

# Camera In The Sky

## The Dallin Aerial Surveys Co. 1924-1941

by Milton Sheppard

Of the thousands of pilots who were trained during World War I, relatively few were able to utilize their flying skills after the armistice in a peacetime pursuit. One of the few was J. (John) Victor Dallin, R.A.F., founder of the Dallin Aerial Survey Co., which existed from 1924 through 1941.<sup>1</sup>

Col. Dallin, USAF (Ret.), was born in England on January 15, 1897, and moved to Saskatchewan, Canada, eight years later. In 1915, at the age of 18, he volunteered for the Canadian Expeditionary Forces. When he arrived in England, he was transferred to the Royal Flying Corps and received his training on Avros at Montrose, Scotland.<sup>2</sup>

It was while Lt. Dallin was at Montrose that he had his first experience with aerial photography. He was instructed to go aloft with a 4 x 5-inch plate camera installed behind his cockpit and operate it remotely with a button. He had no other wartime experience with aerial photography. He was eventually posted to No. 54 Squadron, a combat unit equipped with Sopwith Camel aircraft.

After the war ended, Dallin was involved in ferrying several Fokker D-VII aircraft from Germany via Brussels, Belgium, to Allied airfields, after which he and another officer from the 54th returned to England with the squadron records and cadre. In July 1919, he embarked from Liverpool on the S.S. MEGANTIC, bound for Montreal, Canada, with approximately 1,000 American and Canadian ex-RAF officers.<sup>3</sup>

After arriving home in Canada, Dallin met Lt. Col. William G. Barker, the renowned Canadian Ace from the Great War. Barker was engaged in daily flying exhibitions, using Fokker D-VIIs, during the Canadian National Exhibition at the Toronto Fair Grounds in the Fall of 1919. Col. Barker was having some difficulty with these aircraft: they kept blowing spark plugs. Dallin, recalling his experience ferrying D-VIIs, opined that it was probably due to too much power at low altitudes. Because of his obvious experience, he was hired by Col. Barker to join his flying team. Some other pilots in this team were Capt. L.B. Hyde-Pearson, Capt. James,<sup>4</sup> and Capt. Ernest J. Salter—a friend of Dallin's from the 54th. When the National Exhibition

closed, Col. Barker and his team flew at local fairs around Ontario, carrying passengers aloft in their Curtiss JN-4 Canucks for \$10. The Barker and Bishop Co. had bought 75-100 war surplus Canucks and formed a New York outlet, the Inter-Allied Aircraft Corporation. At the end of the Fair season, Dallin and

**The staff of the Dallin Aerial Surveys Co. with their cameras. From left: J. Victor Dallin; Edgar Stephan, Mapping Engineer; Arthur Erb, photographer; Fred Innes, photographer. Stephan is holding a 16½" lens home-made camera using 8 x 10" glass plates. Erb is holding a 40-inch lens 7 x 9 roll film type camera adapted to the film mechanism of an Eastman roll film type of 75 feet in length. Innes is holding a 20-inch camera of the same type, with the Eastman mechanism attached. Fairchild FC-2 in background. Sept. 25, 1929. (Photo #70.200.G-124, courtesy of Eleutherian Mills Historical Library)**



another pilot, Jack Pearson, ferried Canucks from Leaside, Ontario, to Long Island, N.Y., and Philadelphia, Pa., for sale to Americans. They would land at Buffalo, N.Y., go through U.S. Customs, landing at various fields, hoping to find aviation "spirits" (fuel).

One particular delivery flight to the States was to eventually lead to J. Victor Dallin's decision to locate in the Philadelphia area. He was required to deliver a Canuck to the Aero Service Corporation located in Philadelphia. When he arrived there it was a Sunday, and since he could not be given the \$2,000 owed on the aircraft, he was asked if he would be willing to fly passengers from a field next to Island Road, at the end of Buist Avenue. Dallin agreed, even though two risks were involved: the high electric wires at the end of the field and the fact that the Canuck had not been completely paid for.

Barker and Bishop had also begun some aerial photography work, hiring a wartime RFC photographer, Sidney Bonnick. Bonnick would use the front cockpit, face rearward, lean out in the slipstream holding the 4 x 5-inch plate camera at an angle of approximately 45°. With Dallin as the pilot, they would photograph factories, golf courses and estates for eventual sale.

As the winter of 1919 approached, Barker and Bishop decided to stop operations and Victor Dallin was offered a pilot's job with the Aero Service Corp., along with the photographer, Sidney Bonnick. During the winter of 1920-21, Dallin and Bonnick were sent further south to a field in Atlanta, Ga., now known as Candler Field, barnstorming on the way, also taking photos. Their photo missions were usually of two hours' duration, limited by the gas consumption rate of the JN-4.

For several months in 1920, Dallin piloted for the well-known Philadelphia aerial photographer, William N. Jennings, by then in his 70s. Mr. Jennings had engaged in some of the earliest aerial photography in the area. In 1893 he had photographed

**Fairchild FC-2, NC-1521, cameras and office of Dallin Aerial Surveys at Philadelphia Municipal Airport, Nov. 1930. Aircraft was leased from Ludington Flying Service. (Photo #70.200.G-196, courtesy of Eleutherian Mills Historical Library)**



**Waco 10, "Miss Philadelphia," with (from left) Bob Hewitt, Sandy Saltus and Vic Dallin. Hewitt was Chief Pilot for the Ludington Air Service (later for Eastern Airlines). Rollin Sanford Saltus was a vice president of Ludington, and later became a director of Kellett Autogiro Co. Photo taken in Sept. 1927. (Photo #70.200.3274, courtesy of Eleutherian Mills Historical Library)**

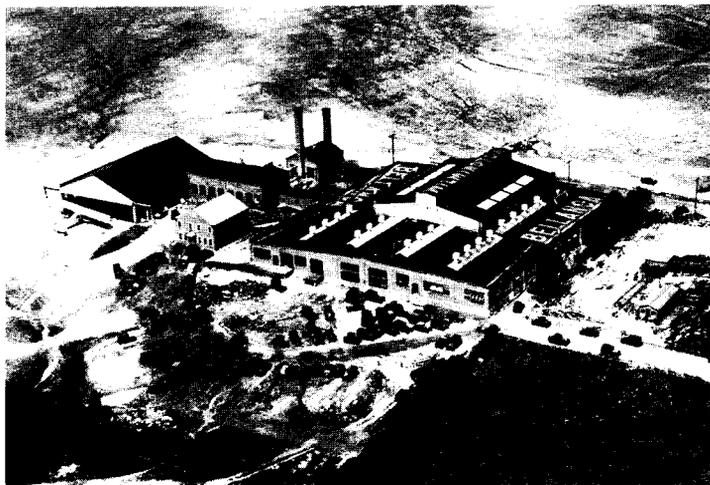
the building of the Philadelphia City Hall from a free balloon.

By 1924, J. Victor Dallin, now Secretary of the Aero Service Corp., feeling the uncertainty of the company from its lack of profits, resigned and formed the Dallin Aerial Survey Co.

The company stopped using the Island Road field in 1924, relocating at the Pine Valley Field, Clementon, N.J., until 1926, when it returned to the Island Road field, now renamed the Philadelphia Municipal Airport, with their photo lab located adjacent to one of the two hangars. During the formative years of the company, aircraft were rented; first a Swallow, then a Fairchild FC-2, reg. no. NC1521, leased from the Ludington Flying Service. The company then purchased a Bellanca CH-200, reg. no. NC30E.

For approximately two years, Col. Dallin used a World War I AAF aerial photographer, Capt. James Suydam from New York, to do the photography that Dallin required. Col. Dallin would





**Bellanca Aircraft Corp. factory, New Castle, Delaware, Aug. 17, 1929.** The small building to the right was their sandwich shop. Aircraft that can be identified are a Model K, NX-4864 (c/n 107) at lower left and NX-5887 at upper right. (Photo #70.200.3980, courtesy of Eleutherian Mills Historical Library)

then reciprocate with Capt. Suydam, flying to New York to assist him in his New York work. Capt. Suydam used his personal  $6\frac{1}{2} \times 8\frac{1}{2}$ -inch glass plate aerial camera for this mutual arrangement.

In 1926, Dallin resumed a part-time military career by joining the 103rd Observation Squadron of the Pennsylvania National Guard. He was to later become its Commanding Officer and the Air Officer of the 28th Infantry Division, Pennsylvania National Guard, when it was inducted into federal service in 1940.<sup>6</sup>

When the Dallin Aerial Surveys Co. was operating with the open cockpit Swallow, the camera was mounted on a bracket

**Philadelphia Municipal Airport, Aug. 10, 1927** (located on the site of the present Overseas Terminal of the Philadelphia International Airport). The Dallin Aerial Surveys Co. office and hangar was located in the building behind the hangar with "Philadelphia Airport" on the roof. Note the headquarters of the Aero Club of Pennsylvania. (Photo #70.200.3008, courtesy of Eleutherian Mills Historical Library)

attached to the side of the fuselage, facing forward, aimed between the leading edge of the bottom wing and the flying wires at an angle of approximately  $45^\circ$ . A shutter release mechanism was routed to Dallin's cockpit to be operated by him. A second person was then needed only to change the plate holders. It was customary to operate between an altitude of 400 feet and 1,500 feet. Aircraft vibration during photographic missions was minimized in two ways: mounting the camera in rubber and throttling back on the engine before tripping the shutter. Weather conditions always required consideration. The best photographic periods occurred following rain, but the usual accompanying high winds required skillful piloting.

Dallin usually operated his aircraft between 10 A.M. and 2 P.M. for the best lighting conditions. In 1924, he built his own aerial camera, an  $8 \times 10$ -inch plate, curtain shutter,  $16\frac{1}{2}$ -inch lens, f5.5. He later built other  $8 \times 10$ -inch plate cameras with 14-inch, 10-inch and  $8\frac{1}{4}$ -inch lenses. The  $16\frac{1}{2}$ -inch camera was primarily used for oblique views, as it reduced distortion at the edges of the plate. When Dallin operated the Fairchild and Bellanca aircraft, two seats were removed to enable the camera to be mounted inside the cabin. In later years, a  $7 \times 9$ -inch film camera with a Zeiss 40-inch portrait lens was made which used a 75-foot roll of film.

Many negative rolls were ruined by the static electricity generated by advancing the film roll in the cold upper air, until electrically grounding the camera solved the problem.

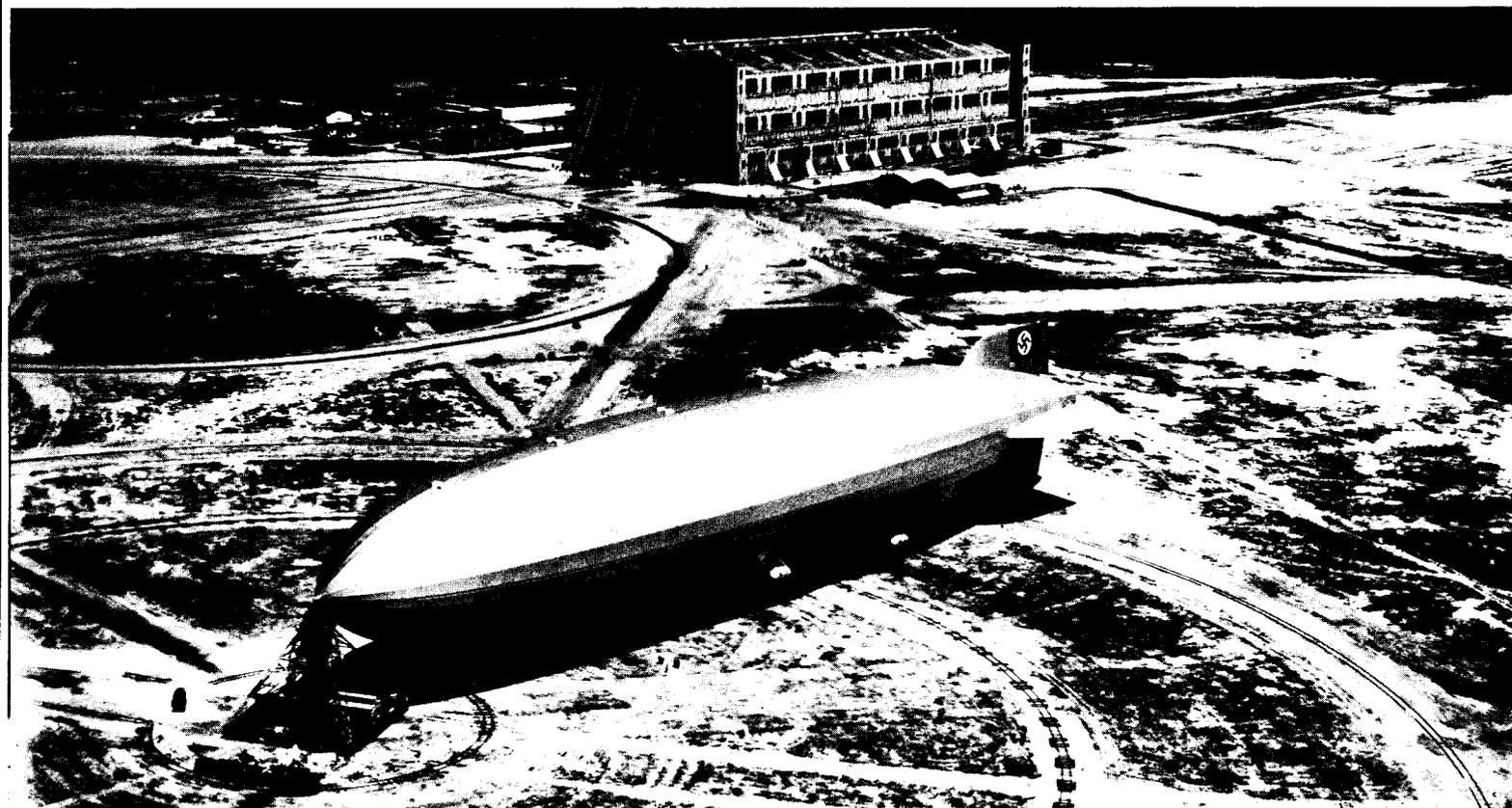
The Dallin Aerial Surveys Co. specialized in aerial surveys and in oblique photographs of factories, private estates and real estate for developers. Its first large contract work was an air map of Philadelphia for the City Council at a scale of 800 feet per inch and was used by city engineers. Many times oblique photos were taken only on speculation. The usual fee charged was \$100 for the first picture, with \$25 charged for each additional picture of the same subject. The negatives were usually retained by the company. While Col. Dallin did much of his own contracting, salesmen were sometimes employed on a commission basis. The company was never to employ more than seven persons. All





The Hindenburg Zeppelin, D-LZ129, at Lakehurst, New Jersey, May 20, 1936, on its maiden voyage. (Photo #70.200.9022, courtesy of Eleutherian Mills Historical Library)

Curtiss B-2 Condors of the 11th Bombing Squadron over Philadelphia Municipal Airport on May 29, 1931. This view is looking north on Island Road. (Photo #70.200.6177, courtesy of Eleutherian Mills Historical Library)



plates and film were developed at the company's airport facilities, where it was possible to make enlargements up to 40 x 60 inches. Color film was never used, although hand tinting of prints was available. Forty to 50 photos taken during a day's work was not unusual. Col. Dallin would also photograph the news events of the day, selling to the local Philadelphia daily newspaper as well as to the *New York Times* and rotogravure section of the old *Public Ledger*. Many of his Philadelphia area aerial photos were published in contemporary books for the local market.<sup>7-8</sup>

From 1924 through 1941, the Dallin Aerial Surveys Co. airplane was aloft to capture on film the evolution of aircraft factories, dedication of airports, air meets, the visits of airships, Army-Navy football games, and other newsworthy events of the era. An examination of the company negative files will quicken the pulse of any aviation historical buff. Following are listed just a small part of what the Dallin cameras recorded.

- 1925** Airship *U.S.S. Los Angeles* over Philadelphia.  
Launching of U.S.S. *Saratoga*, New York Shipbuilding Yard, Delaware River.  
Air Meet at Pitcairn Flying Field.  
Air Races at Mitchell Field, New York.
- 1926** Los Angeles Air Races.  
Camden (New Jersey) Air Meet.  
Philadelphia Air Races.  
Airship *U.S.S. Los Angeles* over Philadelphia Sesqui-Centennial.
- 1927** Bellanca Field at New Castle, Delaware.  
Philadelphia Municipal Airport.  
Lindbergh reception at Municipal Stadium, Philadelphia.  
Ford Tour at Pitcairn Field.  
Philadelphia Aircraft Show.

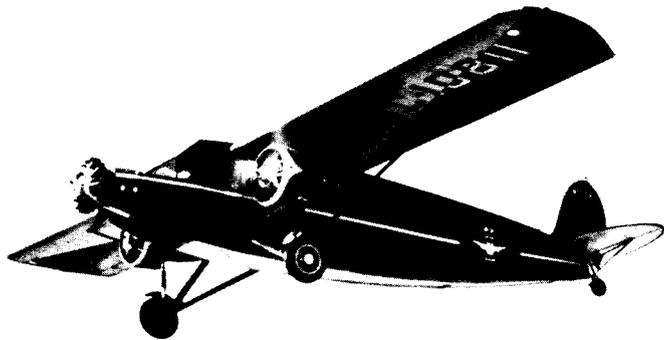
**The Graf Zeppelin, D-LZ127, over the Philadelphia Navy Yard, on its maiden flight across the Atlantic Ocean, Oct. 1928. Mustin Field, of the Naval Aircraft Factory, is just below the nose of the Zeppelin, with the Delaware River in the background. (Photo #70.200.4320, courtesy of Eleutherian Mills Historical Library)**



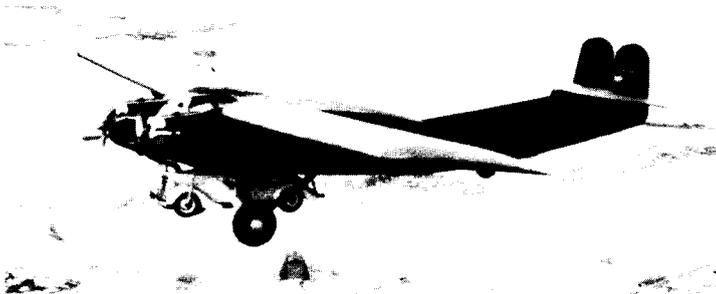
- 1928** Airship *Graf Zeppelin* over Philadelphia.  
Los Angeles Air Races (Dallin flew a Bellanca CH-200 at these races, winning the Efficiency Race).  
Kelly Field, San Antonio, Texas.
- 1929** Philadelphia Main Line Airport.  
Central Airport dedication, Camden, New Jersey.  
From January to March, Dallin photographed the area around Havana, Cuba, renting a Fairchild from the Pan American Co. for \$1.00 a minute, for 45 minutes a day, being limited later by cloud cover.
- 1930** Keystone Aircraft Corp., Bristol, PA.  
Allentown Air Meet.
- 1930** American Legion Air Meet at Philadelphia Airport.  
Pennsylvania Aero Club Sports Pilot Races at Patco Field, Norristown, PA.  
Pennsylvania Goodwill Air Tour.  
Tri-State Aircraft Show, Camden, New Jersey.
- 1931** Airship *U.S.S. Akron* over Philadelphia.  
Memorial Day Air Show at Philadelphia.
- 1936** Airship *Hindenburg* at Lakehurst, New Jersey.

In 1940, Philadelphia Mayor Robert Lamberton appointed Dallin as the first manager of the Philadelphia Airport. In October of that year, Gov. Arthur James appointed him Director of Aeronautics for the Commonwealth of Pennsylvania.<sup>9</sup> The attack on Pearl Harbor grounded much civilian aircraft flying and the Dallin Aerial Surveys Co. ceased its operation. During World War II, Col. Dallin commanded the air bases at Jamaica, British West Indies-Natal, Brazil, and British Guiana. He later commanded the U.S. Air Force Navigational School at San Marco, Texas. In 1945, the City of Philadelphia requested Col. Dallin to return as Chief, Bureau of Aeronautics, and he was instrumental in the development of the two airports now known as North Philadelphia Airport and Philadelphia International Airport. After leaving this post, he was employed by the National Association of Manufacturers as a sales representative. Prior to his retirement he was employed as a technician for an ophthalmologist.

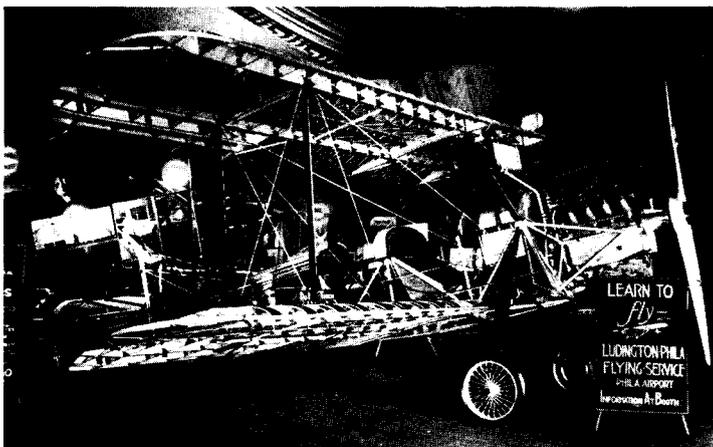
A pioneer in aerial mapping and photography, Col. J. Victor Dallin now lives in retirement in Whispering Pines, North Carolina, leaving to posterity a priceless record to view. In 1970, the approximately 14,000 negatives of the Dallin Aerial Surveys Co. were acquired by the Eleutherian Mills Historical Library, Greenville, Wilmington, Delaware. The library is a center for scholarly research in the business and industrial history of the middle Atlantic states area and is part of the Eleutherian Mills-Hagley Foundation. The Foundation has preserved the original DuPont Company powder mill area and company history and developed the Hagley Museum.<sup>10</sup>



Stinson SM-6000-B, NC-10811, of the Ludington Lines, June 29, 1931, on a Philadelphia to Atlantic City, NJ, route. Service was begun on June 13. Ludington became a division of Eastern Air Transport in 1933. (Photo #70.200.6382, courtesy of Eleutherian Mills Historical Library)



Uppercu-Burnelli UB-20, NR 397N, with Sunoco test car underneath, Feb. 11, 1935. The test was held by officials of the Sun Oil Co. to prove that aircraft could be used to transport motor vehicles. The pilot was Lou Reichers. (Photo #70.200.8326, courtesy of Eleutherian Mills Historical Library)



Waco 10, sans fabric, part of the Ludington Philadelphia Flying Service exhibit at the Philadelphia Aircraft Show, 1927. Ludington was a distributor for Waco and Fairchild in Eastern Pennsylvania, New Jersey, Delaware, and Eastern Maryland. (Photo #70.200.3268, courtesy of Eleutherian Mills Historical Library)

## ACKNOWLEDGMENTS

The author wishes to express his thanks to Col. Dallin and to Mr. Daniel T. Muir, Curator of the Pictorial Collections, Eleutherian Mills Historical Library, and his staff for their invaluable assistance in the preparation of this article. It was a special treat to be able to view first-hand the 8 x 10-inch glass negatives of the Dallin Collection and to "discover" views of special interest to the aviation historical buff, some of which are appearing with this article.

## REFERENCES/FOOTNOTES

1. Except where noted, much of the information in this article was derived from a taped interview of Col. Dallin, conducted by the staff of the Eleutherian Mills Historical Library, Greenville, Wilmington, Delaware, on 17 July 1969.
2. J. Victor Dallin, personal letter, 21 April 1972.
3. *Ibid.* Col. Dallin recalls, "... separation money paid out in England to Canadians and Americans who had served with the R.A.F., resulted in day and night gambling in the ship's salons, and I'm sure many arrived home financially embarrassed, while others had increased their holdings—Crown and Anchor, Roulette, and all sorts of games were playing in the smoky air ... gaming was so prevalent that I recall on a Sunday morning at Church Service, as we stood on deck, one fellow said to another as the parson announced the hymn, 'A dollar it's an even number.'"
4. K. Molson, "German WWI Aircraft in Canada in 1919," *Cross & Cockade/Great Britain Journal*, Vol. 7, No. 4 (1976), pp. 181-185.
5. J.O. LaGorce, "The Historic City of Brotherly Love," *The National Geographic Magazine*, Vol. LXII, No. 6 (December 1932), p. 649.
6. J. Victor Dallin letter.
7. F.B. Brandt and H.V. Gumner, *Byways and Boulevards in and about Historic Philadelphia* (Philadelphia: Corn Exchange National Bank, 1925). A Sesqui-Centennial Souvenir publication.
8. *The Regional Plan of the Philadelphia Tri-State District* (Philadelphia: Press of Wm. Fell Co., 1932).
9. G.B. Votaw, "Phila. Airport to be Second to None After Improvements," *Chester Times* (Chester, PA), July 12, 1950.
10. The Dallin Collection is listed as #582 in the United States Air Force History, *A Guide to Documentary Sources*, L.J. Paszek, Office of Air Force History, Washington, 1973 (Stock No. 0870-0322). Item #581 listed in this guide is another collection of the Eleutherian Mills Historical Library of 3,000 books and 1,000 photo negatives entitled the "Lammot DuPont, Jr., Collection of Aeronautics." The late Richard C. DuPont was President of All American Aviation, Inc., Wilmington, Delaware. In 1976, the author compiled an index of the negative collection, consisting of views of aircraft of the period 1930-1950, the majority of which are of the Kodak 616 size (see following article).

## ABOUT THE AUTHOR

Milton H. Sheppard has been a member of AAHS since 1959. He became interested in aviation in 1938, when he built his first airplane model, a Megow's Taylor Cub, and had his first airplane ride in a barnstorming Ford Tri-Motor in 1939.

During WWII he was a rifleman with Patton's 3rd Army in Europe, graduated from Parks College of Aeronautical Technology in 1948 with a B.S. in Aeronautical Engineering, joined the Piasecki Helicopter Corp. (now the Boeing-Vertol Co.) in 1950 and is now in his 29th year there as a Flight Controls Designer. He is primarily interested in aviation history of WWI and the years prior to WWII, does not believe that airplanes can really fly without two wings and a propeller, and still builds an occasional scale model and 1/48 plastic model.

He resides in a suburb of Philadelphia with his family of seven children (two other children are now married) and would be glad to assist other members in regard to the photo collections at the Eleutherian Mills Research Library, and hopes to continue researching the aviation history of the Delaware Valley area.

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