

The Flying Pioneers

By HAROLD E. MOREHOUSE

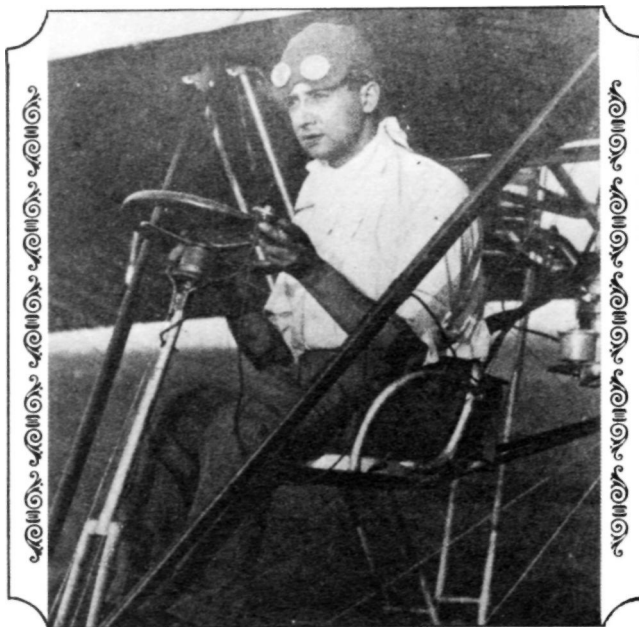
Dr. HENRY W. WALDEN
Early Pilot — Manufacturer — Instructor

Henry W. Walden was born in Walden, Massachusetts November 10, 1883. For a time during his boyhood the family lived abroad where his father was engaged as a civil engineer. Later the family returned to America where Walden finished his schooling. Henry W. Walden was really interested in balloons, then as aeronautics slowly evolved, that commanded his interest. Being mechanically inclined he wanted to become an engineer, but at the insistence of his parents, entered medical college instead. He detested medical college and tried to get out of it, and as a compromise with his parents changed to dentistry, graduating with a D.D.S. degree from Columbia in 1906. His dental practice was started at his home, 37Vi St. Marks Place, in Lower Manhattan but with a growing interest in aviation.

In July, 1908 Walden read about a group of airminded enthusiasts who had formed the Aeronautic Society of New York. He investigated, became interested and joined the group in September. The Society had been formed to discuss and encourage work on flying machines and related problems, provided workshop facilities, flying grounds for flight attempts and in addition had engines available for the use of members. The famous Morris Park Race Track sheds and grounds had been leased for their activities. Walden was elated and soon became active. He was in his realm at last.

Several airplanes were in process of construction. All types of ideas and opinions were prevalent and in the midst of this Walden began to plan a machine of his own. Usable basic aerodynamic information for aeroplane design was unknown at that time so every one had to use their own judgement. Reasoning that many of the early ones had failed to fly because of insufficient wing area, Walden's first was a tandem biplane. Called the Walden I, it was ready for trials in the early spring of 1909. He had planned to use an engine furnished by the Society, but this, it developed was an automobile engine weighing approximately 500 pounds, but of only 15 horsepower. He therefore decided to abandon the Walden I and started to work on a second design.

By late May Walden 11 was ready for ground tests, and after considerable grass-cutting he was convinced that it needed still more wing area. The wingspan was increased by four feet, but before this modification could be tested it was completely wrecked in a windstorm when he left the airplane outside overnight. These first two designs had one



unusual feature; the engine was mounted as a pendulum on a swinging arm devised to automatically control the lateral balance of the plane.

In early 1909 the Aeronautic Society had contracted for an airplane from Curtiss, which was delivered on June 16th, later called the GOLDEN FLYER.* A few days later, on June 26th, the Society held an air meet to display the various airplanes built by the members, and there Walden saw Glenn Curtiss make a short hop around a portion of the Morris Park race track. On August 2nd, he watched as Henri Farman made the first extended flight ever made on Long Island. These two events definitely settled Walden's determination to remain in aviation.

With renewed interest Walden started plans for a third machine. He became so interested in aviation that he hired another dentist to care for his office practice, limiting his professional services to those who insisted upon seeing Dr. Walden. In his first two attempts at airplane design he had gained considerable experience and learned some basic lessons. For his next, he decided on a smaller, less complicated machine and reasoned that a monoplane was the proper way to attain this objective. He was also determined to get a light weight aircraft engine of known capabilities.

Knowing of Bleriot's flying successes in Europe, Walden ordered a 3-cylinder, 25-30 hp Anzani engine similar to that used by Bleriot, and started the Walden III. The wing was designed so that additional panels could be added if initial tests proved the need for more area. In order to avoid the Wright patents for lateral control, Walden devised ingenious "ear-shaped" flaps above each wing tip to operate automatically without manual control and provide lateral stability. These did operate satisfactorily in practice and were used for some time. With the aid of two assistants the Walden III was completed the latter part of November, 1909. The Aeronautical Society's lease was soon to expire at Morris Park, so the new model was moved to Mineola, Long Island, where the first test hop was made on December 9th.

Through the spring and early summer months of 1910 Walden continued his experiments with the Walden III and slowly began to make more extended straightaway hops. In August he experienced his first serious smashup when some

*See also "The Flying Pioneers - Charles F. Willard." JOURNAL of AAHS, Summer 1969.

difficulty with the elevator nosed the airplane into the group and wrecked it completely, putting Walden in the hospital with a broken collarbone, three broken ribs and an ankle injury. Somewhat offsetting his hard luck, this accident brought him "banner headlines" in the newspapers, his first recognition in aviation.

As he recuperated, Walden laid plans for the future and shortly thereafter formed the Walden Manufacturing Company of New York to deal in aeronautical devices. Incorporators were Dr. H.W. Walden, Abraham Levin and Jacob Glass. Six new Walden **III** airplanes were started; they were advertised for sale and a flying school was started. Walden built his own shop and hangar at Mineola, and by October he had his airplane rebuilt and flying. He took George Dyott into the organization, and a new company was formed, becoming the Walden-Dyott Co. The incorporators were Henry W. Walden, George M. Dyott and Lee S. Burridge. By December Dyott was flying, passengers were being carried and training was in progress. The company exhibited a plane at the Aero Show in Grand Central Palace, New York, from December 31st, 1910 through January 7th, 1911, offering to train pilots for \$150.00 - including shop experience.

As results of further experience and experimentation while building the Walden-Dyott machines. Model IV was brought out. An American-made Hall-Scott 4-cylinder 40 hp water-cooled engine was used, and ailerons were installed in place of the automatic flaps to give lateral control rather than mere stability. Early in the summer of 1911 the Walden-Dyott partnership ended and the company advertising was changed to read "The Walden Co., Factory at Mineola, Long Island, New York. The *only* all-American designed, built and successfully flying monoplane. Training, exhibitions and flying meets arranged. (Italics by author.) By this time Walden's flying and enterprising aviation business made him a sensation at Mineola. His characteristic handling of a small airplane was readily recognizable. After building one model after another and being ridiculed for departing from the established custom of the biplane, he had finally made good. In June he was elected to the staff of the Aeronautical Society, and his Walden IV became the first American monoplane to be licensed by the FAI and the Aero Club of America. That summer, 1911, he made cross-country flights all around Long Island and began to fly in some exhibitions.

Walden was at the Brighton Beach Air Meet along with Claude Grahame-White, Tom Sopwith, George Beatty, Harry Atwood, Eugene Ely and James V. Martin in mid-September where he "stole the show" with sensational flying that made headline news. It was the start of several weeks of exhibitions and provided a handsome financial reward. He obtained his license, No. 74, at Mineola flying Walden **III** on Sept. 22nd. From September 23rd through October 1st he flew at the 1911 Nassau Boulevard Meet with aviators Earle Ovington, Atwood, Beatty, Ely, Grahame-White, Sopwith and Lts. Milling and Arnold. He again made headlines but experienced another smashup when, as he was attempting to land, Lt. T.D. Milling took off in a Burgess-Wright just ahead of him. Walden flew into Milling's propeller wash, causing him to lose control and sideslip in, badly wrecking the airplane but fortunately escaping serious injury.

Walden next appeared at the St. Louis Meet at Kinloch Field from October 14th to 21st, flying against Beatty, Howard Gill, Andrew Drew, Walter Brookins, Cliff Turpin, Hugh Robinson, Hillery Beachey and Horace Kearney. His monoplane made a sensational showing; the combination of outstanding flying and a small airplane caught on every-
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where. After this, the remainder of the 1911 season was spent in flying exhibitions at various Eastern points.

Through 1912-1914 Walden continued his flying school. More airplanes, through Model IX, were built and he kept up his flying practice. In addition, students Fitzsimmons, Olsen and Ceretti became pilots, working for him. In 1915 he became interested in research on a radio-controlled missile which he called "The Walden Aerial Projectile." As the United States entered the Great War he organized the Walden-Hinners Company, with offices and factory at Edgewater, New Jersey to take on Government aircraft projects. Wings and control surfaces were made throughout the War.

Walden founded and became President of the Walden Aircraft Corporation, Long Island City, to work on various aeronautical research projects, a company which lasted until 1932. He made some fundamental discoveries relating to increasing the lift of modern multi-motored wings through proper placement of the propeller slipstream and for some time his findings had universal acceptance in aerodynamic design. In other research Dr. Walden developed means of insuring greater accuracy in divebombing practice. During his lifetime nearly fifty patents of wide-ranging variety were granted to him by the U.S. Patent Office.

Dr. Walden maintained a dental office at his home for many years, occasionally treating lifelong friends and old patients. Combined with the office was a small workshop and laboratory and in this he personally carried out private research on various projects as they became of interest to him. Dr. Walden passed away in New York on September 13, 1964, survived by his wife, three sons and nine grandchildren.

Early Bird Henry Walden contributed much to early American aviation history by his activity, his enthusiasm, and his superb flying. His foresight in pioneering the monoplane exemplified sound creative judgement. He was a member of the Quiet Birdmen and contributed many articles on aviation to various magazines. His was an exemplary life of work and determination to carry on in the face of many discouragements. He lived to enjoy the satisfaction in seeing the monoplane almost universally adopted.

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