators, whose machine came apart — alas — sixty-five feet in the air, throwing the unfortunate fellow to the ground where his head was smashed beneath the weight of his own engine.³⁵ As if this and photographs of wrecked flying machines were not sufficient to attract the most morbid, a note was published which mentioned that ambulance and emergency equipment would be on the grounds at all times.³⁶ The desired results were forthcoming. Boxes sold like half-price haircuts, some to patrons as far away as San Francisco and the Middle West.³⁷

Los Angeles businessmen also showed originality by linking their advertising campaigns to the approaching air meet. Real estate salesmen encouraged prospective buyers to own a home on Mount Washington where the view is like soaring "in a balloon." 39 One department store claimed to soar "above them all" in the quality of "bust forms, self-reducing corsets, silk suspenders." Ads featured aeroplane radiator caps for the gentleman's automobile.41 Field glasses for a "study" of the "air monarchs at close range" were offered at bargain prices.42 Newspaper copy promoting women's blouses "suitable for Aviation Week" ran side by side with a printed promise that the Woman's Aviation Club would sponsor a "Ladies' Day" at the meet. 44 Even the comic strips seemed to catch the spirit of the times as the current favorite, "Little Nemo," floated across the daily funny page in his giant dirigible.45 One ominous news item, though, warned Angelenos to be on lookout for extraclever crooks from the East "who have descended on the city to take advantage of us."46

Two favorite entertainers of the day, each a giant in his field, Harry Lauder, stage performer, and Barney Oldfield, racing driver, were in town to hawk their respective talents, but the crowd was for the aeroplanes.⁴⁷ Five thousand San Diegans arrived for the meet;⁴⁸ marching bands and pennant waving thrill seekers swelled the town.⁴⁹

Professor Twining, a Los Angeles Polytechnic High School instructor and aviation experimenter, who had entered a craft in the meet, stated, in an interview, that four or five books on the subject of aviation were the most any one library could boast. Newspapers published an article over Professor Twining's signature which gave the correct pronunciation for the unfamiliar but now popular words "aeroplane" and "aviation." Twining's interest in aviation was probably responsible for his students' request for a two-day vacation during Aviation Week. In Long Beach, the Board of Education recommended that pupils be dismissed from school and encouraged to attend the meet, in the interest of education.

Dominguez Hill, a table-like elevation, was selected by the aviation committee as the locale for the meet because of its suitability for flying conditions and its proximity to the railroad. Promoters remembered that at Rheims, France, spectators had to walk from three to five miles from the train to the air field.⁵⁵ No such hazard to good attendance was to be permitted at Los Angeles. Aviation Park, as the site was named, stood one-half mile from the Pacific Electric station at Dominguez Junction⁵⁶ where a two hundred-foot-long platform was built, designed to accommodate a train every two minutes.⁵⁷

Scraped level, the flying field ran in a north-south direction with a slight incline toward the south,⁵⁸ the area equal to an average townsite.⁵⁹ To protect the public from falling aeroplanes, a three-mile long wire fence separated the closed flight path from the spectator area.⁶⁰ More than twelve hundred, sixty bales of sawdust were scattered to provide a safeguard against muddy feet.⁶¹

Original plans called for the aeroplanes to fly an irregular, pentagonal flight course, one and three-fourths miles in perimeter. ⁶² But experiments showed that this layout would carry the aeroplanes dangerously close to the grandstand. ⁶³ To avoid this, it was suggested that the aeroplanes circle wide, flying a greater total distance than the prescribed track. ⁶⁴ It was pointed out, however, that this arrangement would jeopardize official record attempts. ⁶⁵ Consequently, the pattern was made hexagonal in shape with straightaways in front of the gallery and on the opposite side of the field. ⁶⁶

(Text continued on page 379)

FOUR-PAGE DAILY PROGRAM

The Dominguez Air Meet officials published an official program for each day of the meet. The facsimile program on the following four pages is reproduced through the courtesy of Honnold Library, Claremont, California.

Official Frugram Friday, Jan. 14



SOUTHERN CALIFORNIA DAY PRICE 10 CENTS

OFFICERS OF THE MEET

EXECUTIVE COMMITTEE

D. A. HAMBURGER	CHAIRMAN
F. J. ZEEHANDELAAR	
P. F. WEIDNER	TREASURER
DICK PERRIS M. C. NEUNER PRED L.	DAREK

AVIATION COMMITTEE

DICK FERRIS CHAIRMAN CORTLANDT F. BISHOP EDWIN CLEARY JEROME S. FANCUILLI

IUDGES

PROGRAM

All Aviators before starting must notify the judges for which prize they are about to compete. The time of starting will be taken when the aeroplane crosses the line between the two posts opposite the grandstand in flight. All eroplanes must make a complete circuit outside of the pylons and there will be a judge stationed at each end of the field to see that no aeroplane passes inside the posts. All aeroplanes must proceed in a direction contrary to the movement of the hands of a watch; that is, from left to right down the hill and around the course. If for any reason aviators desire to stop they should, if possible, proceed inside the course in order to remain out of the track of other aeroplanes. Aviators must not fly over the grand stand or any place where a crowd is assembled without permission of the judges. Aviators violating this rule will be penalized. In contests for height prizes, aviators must start in the usual direction, proceed around the course, and then pass over a balloon which will be suspended somewhere near the judges stand. Arrangements will be made to calculate the highest of indead attained to about a point above the balloon mentioned. They must then proceed across to the course and around, always in the same direction

Aviators who do not make a flight every day between the hours of two and five o'clock p. m. of one complete circuit of the course in competition for the speed or endurance contests will be penalized five per cent of their best time for the prize. The length of the course is one and sixty-one one-hundredths (1.61) miles.

For the various prizes offered an aviator is at liberty to compete at any time after two o'clock on the days of the Meet. He can make as many attempts as he wishes to lower his record and the prize will be awarded on the basis of the classification made at the end of

the Meet on January 20th.

Competitors have the right of appeal for fifteen days to the Aero Club of America from any decision of the judges, and after that period the prizes will be paid to the winner.

The prizes will be awarded as follows:

A Speed Prize for the best ten laps during the Meet of \$3000, \$2000, and \$500.

Endurance Prize for the aeroplane covering the greatest distance in continuous flight \$3000, \$2000, and \$500.

Prize for the Highest Altitude Reached \$3000, \$2000, and \$500.

Passengers Carrying Prize for the aeroplane making the best time carrying a passenger for three laps of the course, the passenger weigh one hundred and fifty pounds (any deficiency to be supplied by ballast), \$1000 and \$500.

A prize of \$500 will be awarded to the aeroplane which makes the slowest lap at any

time during the Meet.

A starting prize of \$250 will be awarded to the aeroplane which leaves the ground in the shortest distance at any time during the Meet. Another prize of \$250 will be awarded to the aeroplane leaving the ground in the shortest time during the Meet.

A prize of \$1000 will be awarded for the fastest lap made by any aeroplane on any day during the Meet.

A prize of \$250 will be awarded to any aeroplane which starts from a rectangle twenty-five feet square, making a circuit of the course, and landing in the same rectangle.

Timing will cease one-half hour after sunset and no credits will be given for any subsequent performance.

AEROPLANES

NO.	AVIATOR	MACHINE	LAPS TIME
1	PAULHAN	Farman Biplane	
2	PAULHAN	Bleriot Monoplane	
3	MASSON	Bleriot Monoplane	
4	MISCAROL	Bleriot Monoplane	
5	MISCAROL	Curtiss Biplane	3.26.3
6	CURTISS	Curtiss Biplane	1 224/6
8	KNABENSHUE	Wright Bros. Biplane	
9	WILLARD	with Curtiss Chassis Curtiss Biplane	
10	H. W. GILL	Gill-Dosh	
11	HARMON	Curtiss Biplane	

DIRIGIBLE AIRSHIPS

NO	PILOT	DIRIGIBLE	ALTITUDE	DISTANCE	TIME
11	ROY KNABENSHUE	5500 Cubic feet		Dayo	62.9
2	L. BEACHY	5500 Cubic feet		Lilap.	750
	LIEUT. BECK				

BALLOONS AT HUNTINGTON PARK

NO.	BALLOON	PILOT	LANDED	ALTITUDE 300	TIME
1	THE DICK FERRIS	KNABENSHUE			
2	CITY OF LOS ANGELES .	GEO. B. HARRISON			
3	NEW YORK	C. B. HARMON			
4	PEORIA	FRANK J. KANNE			
5	CITY OF OAKLAND	J. C. MARS			
6	CO. A SIGNAL CORPS	CHAS. D. COLBY			
7	THE FAIRY	A. C. PILLSBURY			

Records for the above balloons may be taken from the newspapers the following morning

Official Records of Yesterday's Events

Glenn H. Curtiss, going ten laps around course in Curtiss Biplane. Time, 24 min, 54 2-5 sec. Average speed per lap, 2 min, 29 2-5 sec. Best time one lap, 2 min, 21 2-5 sec. Average speed per hour, 388 miles.

Louis Paulhan, going ten laps around course in Farman Biplane. Time, 24 min, 59 2-5 sec. Average speed per lap, 2 min, 30 sec. Best time one lap, 2 min, 28 2-5 sec. Average speed per hour, 38.65 miles.

Louis Paulhan, carrying one passenger (Mme. Paulhan), three laps. Time, 8 min. 16 1-5 sec.

Chas. D. Willard left 20-foot square and was awarded 100 points; also landed in 20-foot square, winning the prize of \$250.

The fastest lap of the day was made by Glenn H. Curtiss. Time, 2 min, 21 2-5 sec.



LOUIS PAULHAN

Who Smashed all records Wednesday for Altitudes, attaining a height of 4165 feet.

party of woma Arlines Hally wood



GLENN H. CURTISS

Who broke World's Record for quick rising from standing start making it in 98 ft. Also set new record for quick rise after starting engine in 6.2.5 seconds.

Six, ten-foot towers, each surmounted by a flagpole and guarded by a horse-mounted deputy, marked the course.⁶⁷

Using one million board-feet of lumber and seven hundred thousand spikes, the F. O. Engstrom Company erected stands to seat twenty-six thousand people in a record five days. At noon, during the construction, neighboring farmers brought sandwiches, homemade doughnuts, and hot coffee with country cream for the hungry carpenters. Mrs. Victoria Carson, descendant of original settlers, entertained meet officials with "typical Spanish hospitality" at nearby Dominguez Rancho, the only dwelling within two miles of Aviation Park. To

Back of the grandstand, the aviation center formed. Into the mechanical potpourri moved all the weird paraphernalia designed to conquer Southern California's gravity. Roy Knabenshue and Lincoln Beachey, pioneer balloonists, set up a gas plant complete with tanks, water, sulphuric acid, iron shavings, pipes, and sundry Rube "Goldbergiana." By January 9, there were on the grounds, or scheduled to arrive, four Curtiss biplanes, three Bleriot monoplanes, two Farman biplanes, besides various experimental models: triplane, multiplane, aerofoil, and ornithopter. Tents were set up to protect the flying machines. These were guarded by around-the-clock patrols to prevent vandalism by "tramps and ruffians."

Gus Ericson, a laborer hired to help at odd jobs, was the first casualty of the meet. He was assisting with the unloading of Curtiss's machine from a box car when the aeroplane slipped, crushing his finger. Attracted by the excitement, an elderly man approached Curtiss. "I'm eighty years old," he said. "I remember the first telegraph, I saw the first electric streetcar, and I want to fly before I die." Curtiss politely refused the venerable gentleman.

Paris scientists forwarded a somber warning to the Los Angeles aviators. It had been determined, said the Frenchmen, that many birds had died from fright and injury following the air meet at Rheims, the year before. There was every reason to believe that the aeroplane could bring about the extinction of all birds, and it was hoped that this possibility might influence those who were responsible for the Los Angeles event to abandon the project.⁷⁷

Deaf ears met this request. Local and out-of-town aeronautical inventors gathered at Aviation Park determined to display their handiwork. There was the multiplane, fantastic creation of Professor Zerbe, a Los Angeles attorney and would-be promoter. The multiplane was described by one spectator as looking like the "bottom steps of the golden stairs." Another citizen strapped two wings

to his arms and flapped around excitedly proclaiming, "I think I am on the right track...I intend to add small gas bags to the machine...and in a short time will be able to fly."80 A Long Beach inventor announced, "I've got a machine that will put all others now at Aviation Field out of the running. They're just toys compared with mine."81 Unfortunately, this product was not publicly exhibited.

Flying machines of all sorts, including biplanes, triplanes, and butterfly monoplanes appeared from back yards and alleys all over the city.⁸³ Gates M. Fowler shipped a triplane all the way from Phoenix, Arizona.⁸⁴ A. H. McCarthy, of San Leandro, passed the word that he was building an aeroplane which would "solve the problem of aviation."⁸⁵

Most of these creations, though, were motorless models with little likelihood of flying. ⁸⁶ One possible exception was the design of Richard G. V. Mytton, a graduate of Kings College, London. He had experimented in aviation since 1897. Working in secret on the west side of the city, he claimed to have perfected a model which incorporated automatic stability. "Throw it on its back and it will right itself like a cat," he said. ⁸⁷ Probably the most disappointed inventor at the site was Boyd Dysart, a Long Beach lad who protested the fact that no models were to be shown at the meet, denying him the opportunity to exhibit his model revolving "aerodrome." ⁸⁸

Except for the Wright brothers, who refused to participate in the meet, there was gathered at Dominguez what was probably the most representative collection of aviators in America at that time, both from the standpoint of numbers and ability. Charles Willard was there, Glenn Curtiss's famous pupil and the most experienced aviator in America. By Roy Knabenshue was on hand, a pioneer balloonist who had propelled a dirigible at the speed of twenty-five miles per hour. There was Charles Hamilton, who was soon to gain fame for the first night flight in America at Knoxville, Tennessee. Young Lincoln Beachey was present. Already an experienced aeronaut, the nineteen-year-old Beachey could scoop a handkerchief off the field with his wing tip and later startled the world with his inverted flight, loop-the-loop and mad dash under the Niagara Bridge.

Lincoln's brother, Hillery, was also there, an uninitiated lad who was determined to fly, over the Dominguez fields, the new Gill-Dosh design. Lieutenant Paul Beck, U. S. A., was present, on official duty. One of the greatest military signalling experts in the world, Beck was on hand to evaluate, for military purposes, the

fast-developing flying machine. Colonel Frank Johnson, a San Francisco financier and aviation enthusiast, was there with his newly-purchased Curtiss, intent upon flying despite his insurance company's threat to cancel his \$84,000.00 policy.

But America's leading representative at Dominguez was Glenn H. Curtiss, "G. H." to his friends. Not yet thirty-three, Curtiss was already famous for his aeronautical motors and his aerial performances. Curtiss had won the Gordon Bennett Cup and the Prix de la Vitesse at Rheims the previous year. Curtiss had with him, at Dominguez, a precise copy of the "Golden Flyer," the racing plane which he had designed and built himself and in which he had set the world marks at Rheims.

A clean-cut, slender, sober-faced country boy with a modest, well-trimmed moustache, Curtiss appeared more like a scientist or college professor than a daring aeronaut.¹⁰¹ He was a deliberate performer, one who shunned spectacular feats for the sake of pure showmanship. He was deaf to a grandstand or a cheering mob. One witness described his flying as "sensational as a busy man leaving home in his auto for the office." Curtiss was strictly business and in spite of his aerial achievements, he was intent upon but one thing — selling aeroplanes.¹⁰³

January 10, the first day of the meet, dawned crisp and cold. ¹⁰⁴ It had been raining during the night. ¹⁰⁵ But twenty thousand spectators gathered early, coming in three-car Pacific Electric specials spaced minutes apart. ¹⁰⁶ Spectators appeared on bicycles, afoot, and in private automobiles. A special Santa Fe railroad train arrived with flat cars carrying fifty automobiles belonging to San Diego aviation enthusiasts. ¹⁰⁷ Direct telephone facilities were erected connecting Aviation Park to the *Los Angeles Examiner* news room where a wireless installation was set up for sending news bulletins to ships at sea, Catalina Island and listeners as far as eight hundred miles distant. ¹⁰⁸

A makeshift automobile road, connecting the main throughfare from Los Angeles with the top of Dominguez Hill, was a muddy, slippery affair. Several automobiles mired down and the curses of teamsters who were hired to extricate the machines provided entertainment for the early spectators.¹⁰⁹

Ready in their one-half-mile-long lane, bordering the road up the hill, concessionaires, described as people who charge "ten cents for a five-cent coffee," featured everything from human roulette wheels to sun glasses. The latter huckster was particularly ingen-

ious. As the day began, his spiel warned spectators of the danger involved in watching the airships without eye protection. As the morning progressed, he modified his approach to suggest that the naked eye could not last half a day, unprotected. Later, the still unappreciative clients heard the frightful admonition, "one glance and your eyes will be gone." Le Valley Smythe, a Harvard graduate who was in Los Angeles for his health, was one of the more successful, if less spectacular, hawkers of wares. Financing himself with borrowed capital, Smythe began selling water to the laborers who worked on the Aviation Park grandstand. Smythe added teams, wagons, a small lumber yard, a coffee and doughnut stand. When the meet began, he was doing business at a rate which was to net him \$1,000.00 by the end of activities. 113

Prominent among the spectators on the first day were handsomely dressed Los Angeles ladies and gentlemen who were intent upon proving Southern California's social correctness to eastern visitors, including blue-blooded Cortland Field Bishop.

Bishop was the first president of the Aero Club of America, an organization founded in New York City soon after the turn of the century. Composed originally of some three hundred members interested in the science of aeronautics, the Aero Club had, from its beginning, been primarily interested in ballooning. The Club had early assumed the sole privilege of licensing pilots, sanctioning meets, etc. But the Aero Club had not been consulted regarding the Los Angeles event, and Bishop, who had not yet himself flown in an aeroplane, arrived in Los Angeles, on the evening of January 9, an uninvited guest. 117

When it was learned that Bishop was in the city, committee members sought his approval for the meet.¹¹⁸ Bishop, a sporting man, was disdainful of the commercial flavor attached to the entire proceedings and declined the invitation.¹¹⁹ At last, though, after conferring with Curtiss and Dick Ferris, who promised him official recognition as a meet officer, Bishop consented to Aero Club sanction.¹²⁰ Then followed a novel arrangement. Bishop, who had never flown in an aeroplane,¹²¹ and who had pooh-poohed the possibility of a transcontinental aeroplane flight,¹²² was granted a major voice in formulating regulations for all the events at Dominguez which might seek Aero Club recognition.¹²³

Shortly after noon, the staccato sound of warming engines crackled over the grounds. Spectators took seats in the grandstand or stood at strategic points around the field. Others prepared to view

the activities from their automobiles. Dick Ferris, general manager of the meet, appeared in front of the bleachers dressed in a spectacular, many-colored coat.¹²⁴ Behind Ferris walked a great hulk of a man, the giant, three-hundred-twenty-pound, six-foot, two-and-one-quarter-inch, R. D. Horton, the manager of a Long Beach theatre, who was hired from among all the big-voiced men of Southern California to be the "human megaphone" for the show.¹²⁵ Horton faced the stands, spread his feet and bellowed the announcement that Curtiss would fly a machine that had never before been flown.¹²⁶ The crowd gasped, hesitated, and broke into a roar of delight.¹²⁷

From its hangar, Curtiss's mechanics towed a khaki, skeleton-like biplane, the duplicate of the "Golden Flyer." This was a six hundred pound machine with two hundred and fifty square feet of wing area which was covered by Baldwin patent cloth, a special fabric made from Chinese silk. The aeroplane was twenty-nine feet long, twenty-six feet wide and utilized a wheel for elevator and rudder control. The aileron tips on the wings, basis of the prolonged, Curtiss-Wright litigation, were actuated by an ingenious arrangement of Curtiss's own device. Fastened to these tips were control wires which ran to a leather harness which encircled but was not attached to the aviator's shoulders. As the aeroplane would rotate about its longitudinal axis, the aviator would incline his body toward the high wing tip. This would bring his shoulder into contact with the harness which would, in turn, move the aileron tips, thus restoring the aeroplane to level flight.

The aeroplane was powered by a Curtiss engine, an eight cylinder, sixty horsepower, reciprocating, water-cooled model with magneto ignition and four-by-four bore and stroke. The propeller was also Curtiss's own design and construction, a two-bladed affair, each blade six inches wide by eighty-four inches in length. The engine was designed to operate at an optimum rate of one thousand revolutions per minute. Higher rotational speeds were possible. But at Rheims, Curtiss had discovered that greater engine speed resulted in serious vibration which produced such violent bucking that the aeroplane could be flown only with extreme difficulty. Curtiss had, in fact, achieved his record performances at Rheims only by the sparing use of full power. Aeroplane chassis development, Curtiss had said, is far behind progress in engine design. English of the control of the control

The Curtiss chassis was mounted directly on rigid axles with no shock-absorbing device. The landing gear was a tricycle arrangement with a brake attached to the single, front wheel. A long,

bamboo rod connected the brake to a pedal located near the aviator's right foot. Next to the brake pedal was another pedal, likewise operated by foot, which actuated the oil pump. This model carried other Curtiss-designed innovations, called for because of the muddy terrain: a leather, anti-skid covering for the tires and mud guards for the front wheel, the latter intended to prevent flying mud balls from shattering the propeller.¹³⁷

Paulhan's mechanics were more deliberate in preparing the huge Henri Farman biplane for flight. Still in the hanger but visible from the stands, this was a great grayish-white biplane built on the principle of the Voisin, box-kite aeroplane, one of the early, successful European types. Farman's primary models, first appearing in 1907, had incorporated the vertical, tail panels. But this machine, the 1909 version, omitted this feature and, except for the single, elevating plane in the front, and the wide, box-like tail, it resembled the other biplanes present.

The Henri Farman aeroplane was truly a remarkable machine for its day. It carried more than four hundred twenty square feet of wing area which gave it a fourteen hundred pound lifting power.¹³⁸ The fuel tank, with a four hundred ninety pound capacity, was the world's largest airborne variety of the time.¹³⁹ The thirty-two and eight-tenths foot wing span was less than that of the Wright aeroplane but greater than that of Curtiss's "June Bug" and with a length of forty-seven and four-tenths feet, longer than either.¹⁴⁰

The wheels were without brakes and the shock absorbing system consisted of rubber bands which connected the combination landing skids and wheels to the axles. ¹⁴¹ A two-bladed propeller revolving at an optimum speed of twelve hundred revolutions per minute absorbed thrust from one of aviation's most unusual engines—the famous Gnome. ¹⁴²

From its inception, the Gnome engine had gone through a number of changes. But Paulhan's Gnome was a fifty horsepower, seven-cylinder, four-cycle model. The Gnome, machined like a delicate watch, was air-cooled and functioned without benefit of flywheel, timing gears, valves, or carburetor. Revolving cylinders and other peculiarities of construction and operation made it the most efficient aviation engine in the world in terms of power-perpound of weight. It was also the most difficult to overhaul and maintain. It was also the most difficult to overhaul and maintain.

While the Frenchman's mechanics worked to make ready the Farman, Paulhan was working cultivating French-American rela-

tions. Through interpreters, he expressed a desire to take "the beauteous, the charming, the fascinating, the adorable American women" for a ride. Mme. Paulhan, however, failed to appreciate this gesture. When reporters queried Paulhan regarding the Wright brothers' pending legal action, Paulhan replied, again through interpreters, that is a matter "which has neither lateral stability nor anything else." 147

Shortly before three-thirty, Curtiss wheeled up before the stands in his untried machine. From the top of the stands, the aeroplane, rolling awkwardly along the ground, looked quite helpless and forlorn. One wag expressed what may have been a common reaction when he cried out that the machine must be of the deciduous variety, seeing as how it was quite bare of anything but a few strips. 149

Excepting the aviators, few persons in the crowd had ever seen an aeroplane in flight. There was an air of apprehension as Curtiss faced the machine into the wind. Mechanics spun the long propeller blades. The engine coughed, sputtered, choked on the unpredictable gasoline, and died. Again the propeller turned. Again the engine sputtered, as if muttering protests. Curtiss played with the engine controls, coaxing forth the rough, unwilling power. The aeroplane strained forward. Curtiss opened the throttle, filling the air with a roar.151 The machine lumbered along, picked up speed, and then, the engine still behaving erratically, climbed gracefully into the air, directly in front of the stands. As one person, the crowd rose to its feet and howled with delight. 152 The band leader, instructed to signal the event with a stirring march tune, stood frozen, gazing dumbfounded at the soaring machine, literally hypnotized by the sight. Dick Ferris, furious at the bandmen's inertia, ran screaming across the field, "What's the matter with that band?" 153

Curtiss's machine rose sixty feet into the air, then sank. The crowd groaned, fully aware of the aeroplane's dangerous reputation. Then Curtiss pulled up to sixty feet again. At this altitude, he started a turn. Three-fourths of the way around the course, the machine faltered. Curtiss was fighting for control now. Suddenly, he lunged earthward. The aeroplane struck the ground, splintering the propeller with a sickening crash, and bounced skyward. The crowd was hushed as Curtiss shut off the engine and glided to earth like a great bird. Then a great cry of acclaim filled the air. The crowd was congratulating the man who had just completed the first flight west of the Great Plains. 154

Curtiss replaced the propeller and made two other brief flights

to test the landing surface.¹⁵⁵ While he was thus engaged, Paulhan slipped his Farman out of the hangar and, within minutes, was airborne.¹⁵⁶ The crowd soon discerned the difference between the studied performance of Curtiss and the delightful antics of the Frenchman. Paulhan turned and soared his machine above the bleachers.¹⁵⁷ Ferris plodded across the field and Paulhan dove his machine at the unsuspecting promoter, forcing him into a run.¹⁵⁸ Paulhan smiled, waved his arms and skirted the earth. One spectator summarized his skill with the observation that the Frenchman did everything with his biplane but make it "sit up and bark."¹⁵⁹

In spite of the Hamburger Department Store's optimistic advertisement: "When we all fly we won't need a chiropodist any more, but under present conditions you'd best see our expert on the Second Floor"; and the generous spirit which prompted the Automobile Club of Southern California to provide a free team and teamster to pull stuck autos from the Dominguez mud, the next day was "Black Tuesday" for Los Angeles. Professor Zerbe initiated a chain of unfortunate events.

Mechanics towed Zerbe's lumbering machine across the field. Following behind was a tiny, homemade creation of Edgar Smith, described as a "rowboat that had sprouted wings." Smith had difficulty with his engine and retired to the rear of the stands, where he could work on his motor, leaving the center of the stage to Zerbe. 163

Zerbe instructed his mechanics to point the multiplane into the wind and took a seat amidships. Zerbe started the engine and the machine strained against the pull of the muddy soil. Finally, the affair began to move. Before it ever became airborne, however, sparks flew, smoke issued from deep inside the monster and a loud pop, like the explosion of a rifle, sounded across the stands. Slowly, one wheel lifted off the ground and the huge wings dug into the earth, depositing Professor Zerbe upon the ground.

The emergency ambulance raced across the field toward Zerbe, but the professor's humiliation was not yet complete. The ambulance did not stop for Zerbe but hurtled past him to the aid of Smith who had been struck in the head by a whirling propeller blade. Zerbe, shocked and dumbfounded but unhurt, lay amid the ruins of his dream, a pathetic sight.¹⁶⁴

Hillery Beachey attempted to fly, but his propeller blade threw a hub, shattering the controls. Hamilton did get into the air but was forced down in a barley field one-half mile away from Aviation Park. 166

Flying fever seized the town, though, with the close of the day's activities. San Diegans announced that a twelve hundred dollar prize would go to the first aviator flying a heavier-than-air machine from Los Angeles to the border city. The University of Southern California declared that all departments would be closed the following day. Los Angeles school board officials arranged a holiday, with full pay, for all teachers for the coming Friday, and Professor Twining was granted leave for the entire aviation week. Paulhan won permanent friends among local business men when he was reported to have said that "airships would make of Southern California a terrestial paradise." 170

The remainder of the country, however, was slow to realize what was taking place on the West Coast. In New York, Teddy Roosevelt's African game hunt was the front page story in the *American*.¹⁷¹ In the same issue, a passing reference to the Los Angeles meet was included in an editorial which reprimanded leaders of England, Germany, and France for thinking of aviation in terms of air warfare.¹⁷² There was, in this, a note of irony. Congress had, that day, appropriated one-half a million dollars for coastal defense.¹⁷³ While this legislation was being passed, Lieutenant Paul Beck was at Dominguez, just ten miles and minutes, by air, from San Pedro, site of a proposed coastal defense installation, busy taking notes and evaluating the military potential of the aeroplane.¹⁷⁴

On the next day, which, in terms of spectators, was a success,¹⁷⁵ more than twenty-two thousand people attended Aviation Park to watch the "man birds,"¹⁷⁶ a crowd equal to the entire population of Long Beach¹⁷⁷ where twelve high school boys played "hooky,"¹⁷⁸ not to carry water to the elephants but to help carry Mr. Paulhan's aeroplane.¹⁷⁹

Another large contingent from San Diego showed up on the scene armed with one thousand pennants and fifty thousand buttons advertising the proposed Panama-San Diego Exposition in 1913.¹⁸⁰

Disregarding the accidents and a high wind, Curtiss broke several world marks for minimum time and distance to get off the ground. He carried up J. S. Fanciulli, probably the first passenger to ride in the West. Doe spectator offered Curtiss two hundred fifty dollars for a similar performance. Curtiss turned down the request though, preferring to utilize his time to take what was probably the first photograph to be made from an aeroplane. But the colorful Paulhan was not to be outdone. Louis passed the word around that he would fly the Bleriot.

The aeroplane in question, the Bleriot No. 11, was temperamental and difficult to fly. In the first place, it was a fragile machine built for maximum performance. With a wing area of two hundred forty-two square feet, the No. 11 had a wing loading of four and four-tenths pounds per square foot as compared with a figure of four and one-tenth pounds per square foot for the Curtiss and three and nine-tenths pounds per square foot for the Farman. Its dragonfly appearance was heightened by its proportion — twenty-eight and twenty-eight hundredths feet in length by twenty-eight and forty-seven hundredths feet in width — and wheels which afforded clearance for the two-bladed propeller. The latter was eleven and two hundredths inches wide by seventy-eight and seventy-four hundredths inches long and rotated at eleven hundred revolutions per minute. 186

Later in the year of 1910, there were Bleriot No. 11's operating with Gnome, one hundred horsepower engines. But Paulhan's machine was still using the Anzani. This was a four-cycle, three-cylinder, twenty-two to twenty-five horsepower reciprocating, air-cooled affair with a four and thirty-seven hundredths inch bore and six and twenty-nine hundredths inch stroke with storage battery ignition. Beginning the stroke with storage battery ignition.

Paulhan's wife wept tears of protest as mechanics towed out the tricky craft which Americans variously dubbed "Bleary Eyes," "Bleriot's Bug," or the "Dragon Fly." 190

But in spite of his wife's fears and the crowd's apprehension, Paulhan put on a capable performance. One Long Beach real estate operator was so impressed with the day's exhibition that he offered to trade a choice house and lot for "... a monoplane, biplane, helicopter or other ether-navigating machine ... of stable reputation and known qualities." ¹⁹¹

By Wednesday, the meet was a popular hit. Attendance jumped to forty thousand with Long Beach sending two thousand spectators each day. 193 San Diego's representation grew to three thousand. 194 C. C. Stockton, a Bakersfield business man, closed shop and left for Los Angeles with the avowed purpose of flying. 195 Social barriers at Aviation Park were forgotten as the "... capitalist talks to the laborer, the society girl to the stranger..." while the whole crowd was caught up in the magic of epoch-making events. 197 A Covina butcher wired his Los Angeles supplier, "Don't want any more meat. Covina inhabitants have all gone to the Aviation Meet." 198

Temperament, however, introduced a delicate element into

matters. The aviators assembled at Dominguez were keenly aware of the *prima donna* roles they played. And, better than all others, they knew the frailties of the craft they flew. There were times when, tinkering with wires and engines and wings, the birdmen deliberately ignored the crowd's impatient demand for action.¹⁹⁹

To keep the spectators happy, meet officials announced that all aeroplanes would be required to do some warm-up stunt each afternoon. Prizes were posted ranging from two hundred fifty dollars to three thousand dollars for the quickest start and the best speed for ten laps. The new rules also included forfeitures and disqualifications for failure, on the part of the aviators, to keep some activity going at all times. It was a simple matter of blending emotion and economics. The crowd was willing to pay for a thrill; the aviators were prepared to provide the thrill if the wages were sufficiently high.

Curtiss was the first to come through with the spectaculars. He took to the air in his Rheims "Golden Flyer" and circled the course in record time. Hamilton threw his machine into a wild, skidding, uncontrolled loop. The maneuver took him back of the stands, where the effect of the act was lost on all but a few of the spectators who were able to scurry to an unobstructed view. But in spite of these feats, the Frenchman came up with one which topped them all, literally as well as figuratively.

About four o'clock, workmen began setting up a strange-looking apparatus on the field opposite the stands — what appeared to be a surveyor's instrument.²⁰⁴ Few observed that Paulhan, who had been visiting quietly with friends, slipped onto the field, followed by his wife and aids, and made for the lower end of the course where his huge Farman was parked.

The first portent of excitement came when Paulhan's machine leaped into the air and began a climbing circle over the stands. The "Human Megaphone" electrified the crowd with the announcement that the Frenchman was going to try for an altitude record. Immediately, the band began to play and every eye riveted on the upward, circling aeroplane.

Horton announced Paulhan's height, periodically, as the men at the instruments relayed their readings. Sometimes, the Farman seemed to falter as it strained to reach into the sky. Minutes slipped into nearly three-quarters of an hour as the complex, powered kite nearly disappeared into the fading blue of gathering dusk.

After forty three minutes, sixteen and one-half seconds, Horton

announced that Paulhan had traveled a distance equal to twenty miles and was beginning his descent. Curtiss and Hamilton were in the air, at the time, circling the field, but they could have been in Greenland for all the attention they commanded during the Frenchman's five-minute glide toward earth.

The Farman's engine was smoking as the machine touched down and rolled to a stop. A mob was waiting to drag Paulhan from his seat. The aviator's wife wept and showered her husband with kisses. Strong hands bore him aloft and paraded him triumphantly toward worshippers in the stands.²⁰⁵

Paulhan's barometer read forty-six hundred feet but enthusiastic fans, disregarding warnings to the contrary, snatched the instrument from the Farman before officials could check it, thus voiding its recording.²⁰⁶ The level and transient, however, indicated that Paulhan had reached a height of forty-one hundred sixty-five feet, surpassing Latham's mark of thirty-three hundred twenty feet made in France ten days before.²⁰⁷

Although the performance was, primarily, an evidence of the sustained lifting power and efficiency, at altitude, of the Farman aeroplane, the public's fancy centered on the personal values involved. Paulhan's skill was acclaimed in London and Paris, the staid *Times* admitting that the Frenchman's flight had broken all official and unofficial records for height. In New York, it was finally recognized that something more than a cow pasture kite tournament was going on in Los Angeles. The *New York American* moved the Dominguez event to a feature spot with a photograph of Paulhan and his wife and a sketch of an aeroplane, underneath of which was the caption, "By holding this photograph overhead you will see exactly how an aeroplane appears to an observer directly beneath it." It is perhaps significant that, in this caption, the word aeroplane lacked the customary umlaut above the "ë". "

Superlatives seemed incapable of describing Paulhan's flight.²¹² One editor compared his performance with the discovery of the North Pole.²¹³ Another asserted that this proved the limitless "... possibilities of the flying machine..." as an engine of war and "... vehicle of travel and pleasure."

In Los Angeles, that evening, Paulhan delighted Californiaphiles when, at a banquet, he said, "Ah, Southern California! It is beautiful. Today as I gazed down upon the beauties of your landscape, I thought I was flying over my native France. Nowhere in the world have I seen such wonder of climate in the winter time."²¹⁵

All had not gone well that day, though. While Paulhan was making his record flight, Mytton attempted a take-off from a West Los Angeles street. Just why he chose this strange launching site is not quite clear. We do know that he planned to circle Pico Heights, fly cross-country and land at Aviation Park.

On take-off, Mytton slammed a wheel into a trolley track. The machine lurched, the chassis hit a curb and the whole affair tipped over with a crash. Mytton was not seriously hurt but his invention was smashed beyond repair,²¹⁶ and at Aviation Park, Hillery Beachey piled up the Gill-Dosh aeroplane in a litter of wreckage.²¹⁷

But the streets of Los Angeles were jammed that night with people laughing, talking, and fighting aviation.²¹⁸ Local butchers and bakers boosted prices to conform with the prevailing high consciousness. One cafe owner plugged a new drink called the "dirigible highball"²¹⁹ and claimed that a few of these caused one to make a "... mental ascension..."²²⁰ and steer with ease. A bicycle shop proprietor recommended that his customers avoid "... a crick in the neck..." from "... rubbering at airships. Come where they wheel on the level. Do your flying on a good wheel."²²¹

The fever of events, unfortunately, raised political temperatures. The mayor and the council of Los Angeles had been enjoying a honeymoon until the chief executive asked the council to grant city employees a half-holiday on Friday so they could attend the meet. The council claimed that city employees already enjoyed too many holidays. Whereupon, the mayor dictated a proclamation encouraging a holiday in spite of the rebuff. This miffed the council and a state of war was narrowly averted in this, "... the first disagreement between the mayor and the council..."²²²

Surrounding communities were more generous. Redondo Beach merchants promised all their employees a holiday and established a stage line between that city and Aviation Park.²²³ The Santa Monica Board of Education declared that all pupils in the city might take off Friday for the meet.²²⁴ Anticipating, with this increased interest and activity, a much greater traffic load, the Auto Club issued a bulletin: "Look out for the cops. Twenty mile-per-hour speed limit between Los Angeles and Aviation Park."²²⁵

Other than traffic, policemen were busy. Two crooks, who came to town to exercise their "lighter-than-air" fingers during Aviation Week, were invited to leave the city.²²⁷ Los Angeles merchants predicted a daily attendance of fifty thousand, and Secretary Zeehandelaar, of the Aviation Committee, announced "... not only will all

expenses be returned to subscribers but a small profit is likely."²²⁸ Cortland Bishop reported to his Los Angeles associates that, according to recent information he had received from the East, aviation in that part of the country was at a standstill while the Dominguez meet was in progress.²²⁹ There were measured observations. The Los Angeles Times editorialized that "... the weight-carrying possibilities of an aeroplane are mathematically limited to slight burdens. Probably it can never be used commercially."²³⁰

On Thursday, in spite of the fact that Paulhan set some kind of a mark by taking aloft a total of eight passengers in the space of two hours,²³¹ American entrants carried the day. Paulhan's Farman was struggling to remain airborne, with the Frenchman and two passengers aboard, when Curtiss overtook and passed the overloaded machine, probably the first time that a racing aeroplane overhauled and passed another machine traveling the same course.²³²

In a sixteen-mile race, Curtiss defeated Paulhan by five seconds.²³³ Hamilton, a brilliant performer, challenged the legality of the Wright suit by flying with his vertical rudder locked, thus endeavoring to prove that this control was unnecessary for making a turn.²³⁴ Knabenshue flew his dirigible to sixteen hundred fiftynine feet, the highest mark of the meet for this type of craft.²³⁵ But Willard was the real hero.

On the field, with the aid of workmen, Willard laid out a huge, twenty-foot square. Willard then boarded his machine, rolled downwind from the square, faced into the wind and warmed his engine, while the crowd pondered his intentions. Willard applied power and the aeroplane moved forward. As the wheels touched the square, he pulled the machine into the air. He circled the field, flying low. He steered the aircraft toward the square as he completed three hundred sixty degrees, coasting toward the ground, power off. The crowd now saw that he was attempting to land within the square. Willard was short. He jockeyed the throttle, playing with the power. Now he was skimming the ground. He cut the power again, checking his momentum. He glided a hundred feet and landed on the exact spot from which he had taken off, moments previously.²³⁶

In those days of crude control, this was an outstanding exhibition of skill. It won Willard two hundred fifty dollars and proved that the aeroplane was capable of precise maneuvering.²³⁷ There is reason to believe that this feat of Willard's, coupled with Curtiss's demonstration of the short distance required for take-off, hastened the day of ship-based aircraft.²³⁸

On Friday, fifty thousand spectators attended Aviation Park²³⁹ to see Cortland Field Bishop take his first ride in a heavier-than-air machine, thus making the aeroplane an official member of the Aero Club family.²⁴⁰ The Long Beach "Bachelor's Club," fourteen eligible young men who wore identifying black ties, appeared at Aviation Park. The ties, so the young men claimed, were for the purpose of warning any designing females that the Bachelors dared not flirt with members of the opposite sex, on pain of discipline.²⁴¹

There were other exciting events. The town of Monrovia distributed, to thirsty spectators, several thousand free oranges tagged with tiny "Monrovia" pennants.²⁴² Five-year-old Paul Calhoun caused a minor stir when he was discovered wandering across the middle of the flying field. Paul had peddled his tricycle several miles to "see the wings."²⁴³ Paul was rescued by a deputy who, upon hearing his story, introduced him to the crowd which adopted the boy as mascot for the day.²⁴⁴

J. H. Klassen saw the end of hopes for his Butterfield monoplane shortly after noon when leaking gasoline ignited on his hot engine, setting his aeroplane on fire.²⁴⁵ Firemen were "eating lunch"²⁴⁶ so Klassen called for help from the other aviators who helped him extinguish the blaze.²⁴⁷ To prevent similar accidents, the Aviation Committee "distributed"²⁴⁸ two chemical extinguishers at strategic locations.²⁴⁹

Glamour and greenbacks were brought to bear in a variety of unsuccessful attempts to win non-scheduled rides from Curtiss. A New York newspaperwoman begged Curtiss to take her up in his single-seated machine, offering to carry him on her lap. Curtiss refused.²⁵⁰ One man, among twenty-five who were ready to put up cash for a ride with Curtiss, waved two hundred fifty dollars under the aviator's nose.²⁵¹ Curtiss declined with the explanation that the extra-large fuel tank, plus other considerations, made it impossible for him to accept.²⁵²

The crowd was to see some unprecedented flying, however. Curtiss tuned his engine up to a steady hum, took to the air and circled the course in a record two minutes and twelve seconds.²⁵³ While he was still airborne, Paulhan maneuvered the Farman skyward, headed South and disappeared in the direction of the sea.

In this, the first flight over the Pacific Ocean, Paulhan skimmed two hundred feet above the water, circled the hills surrounding the seaport, sailed over the town, and docks and ways. The Frenchman dipped his wing to salute a revenue cutter which was anchored in the harbor and received, in reply, answering blasts from the steam-ship's horn.²⁵⁴

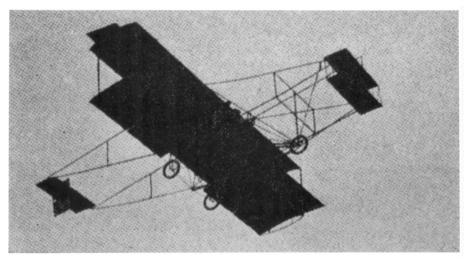
This seemingly impromptu flying was a significant event. On the day before, the United States War Department had purchased land at San Pedro on which to construct coastal batteries.²⁵⁵ Paulhan had flown over the very site where the big guns were to be mounted.²⁵⁶ His demonstration, dramatic in itself, was made more so when, upon landing at Aviation Field and discussing the feat, he announced that his big Farman, which had already proved its weight-carrying possibilities, was capable of transporting at least three hundred pounds of high explosives.²⁵⁷ In Washington, President Taft let it be known that he wanted the country's next aviation event to be conducted in the capital city so that he, personally, might observe the aeroplane's war potential.²⁵⁸

In further development of the day, C. W. Parker, an Abilene, Kansas, shooting gallery magnate, peeled off seventy-five hundred dollars from a roll of bills for the down payment on a Farman biplane.²⁵⁹ Colonel Johnson closed a contract with Curtiss for establishment of the first California agency of the Herring-Curtiss aeroplane company, requesting delivery of eight machines "... as soon as possible"²⁶⁰ and accepting the first aeroplane at Dominguez for the cash price of five thousand dollars.²⁶¹

Sunday's weather broke cold and windy.²⁶² J. S. Fanciulli, the faulty weather forecaster, took some comfort in the fact that Death Valley reported snow for the first time in history.²⁶³ More comforting was the sight of sixty thousand people²⁶⁴ who showed up for the day's events, boosting the Pacific Electric's passenger total, to date, to five hundred thousand persons.²⁶⁵

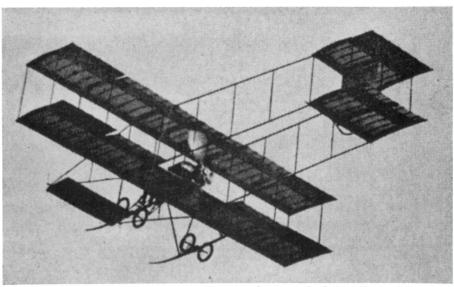
Beachey and Knabenshue raced their dirigibles in gusts which rocked the craft like crows' nests in an Atlantic gale.²⁶⁶ Hamilton fought winds which flung his machine around like it was a piece of paper. He attempted a turn in front of the crowd, struggled to bring his plane around, overshot the maneuver and thundered beyond the bleachers in a wild bank.²⁶⁷

Paulhan took two passengers aloft. He careened against the wind and turn southward toward the ocean. Presently, he approached the field, low above the ground. Like a runaway express, the heavy machine rocketed past the stands, the passengers hanging on for their lives, Paulhan smiling, waving to the crowd. It was typical Paulhania, demonstrating the Frenchman's self-acclaimed skill which he described in a ghost-written story under the title "Why They Pay Me \$250,000.00 a Year to Steer an Aeroplane."



GLENN H. CURTISS FLYING HIS PLANE

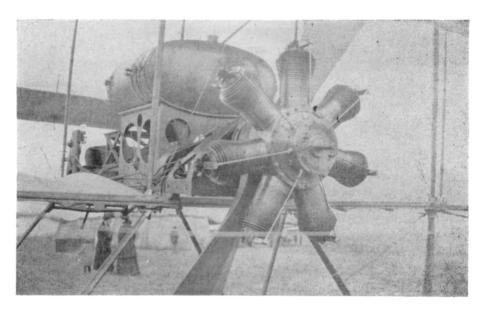
This photograph, taken at the Dominguez Meet, shows Curtiss in his "Golden Flyer" model in which he established new records for take-off and speed.



— Photos from SKY Travel, by A. Ralph Romer and Margaret Romer, the first elementary school text book on aviation

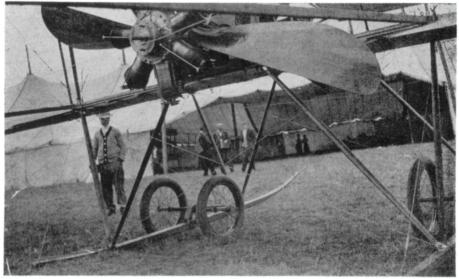
Louis Paulhan in His Farman Plane

This photograph was made of the flight in which the daring Frenchman set a new altitude record.

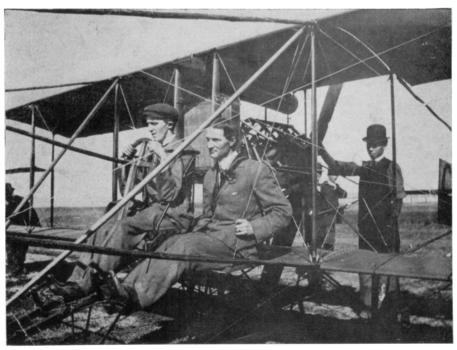


Two Views of Paulhan's Farman Plane

Upper photograph shows a close-up of the Gnome rotary motor. Lower photograph shows the landing gear assembly. Photos were made by Charles F. Walsh who, at the time, had his own plane under construction in San Diego.

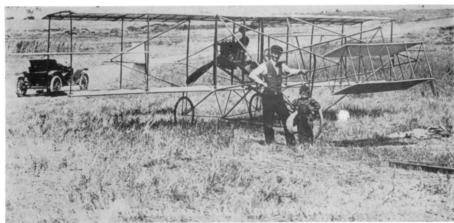


---- Photos courtesy Mrs. Alice C. Martin

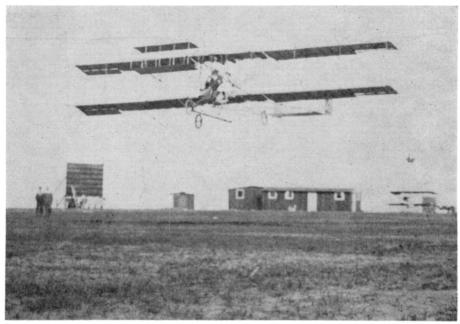


FAMED CALIFORNIA AVIATOR CHARLES F. WALSH

One of the most ardent aviation fans from San Diego was Charles F. Walsh, who would have participated in the Dominguez Meet in his own airplane, had he been able to obtain a motor. His plane, shown below, was sitting in a hanger in San Diego during the time of the meet. However, he was instrumental in getting C. K. Hamilton to take one of the Curtiss planes from the meet to San Diego where the top picture was made on January 23, 1910. Hamilton is the pilot on the left; Walsh, ready for his first instructional flight, is on the right. The automobile in the rear of the lower photograph is a Brush. The boy in the picture is Walsh's son, Kenneth. It is interesting to note that the wing fabric for this plane was of unbleached muslin and it was hand sewn by Mrs. Walsh.



--- Photos courtesy Mrs. Alice C. Martin



--- Photos courtesy Mrs. Alice C. Martin

THE WORLD'S FIRST "FAMILY OUTING" BY AIRPLANE

Charles F. Walsh, who is credited with being the first man in California to build a practical flyable airplane, finished construction on his plane in San Diego less than one month after the close of the Dominguez Meet. As a consequence he received Pilot's

month after the close of the Doming License No. 1, issued by the Aero Club of California. On February 20, 1911, Walsh was an experienced "barn-stormer" when he visited Dominguez Field to carry sight-seers. Here he is shown flying his wife, now Mrs. Alice C. Martin, and their two children, Kenneth, on his father's right, and Juanita, sitting calmly on her mother's lap without benefit of a safety belt. It was a twelve-minute "outing." Walsh and his family "barn-stormed" the United States and Canada, shipping their plane by railway between cities and towns where he flew at fairs and aviation meets. He was killed in a crash of his plane on October 3, 1912, at Trenton, New Jersey, on a final test flight before a planned ride by Presidential Candidate Woodrow Wilson.

PILOT'S LICENSE No. 1

Mrs. Alice C. Martin (formerly the wife of Aviator Walsh) still holds the original pilot's license which was issued to her husband.

Aero Club of California Los Angeles

No. 1

This Certifies that

Mr. Chas. F. Walsh

having fulfilled the conditions required by the Aero Club of California is hereby granted a liceuse as

Van M. Griffith.

The wind increased in intensity. Black clouds swept in from the horizon and brisk gusts sent dust and hats blowing. But Curties was not to be outdone by the Frenchman. He brought out his machine and flung in into the storm. Low, across the field from the stands, he maneuvered. Then, heading back toward the crowd, he racked the machine up into a steep turn which caused the wings to form a right angle with the earth.

Leveling again, Curtiss swung into a flat, mad dash which took him directly in front of the stands. Every onlooker seemed conscious of the fact that he was seeing history written as Curtiss gathered speed. The machine skipped ahead of the wind as if prodded by the Furies. With a rocket-like swish, the "Golden Flyer" hurtled past the spectators. Curtiss shut off power and attempted to land, but he overshot the desired spot by two hundred yards before he could bring his aeroplane to a halt. Reckoning from the distance he had exceeded his intended landing site, Curtiss estimated his speed at sixty miles per hour. To an inquisitive fan, he said, "Sixty miles an hour is about as fast as a man wants to travel by any means of locomotion."²⁷¹

Monday's biggest thrill came when a balloon party, which had ascended from Aviation Field, was reported drifting out over the Pacific Ocean. The alarm proved false, though, and the balloonists returned safely to the park, quite unaware of the stir they had caused.²⁷² Hillery Beachey, yet determined, managed to get the repaired Gill-Dosh off the ground, making this the fourth type of aeroplane to fly at Dominguez.²⁷³ Hillery claimed some kind of a record for himself, asserting that this was the first trial of a machine built by "novices."²⁷⁴ Paulhan added his usual, flamboyant touch: amid great fanfare, he took up Curtiss's aeroplane. This was the first time in America, perhaps the world, that an American machine had been flown by a non-American.²⁷⁵

On Tuesday, the high wind prevailed again.²⁷⁶ Edgar Smith, his cracked head still bandaged, started up his aeroplane's engine, intent on flying. The ill-fated machine threw its propeller which ripped through the framework, wrecking the craft.²⁷⁷ Paulhan's earliest appearance on this January Tuesday was unimpressive.

Accompanied by his wife and a small poodle, Paulhan rode into Aviation Park in a sleek automobile, a proper chauffeur at the wheel. Paulhan dismounted, assisted his wife out of the vehicle, then proceeded to ignore the crowd in favor of the dog. For minutes, he seemed more upon teaching the dog how to carry a basket than on flying. Impatience rustled through the grandstand.²⁷⁸

Paulhan finally sauntered toward the tents where the aeroplanes were housed. In view of the strong gusts, it seemed only reasonable to assume that neither the Frenchman nor the other airmen would take to the sky. Suddenly, however, the huge Farman leaped into the air. Big Horton rumbled to the center of the field to bellow the news that the Frenchman was on his way to Santa Anita, an incredible twenty-three miles away. Horton's announcement was almost drowned out by the sound of Paulhan's automobile which speed off in pursuit of Louis; the chauffeur, grim at the wheel; Madame Paulhan clutching the handholds.²⁷⁹

The roads were not only primitive, they were muddy. In spite of Madame's tears and cajoling, the aviator pulled away into the distance, headed for the Lucky Baldwin ranch.²⁸⁰

To an unidentified resident of Monrovia, nearby to Santa Anita, came a telephone message that Paulhan was on his way. The message was relayed to a newspaper reporter in the latter town. This was before the days of one hundred thousand dollar handicaps, but the reporter jumped on a horse and engaged in a spectacular but relatively unknown race between aeroplane and beast. The reporter arrived at the old Santa Anita racetrack just in time to see Paulhan circle at two thousand feet and head back for Dominguez. Three other citizens, who had hurried to the track, completed the audience.²⁸¹

When Paulhan returned to Aviation Park, the crowd stampeded onto the field.²⁸² The flight, which covered a total, round-trip distance of forty-five miles, required one hour and three minutes — thirty minutes with the wind, thirty-three minutes against the wind.²⁸³

Reaction was varied. The Los Angeles Times, which predicted that Paulhan would receive a ten thousand dollar prize for his Santa Anita trip, said the flight was a marvelous demonstration of the value of air travel when roads were impassable. One Los Angeles citizen recommended that the city honor the Frenchman's skill by establishing a municipal aviation field where young inventors could try out their machines. The London Times hailed the flight as a world record. Cortland Field Bishop, with his customary reserve, said that Paulhan's greatest accomplishment lay in the fact that he came back at all. 287

On Wednesday, newspapers announced that Thomas Edison had invented a battery which would be the answer to the needs of aerial engines.²⁸⁸ A San Francisco soldier ran down the street from

the Presidio hospital shouting, "I'm an aeroplane." But trouble brewed at Dominguez.

On a complaint that some of the two hundred special deputies had insulted unattached females, the "inefficient" officers were replaced by men of known character. These included thirty-five mounted officers, eight motorcycle patrolmen and three women deputies who were detailed to patrol the women's comfort station. Order was restored and but one arrest followed this timely reorganization. ²⁹¹

Hillery Beachey managed to get the unpredictable Gill-Dosh into the air again but was unable to shut off the engine. Paulhan was circling the field at the time. Beachey took off in pursuit of the Frenchman and was on the point of overtaking him when he ventured too close to the ground. The machine struck the field, driving the chassis into the soft earth. The impact strained the forks, the truss rod slipped a bolt and the left, lower wing collapsed, snapping two uprights and ripping the fabric. Beachey was unhurt but understandably perturbed.²⁹²

Paulhan's versatility seemed limitless. It is debatable whether his succession of brilliant feats stemmed from a fertile imagination or from the fact that he was working in a virgin field. When he took his wife for a twenty-two mile flight to Redondo and over the Pacific Ocean, "without life belts or other safety devices," a Reuters reporter commented: this is the "... best performance on record for a cross-country flight with a passenger." What was probably the most significant event of the day received only passing notice.

Paulhan took up, in the Farman, Lieutenant Paul Beck. Climbing to a height of two hundred and fifty feet and cruising at forty miles per hour, Paulhan maneuvered Beck over a pre-arranged target laid out on the field. Beck dropped three, small bags of dirt to demonstrate the practicability of bombing gun emplacements. Two United States Coast Artillery officers, who made minute observations, pronounced the experiment a distinct success.²⁹⁵

Paulhan also carried aloft William Randolph Hearst. This signal occasion, duly reported by a bevy of writers and photographers, was probably the most widely publicized such event of its time. Paulhan received a petition from Whittier school children asking him to fly over their town. Paulhan Aviation Committee announced that investors would receive a return of one dollar and twenty-five cents for every dollar which had been provided to guarantee the meet. Paulhan Randolph Hearst. This signal occasion, duly reported by a bevy of writers and photographers, was probably the most widely publicized such event of its time. Paulhan received a petition from Whittier school children asking him to fly over their town. Paulhan received a petition from Whittier school children asking him to fly over their town. Paulhan received a petition from Whittier school children asking him to fly over their town. Paulhan received a petition from Whittier school children asking him to fly over their town. Paulhan received a petition from Whittier school children asking him to fly over their town. Paulhan received a petition from Whittier school children asking him to fly over their town. Paulhan received a petition from Whittier school children asking him to fly over their town. Paulhan received a petition from Whittier school children asking him to fly over their town. Paulhan received a petition from Whittier school children asking him to fly over their town.

corner hypnotist who claimed that he could charm whole mobs at a time because his body absorbed mysterious power from the sun.²⁹⁹

On the last day of the meet, a huge crowd appeared for a final look at the aeroplanes.³⁰⁰ Harmon maneuvered his balloon to eleven thousand feet, but on the descent, a high wind dashed the basket into a Hollywood chimney, ripping the bag and scratching the occupants.³⁰¹ Knabenshue, Twining, and Klassen were determined but unsuccessful in their efforts to get their machines off the ground.³⁰²

Hamilton was hurtling along in a Curtiss machine, seven hundred feet above the ground, when a crankshaft snapped. Hamilton glided a horizontal distance of five hundred feet and landed gracefully in a field, demonstrating the feasibility of landing with the engine dead.³⁰³

Paulhan was in the air for a final flight when Curtiss overtook him in the Rheims racer. Maneuvering expertly on the turns, the American passed the Frenchman, to the delight of the crowd. This impromptu affair proved to be the world's first real air race, pitting aeroplane against aeroplane.³⁰⁴

After overtaking and passing Paulhan, Curtiss continued to circle thirty laps, a distance of forty-eight and three-tenths miles in the elapsed time of one hour, sixteen minutes and thirty-nine seconds. Prior to this time, ten laps had been the record. It is probable that Curtiss would have continued until his fuel supply was exhausted except for the fact that darkness forced him to land.

While Curtiss and Paulhan were staging their great finale, the Merchants and Manufacturers' Association presented a denouement of their own, a tableau appropriately entitled, "From Ox-Cart to Aeroplane." Featuring a history of transportation, the parade included an ox-wagon, a burro, a horse, an automobile, a dirigible airship, and an aeroplane. It was a fitting climax and successful save for one, minor mishap: the burro tried to chew the wing off the aeroplane. The stage of the aeroplane.

In comparison to the 1909 Rheims, France, air meet, where thirty-six aeroplanes made successful flights, out of a total of thirty-eight which entered the trials,³¹¹ and the October, 1910, Belmont Park, New York, aviation competition which outshone the Los Angeles meet, from the standpoint of attendance, participating aircraft, and interest which it created,³¹² the Dominguez Air Meet must be considered of secondary importance. Nevertheless, stand-

ing, as it does, between these two events, the Dominguez Meet ranks as a significant factor in the birth of America's air age.

Until 1910, aviators and aeronauts had been classified, for want of professional status, along with contortionists, dog trainers, organ grinders, and wire walkers.³¹³ This was soon to change. It can be assumed that the Dominguez Meet had no small part in bringing this about through its influence upon the teen-age young men who were to become the aviation leaders of the nation.³¹⁴

The United States is indebted to the impetus which the Dominguez Meet provided for Glenn H. Curtiss. Curtiss's inventive genius, administrative ability, and technical skill were waiting for the financial backing which his feats at Los Angeles brought him. Following Dominguez, Curtiss organized aeroplane manufacturing on a sound and continuing basis. In 1913-14, he introduced the flying boat into Brazil, Russia, Austria, Italy, and Germany. By 1916, the Curtiss Aeroplane and Motor Corporation had four manufacturing plants and five fields. Its plant at Buffalo, New York, which covered a seventy-two acre site and boasted thirty-one acres of buildings under one roof, was the largest such operation in the world. Its

In 1919, in co-operation with the United States Navy, Curtiss built the flying boat which made the first crossing of the Atlantic.³¹⁸ The world lost the services of a talented man when Curtiss met a premature death on July 23, 1930.³¹⁹

It was inevitable that Dominguez should excite world-wide curiosity in the possibilities of military aviation. Lieutenant Beck's bomb-dropping experiments were watched by every war office in the world. Beck played the role of prophet when he predicted ship-based, scouting aircraft. Beck was the first United States Army officer assigned to take the pilot training course at Curtiss's first flying school which was opened at Hammondsport, New York, in September, 1910. 322

Before the Dominguez Meet was finished, European newspapers announced that an aviation service was to be established in connection with the first three Turkish Army Corps. In this country, Signal Corps appropriations for aviation rose from two hundred fifty thousand dollars in 1909-10, three hundred seventy-five thousand dollars in 1911-12, to six hundred thousand dollars in 1914-15. Dominguez was also instrumental in proving the superiority of the biplane, a fact which influenced aeroplane development around the world. All of the great warplanes of World War I were biplanes, with the exception of the Morane. The stable of t

Dominguez, where it was demonstrated that an aviator could earn twice the salary of a United States Senator,³²³ proved the commercial possibilities of aviation. More than one-half million persons paid a total of one hundred thirty-seven thousand, five hundred twenty dollars and thirty cents in gate receipts to see the aeroplanes in action.³²⁹ Sponsors of the meet declared a sizeable profit. Although this amount was tied up in litigation, pending outcome of the Wright suit, Californians planned a second air meet at Los Angeles.³³⁰

On the basis of the large number of aviation records which were broken at the Dominguez Meet³³¹ and the public interest this created, the International Aeronautical Federation announced, in Europe, a total of twenty-four aviation contests which would be held during the year for a total of one hundred fifty-one thousand English pounds. Of this amount, ninety thousand pounds was to be distributed in France alone.³³²

Of all the events which resulted from the impact of the Dominguez Meet, however, the most noteworthy relate to the effect which the affair had on Los Angeles and Southern California. This, of course, was the motivation behind the original support which Los Angeles businessmen lent to the whole project. That the outcome was as good for Southern California as it was must be attributed to a fortuitous combination of circumstances as much as to the prophetic insights of the promoters.

Chief among these were the five thousand to ten thousand words of aviation publicity which issued forth, each day, from Los Angeles.³³³ Moving pictures of the air activities were exhibited around the world.³³⁴ Nearly every popular periodical in the country played up Los Angeles as the coming aviation center³³⁵ and the influential Cortland Bishop did not hesitate to announce that California was far ahead of the East in aeronautical development.³³⁶

Prior to the close of the meet, telegrams from all over the world were pouring into Los Angeles, asking for movie prints. These, possibly, were included in the first newsreel program which *Pathé Weekly* inaugurated in November, 1910.³³⁷ The aviators were still packing their equipment when a vanguard of actors and technicians representing the New York Biograph Company arrived in Los Angeles to begin operations.³³⁸ Hollywood's first studio, a converted barn, appeared the following year.³³⁹

The regular manufacture of aircraft began in Southern California in 1912 when the two Loughead brothers, Allen and Malcolm, built and flew their three-place seaplane.³⁴⁰ In 1913, Glenn L. Mar-

tin built, in Los Angeles, what was to become the first Americanmade aircraft to be used in a wartime bombing operation.³⁴¹ Two of Martin's promising employees were Lawrence Bell³⁴² and Donald Douglas.343

Douglas formed his own aircraft company in the Los Angeles area in 1920.344 By the time of World War II, aircraft plants in California employed three hundred thirty thousand workers, 345 more than the entire population of Los Angeles in 1910.346 By 1911, Los Angeles was well on the way to forgetting the "scrip" days of 1908. City valuation increased fifty million dollars over the previous year,347 bank clearances jumped more than one hundred and eleven million dollars,348 and immigration boomed. In the ten years following Dominguez, Los Angeles's population swelled from three hundred nineteen thousand, one hundred ninety-eight to five hundred seventy-six thousand, six hundred seventy-three an increase of more than a quarter of a million persons.³⁴⁹

Of the Dominguez aviators, Hamilton continued to make exhibitions for several years.350 Willard, likewise, remained active in the industry until his retirement in Los Angeles, where he now lives.³⁵¹ Knabenshue served in various commercial phases of aviation and resided, until his recent death, in Arcadia, just a short distance from Paulhan's 1910 Santa Anita destination. 352

Lincoln Beachey drowned in San Francisco Bay in 1915 when his machine plummeted into the water.³⁵³ Paulhan left Los Angeles nineteen thousand dollars richer than when he arrived.³⁵⁴ Following a short tour of the United States, he returned to Europe where he won the Daily Mail prize for the London to Manchester flight on April 27-28, 1910.355 In 1912, flying a Curtiss biplane, he placed third in the first Monaco Hydroaeroplane race. 356 Paulhan made his last flight as a pilot in 1930, the year that Curtiss died. 357

The first international aviation meet in America is, perhaps, best summed up in an editorial of January 13, 1910: "Whatever the history of Aviation, two towns will be famous in connection with its beginning — Rheims and Los Angeles."358

NOTES

- 1. J. Paul Goode, School Atlas (New York: Rand McNally and Company, 1949), passim. Cf., World Atlas (Chicago: Rand McNally and Company, 1944), pp. 141, 207.
- Personal interview with Mr. Roy Knabenshue.

 Who Was Who in America: 1897-1942 (Chicago: The A. N. Marquis Company,
- 4. Personal interview with Mr. Roy Knabenshue. Knabenshue said Curtiss flew the "June Bug" at St. Louis, and probably, Curtiss flew the "Golden Flyer" at St.

Louis, the same machine which had set records in France and which was also called, "Rheims Racer." Cf., Alden Hatch, Glenn Curtiss (New York: Julian Messner, Inc., 1942), pp. 119-77. Interview with Roy Knabenshue.

I first ran across the term during a casual conversation with a friend and longtime Los Angeles resident, Mr. Orville Burton. A serious business panic in 1908 which required banks to pay their deposits in scrip for a period of several months is described in J. M. Guinn, A History of California (Los Angeles: Historic Record Company, 1915), I, 375.

Personal interview with Mr. Roy Knabenshue.

Ibid.

Ibid. 10.

- An examination of the current literature of the day fails to reveal any save Curtiss and the Wrights who could claim equal experience as aeroplane manufacturers and operators.
- U. S. Congress, Senate, "Army Appropriations Act," Appropriations, New Offices, etc., Vol. 57, U. S. Senate, 61st Congress, 2nd Session, Document No. 655, on H. R. No. 15,384, March 23, 1910 (Washington: Government Printing Office, <u>1910</u>), 62.
- 13. H. Barber, The Aeroplane Speaks (New York: Robert M. McBride and Company, 1917), appendix.
- The Los Angeles Times, in its issue of January 10, 1910, and the Los Angeles Examiner, dated January 4, 1910, give Paulhan's age as twenty-six. This would establish 1884 as the approximate year of his birth. However, the London Times for April 28, 1950, states that he was sixty-seven years of age at that time. This would make 1883 the likely year of his birth.

15. Long Beach Press, January 15, 1910.

16.

17. Ibid.

18. Paulhan's progress as an aviator seems almost fantastic. His first recorded flight was on July 10, 1909, at Douai, France. By November 1 of that year he had made nineteen flights, each of them a significant undertaking. The reputation, based upon this record, brought him the invitation to appear in America. Long Beach Press, January 15, 1910; Los Angeles Times, January 13, 1910, and J. Reimbert (Ed.), "Annuaire," Annuaire de L'Aéronautique Paris: Rouffé, 1929), Titre 12, 190.

19 Los Angeles Examiner, January 4, 1910; World Today, March, 1910, 272.

The Los Angeles Times for January 17, 1910, gives rather complete data for these machines in addition to statistics on the other types of aircraft which were 20. at Dominguez.

21. Ibid.

Barber, op. cit., index.

- Archibald Black, The Story of Flying (New York: Whittlesey House, 1940), p. 93. Black points out that a suit, instituted by the Wrights to restrain Curtiss from making and selling aeroplanes, was the first legal action in aviation. The French felt that the Wrights, because of their patent claims, were attempting to strangle the aviation industry in France. Los Angeles Examiner, January
- 10, 1910.

Black, op. cit., p. 93. Cf., Scientific American, March 22, 1913, p. 273. The Wrights based this action on the assumption that Paulhan's and Curtiss's performances in California would satisfy public curiosity and thus limit the appeal of their own, future appearances. Los Angeles Times, January 15, 1910.

27. Ibid.

- 28. Ibid.
- The text of this correspondence is reproduced in the Los Angeles Times, January , 1910. In fact, the Dominguez Meet was a promoter's dream from the start. The Aviation Committee was the useful and not unprofitable front which secured local support.

Los Angeles Times, January 9, 1910. 30.

- Los Angeles Times, January 18, 1910. Cf. also Los Angeles Examiner, January 9, 1910.
- 32. Los Angeles Examiner, January 4, 1910.

33. Ibid., January 5, 1910.

34. Ibid.

Ibid. Cf., Frank Moore Colby (Ed.), New International Year Book: 1910 (New York: Dodd, Nead & Company, 1911), p. 10.

Los Angeles Times, January 7, 1910.

- By January 8, one half of the box seats had been sold. Delegates from Indiana made the trip for the specific purpose of witnessing the air meet. There were spectators from Canada, Mexico, and Germany, as well as representatives from France. With the probable exception of the French, the Europeans were travelers who were in the United States on other business. Los Angeles Times, January 8, 1910; Los Angeles Times, January 9, 1910; Los Angeles Times, January 12, 1910; Los Angeles Examiner, January 3, 1910.
- Los Angeles Times, January 9, 1910.
- 40. Ibid.
- 41. Ibid.
- 42. Ibid.
- 43. Ibid.
- 44. Los Angeles Times, January 8, 1910.
- Ibid., January 9, 1910. Ibid., January 10, 1910.

- Harry Lauder, who was "knocking 'em over," probably supplemented the Dominguez events. Some indication of the aviation meet's popularity may be ascertained from the fact that Dominguez outdrew Oldfield who was driving his 120 horsepower, German Benz over the Ascot Park track at speeds hiterto unknown on the Pacific Coast. Los Angeles Examiner, January 9, 1910.
- Los Angeles Times, January 7, 1910. 48.
- 49.
- Ibid., January 9, 1910. 50.
- 51. Ibid. Ibid. 52.
- 53. Long Beach Press, January 10, 1910.
- 54.
- World Today, March, 1910, p. 270. Los Angeles Times, January 8, 1910. 55.
- 56. Ibid.
- *Ibid.*, January 7, 1910. *Ibid.*, January 8, 1910. 57.
- 58.
- Ibid., January 10, 1910. 59.
- 60. Ibid. 61. Ibid.
- Ibid., January 8, 1910. 62.
- 63. Ibid.
- 64. 65. Ibid.
- Ibid.
- 66. Ibid.
- These towers, originally, were to have been thirty feet high. They were lowered because of the risk to the flying aircraft. Los Angeles Times, January 8, 9, 1910. Cf., World Today, March, 1910, p. 270.
- Los Angeles Times, January 8, 1910. 68.
- 69. Ibid.
- 70.
- *Ibid.*, January 10, 1910. *Ibid.*, January 8, 1910. 71.
- The Los Angeles Times for January 9, 1910, gives a rather complete listing of the various types of aircraft which were scheduled to appear or were on the grounds, with the names of the inventors, owners, builders, exhibitors or aviators connected with each machine.
- Los Angeles Times, January 8, 1910.
- Ibid., January 7, 1910.
- 75. Ibid.
- 76.
- Ibid., January 10, 1910. Los Angeles Examiner, January 4, 1910.
- Los Angeles City Directory, 1910 (Los Angeles: Los Angeles City Directory Company), p. 522. Cf., Los Angeles Times, January 11, 1910. Also Sunset, March, 1910, p. 248.
- Los Angeles Times, January 11, 1910.
- 80. Los Angeles Examiner, January 9, 1910.
- Long Beach Press, January 13, 1910.

- Los Angeles Times, January 9, 13 and 17, 1910.
- Ibid., January 13, 1910. 83.
- 84. Ibid.
- 85. Los Angeles Examiner, January 8, 1910.
- Los Angeles Times, January 9, 1910. 86.
- Los Angeles Times, January 13, 1910. 87.
- Long Beach Press, January 11, 1910. In the early days of aviation, the term aerodrome was frequently used as a synonym for aeroplane. Cf., Barber, op. cit., p. 133.
- The Los Angeles Times, January 9, 1910, is the basis for this statement. Roy Knabenshue, who was associated with the Wright brothers at the same time 89 Willard flew for them, says that Willard was selected to become part of the original organization which was set up to fly and promote Curtiss's first aeroplanes. Knabenshue also says that Willard taugh himself to fly and was the first American aviator to maneuver an aeroplane through a complete turn.
- 90. Roy Knabenshue provided this information concerning himself.
- Chronicle of the Aviation Industry in America: 1903-1947 (Cleveland: Eaton Manufacturing Company, 1948), p. 11.
- 92. Knabenshue, who worked closely with Beachey, gives Beachey's age as nineteen at the time of the Dominguez Meet. The other data concerning Beachey may be found in Henry Ladd Smith, Airways: the History of Commercial Aviation in the United States (New York: 1942), p. 25 and Chronicle of Aviation Industry in America: 1903-1947, op. cit., pp. 13, 14, 15.
- Los Angeles Times, January 11, 20, 1910.
- 94. Ibid., January 11, 1910.
- Los Angeles Examiner, January 7, 1910. Cf., Los Angeles Times, January 9, 95.
- Interview with Roy Knabenshue.
- 97. Who Was Who in America, op. cit., I, 237.
- 98. Ibid.
- Los Angeles Times, January 8, 1910. Cf., Who Was Who in America, op. cit., 99. I. 237.
- Who Was Who in America, op. cit., I, 237. Cf., Frank Moore Colby (Ed.), The New International Year Book: 1909 (New York: Dodd, Mead and Company, 100. 1910), p. 5.
- Personal interview with Roy Knabenshue. Cf., Sunset, March, 1910, p. 248. Sunset, March, 1910, p. 248. 101.
- 102.
- 103.
- Los Angeles Times, January 11, 1910. 104.
- 105. Ibid.
- Los Angeles Examiner, January 11, 1910. Cf., Los Angeles Times, January 11, 106.
- 107. Los Angeles Times, January 11, 1910.
- Los Angeles Examiner, January 11, 1910. 108.
- 109. Long Beach Press, January 11, 1910.
- 110.
- Los Angeles Times, January 11, 1910.
 Some concessionaires paid \$4,000.00 for the privilege of doing business at the 111. meet. World Today, March, 1910, p. 270. Cf., Los Angeles Times, January 10, 11, 1910.
- 112. Los Angeles Times, January 11, 1910.
- 113. Ibid.
- Chronicle of the Aviation Industry in America: 1903-1947, op. cit., p. 8. 114.
- Los Angeles Times, January 12, 1910. 115.
- Personal interview with Roy Knabenshue. Cf., Los Angeles Times, January 12, 116. 1910.
- Knabenshue points out that those responsible for promoting the Los Angeles 117. meet would have been more than happy if Bishop had not put in an appearance. Bishop, who considered aviation a sportsman's domain, in contrast to those who saw the commercial possibilities of flying, moved into Los Angeles and proceeded to give out orders and generally take over direction of the meet.
- 118. Los Angeles Times, January 11, 1910.
- 119. Ibid.
- 120. Ibid., January 11, 12, 1910.

121. Bishop was to make his first aeroplane trip on January 14, 1910, at the Domin-

guez Meet. Los Angeles Examiner, January 15, 1910.

Bishop's pessimism concerning transcontinental air travel is recorded in the Los Angeles Times for January 11, 1910. He could hardly have been expected to forestell the rapid development of aviation which would result in Calbraith P. 122. Rodger's amazing Atlantic-to-Pacific flight completed on December 12, 1911. Cf., Long Beach Telegram, ca. April 4, 1912. Los Angeles Times, January 11, 1910.

123.

124. Ibid.

Information concerning Horton appears variously in the Long Beach Press, January 11, 13, 1910 and the Los Angeles Times, January 11, 1910. 125.

126. Los Angeles Times, January 11, 1910.

- 127. *Ibid.*, January 10, 1910.
- 128. Los Angeles Times, January 8, 11, 1910.

129.

- Ibid., January 17, 19, 1910. Los Angeles Times, January 17, 1910. 130.
- 131.
- *Ibid.*, January 9, 1910. *Ibid.*, January 17, 1910. 132.
- 133. Ibid.

134. Ibid.

- Los Angeles Times, January 9, 1910. Cf., Scientific American, January 29, 135. 1910, pp. 105-106.
- Los Angeles Times, January 9, 1910. 136.

137.

Los Angeles," World Today, March, 1910, p. 273.

World Today, March, 1910, p. 273.

Los Angeles Times, January 17, 1910.

Los Angeles Times, January 17, 1910. 138.

139.

140.

141. Ibid., January 19, 1910. 142.

143.

Ibid., January 17, 1910.

Ibid., January 11, 1910.

The Gnome engine is a machine worthy of closer analysis than may be given 144. The Gnome engine is a machine worthy of closer analysis than may be given it here. Some data is to be found in Glenn D. Angle, Airplane Engine Encyclopedia (Dayton, Ohio: Otterbein Press, 1921), pp. 210 ff.; Scientific American, Ianuary 23, 1909, p. 82; Scientific American, February 20, 1909, p. 117; Earle L. Ovington, "The Aviation Motor," Scientific American, August 5, 1911, pp. 116-118; Earle L. Ovington, "The Gnome Rotary Engine," Scientific American, September 14, 1912, pp. 218 ff.; A. Hyatt Verill, "On Aeronautical Motors," Aeronautics, February, 1913, p. 53; Aeronautics, April, 1913, p. 154; Emil Berliner, "Revolving Cylinder Motor," Aeronautics, November, 1913, pp. 165 ff.; Los Angeles Times, January 11, 1910. Cf., E. Charles Vivian, A History of Aeronautics (New York: Harcourt, Brace and Company, 1921), pp. 428 ff.

145. Los Angeles Times, January 11, 1910.

Ibid.146. Ibid., January 10, 1910.

147. 148. Ibid.

- 149. Ibid., January 11, 1910.
- Ibid., January 10, 14, 1910. 150.
- 151. Ibid.
- Ibid., January 10, 1910. 152.
- 153. Ibid., January 11, 1910.
- The incident is described in detail in Los Angeles Times, January 10, 1910. 154.
- 155.
- Ibid., January 11, 1910. 156.
- 157. Ibid.
- 158. Ibid.
- 159. Ibid.
- 160. Ibid.
- Los Angeles Examiner, January 12, 1910. 161.
- Los Angeles Times, January 11, 1910. 162.

163. Ibid.

Zerbe was experimenting with aircraft at least one year prior to the Dominguez Meet. Cf., J. S. Zerbe, "Among the Aeronauts in Southern California," Los Angeles Herald, December 20, 1908. His unhappy attempt to fly is described in the Los Angeles Times, January 11, 12, 1910. 164.

- 165. Spare parts were scarce. Beachey proceeded to make a new propeller and rebuild the wrecked controls in time to fly on January 19. Los Angeles Times, January 11, 19, 1910.
- 166. Los Angeles Times, January 11, 1910.
- 167. Ibid.
- 168. Ibid.
- 169. Ibid.
- 170. Ibid., January 10, 1910.
- 171. New York American, January 11, 1910.
- 172. Ibid.
- 173. Ibid.
- Los Angeles Times, January 11, 1910. Beck's primary assignment, at Dominguez, 174. was to make extensive observations for the Signal Corps, U. S. Army.
- 175. Los Angeles Times, January 12, 1910.
- 176. New York American, January 12, 1910.
- 177. Long Beach Press, January 12, 1910. 178. Ibid.
- 179.
- Ibid.
- 180. Los Angeles Times, January 12, 1910.
- Curtiss's series of short hops in front of the stands led one man to say, "That guy can't fly he can't even get off the ground." Shortly after this, Horton 181. announced that Curtiss had broken the world's record for quick take-off. Los Angeles Times, January 12, 13, 1910. Los Angeles Times, January 12, 1910.
- 182.
- 183. Ibid.
- A negative, part of the "Transportation-Air-Early" collection of the Security First National Bank, Los Angeles, California, bears the caption, "First photograph made from an aeroplane in flight, by Glenn Curtiss." Curtiss, who had 184. been a professional photographer, passed off as a fake an assertedly earlier photograph supposedly made by De Lambert while circling the Eiffel Tower.
- 185. Los Angeles Times, January 12, 1910.
- The statistics are based on data from the Los Angeles Times, January 17, 1910. Because of the fact, however, that aeroplane construction in 1910 was a custom 186. operation, and because builders were constantly incorporating design changes into successive models, it is difficult to draw general conclusions concerning specifica-tions, even for aeroplanes bearing the same name and model number. The Times, on different dates, varies, by several feet, in the published length of the Bleriot. Los Angeles Times, January 9, 11, 13, 17, and 19, 1910. Cf., Barber, op. cit., passim and appendix; Frank Moore Colby (Ed.), The New International Year Book: 1910 (New York: Dodd, Mead and Company, 1911), p. 5.
- 187. Barber, op. cit., appendix.
- 188. Los Angeles Times, January 17, 1910.
- 189. Ibid.
- 190. Ibid., January 12, 13, 1910.
- 191. Long Beach Press, January 12, 1910.
- 192. Los Angeles Times, January 13, 1910. 193. Ibid.
- 194.
- Ibid., January 12, 1910.
- 195. Ibid., January 13, 1910.
- 196. Ibid. 197.
- Ibid.
- 198. Ibid.
- 199. Ibid., January 12, 13, 1910.
- 200. Ibid
- 201. Ibid.
- Ibid., January 13, 1910. 202.
- 203. Ibid.
- 204. Ibid.
- 205. The record altitude flight and the accompanying excitement it created are described in the Los Angeles Times, January 13, 1910; New York American, January 13, 1910; London Times, January 13, 14, 1910; Sunset, March, 1910, p. 252; and World Today, March, 1910, p. 274.
- 206. Los Angeles Times, January 13, 1910.
- 207. Ibid.
- 208. Ibid.

London Times, January 13, 1910. New York American, January 13, 1910. 210. Ibid. Aeroplane, a word derived from the Greek, incorporated the umlaut over the "e" in most early spellings. This cited omission of the umlaut, whether ac-211. cidental or intentional, was typical of the effect of usage which saw the word gradually transformed, at least on the American continent, to airplane. Los Angeles Examiner, January 13, 1910. Los Angeles Times, January 13, 1910. 212. 213. 214. Ibid. The quotation, probably a translation from the French, is found in Los Angeles 215. Times, January 13, 1910. Mytton had worked in secret for more than a year to build his machine. It is possible that this desire for secrecy prompted him to wheel the aeroplane out of the shed where it had been built and try for an immediate take-off rather than move to an open area. The open area would have provided a safety factor but it would have exposed his design to inquisitive eyes. Los Angeles Times, January 13, 1910. 217. Ibid. Los Angeles Times, January 12, 1910. 218. Ibid. 219. 220. Ibid.221. Long Beach Press, January 13, 1910. 222. Los Angeles Times, January 13, 1910. Ibid., January 12, 1910. 223. 224. Ibid. 225. Ibid., January 13, 1910. 226. Ibid. 227. Ibid. Ibid. 228. Los Angeles Examiner, January 13, 1910. 229. Los Angeles Times, January 13, 1910. 230. Ibid., January 14, 1910. 231. 232. Ibid.Ibid.233. This was most likely a stunt aimed at the Curtiss-Wright litigation rather than a 234. scientific experiment. Even at this early date, aviators were discovering that both rudder and aileron control were necessary to achieve what we now call a co-ordinated turn. Cf., Scientific American, January 29, 1910, p. 106. Los Angeles Times, January 14, 1910. 235. 236. Ibid. Ibid., January 21, 1910. 237. At the turn of the century, military planners were envisioning the aeroplane as an extension of the scouting function of the army. Naval strategists were anxious to take advantage of the aeroplane's possibility in this respect. But the well-known instability of the aeroplane seemed to rule out the prospect of ship-based aircraft. Willard's feat was but the forerunner of developments which led, within a year of the Dominguez Meet, to the first aeroplane landing on a ship — Lieutenant Eugene Ely's alighting on the deck of the U.S.S. "Pennsylvania" in San Francisco harbor on January 18, 1911, Cf., Kane, op. cit., p. 59. Los Angeles Times, January 15, 1910. Los Angeles Examiner, January 15, 1910. 240. Ibid., January 13, 14, and 15, 1910. Los Angeles Times, January 15, 1910. 241. 242.

Ibid.

Ibid.

Ibid.

Ibid.

Ibid. Ibid.

Ibid. Ibid.

Ibid.

Ibid., January 14, 1910.

Ibid., January 15, 1910.

243. 244.

245. 246.

247.

248.

249.

250. 251.

252. 253.

- 254. Los Angeles Times, January 15, 16, 1910. Cf., World Today, March, 1910, p. 243, and London Times, January 17, 1910.
- 255. Los Angeles Times, January 15, 1910. 256.
- London Times, January 17, 1910. Los Angeles Times, January 15, 1910.
- Los Angeles Examiner, January 15, 1910. Taft made it clear that he wanted to observe aircraft performance, but that he, himself, would not fly. 258.
- 259. Parker did not intend to fly himself but had, in his employ and present at Dominguez, aviators who would use the aeroplane to attract customers to Parker's carnivals. The established price for a Farman was sixty-five hundred dollars F.O.B., Paris, or twenty thousand dollars, delivered in Los Angeles. Los Angeles Times, January 15, 1910.
- 260. Johnson, proprietor of the Johnson Mercantile Co., San Francisco, was a colonel on the staff of the governor of California. The arrangement with Johnson was but one instance of the success of the Dominguez Meet as an effective sales promotion device. In addition to sales to Johnson, Curtiss sold aeroplanes to A. P. Warner, Beloit, Wisconsin; F. M. de Riemsdyke, Paris, France, who planned to enter his newly-purchased machine in the aviation competition at Cairo, Egypt; James E. Plew, a prominent automobilist of Chicago and the Aeronautical Society of New York. In addition to these actual sales, Dominguez prompted hundreds of inquiries concerning aeroplane performance and prices. Los Angeles Times, January 15, 1910.
- 261.
- 262. Los Angeles Times, January 17, 1910.
- 263. Ibid.
- 264. Ibid.
- 265. At twenty cents the round trip. Los Angeles Times, January 7, 16, 17, 1910.
- 266. Los Angeles Times, January 17, 1910.
- 267.
- 268. Curtiss and Willard had both refused to fly because of the dangerous winds. Paulhan's skill with the Farman, which seemed to possess unusual stability, moved the spectators to scream themselves hoarse. Los Angeles Times, January 17, 1910.
- 269. Los Angeles Examiner, January 16, 1910. 270. Los Angeles Times, January 17, 1910.
- This statement, which was attributed to Curtiss by a reporter writing for the Los Angeles Times, January 17, 1910, hardly seems in character for Curtiss, a former motorcycle racer who was no doubt familiar with the tremendous speeds which were being achieved on the automobile tracks of the country. Curtiss's comment regarding speed may have stemmed from his concern for the manner in which the aviators at Dominguez were forced to maneuver their aircraft at high speed within a limited flying area — a marked contrast to the larger flight pattern which existed at Rheims. Cf., Who Was Who in America, op. cit., I, 237.
- Los Angeles Times, January 18, 1910. Beachey's use of the term "novices" is somewhat difficult to interpret, in view of the small number of persons who had experience either building or flying aircraft. Gill and Dosh, who had built their machine along the lines of Curtiss's aeroplane, probably made no claim to professional standing. Ibid.
- 274. Ibid.
- 275. Ibid.
- 276. Los Angeles Times, January 19, 1910.
- 277. Los Angeles Examiner, January 19, 1910.
- 278. Los Angeles Times, January 19, 1910.
- 279. 280. Ibid. Cf., World Today, March, 1910, p. 275.
- Los Angeles Times, January 19, 1910. Cf., London Times, January 19, 1910; World Today, March, 1910, p. 275. 281.
- Los Angeles Times, January 19, 1910. London Times, January 19, 1910. 282
- 283.
- Los Angeles Times, January 19, 1910. Los Angeles Times, January 18, 1910. 284.
- 285.
- London Times, January 20, 1910. 286. World Today, March, 1910, p. 275 287.
- Los Angeles Examiner, January 20, 1910. 288.
- 289. Ibid.

- 290. Los Angeles Times, January 20, 1910.
- 291. Ibid.
- 292. Ibid.
- 293. London Times, January 21, 1910.
- Ibid., January 20, 21, 1910. 294.
- 295. Los Angeles Times, January 20, 1910. Cf., Sunset, March, 1910, p. 228.
- 296. Los Angeles Times, January 20, 1910.
- 297. Ibid. 298. Ibid.
- 299. Ibid.
- 300. Scientific American, January 29, 1910, p. 106.
- Los Angeles Times, January 31, 1910. 301.
- 302. Ibid.
- 303. Ibid.
- Scientific American, January 29, 1910, p. 106. The significance of the event lies 304. in the fact that the aviators flew competitively, rather than against time, and that the race was staged before an audience assembled for the specific purpose of observing aerial flight.
- Ibid. Cf., Los Angeles Times, January 21, 1910. 305.
- Los Angeles Times, January 21, 1910. 306.
- 307.
- 308. Long Beach Press, January 19, 20, 1910.
- Iibd. 309. 310. Ibid.
- Frank Moore Colby (Ed.), New International Yearbook: 1909 (New York: Dodd, 311. Mead and Company, 1910), p. 4. Literary Digest, February 3, 1911.
- 312.
- 313.
- U. S. Bureau of the Census, Index to Occupations (Washington: Government Printing Office, 1915), pp. 398-99.

 Who's Who in Aviation: 1942-43 (Chicago and New York: Ziff-Davis Publishing 314.
- Company, 1942), passim. Nearly a score of future American aviation leaders, including Roscoe Turner, Carl Spaatz, John Northrop, and James Doolittle, to name but a few, were between the ages of thirteen and nineteen in 1910.
- Who Was Who in America, op. cit., p. 237.
- Aircraft Yearbook (New York: Manufacturers Aircraft Association, Incorporated, 1919), p. 111.
- Ibid., p. 113. Who Was Who in America, op. cit., p. 237. 318.
- 319. New York Times, July 24, 1930.
- Los Angeles Times, January 20, 1910. 320.
- Sunset, March, 1910, p. 253. 321.
- 322. Kane, op. cit., p. 67.
- London Times, January 20, 1910. 323.
- U. S. Congress, Senate, Appropriations, New Offices, Etc., Vol. No. 34, U. S. Senate, 62nd Congress, 2nd Session, Document No. 951, on H. R. No. 25,531, 324. August 24, 1912 (Washington: Government Printing Office, 1912), p. 79.
- U. S. Congress, Senate, "Army Appropriations Act," Appropriations, New Offices, Etc., Vol. No. 12, U. S. Senate, 63rd Congress, 3rd Session, Document No. 993, on H. R. No. 20,347, March 4, 1915 (Washington: Government Printing Office, 326. 1915), p. 38.
- F. Cunningham, Sky Master (Philadelphia: Dorrance and Company, 1943), 327. facing pp. 80, 81.
- 328.
- World Today, March, 1910, p. 270.

 Los Angeles Times, January 21, 1910. World Today, March, 1910, p. 270, quotes the amount as \$141,520.00. 329.
- Los Angeles Examiner, December 17, 1910. The list includes marks for height, distance, endurance, speed for various distances, 331. flights with passengers, slow flight, short take-off, quick take-off, and weight. Los Angeles Times, January 21, 1910. Cf., Sunset, March, 1910, p. 245; World Today, March, 1910, p. 271.
- London Times, January 20, 1910. 332.
- Los Angeles Times, January 7, 1910. 333.
- Ibid.334.
- 335.
- Long Beach Press, January 18, 1910.

- Kane, op. cit., p. 298. Cf., Los Angeles Examiner, January 19, 1910. Los Angeles Times, January 22, 1910.
- 338.
- Fernand Loyer and Charles Beaudread (Eds.), Le Guide Français de Los Angeles 339.
- et Sud de La Californie, 1932, p. 103.

 Research Reveals the 60 Year Progress of Los Angeles. (Los Angeles: Prepared by The Research Committee, Los Angeles Chamber of Commerce, October 15, 1948), UNP.
- Los Angeles Times, June 22, 1913. Cf., The Saturday Evening Post, August 21, 1937, pp. 30, 32, 58, 60; The New Yorker, December 5, 1942, pp. 26-34; Popular Science, September, 1941, pp. 51-58; Collier's, June 3, 1933, pp. 25, 47-49. 341.
- 342. Aircraft Yearbook, op. cit., pp. 157-159.
- 343. Ibid.
- 344. The Sixty Year Progress of Los Angeles, op. cit., UNP.
- 345. Ibid.
- U. S. Bureau of the Census, Statistical Abstract of the United States: 1950 (Seventy-first edition; Washington: Government Printing Office, 1950), p. 58. 346.
- 347. Guinn, op. cit., I, 375.
- 348. Ibid.
- U. S. Bureau of the Census, Statistical Abstract of the United States: 1950 (Seventy-first edition; Washington: Government Printing Office, 1950), p. 58. Interview with Roy Knabenshue. Hamilton flew in Knabenshue's employ for 349.
- 350. some time following Dominguez. Cf., Chronicle of the Aviation Industry in
- America: 1903-47, op. cit., p. 11.

 Interview with Roy Knabenshue. Willard was, at one time, chief engineer for Glenn Martin in Martin's Los Angeles plant. Cf., Aircraft Yearbook, op. cit., 351. рр. 60-61.
- 352. Interview with Roy Knabenshue.
- 353. Smith, op. cit., p. 35.
- Los Angeles Times, January 21, 1910. 354.
- M. J. B. Davy, Interpretative History of Flight (London: 1937), p. 145. Cf., London Times, April 28, 1950. 355.
- The World Almanac and Encyclopedia (New York: The Press Publishing Com-356. pany, 1913), p. 408. London Times, April 28, 1950.
- 357.
- 358. Los Angeles Times, January 13, 1910.