

William T. Newell (left) and Henry I. Newell (right) built this biplane glider at Richmond Hill, Long Island, N.Y. Each wing was 26 feet by 4 feet. In 1909 they helped organize the Aero Club of Long Island. The incorporation certificate is presently in museum of Long Island Early Flyers Club at Suffolk County Airport, L.I.



All photos courtesy of Henry I. Newell

THE AERO CLUB OF LONG ISLAND

by EDWARD PECK

If aviation was born above the sands near Kitty Hawk, it was nurtured through infancy at the numerous early flying fields surrounding New York City. Such places as Morris Park, Oakwood Heights, Governors Island, Belmont Park, Sheepshead Bay—these and other sites hosted a parade of American and European flying machines during the first decade of aviation. The most prominent early airfield of all was at Mineola, Long Island. It attracted the greatest numbers of aircraft and became a complex of adjoining flying fields identified by such names as Hempstead Plains, Hazelhurst, Curtiss Field and finally Roosevelt Field. Mineola was also a mecca for boys of all ages who were attracted there by the marvels to be seen. Youths have always warmly embraced technical innovation, and many who witnessed those pioneering flights wondered if they too might build a flying machine—perhaps even devise improvements of their own.

Thus it was, in 1908, that Henry Newell and his brother William saw their first aeroplanes (as they were then called) and immediately became entranced by the miracle of human flight. They saw Henri Farman who was then flying out of Sheepshead Bay Racetrack, and Louis Paulhan over at the Jamaica Racetrack. To the north a little way, at Morris Park Racecourse, their eyes beheld the awesome sight of Glenn Curtiss demonstrating his flying machine at the first aviation meet in the U.S.—this sponsored by the prestigious Aeronautical Society of New York. Also there was Thomas Scott Baldwin with a hot air balloon, but such an anachronism could hardly compete for attention with a swift, noisy and quite remarkable heavier-than-air machine.

The Newell boys, then in their late teens, were well and truly bitten by the flying bug. This passion for novel technical developments was neither new to them nor only a fleeting amusement. As early as 1903 they had become deeply interested in radio and carefully read everything they could find on the subject. Then, having appraised the possibilities, the two brothers decided to construct their own transmitter at their home in Richmond Hill, Long Island. This was based on the old jump-spark principle, in those days a common means of code signal propagation. Because their community had no electricity, it was necessary for the Newells to generate their own power. This was devised by attaching an inverted bicycle to a board on which was also mounted a small dynamo. With a belt running from the rear bicycle wheel to the dynamo pulley, the pedals would be turned by hand and sufficient electrical current generated to throw their radio signal to a friend about two miles away. Later that year they obtained a government list of existing radio stations. This included two land transmitters and 25 aboard ships. Henry and Will then constructed a receiver, strung a 200-foot antenna, and concluded that

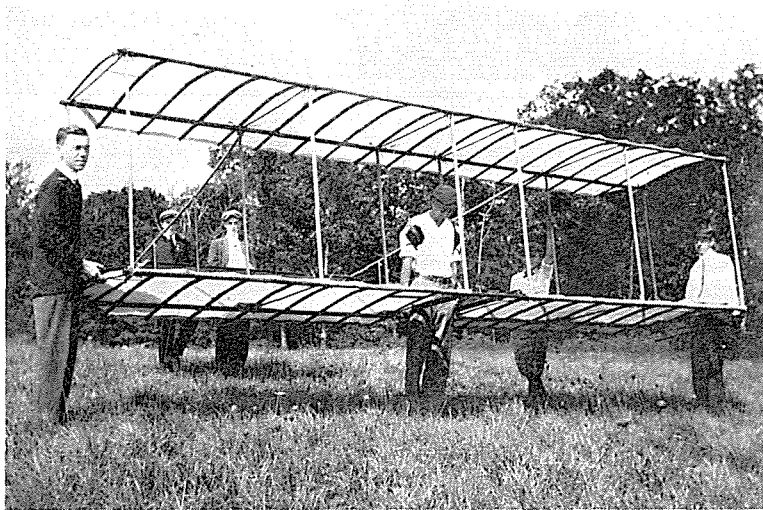
their radio enterprise was a smashing success.

Scientific American was a widely read magazine of that period. In authoritative fashion it reported on a broad spectrum of technical and scientific developments, yet its articles were couched in terms which any intelligent layman could grasp. This was just the sort of reading which Henry and Will Newell thrived on. In 1906 they purchased their first subscription so as to have a steady diet of such exciting and informative technical news. This included not only a generous serving of items relating to radio, but the emerging world of aviation was soon claiming much attention in its pages. Thus exposed to the latest developments in flying machines, it took little prodding to get the Newell boys out to Mineola or wherever there were aeroplanes to be seen.

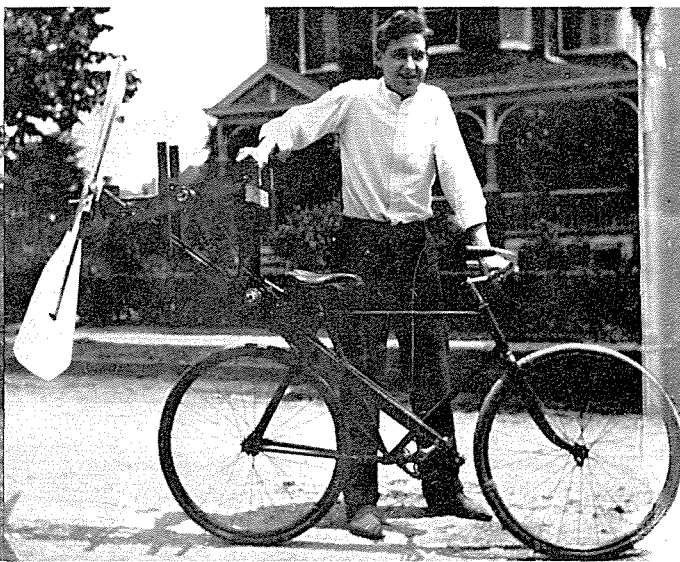
No further stimulation was required to urge the Newells and their young friends of like mind into action. Not content to be merely spectators on the sidelines of aviation, they resolved to organize a group which would devote itself to both serious study of the subject and, if possible, actual construction of flying machines. Thus was the Aero Club of Long Island formed in the early part of 1909. It was at first a very small, informal group of model builders, armchair aviators and habitués of all the flying fields within a reasonable streetcar, bicycle or motorcycle ride from their homes on Long Island. Members hailed from such communities as Brooklyn, Flushing, Jamaica, Oceanside and Richmond Hill. Their first formal meeting was held in the Newell home at 117 Briggs Avenue in Richmond Hill on August 20, 1909. At that gathering Charles Rockstroh was elected the Club's first president. Henry Newell became vice president, his brother William secretary, and Joseph K. Post the treasurer. William Kirk rounded out the founding group. At a later time William and Henry Newell became president and treasurer respectively. Although the A.C.L.I. met monthly at the homes of various members, their spiritual headquarters was the broad, level field at Mineola—that capitol of America's earliest fliers.

Apart from meeting notices and an occasional written report or discussion paper on aerodynamics, methods of construction, the history of aviation, powerplants, monoplanes versus biplanes and so on, the Club issued no newsletter or other regular publications. Its membership fully intended to become active in building and testing flying craft rather than just a "paper" organization. The Aero Club of Long Island did, however, attempt to build a reference library of aeronautical literature. Some of the first items to be acquired were the writings of Samuel P. Langley and others from the Smithsonian Institution. Such popular magazines as Aero Weekly and Aeronautics added to the Club's resources.

The Aero Club of Long Island was a small group with an im-



Members of the A.C.L.I. at Richmond Hill Golf Club, 1909. This is Newell brothers' glider before addition of skid and ailerons.



Will Newell and "Fan-cycle." The chain went to gears of ice-cream freezer. Propeller would push "faster than you could run."

pressive name—and it soon discovered that the name itself was coveted by others. The organization was incorporated in the State of New York on August 25, 1910. When, in September 1911, a flying meet was to be held at Nassau Boulevard in Garden City, a prominent group of aviation promoters decided that they wanted to use the same name. Accordingly, a representative of John Moisant named John Weissman called at the Newell home to negotiate some accommodation. Every inducement—except money—was offered if the A.C.L.I. would allow its name to be appropriated, but no agreement was reached. Meanwhile, the principle sponsor of the air meet took it upon himself to use the Club's name anyhow. Gage Tarbell, a wealthy real estate broker in Garden City, instructed his press agent to file for incorporation of their group under the same name. The Newells learned of this and threatened to sue if the attempt was carried through or if their club's name was used in any unauthorized manner. Within a few days an attorney representing the Tarbell group advised the Aero Club of Long Island that its name would not be employed in any way.

The A.C.L.I. did consider the advantages of affiliating itself with a larger, more prominent club with similar interests. Thus, on October 3, 1910, it mailed an inquiry to the Aero Club of America asking what the prerequisites and conditions of such an affiliation might include. In its reply, the A.C.A. requested copies of the smaller group's by-laws, list of officers, certificate of incorporation and a roster of its members. These requirements presented no great problem, but one inescapable condition did. The Aero Club of America would also demand a \$50 initiation fee of the Aero Club of Long Island. In a magnanimous gesture of goodwill, it agreed to waive (for the moment at least) a per-capita tax on the A.C.L.I. membership. Fifty dollars would in that day buy a lot of construction materials or many helpful books on aviation. The Aero Club of Long Island did not federate itself with the larger group.

There can be little doubt that members of the Aero Club of Long Island were sustained in their aeronautical interests by the many significant flying events which were easily available to them. To illustrate the point, a few examples are of interest.

In the summer of 1908 Glenn Curtiss was teaching Charles Willard to operate an aeroplane. This instruction took place from a large field of timothy grass near Mineola, and the Curtiss machine was kept in a tent pitched alongside Old Country Road. All of their flying was done just as it became light enough in the morning or during the late afternoon hours before sunset. Rising winds and unpredictable thermals made operations during the middle of the day too hazardous. When they wished to witness these flights, Henry and Will Newell would arise at 4 a.m. and ride a motorcycle the 11 miles from their home to Mineola. When

they returned to Richmond Hill some three hours later, their clothing would reek of castor oil fumes and had to be removed before entering the house.

The Newells saw their first Wright aeroplane in 1909, and the most lasting impression was the noise it made. "It sounded like a hundred tin cans being dragged behind an automobile over a cobblestone street," observed Henry. This loud clatter was caused by the drive chains running through their metal guide tubes.

One of the premier flying events of that period was the International Aviation Tournament held at Belmont Park from October 22-30, 1910. This was sponsored by the Aero Club of America and was very much a "society" affair. Will and Henry Newell were certainly not nabobs, but they and their fellow A.C.L.I. members had no qualms about rubbing elbows with the wealthy or the famous—including Orville and Wilbur Wright. The two young brothers from Richmond Hill stood beside those other brothers from Dayton as Ralph Johnstone and Arch Hoxsey urged their Wright machines to new altitude records.

Despite the grave hazards and uncertainties of flying in those days, the two Newells never saw an aviator killed. There were countless smashups and lesser accidents, however, and many times Henry and Will witnessed a Curtiss machine plow its front wheel into the turf and spin around a time or two with little apparent damage. Their memories also recall the more serious crashes of LeBlanc of France, John Moissant in his Bleriot, and Walter Brookins in the Wright Baby Grand racer. The parade of famous flyers before their eyes was virtually endless—such renowned figures as Coffyn, Latham, Mars, Grahame-White, Hamilton, Ely, Harmon, Lahm, Sopwith, Ovington and many, many others. Indeed, one would be hard put to think of a better time and place in the annals of aviation to see so much history being made in one community during a span of only three years or so.

Observing the great flyers and events of that period was exciting and instructive perhaps, but members of the Aero Club of Long Island were not to be denied the vicarious sense of achievement in building their own full-size flying machines. Only by doing so could they claim to be more than just another hobby group devoted to flying models and watching the very real accomplishments of others. Therefore, rather ambitious construction projects were undertaken by members Thomas Kramer, Francis Willson, John Lisle and the two Newell brothers. The main obstacle facing these fledgling pilots was the high cost of suitable engines to power their creations. Of the several building projects carried out, only that of Willson culminated in a powered aeroplane which he flew at Mineola in 1910. The others had to be content with gliding flight.

One of Willson's efforts became a cropper in unusual fashion.



Towing Tom Kramer in his glider at Oceanside, L.I., New York. It reached an altitude of 75 feet and landed safely.

He was building a Curtiss-type biplane in a building adjacent to Grand Central Station in New York City. One day an incoming train failed to stop at the platform, crashed through the ticket gate and into a large storage tank of "pinch gas" which was used for lighting passenger cars. The resulting explosion blew out part of the station's north wall and many windows in the area. Willson's aeroplane was demolished.

Charles Wald took a somewhat different approach to becoming airborne by learning to fly at the Wright brothers aviation school. Accordingly, he received the acclaim of his fellow club members at their meeting of May 2, 1912, and during that year Wald operated an air ferry from Glenwood Landing across Long Island Sound to New Rochelle. Tom Kramer built several gliders during the period 1909-1910, and the Newell brothers participated in those experiments. Member Charles Spence appears to have been a bit less adventuresome than the others, confining his zeal to operation of the White Aeroplane Company in Brooklyn—a model supply shop.

Confident that the future of aviation was a promising one, Henry and Will Newell discussed between themselves the prospects of building their own aeroplane—initially to be a glider but with power added later. They concluded that such a project was within their capabilities and, in 1909, set about designing their machine. This was to be of conventional biplane construction, rather frankly patterned after the Curtiss aircraft they had seen. It would measure 20 feet from front to rear and have a wing span of 24 feet. The controls were to be rigged as follows: A body-yoke was so connected that the pilot, leaning to one side or the other, would actuate wingtip ailerons. In front of him was a control column which, being moved forward or aft, produced the usual elevator action. Directional control was less conventional in that there were two rudders consisting of triangular panels fitted vertically between the outer wings. These were linked to a steering wheel at the top end of the control column—a la Curtiss.

To begin construction, suitable materials had first to be obtained. Oregon spruce headed their shopping list. This was found at a lumber yard in Manhattan, and Will was dispatched to fetch it. With four 18-foot pieces of the spruce over his shoulder, he trudged south to the Brooklyn Bridge and across that span to a Long Island Railway station in Brooklyn. Simply catching the first train that came along would not do, because Will had to await one with an express/baggage car in which to transport the spruce lumber. Eventually a train with such accommodation arrived at the platform, and Will rode eight miles to the Morris Park Station on Long Island (not to be confused with Morris Park Racecourse in Yonkers). From there he had to carry the lumber again for about one mile to the Newell home in Richmond Hill.

Will had traveled 16 miles with his bulky cargo—about half of that distance on foot! Thus was the determination with which the Newell brothers approached their flying-machine project.

Building the open frame of their aeroplane was a fairly straightforward matter, although Henry and Will fabricated most of the required hardware themselves. The task of fashioning wing ribs was altogether a different story, since these had to conform to a precise pattern and retain their predetermined curvature. The wings were to be of single-surface construction, hence there was no internal truss or framing to hold the airfoil profile. Each strip-rib had to maintain its exact curvature independent of any bracing.

A jig in which to fabricate these ribs was devised in the following manner: A pine log four and a half feet long by eight inches square was purchased. This was sawn in half at the lumber yard to the contour of the ribs to be made—forming an upper and lower template or die. The rib material itself was oak cut into four-foot strips, each one half by one and a half inches square. Two such strips, when securely laminated in a fixed curve, would form one wing rib of one-inch thickness. Before the glue between a pair of strips was dry, these assemblies were pressed tightly between the two halves of the jig. Large wood clamps then held these pieces firmly in place for two days, after which the ribs could be removed and hold their curvature. Brass nails were then spaced along the ribs to further ensure a secure bond and a permanent "set" of the airfoil profile. All of this resulted in a very firm, strong and lightweight rib.

Several materials were tried as a covering for the completed wing structures, including silk, cotton and linen. Unbleached muslin was found to be best, and this was wet before being stretched over the wing framework. Similarly, various finishes were tested to obtain the tightest surface possible. The Newell brothers finally chose a mixture of paraffin and kerosene applied in the following manner. Bars of wax were melted, to which kerosene was added so as to further thin the solution. Using an insect spray can of the "Flit Gun" variety, the still-warm mixture was sprayed in four coats on both sides of each wing surface. One hour later the covering was hard and tight as a drumhead. Although Icarus might not have approved the use of wax in these wings, there is no indication that Will and Henry Newell expected to ascend so near the sun.

The Newell aeroplane was completed as a glider during the course of 1909. It had been intended that a Curtiss V-8 engine would be procured for power, but the price of such a powerplant approached \$4,000—quite beyond their means at that time.

Concurrent with their design and construction of a flying machine, the Newell brothers also devised a means of testing the effi-



A study in 1911 lifestyle dress and habit (note parasol), as fashionable set in turn study Captain Thomas S. Baldwin's "Red Devil" at Mineola, L.I.

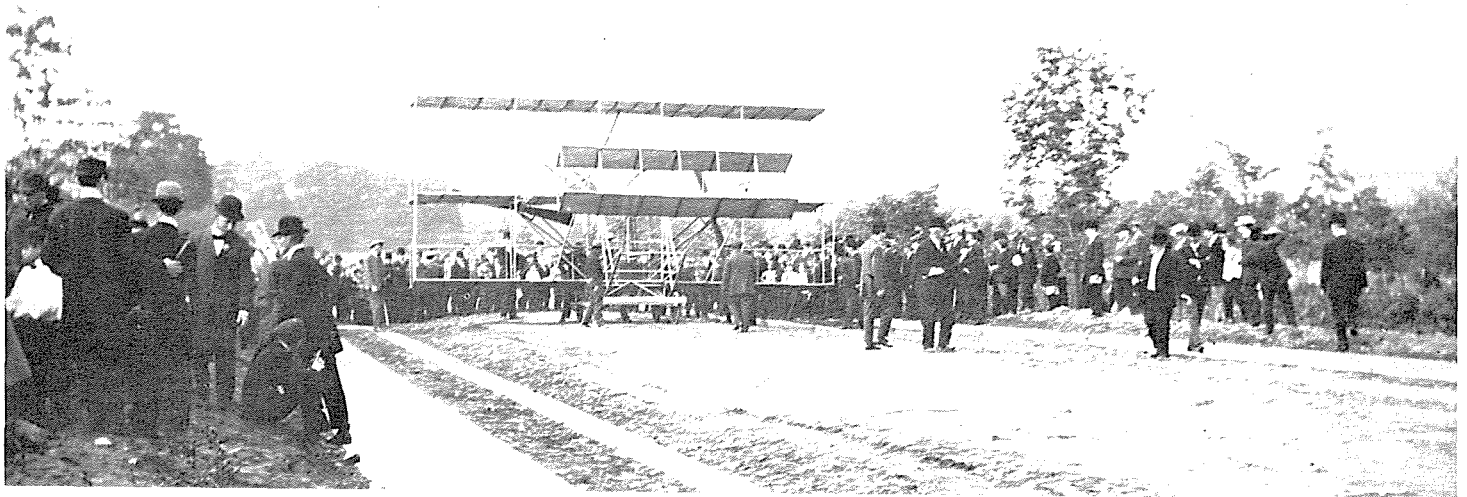
ciency of a propeller which they hoped to use when a suitable engine could be obtained. This test apparatus consisted of what they called a "fan-cycle"—simply a bicycle adapted to the purpose. The usual sprocket chain was re-routed from the rear wheel to an intermediate sprocket behind the rider's seat. From that point another chain led to a bevel gear mounted high above the rear wheel, and to this the propeller was attached. It must be remembered that these were young men working with limited resources but a great deal of ingenuity. Hence, it should surprise no one that their bevel gear assembly was appropriated from the mechanism of a hand-cranked ice cream freezer! Despite this make-do arrangement and considerable loss of efficiency through so indirect a power train, the contrivance performed to their complete satisfaction. Indeed, the propeller, energized by a pair of determined legs, could send the "fan-cycle" scooting down a street faster than a runner could pursue it.

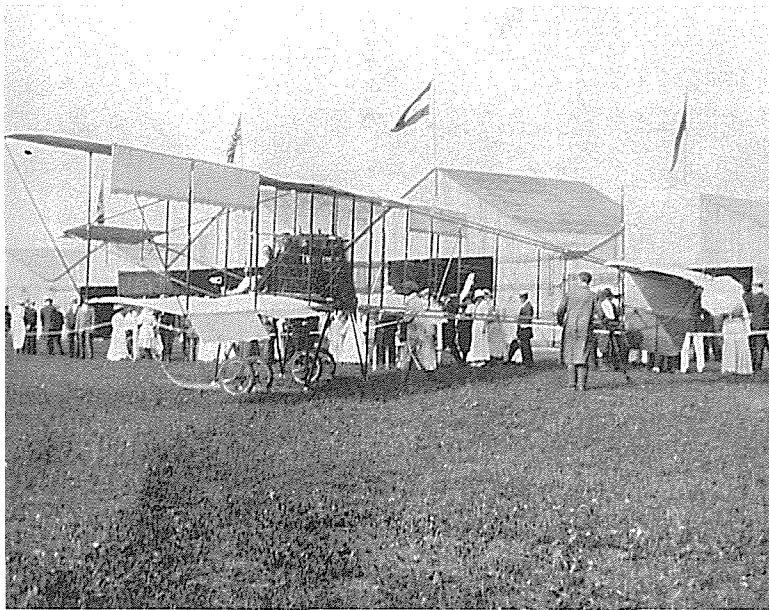
Because their flying machine had been built on the third floor of their home, Henry and Will Newell had to remove a window and lower the partly dismantled glider nee aeroplane by block and tackle. The nearest open space available for their test flights was the Richmond Hill Golf Club. Occasional trials were conducted there until 1912, when the family moved to a farm near Lanesboro, Massachusetts. At that location the brothers hoped to devise a catapult with which to launch their still unpowered machine, but this proved to be too difficult. It was customary for the glider to be housed in a hay barn. One day their father was storing bales in a loft above the machine when the floor collapsed. All that survived of the Newell flying machine was a pile of splintered and torn spruce, oak and unbleached muslin. With appropriate "aeronautical ceremony," the corpse of their great dream was then burned. Will was by that time in college, and Henry was beginning to make his mark in banking. The demands



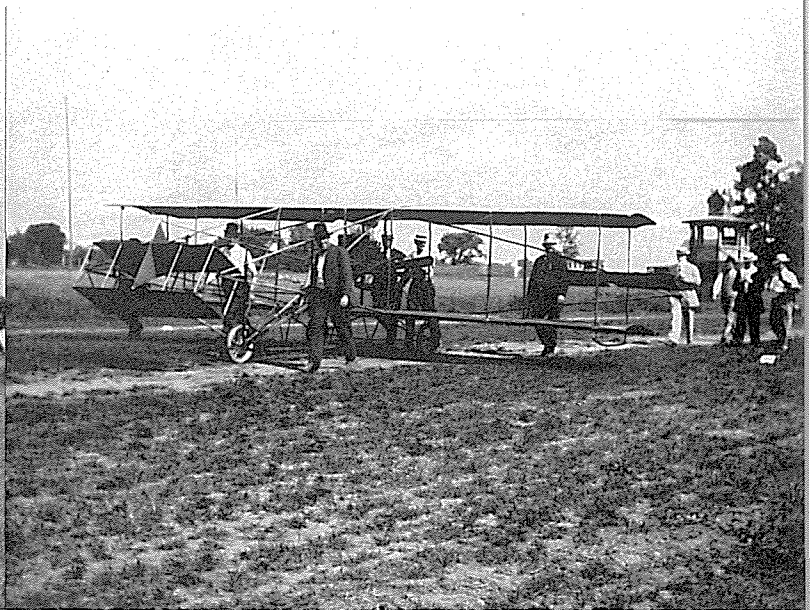
(Above) Pilots who made history. 1911. (L to R) Thomas S. Baldwin, James C. "Bud" Mars, and Eugene Ely.

(Below) The Morris Bokor triplane at Arlington, New Jersey. 1908





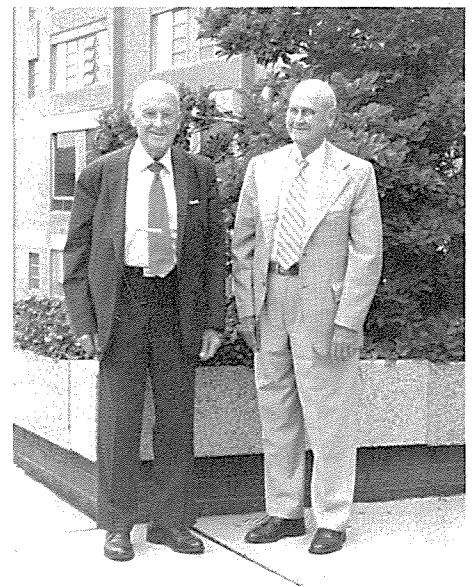
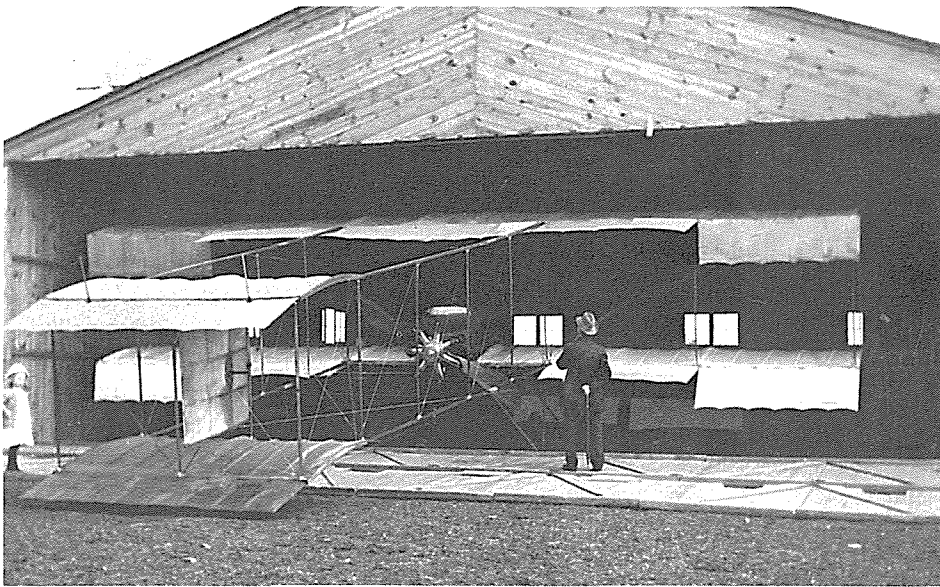
(Above) Claude Grahame-White in his Farman at air meet, Garden City, L.I. 1911



(Above) Glenn H. Curtiss preparing to take off at first U.S. air meet. Morris Park 1908.

(Below) Aeroplanes were the "wonder of the age" in 1910. Farman with 25 hp Gnome engine. Mineola, L.I.

(Below) Only surviving members of A.C.L.I. are William Newell (left) and Henry Newell.



of carving out a secure future thus ended their brief encounter with aeroplane construction.

Perhaps members of the Aero Club of Long Island achieved no great feats in the air, nor did they contribute much in the way of technical innovation in aircraft design. These youthful enthusiasts did, however, play a useful role in the emerging world of aviation. They were fervent advocates of man's new place in the sky and added their "mite" to the growing acceptance of this dawning age of flight. Even more importantly, they were perceptive witnesses to the first faltering exhibitions of these new flying machines. With camera in hand, they added to the permanent pictorial record of pioneer aviation which we are fortunate to have today.

The Aero Club of Long Island never exceeded more than 15 active members during its five-year existence. With aviation accepted as an almost normal part of man's experience and its fine edge of initial adventure and excitement somewhat softened, most of the Club's members turned to more workaday pursuits. In 1913 the organization was disbanded.

ACKNOWLEDGMENT

When Henry I. Newell became a member of the AAHS in 1970, the present writer contacted him and has maintained continuous correspondence ever since. Through his letters and in personal conversations, Mr. Newell has provided a wealth of eyewitness accounts and anecdotes concerning early aviation in the Long Island area. But for his generous assistance and cooperation, this article could not have been written.

All of the accompanying photographs were supplied by Mr. Newell from negatives which he made those many years ago. The material for this article is based entirely upon his reminiscences, hence the usual footnoted source citations were not required.

ABOUT THE AUTHOR

Edward Peck's interest in aviation dates from 1929 when an open biplane landed behind his home. Viewing the cockpit from his father's arms, Ed never forgot the thrill of it all but had to wait until the 1930s for his first ride—in a Ford Trimotor. Since then he has logged hundreds of thousands of passenger miles on 37 airlines throughout every continent.

After a career in airline sales and operations, Ed became a full-time historical researcher specializing in pre-1915 pioneer aeronautics and early transport aviation. A member of the AAHS for 11 years, he received its 1970 Willis L. Nye Award for his articles on early TWA aircraft. In 1971 he was elected a Companion of the Royal Aeronautical Society, and he is a member of the Society for the History of Technology.