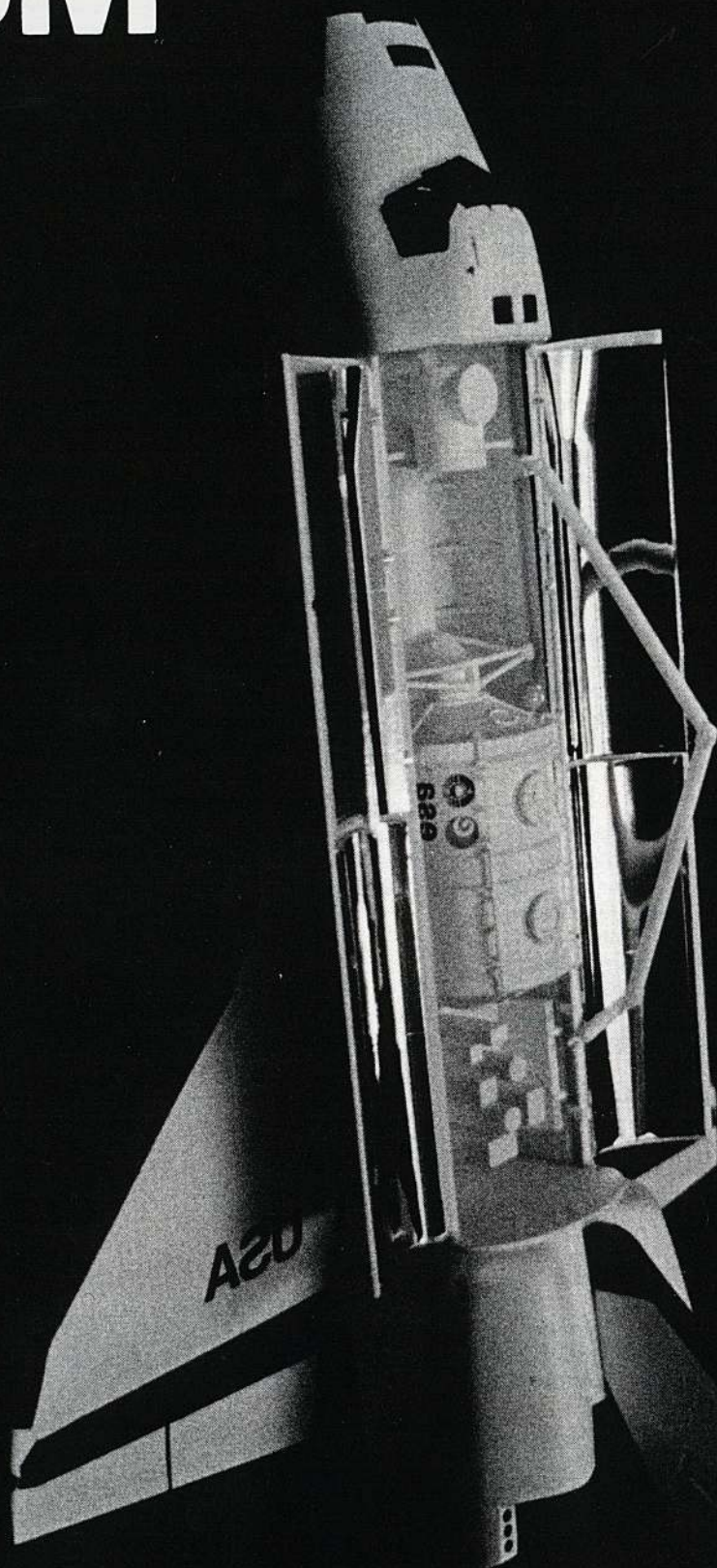


NSM



Special Issue
Journal of the
National Soaring Museum

1981

Vol. 4, Number 3

From the Editor:

Important progress was made during 1981 in organizing our photo collections, our library, and archives. I have to admit that it is an extremely difficult job because once you get started delving into this wealth of history —, you don't want to stop.

Honorary Vice President of the Museum Ralph S. Barnaby announced, at the Trustees' Annual Meeting, his creation of an Archivist Chair for the National Soaring Museum, in memory of his wife Marg. It will be known as the Ralph S. and Margaret Barnaby Archivist Chair, for the care and preservation of the rich heritage in the history of motorless flight. Another major step forward for the Museum by this gentleman.

The National Soaring Museum Trustees adopted a major 5 year plan outlining the Museum's objectives and plan of work. It is a most ambitious plan and compliments the Museum's Philosophy and purpose.

The Museum Member category was elevated to twenty dollars to cover rising costs and to help the National Soaring Museum to provide more services to the soaring community. All of the remaining membership levels, including the Chapter Membership, (every member of a soaring club or association) will stay at their same respective levels. The Trustees have mounted a fund raising effort to eliminate the building debt. It is hoped to erase this burden during 1982.

Many exciting activities are being planned for 1982 to celebrate The Soaring Society of America's Golden Anniversary. We hope that you will take the opportunity to visit the National Soaring Museum and see for yourself how far we have progressed because of your continuing support. It is appreciated by many!

ON THE COVER:

Photo of the Shuttle model, a part of the exhibit theme this year "Chanute to Shuttle". The real eye-catcher this year, is the replica of the Herring-Arnot (Chanute type) glider built and donated to the National Soaring Museum by Gustav Scheurer, Tom's River, NJ to replace the original, lost in the Harris Hill Administration Building fire in 1977. The new Herring glider is suspended over the Shuttle exhibit which was created through the cooperation of NASA, Rockwell International Corp., the National Geographic Magazine and many volunteers.

MEMORIAL EDUCATION ENDOWMENT

In 1980 the Trustees of the National Soaring Museum created an Education Endowment program for the receipt of Memorial contributions. The fund is to perpetuate the knowledge of the beauty, sport and science of motorless flight. An education focus was deemed appropriate as it was determined that people who inspire memorial contributions have conscientiously shared their knowledge and love of motorless flight.

The income is being kept in a separate account and the museum's Memorial and Exhibits Committees are developing a plan for suitable acknowledgement and recognition.

At this time, we wish to acknowledge the contributions to this Fund during 1981 in the memory of the following soaring enthusiasts.

Floyd Fuller
Sherburne W. Klein
John Pullen
Holmes Shoemaker
Mahlon Weir

Use Your Film Library

NSM is a publication of the National Soaring Museum, Harris Hill, RD 3, Elmira, New York 14903. Anyone is invited to contribute material and pictures with identification about historical soaring activities, renovation of old sailplanes, soaring pioneers, unusual uses of sailplanes, etc. Manuscripts are subject to whatever revisions, additions or deletions are necessary to make the material conform to the space limitations and standards of NSM. Material that is to be returned must be accompanied by a stamped, self-addressed envelope. No compensation other than credit will be made.

Publisher — National Soaring Museum
Director/Editor — Shirley Sliwa

CALENDAR

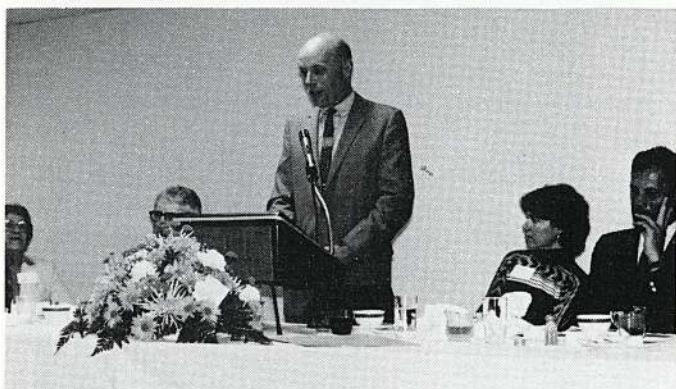
Date	Event	Location
May 1, 1981	Evening Open House — Exhibit Opening	NSM
May 2	NSM Board of Trustees' Annual Meeting U.S. Soaring Hall of Fame Banquet (Speaker: NASA Astronaut Dr. Story Musgrave)	NSM/Conference Room NSM/Community Room
May 2-3	Oral History Forum (Museum Historian: Vic Saudek) Vintage Sailplane Regatta	NSM/Community Room Harris Hill/NSM
June 13	NSM's Premiere National Landmark Plaque Dedication Ceremony	Corn Hill Beach, Truro, MA
Sept. 5-7	SSA's Sailplane Homebuilders' Conference	NSM/Youth Camp
Oct. 17	Ralph S. Barnaby Annual Lecture and NSM Board of Trustees' Fall Meeting (Speaker: Tom Page, Urbana, IL)	Chicago, IL

1981 United States Soaring Hall of Fame Weekend

Induction Ceremony and Banquet



Hall of Fame inductees reminiscing, left, Victor M. Saudek and Karl H. Striedieck.



Speaker NASA Astronaut Story Musgrove enthraling the attendees.



Ralph S. Barnaby announcing the new ARCHIVIST CHAIR for the National Soaring Museum.



National Landmark Chairman Walter Setz announcing the inception of the program. Left to right: Frances Sweet, Story Musgrove, Floyd Sweet, Setz, Suzanne and Karl Striedieck, and Martha Saudek.



Ralph Barnaby preparing for another launch. Note the item in his hands



Museum Trustees Archer Martin left and Bernald Smith checking facts with Story Musgrove. Center, background, James Short.



Hall of Fame members at the banquet, left to right: seated, Victor M. Saudek, Ralph S. Barnaby, Karl H. Striedieck. Standing, Stephen M. Bennis, Gustav Scheurer, Virginia M. Schweizer, Paul A. Schweizer, and Floyd J. Sweet.

Oral History Forum



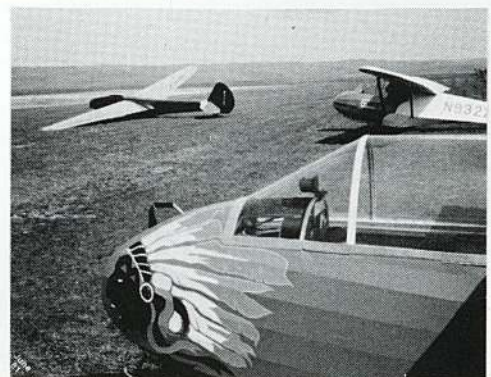
Museum staff Tim Walker taping the informal session. Left to right: Vic Saudek, Paul Nissen, Simine Short, Brownie and Stan Smith, Ralph Barnaby, Paul and Ginny Schweizer, and Dorothy Gordon. Museum Historian Vic Saudek thanks Stan for his contribution to the session.



Vintage Sailplane Regatta

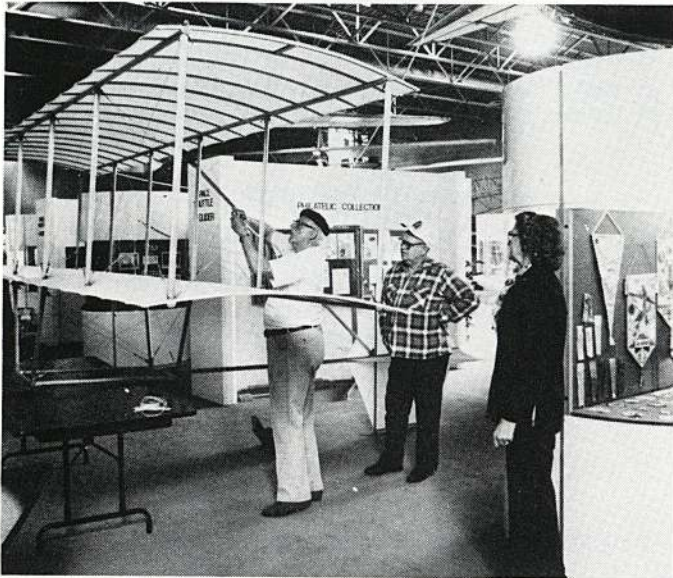


The VSA's Dean McMillian Award for contributions to the movement, the Harland Ross Award for significant vintage flights, and the Bob Stanley Award for the highest score accumulated in a VSA competition.

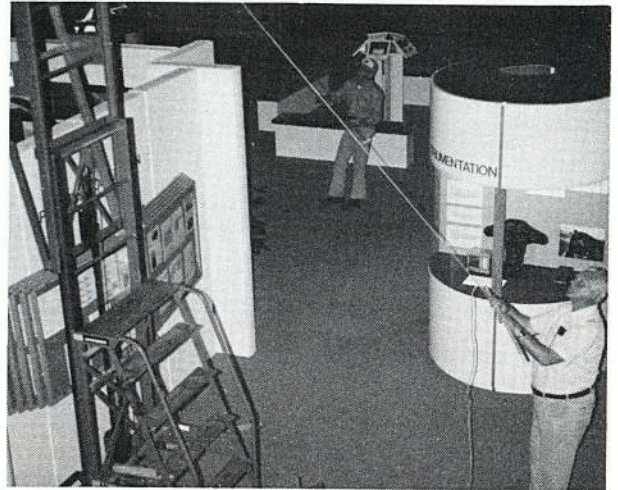


Foreground, Len McClain's Cherokee II, rear left, Bob Abbott and Bob Storck's LK-10, and Ray Young's 1-26A. Jan Scott's Pratt Read, Bruce Barrett's SGS 1-19, Al Uster's Moswey, and Jim Furlong's TG-2 were also at the Regatta.

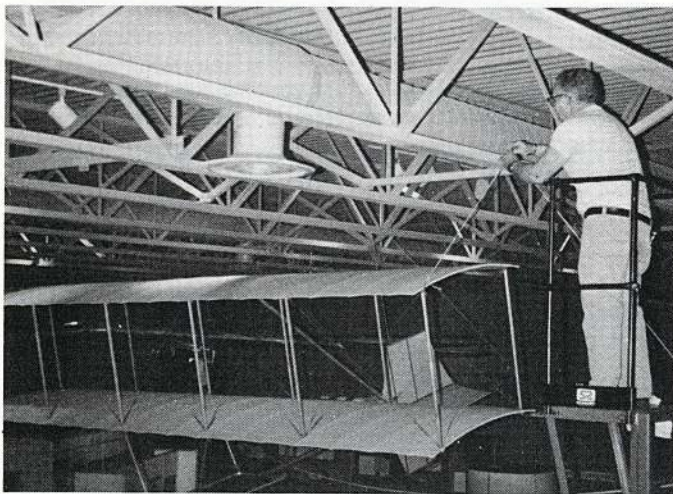
..... and 1981 Exhibit Opening.



While Mrs. Scheurer and John Gill, center, await — Gustav Scheurer, Toms River, NJ, sailplane homebuilder “extra-ordinaire”, makes a last minute adjustment on the HERRING-ARNOT glider.



He even supervises the suspension of the beautiful glider. James Gordon in background.



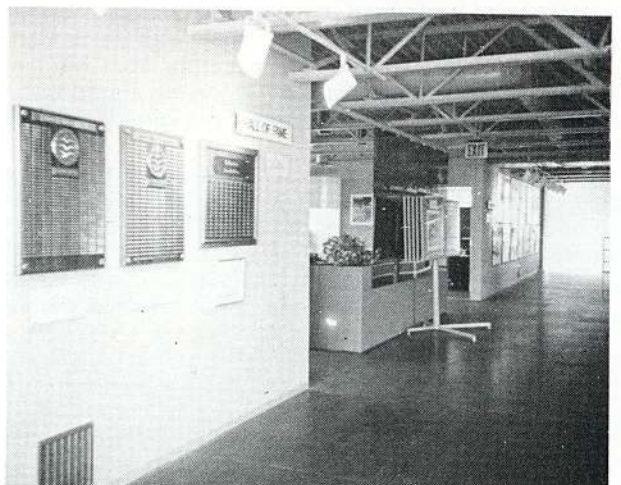
John Gill makes one more adjustment on the fittings



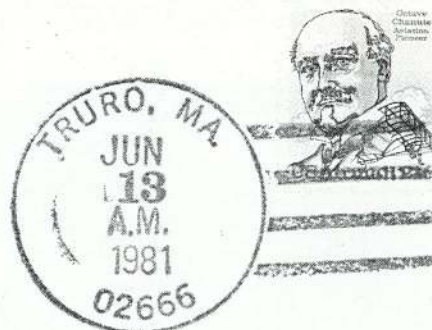
..... and the CHANUTE TO SHUTTLE exhibit is now complete.



The SISU 1A, donated to the National Soaring Museum by Jack Baugh in 1977, oversees the exhibit theme area.



The Hall of Fame Gallery with The SSA Golden C and Diamond Badge plaques on loan from the Smithsonian's National Air and Space Museum.



FLOWN BY
SAILPLANE

0152

NEW NATIONAL LANDMARK PROGRAM

A contingent of NSM Trustees and SSA Directors arrived at Corn Hill Beach, Truro, Cape Code, Massachusetts on June 11th in preparation for the National Soaring Museum's 1st commemorative Landmark plaque dedication ceremony for The Soaring Society of America.

This Landmark recognizes a flight by Ralph S. Barnaby, Philadelphia, PA which established an American Gliding Duration record of 15 minutes, 6 seconds. The flight was the first to exceed the American record for motorless flight of 9 minutes, 45 seconds set by Orville Wright at Kitty Hawk, NC October 24, 1911.

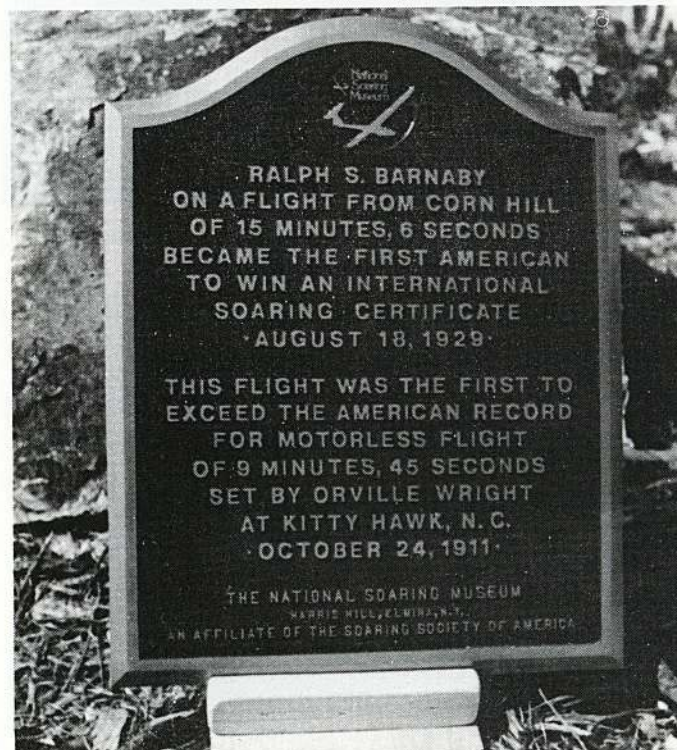
Friday, June 12th was devoted to interviewing and recording people who remember the glider activities of 1928 and 1929 at Cape Cod. People who shared their memories with us besides, Mr. "total-recall" Barnaby were, Laura Johnson, John Perry, John Worthington, Thomas Kane, Truro Town Clerk, and Charles Martin, who has complete records of MIT's soaring activities on the cape.

The actual ceremony took place on Saturday, June 13th at 2:00 PM. As approximately 200 spectators gathered around, the local band performed and the Boy Scouts provided an Honor Guard. The highlight, of course, was Ralph Barnaby relating his historical flight and excerpts from his famous "horse and bungee-cord launch" story. He stated that, "he had planned to fly only five minutes, but kept thinking about Orville Wright's record."

Another highlight was the ASW-15 flight demonstration by Jon Mead, SSA Regional Director for Massachusetts. He carried glider mail with a special cover showing Barnaby flying a Prueffling over the Cape, the first in a series of future covers to coincide with the Museum's National Landmark Program. Jon was deluged with questions about soaring and experienced the celebrity aura as he signed covers. SSA Director Sam Francis was very helpful in securing the necessary permits for the beach landing, to imitate Barnaby's record flight.

Museum President Floyd J. Sweet was host at the banquet that evening. Many dignitaries and friends from Barnaby's past attended the ceremony but couldn't remain for the evening, however, among the banquet attendees honoring Barnaby were Museum Trustees, Advisors, SSA Directors, local residents, and many friends.

As usual the National Soaring Museum has many people from the soaring community to thank for the success of the inception of this program. The Museum Trustees have approved the National Landmark Policy (see page 7) and are developing the criteria for future Landmarks commemorating a historic soaring site, personality or event. If you have any recommendations please contact the National Soaring Museum, Harris Hill, R.D. #3, Elmira, NY 14903.



The FIRST in a new Landmark program.

THE NATIONAL SOARING MUSEUM'S NATIONAL LANDMARK PROGRAM

I. Purpose:

To identify and memorialize sites, individuals, or historic events related to the national history of motorless flight; and in the process collect, preserve and interpret documents and materials related to each approved Landmark.

II. The National Soaring Museum Trustees will:

- a. Establish policy
- b. Approve proposed sites
- c. Approve proposed memorials
- d. Authorize Implementation Committee for each approved site to proceed.

III. The NSM's National Landmark Committee consists of:

- Chairperson (s)
- 1 NSM Trustee
- 1 NSM staff
- 1 SSA representative

The responsibility of the National Landmark Committee is:

- to validate proposed sites, individuals, or events
- investigate and recommend candidates
- recommend each Implementation Committee for the proposed Landmark site

IV. Each Implementation Committee will work directly with the National Landmark Committee and will consist of the NSM's NL Committee and:

- 2 appointed authorities of the motorless flight history from the pertinent geographic area
- SSA Regional Director (s) Ex-Officio

The responsibility of the Implementation Committee is to work as liaison with each local community to set up committees to:

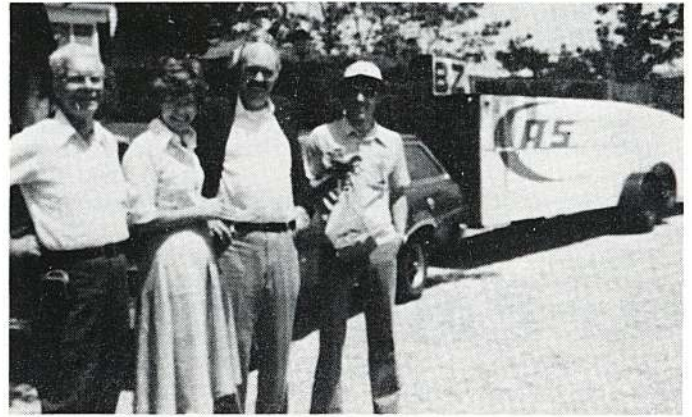
- Collect substantiating materials
- Arrange for appropriate site
- Propose funding
- Plan for dedication ceremony

It is the intent that the National Landmark Program be:

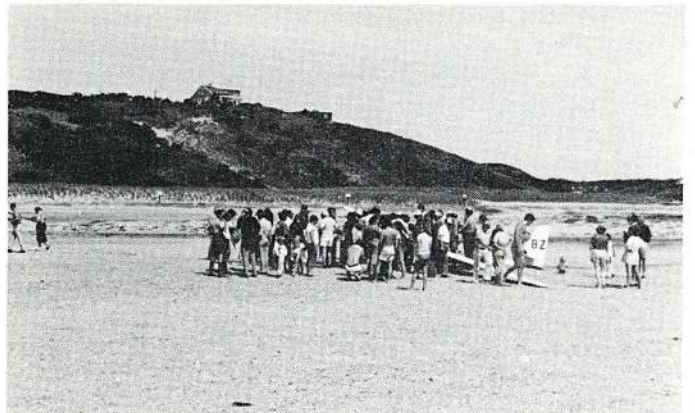
- Self sustaining financially.
- Instrumental in developing local historical intern programs.
- A source of pride for each respective community, the National Soaring Museum, and The Soaring Society of America.



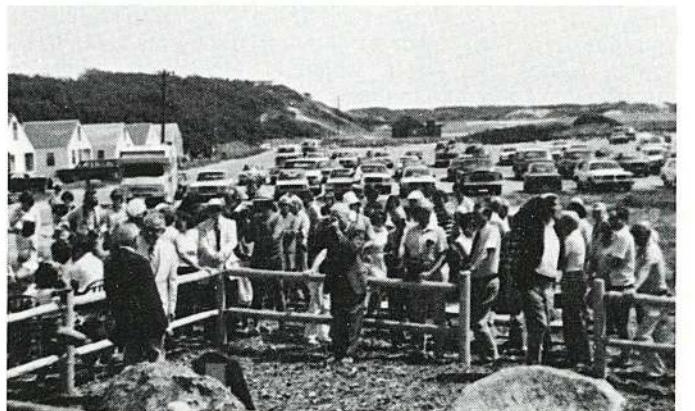
Ralph Barnaby coaxing Mrs. Laura Johnson, Provincetown, Cape Cod, MA to remember the 1928 and 1929 gliding activities.



Left to right: Walter Setz, Simine Short, the Museum's volunteer Philatelic Director, Sam Francis and Jon Mead SSA Directors.



Attendees rush up to the sailplane to congratulate pilot Jon Mead.



Ralph S. Barnaby reminiscing at the Landmark dedication ceremony at Corn Hill Beach, Truro, MA.

GLIDER FLYING AT CAPE COD

By R. E. Dowd

Editor's Note: This article first appeared in the October 1930 issue of **AERO DIGEST**.

When the American Motorless Aviation Corporation announced the establishment of a glider school at Cape Cod in 1928, the aviation industry immediately began to speculate as to its possibilities. To some it seemed a foolish venture; the glider was a plaything, a fad like Mah Jong, Ouija boards. Others openly questioned the value of the glider as a means of preliminary flight training. Still others saw great commercial possibilities. Thousands of students would flock to the school for training. It would be very profitable for the promoters. The general public received periodical reports through the press and newsreels as some new record was established, and gradually accepted the glider school as one of the Cape's many attractions, without knowing very much about it.

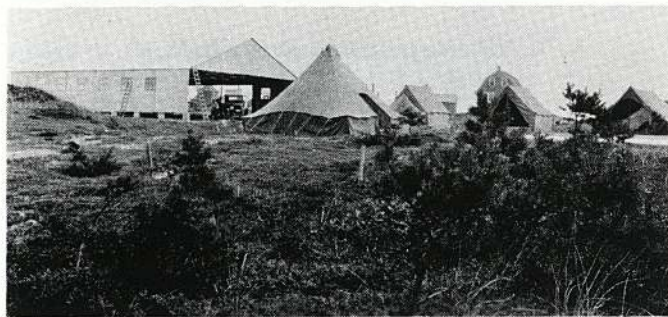
Three summers have slipped by since the school started, and it has been my privilege to spend the last two on the Cape in close contact with the glider camp activities. The interest in the project now seems to be possibly greater than ever, for each group of speculators mentioned seems to feel that his predictions have materialized in one way or another. Whenever a discussion starts on the subject of gliders, Cape Cod is invariably mentioned as proof of this or that contention. This is the more lamentable when one discovers how few people really know what the camp actually is, where it is located, how it can be reached, and what its facilities are. In view of all this, I have been urged many times to explain my impression of the project as gathered during my visits to the camp. Hence this effort, which is, incidentally, quite independent of the management of the school, the only object being to disseminate information of general interest to the aircraft industry.

Geographically Cape Cod is a long narrow peninsula, a part of the state of Massachusetts, extending first easterly and then northerly from the mainland at a point some fifty miles south of Boston. The general outline of the Cape, as may be noted from the sketch, has been compared to an arm, bent at the elbow and terminating in a clenched hand, represented by Provincetown. From the Canal, which separates the Cape from the mainland, the length of the arm is approximately sixty miles. Roads are improved for motor car travel, and railroad transportation is available right through to Provincetown. The cape is delightfully quaint in its homes and public buildings, and the natives are cordial and interesting.

The glider camp, consisting of two large fire-proof hangars, repair shops, barracks, mess hall, shower baths, tents and cottages, is located at South Wellfleet about fifteen miles from Provincetown on the easterly side of the Cape. For many miles this shore line rises some 100 to 150 feet above the ocean. At the camp site the landscape is particularly clear of vegetation. White sand and wind swept dunes are everywhere in evidence at this section of the Cape, but at South Wellfleet acres and acres of soft, yielding sand are to be found, making the spot ideally suited for training purposes: Low, rolling sand dunes permit take-offs in almost every direction.

At low tide the beach is perhaps 150 feet wide with a moderate slope, but at high tide it is not wide enough to land a glider without including an involuntary ducking for the pilot.

As may be noted from the map, favorable winds for soaring on the easterly side of the Cape are east and northeast, although wind directions slightly south or due east may be used if sufficiently intense. Soaring flights have been made from the camp as far north as Highland Light. In fact, landings have been made at this point and return flights have been effected. This distance is some ten to twelve miles.

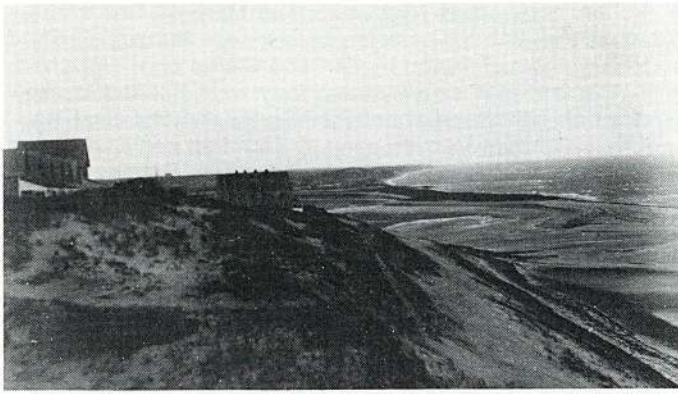


Camp at South Wellfleet, Cape Cod, MA in 1928 and 1929.



The American Motorless Aviation Corporation setting-up camp.

The longest durations, however, have been made on the westerly side of the Cape, where the best winds are from the southwest. The starting point is Corn Hill at North Truro, about nine miles from South Wellfleet. No hangars have been erected on this site to date. The practice has been to transport the soaring gliders on trailers from the camp to be set up at the launching point. The soaring course is some three or four miles northerly from Corn Hill, which has an altitude of approximately 150 feet. It was on this site that Peter Hesselback made a duration flight of four hours and five minutes in 1928 with the imported Darmstadt glider, later wrecked by colliding with a flag pole. At low tide an exceptionally fine beach is available for landings, but as on the east shore, this reduces to a rather narrow strip at high tide.



The bay-side, Corn Hill Beach, Truro, MA — 1929.



Retrieving the Pruefling from the beach after a flight.

The entire Cape has an interesting early history, dating back to the Pilgrim days. Indeed, there are historians who believe that Provincetown rather than Plymouth was the first landing place of the **Mayflower**. Legend has it that Corn Hill was so named because the early settlers found Indian corn and a kettle buried for winter use in a sand mound. It is of some significance that this exact site should become famous in the art of motorless flight, which takes us right up to our present generation.

The 1930 opening of the school was delayed until about the first of August and then under the auspices of the Cape Cod Glider School, lessee of the property owned by the American Motorless Aviation Corporation. The new corporation is being operated by a picked personnel of long experience in the aircraft field. Among these are Capt. Summer Sewall, Capt. Sherborne Eaton and Major Biddlecomb, all of whom have outstanding records in the air service.

Students are enrolled for periods of time ranging from a few days to several weeks. Pilots are taken care of by special short courses. Action is the keynote of the school, and it is more than likely that a new student will make his first hops in a primary glider on the very day of his arrival.

The equipment is of German manufacture, and skilled artisans are employed to keep it in perfect condition. The gliders are of the famous Rhon Rositten Gesellschaft design and comprise primary, secondary and soaring types. Special light gliders and two-seater machines are also used.

The methods of instruction are carefully planned after the approved practice instituted by the German instructors, employed during 1928 and 1929. All launchings are made with shock absorber cord. Every possible precaution is taken to insure safety in training. Horses are employed to do the laborious task of hauling the gliders up the grades and also, when feasible, to assist in the launching of the machines.

This is the picture of activities at the Cape Cod Glider

School. Progress has been substantial, and attendance has been good considering the newness of the project. In 1929 it is reported some ninety students took instruction for various periods of time. Among them was Lieut. Ralph Barnaby of the United States Navy, who later descended from the dirigible **Los Angeles** in a secondary glider purchased from the school. No serious accidents have occurred, though thousands of flights have been made.

Perhaps this represents the ultimate scope of such a project, or perhaps it is just a beginning soon to be overshadowed by far greater achievements. During my last visit as I sat on the great sand ridge and gazed out over the blue Atlantic, listening to the thundering surf down on the beach below, a picture of a far bigger enterprise molded itself into form. Here was an ideal location; here were hangars and buildings, representing a vast outlay of capital; here were machines, workshops, meteorological instruments and equipment. Could it be possible that the operation of a commercial project, such as the school, is the utmost to be realized from such a venture?

My thoughts ran over the progress of motorless flight in Germany for the past ten years. From a crude start, under the restrictions imposed by the Treaty of Versailles, it has developed into a precise art, an absorbing research, and a nation-wide sporting, competitive event, involving the leading technical universities of the country.

There is a tendency among Americans to glorify that which is done abroad in order to justify criticism of a particular home project. However, mention is made here of foreign achievement only to remove any doubt of the feasibility of such an enterprise. As a matter of fact, we quite probably have a greater number of gliders in the United States today than are to be found in Germany. It would not be surprising if the total number of pilots, embryo or otherwise, to be found at home, eclipsed those abroad. We hear much about the German annual Rhon contest. We picture, possibly, hundreds of competing gliders, but the 1929 contest, for example, recorded only thirty-six entries and only twenty-six actually competed.

The point is that our glider movement under the commendable leadership of the National Glider Association has grown with startling rapidity. Many aircraft manufacturers rushed into production of gliders without giving the matter much study. Gliders began to appear on the airports. Towing by car with rope or cable became quite common. Stunts were applauded. Curious crowds encouraged the spectacular. Fragile, poorly designed gliders hurtled through the air, towed behind high-powered planes. As a result lives have been lost and public opinion has been influenced unfavorably. In the face of this we surely can look abroad for guidance in an effort to get our bearings after this inauspicious start.

In Germany the technical schools form the nucleus around which the whole movement revolves. These schools use the Wasserkuppe in the Rhon mountains for their flight university. The schools, through their professors, design and in many cases also build their machines for the annual competitions. Here is a combination of technical research, engineering, competition and sport. Each year records are broken, machines become more refined, and pilots more skillful.

In a country as great as ours it might be advisable to concentrate the efforts of experimenters in several localities. Already we have Cape Cod in the East and Point Loma, San Diego, California, in the West. The addition of a somewhat central point would seem necessary to avoid excessive traveling.

Such stations can be made self-supporting, to a degree at least, by conducting a commercial training school through certain months of the year when weather conditions are most favorable for such training. Other months can be reserved for soaring training by qualified pilots, the time being selected in view of favorable meteorological conditions. Finally, as a fitting climax to a year's progress, national or even international contests could be run off at the most suitable point.

AMERICAN "SILVER C" FLIGHTS

Editor's Note: This article first appeared in the March 1937 issue of **THE SAILPLANE**.

Eight American sailplane pilots have soared 50 kilometres, climbed 1,000 metres, and flown for five hours on end, and have therefore received the international "Silver C" badge and certificate. Their numbers in the international list are:—

- 12 J. K. O'Meara, of New York City.
- 32 Richard C. du Pont, of Wilmington, Del.
- 65 Lewin B. Barringer, of Philadelphia, Penn.
- 236 Stanley W. Smith, of Rochester, N.Y.
- 237 Emil A. Lehecka, of Long Island City, N.Y.
- 238 Henry N. Wightman, of Upper Montclair, N.J.
- 239 Emerson Mehlhose, of Wyandotte, Mich.
- 240 Chester J. Decker, of Glen Rock, N.J.

Martin Schempp, who holds "Silver C" No. 8, should also be mentioned, since he earned it by flights made in the United States, although he has now returned to Germany. He was awarded it in 1932, Jack O'Meara in 1933, "Dick" du Pont in 1934, "Lew" Barringer in 1935, and the remaining five for flights made during the last National Competitions at Elmira.

Mr. O'Meara's performances, which earned him the badge, were 67 miles distance, 4,780 ft. height, and 8 hours 8 minutes duration. Details are not available, but accounts of the flights of most of the other "Silver C" pilots have been either sent to **THE SAILPLANE** or published in the last few issues of the *Bulletin of the Soaring Society of America*. To give some idea of the high standard of skill reached by the leading American soaring pilots, accounts of several of their most noteworthy flights follow, though these are not in all cases the flights which earned them the "Silver C."



Richard du Pont

Mr. du Pont was at one time holder of the official World's Distance Record, for though, at the time he set it up, on June 25th, 1934, the late Gunter Groenhoff has made a longer flight, the latter had not been recognized by the F.A.I. The machine was the ALBATROSS II., built by the former Bowlus-du Pont Sailplane Co., and Mr. Don Stevens, who helped to build it, has sent the following account of the flight:

June 25th was a perfect day for flying off the Harris Hill Mountain, Elmira. Richard took off on a little hop to try the new soaring spot out, to find where the best uplift was and where the down-draft was. Martin Schempp then took off in the HALLER HAWK to keep Richard company.

Richard took off at 12:15 p.m. and Martin a few minutes later. At this time big cumulus clouds were forming. Richard kept climbing higher and higher, and Martin right along with him. The last that we saw them they were headed for New York at an altitude of about 3,500 feet, and still climbing.

After two hours Martin Schempp called up and said he had landed at Lake Wesauking, near Towanda, Penna. He said that Richard was still going towards New York. After another two hours of anxious waiting with no word from Richard, we were almost positive that he had broken a record. At last, at 5:05 p.m., a call came in from Richard, and I answered it.

"Where in thunderation are you?" I asked.

"I'm at Basking Ridge, N.J.," came the voice over the phone. "I saw the New York skyscrapers but couldn't quite make it, and had to land here. Get the trailer and come and get me."

My partner, Ted Bellak, and I drove all night and arrived there the next morning at 7 a.m. We inquired around, asking where the fellow in a glider landed. One fellow said: "Yep, by cracky! I saw that there flying contraption land. She landed over thar at the airport."

We found Richard looking over the maps, and the distance he had flown was 158 miles. Richard said: "Boy, that's a world's record," which was true until about a month later, when it was broken by a 238 mile flight made in Germany.

Richard then told us his experience on the flight. He said: "When Martin and myself caught that cloud, we both spiralled under it. We were both chasing each other's tails so close that we could see the whites of each other's eyes. Finally we separated, but kept each other in sight. When Martin would hit something good (a thermal) I would tear over and get it with him. He would do the same when I got a good lift. Finally Martin got lower and lower till he had to land, but I stayed right under the clouds. I didn't have to worry much because everywhere I went there was plenty of up-draft.

"Finally I saw the Delaware Water Gap ahead and started to lose altitude fast. I saw a range of mountains facing the wind and headed for them. I got down to within 300 feet of the ground and had to slope-soar on this mountain. I flew over the mountain for about an hour. I noticed a big cumulus cloud forming above me, so I climbed just as much as I could but couldn't quite make it, so I decided to look for a place to land. Just then the rate-of-climb meter read 3 metres per second, going up. Boy, I had made it! The cloud was drawing me up into it. I gained about 3,500 feet and started for New York again.

"So I started to hop from cloud to cloud and finally at 1 p.m., I saw the New York City skyscrapers. Boy! what a thrill it was to think that I had soared all this way with no motor to pull me! It certainly was an uncanny feeling. I started to lose altitude again and saw that I couldn't make New York, so I headed for this airport. I kept dropping and dropping, due to the clouds breaking up and losing their lift.

"Finally at 5 p.m. I skimmed along the airport and landed in the middle of it. A fellow came out and asked me where I came from. I told him Elmira, N.Y. He said: 'The hell you did!' I told him I had left there at 12:15 and asked him the time. He said 5:05 p.m. That made 4 hours 50 minutes in the air."

July 3rd was another perfect day for soaring. Allaire du Pont (Richard's wife) took off in a FRANKLIN UTILITY glider for her first soaring flight (she is a power plane pilot). After she had soared for over two hours, Richard got out the ALBATROSS I. He said he would fly without the hood as he wanted to fly with Allaire and have a talk with her. He also took an apple tied to a fifty-foot string to drop to her. He took off and immediately hit a cloud with Lew Barringer (who had taken off in ALBATROSS II. to try for his "Silver C"). The last we saw of them they flew into a cloud at an altitude of about 5,500 feet. We thought they were on their way to New York, so we didn't watch them any more. Pretty soon somebody yelled: "Here comes Richard back!" He landed and said: "I think I just broke the American altitude record." He was right, too. The barograph read 6,224 feet.

Don Stevens.

Stanley Smith and Emil Lehecka

Detailed accounts of flights by these two new "Silver C" pilots are not available. Stanley Smith, flying a RHON-BUSSARD named "Trommer Michael" (which suggests a second-hand machine from Germany), flew 34½ miles from Elmira on June 28th last year, getting up to 5,463 feet. Emil Lehecka flew a CADET II. During the same competitions he twice exceeded 5,000 feet, and his longest flight was 39 miles.

During these competitions, by the way, the total soaring time of competitors was 353¾ hours and cross-country flights (counting only those over 5 miles) totalled 1,283 miles.



Lewin B. Barringer

The flight of Mr. Barringer, mentioned above, did indeed turn out to be a "Silver C" distance flight, for he landed 75 miles away at Ransome, Pennsylvania. Don Stevens thus describes how the news came of his landing:—

"After about three hours of waiting, Lewin phoned and said he had landed on the lawn of a nut house. Guys were fishing out of the windows and all sorts of crazy things. He said: 'Hurry and come and get me before I go crazy, too!' So we drove all night again to get Lewin. We had a little trouble finding him."

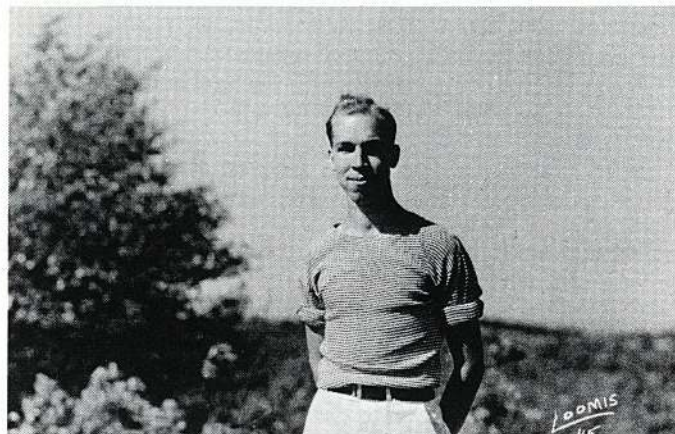
Besides Elmira, where the annual contests are held, there is another much-used soaring centre at Big Meadows, on Blue Ridge in the Shenandoah National Park, Virginia. At the end of September, 1934, Mr. Barringer made two interesting flights from this site, the first of which suggests similar conditions to those of the first evening of the British Competitions last year, though on a larger scale; while the second, a cross-country flight lasting over five hours, completed his "Silver C." The pilot has kindly allowed us to reproduce his account from *The Sportsman Pilot*, from which the following extracts are made:—

In the middle of the afternoon of September 28th, after eight days of inactivity at Big Meadows, the gods relented and brought a storm from the south-west. After the rain had subsided a fresh westerly breeze sprang up. We hastened to make ready to take off. Alas, our runway was so wet and muddy that our cars skidded too much to give us traction for auto-tow. Warren decided to use double shock-cord stretched by the double-wheeled truck. I hauled the ALBATROSS II half a mile down the road and took off in auto-tow from the gravel road. The ship made a comfortable climb before I dropped the rope and sailed out over the edge of the cliff.

The view 2,000 feet below was magnificent, but I was too busy searching for up-currents to give it much attention. Soaring was a struggle at first — I dropped below the edge and worked gradually up again. I found lift where I least expected it and lost it where I was most confident of finding it. Fortunately, as the wind picked up in velocity, this condition quickly corrected itself.

Now we sailed slowly into the teeth of the wind until we were well out over the valley. Each of us went a slightly different direction, yet each of us soon had new problems to contend with as we reached the level of the billowy white clouds that were moving in from the west. I was so taken up with trying to get under what looked to be a good one that I got well to the lee of my particular spur. Suddenly the needle of my variometer dropped down to 2, 3 and then 4 metres per second descent. I put the nose down and sent the airspeed up to 60 while diving to regain the up-wind side of the rocky spur.

Soon Warren and I were flying formation not 50 feet apart. Both headed west, we were standing still, occasionally even drifting backwards, as we climbed steadily upward at about half a metre to a metre per second. The air was smooth and cold — getting steadily colder, in fact. The clouds were now far below, and the grey wooden barracks of the camp were becoming smaller and smaller.



STANLEY W. SMITH — 1934



EMIL "MOE" LEHECKA — 1934

(Continued on Page 12)

The view all about us was magnificent. In the clear air we could see almost 80 miles east where a smudge marked the location of Washington. North and south we could see miles up and down the ridge. We could and did study its contours to prepare us for future flights. To the west the sun was sinking toward a bank of clouds on a horizon which was now many ridges away.

The clouds were the most beautiful I had ever seen. Huge, towering cumulus in the east were snow white turning into shell pink against a background of slate-blue sky, while in front of them floated stringers of clouds that were almost black. Wherever we looked — and the extraordinary smoothness of the air and the motionless attitude of our ships gave us ample opportunity to look — nature was painting a marvelous, stupendous canvas for us.

It began to dawn on me that we were high — awfully high. I edged over to Warren and shouted: "How high are we?" He must have been too cold to answer; he simply held up a lot of fingers. I thought I counted six. Six thousand feet above the mountain — that meant close to 10,000 above sea level. No wonder we were cold!

It was getting rather late. We headed down out over the valley to lose altitude. Soon we were only 1,000 feet or so above the camp. Suddenly, without any warning of bumpy air, our variometers jumped from 1 metre per second descent to 2, then 3 metres per second climb. More than half a mile out in front of the mountain and supposedly away from its influence, we had caught a strong thermal. But this was unlike any thermal either of us had ever encountered before.

We were heading straight out, and wherever we flew the air was smooth as glass but going steadily up. Almost before we realized it we were back up over 5,000 feet and still climbing at a rate of more than 500 feet per minute. It did not occur to either of us that if we continued to ride this thermal a few minutes longer we would break the altitude record by a margin of probably several thousand feet.

As I looked about me I saw that the sun was well down. Dusk was at hand and night rapidly approaching. Below us a mantle of clouds was forming between us and our landing place. For an instant I felt something akin to panic. What if the clouds were right on the ground on the mountain! What if it was pitch dark before I could get down to the valley floor! We both started diving earthward. Up went the airspeed to 50, then 60 miles an hour. Still I wasn't losing any altitude. As a last resort, I turned to those ingenious appendages the Bowlus-du Pont engineers put on these ships — the flaps. Cranking them open and diving at better than 50, I found I could gain on the up-currents at better than a metre per second downwards.

Down in the valley the lights of Luray and Stanley twinkled in the gathering darkness as I continued way out over the valley to get around and under the clouds. As I reached their level and looked back underneath, I breathed a sigh of relief — they were over 1,000 feet above the ridge.

Turning about and diving steadily back to the mountain, I saw a tiny blaze of light as a bucket of gasoline thrown on the smudge flared up into a bonfire. Pin points of light — cars! were driving up to help light the runway. One more turn, and I cranked the flaps over and dived in at about 50.

Sunday, the last day of our meet, did not look like a promising day for thermals and distance flights, for the sky was overcast with lower scuds. Yet I took off at 8.25 and did not come to earth again til 1.40. Warren, who took off after

me, was up 4 hours 45 minutes. Both of us landed in the same field at Front Royal, Virginia, 30 miles from Big Meadows.

Warren's and my soaring flights that day were chiefly interesting in that we again stayed together for a good deal of the time and utilized the lift of both the slope winds and the clouds which were continually blowing in from the south-west and hanging less than 1,000 feet above the mountains. Once I saw a hawk spiralling up on a thermal and followed him. Another time I flew right alongside a buzzard for ten minutes. He seemed to have no fear of the great wooden bird so close to him. I discovered the interesting fact that the ALBATROSS II, in some respects is a more efficient soarer than the buzzard, for I managed to climb away from him.

Unfortunately, the wind died out and it was impossible for either of us to go any further.

[On April 3rd, 1935, Lewin Barringer made a most interesting flight in the ALBATROSS II, from Mongola, near Ellenville, N.Y. to Harrisburg, Pennsylvania, a distance of nearly 160 miles along a practically unbroken ridge. The flight lasted from 8:30 a.m. to 3:15 p.m., and was almost entirely done by slope-soaring. It had been carefully planned beforehand — in fact, Mr. Barringer had made numerous aeroplane trips over the terrain and studied the maps of the Geological Survey. Hence his success.]



Henry Wightman

As befits a member of a university (Michigan) gliding club, Mr. Wightman, who flew 135½ miles in 5 hours 24 minutes in a Bowlus-du Pont UTILITY glider on July 4th last, has considered every detail of his flight in retrospect and given an account of it which is of unusual interest from a scientific aspect. It was not only the longest flight of the Competitions, but also far exceeded anything else done on the same day, when the only other performance of note was R. du Pont's out-and-return flight of 18 miles each way.

The following extracts are from the pilot's report published in the Soaring Society's Bulletin:

The whole flight was made on thermals. I took off of Harris Hill (Elmira) into an almost west wind before the thermals began to be very pronounced. I got into 8 or 10 thermals at intervals of 10 to 15 minutes apart, in the company of most of the other ships in the air, but never reached an altitude of over 1,500 feet. At about 11:30, while I was at the south end

of the ridge, I spotted four ships at about 2,000 feet above the take-off field. I reached the field at about 300 feet and found a thermal still there.

At about 3,000 feet I began making smaller circles, and found it considerably easier to stay in the thermal. At 4,000 feet I climbed right through the middle of the group of four that I had been following. They were flying in all sorts of odd directions that seemed to indicate that they knew something was there, but couldn't locate it. I suspect that they were watching their instruments and didn't see me. Merboth did see me, and we kept together until about 5,000 feet. At that point he appeared to find something else off to one side, but it petered out, and I went into a small cloud about 200 feet above him. The cloud appeared to be disintegrating before I went in, but I climbed to about 5,500 feet in it. About five minutes after I came out it was gone. In that cloud, and the only other two that I went into, the rate of climb was less than it was about 500 feet below the base. There was much smoother air in the cloud than below it.

On that particular day I could make the distance between the clouds with a loss of altitude of about 700 to 1,000 feet. On one occasion, when I found myself about to enter a cloud, I shoved the nose down and flew for about 15 minutes at what was probably over 75 miles an hour. At one point during that time I was climbing over 10 feet per second. I ended up higher than when I started. I could quite often fly in a straight line under four or five clouds without appreciably losing altitude.

I had no idea where I was. Suddenly I spotted, dead ahead, a mountain which appeared to be Storm King, on the Hudson River. I knew that if I could reach that I would not only have the American distance record, but would be in some of the best soaring country that there is. It was about 40 miles away. Dead ahead of me was an area of sky quite free of clouds except for six in a line that extended half-way across the bad spot. In my anxiety to reach Storm King I set out along this line trusting to luck that I would find some way to cover the remaining distance. When I got to the end of the line, the Hudson River, the record and another 100 miles were in sight, and I had to come down.

An element of excitement was added when an anti-aircraft battery of Roman candles and skyrockets opened fire on me from the outer defences of Middletown. They weren't very good shots.

Now for the mistakes in order of their occurrence:—

(1) I made too wide circles in thermals in the beginning of the flight. This defect was caused, for the most part, by the fact that I was afraid to bank, for fear of increasing my sinking speed. I believe that that is rather a common fault.

(2) I found that, in the beginning of the flight, I had a very strong tendency to judge my speed by the ground while circling. As soon as I managed to stop such practice, things became much easier.

(3) I stayed with each cloud too long in the beginning. I could have cut off possibly as much as an hour from my time if I hadn't waited when I didn't need to.

(4) I didn't wear enough warm clothes.

I found that most of the time the lift under a cloud did not extend vertically downward but sloped ahead of the cloud down wind at an angle of about 20 degrees to the vertical. As I rose, I kept losing the lift while travelling down wind, and on the down-wind side of the circle. I would find the centre again by travelling straight up wind again, and then continuing the circle about 75 to 100 yards up-wind from where I had lost the lift. At about 4,000 feet I would find myself under the front edge of a cloud that I had passed at a low altitude and found no lift. Very close to the base of the cloud I would find the lift directly under the middle. At 1,000 feet or so below the base the lift appeared to be under the down-wind side of the cloud. I noticed some weak downdrafts on the opposite side of the cloud to the lift, but they were not strong enough to make it necessary to go around them.

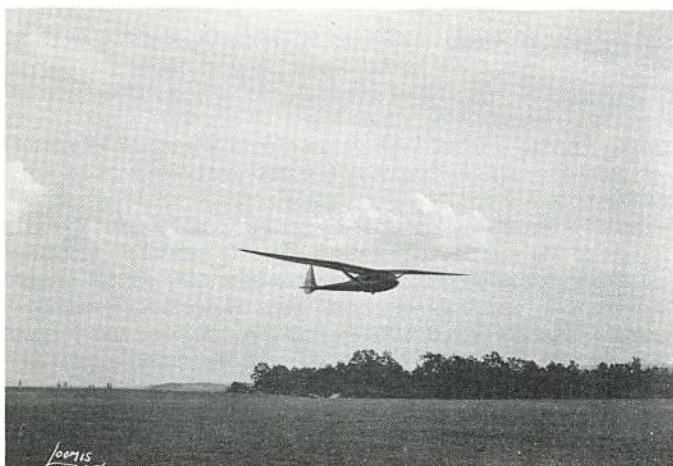
The main thing that I should have noticed and didn't until it was too late was that all the clouds formed over rough and hilly country. When I got to Middletown, where the country is very flat, there were no more clouds. I was born and have lived a large part of my life in the same section where I landed and I have noticed, even before I knew anything about soaring, that the sky would be clear over me while all around there were cumulus clouds. I have since discovered that on good soaring days the sky will be clear 50 to 75 per cent of the time over the flat ground, while the surrounding clouds are over the hilly country that surrounds the flat section. However, every now and then the sky will fill up with clouds that last for one-half to one hour. Meanwhile the clouds over rough ground have not changed their character. The more wind there is the more pronounced is this effect.

It appears to me that the turbulence of the air over the hills is continually throwing warm air from the ground to a considerable height, where the temperature difference is enough to start rising currents, while on flat ground it is necessary for the ground to heat the air to a greater extent before it starts to rise. Then it all goes up and its place is taken by cool air which must wait to be heated. Hence the periodic nature of cumulus over flat ground, and their continual existence over rough ground.

With all of this in mind, I could have gone around the stagnant area either by thermals or by ridge soaring, or waited for the clouds to form where I wanted to go. They did form 15 minutes after I landed and kept it up periodically until 10:30 at night, while I sat under the wing of the ship and watched them go towards a new record.

(To be concluded with accounts of flights by Emerson Mehlhose and Chester Decker.)

(ED. Has anyone a copy of the completion of the account?)



Warren E. Eaton's Albatross, the FALCON, on tow at Harris Hill, 1934.



Martin Schempp with the HAWK — 1933.

SSA AWARDS (COMPETITIVE)
(From The SSA Handbook.)
The Richard C. du Pont Memorial Trophy

Awarded each year to the U.S. National Unlimited Class Soaring Champion, as determined at the Annual U.S. National Unlimited Class Soaring Championships.

The trophy, symbolic of thermal soaring flight, is a bronze casting mounted on a mahogany base, and is 24½ inches high overall. It was presented to SSA in 1947 by Mrs. Allaire du Pont in memory of her husband, Richard C. du Pont, U.S. National Soaring Champion in 1934, 1935, and 1937, who died in the crash of an experimental military glider September 12, 1943.

The trophy is perpetual and is passed from Champion to Champion. The winners' names with dates are engraved on metal plates attached to the pedestal. In addition, each winner receives a bronze medallion bearing a bas-relief representation of the trophy for his permanent possession. With the trophy, Mrs. du Pont gave the Soaring Society 20 medallions.

This trophy succeeded the Edward S. Evans Trophy, the original National Championship trophy.

U.S. National Soaring Champions who have held the Richard C. du Pont Memorial Trophy are as follows:

Year	Champion	Sailplane	Location
1947	Richard J. Comey	1-21	Wichita Falls, Texas
1948	Paul B. MacCready, Jr.	Orlik	Elmira, New York
1949	Paul B. MacCready, Jr.	Orlik	Elmira, New York
1950	Richard H. Johnson	RJ-5	Grand Prairie, Texas
1951	Richard H. Johnson	RJ-5	Elmira, New York
1952	Richard H. Johnson	RJ-5	Grand Prairie, Texas
1953	Paul B. MacCready, Jr.	1-23D	Elmira, New York
1954	Richard H. Johnson	RJ-5	Elsinore, California
1955	Kempes Trager	T-3	Elmira, New York
1956	Lyle A. Maxey	Jenny-Mae	Grand Prairie, Texas
1957	Stanley W. Smith	1-21	Elmira, New York
1958	Richard E. Schreder	HP-8	Bishop, California
1959	Richard H. Johnson	Weihe	Elmira, New York
1960	Richard E. Schreder	HP-8	Odessa, Texas
1961	A.J. Smith	LO-150	Wichita, Kansas
1962	John D. Ryan	Sisu 1	El Mirage, California
1963	Richard H. Johnson	Skylark 4	Elmira, New York
1964	Richard H. Johnson	Skylark 4	McCook, Nebraska
1965	Dean Svec	Sisu 1A	Adrian, Michigan
1966	Richard E. Schreder	HP-14	Reno, Nevada
1967	A. J. Smith	Sisu 1A	Marfa, Texas
1968	Ben Greene	Libelle	Elmira, New York
1969	George B. Moffat, Jr.	Cirrus B	Marfa, Texas
1970	Ross Briegleb	Diamant 18	El Mirage, California
1971	A. J. Smith	AS-W-12	Bryan, Ohio
1972	Ray Gimney	Std. Libelle	Minden, Nevada
1973	George B. Moffat, Jr.	AS-W-17	Liberal, Kansas
1974	Ben Greene	AS-W-17	Adrian, Michigan
1975	Richard H. Johnson	Nimbus II	Hobbs, New Mexico
1976	Al Leffler	Nimbus II	El Mirage, California
1977	Dick Butler	Glasflugel 604	Caddo Mills, Texas
1978	A.J. Smith	Glasflugel 604	Chester, South Carolina
1979	Dick Butler	Glasflugel 604	Minden, Nevada
1980	Dick Butler	Glasflugel 604	Hobbs, New Mexico
1981	Richard H. Johnson	Nimbus II	Ionia, Michigan

THE RICHARD C. DUPONT MEMORIAL TROPHY

By Taylor (Bipps) Boyer

In the spring of 1947, when we were getting ready for the Nationals at Wichita Falls, Wally Setz realized that the Edward S. Evans Trophy had been won permanently by John Robinson and we didn't have a trophy for the National Champion. Wally called Mrs. du Pont and proposed that she sponsor a trophy. She was interested and asked that he make a proposal. Wally came to me and asked me what to do next. I suggested that my mother and sister were both artists and could look into it. Wally approved that; and my mother made several sketches and got some price on a range of things from a simple plaque at \$160 to a full trophy at \$2500.

We had a meeting with Mrs. du Pont in Art Schultz' office at All American. My recollection is that those attending were Mrs. du Pont, Charles Wendt, Art Schultz, Capt. Ralph Barnaby, Wally Setz, my mother and me. Wally had called

Capt. Barnaby to tell him of the meeting and found that he too was a sculptor. This was the first that either of us knew of it.

Mrs. du Pont wanted the full trophy and authorized it at that meeting. My mother worked on the clay model most of that summer and fall and had it ready for casting by late fall or early winter. The foundry was New York Bronze in Brooklyn, I believe, and is still in business. The arrangement was through a jeweler in Wilmington, Daniel G. Elson.

The concept of the trophy came from a poem by Tennyson, I believe, with this line, "I am the daughter of air, earth and water and a fondling of the skies". The first sketch had this shown around the base but it was decided not to use it. The basic idea was to use natural shapes, clouds, birds, the earth, water, the sun's rays etc. that would be timeless. Thus the



cloud, cumulus in front and the storm cloud in the back, with soaring birds was the theme: the cloud rising up out of the earth and the water with the sun's rays indicated.

The original concept was to have the name of the champion engraved on a plate and attached to the base of the trophy. We soon realized that this was not very practical for a perpetual trophy and the medallion was the answer. It was not a part of the original commission and my mother always regarded it as her contribution to the Soaring Society. She was rather unhappy with the second set of medallions which were cast from one of the first set. Much detail was lost because of this and several years ago she made a new master, a ceramic, and sent it to the Soaring Society. There should be a good master to use from now on.

Attached is a biographical sketch of my mother, Louise Boyer, and a listing of her accomplishments. In addition to all this she was an avid letter writer who required an answer at least once a week, if not oftener.

LOUISE RIVE-KING MILLER BOYER: Born in 1890, Pittsburgh, PA began to paint and draw at the age of seven. She earned her BA in the first class in Painting and Design in 1913 at Carnegie Institute of Technology. She married architect Ernest W. Boyer in 1914 and returned to CIT and took special art history and technical courses both there and at the University of Pittsburgh during 1933 and 1934. They had two children: Taylor M. Boyer, Boeing Engineer-retired and Helen King Boyer, an artist and toy designer.

Mrs. Boyer was a free-lance designer and graphic artist from 1923 in all media including portraits. She exhibited in all major print shows in the United States and several abroad. She was a member of the Society of American Graphic Artists and was the consultant on aluminum drypoint plate for Alcoa. She also designed two safety trophies for the Alcoa Company. She designed and executed the du Pont Memorial Trophy and medal in 1947. She also designed other trophies and certificates for donation for various Catholic churches. Mrs. Boyer designed beam decorations for the Sacred Heart

Church, Pittsburgh, PA. She has prints in permanent collections of the Carnegie Institute, the Library of Congress, the Metropolitan Museum of Art, the Nelson-Atkins Museum--Kansas City, MO and others. She is in many private collections coast-to-coast.

Home town was a center of culture. From early-on she saw the best the world had to offer in the annual INTERNATIONAL ART EXHIBIT and heard the world's great music at Art Society concerts and with the Pittsburgh Symphony. Her autograph book reads like a cultural WHO'S WHO of the day; Geronimo to Anton Seidel, Bell and Edison to Victor Herbert and Charles Wakefield Cadman, Walter Damrosch and John Philip Souza to Andrew Carnegie and John Brashear, the maker of telescopes. And Josphua Slokum's autograph is on a piece of the sail that took him around the world on the "SPRAY".

While Mrs. Boyer was trained as an artist, she began to write when she was about twelve. Her years at Carnegie Tech opened her interest in the theatre and led to a short period as a scenario writer at the old New York studios of Metro. When Metro moved to the West coast and became Metro-Goldwyn-Mayer she came home to a two year old son and an about-to-be-drafted husband.

Mrs. Boyer was a Trustee of the Charles and Martin Leisser Art Fund and a member of the Associated Artists of Pittsburgh. She earned many awards among them: First in Graphics, AA of Pittsburgh-1943, Purchase Prize, Johnstown, PA-1943, second place, Missouri State competition-PICTURES OF THE AGED BY THE AGED-1971. She held many one and two man shows and the final years of her life were spent doing miniature engrossing on illuminated manuscript. She worked creatively until the last three months of her life. She died December 6, 1976. Louise Rive-King Miller Boyer is listed in WHO'S WHO IN THE EAST and WHO'S WHO IN AMERICAN ART.

(Ed. this information was culled from materials sent to the National Soaring Museum by her son and daughter. We are pleased to announce that the museum has several molds of the medallion and three copies of soaring prints by Mrs. Boyer and a 12" x 30" photograph of the du Pont Memorial Trophy in bronze tones which we plan to add to The SSA Awards exhibits).



LOUISE RIVE-KING BOYER — 1953.

December: Diamond Anniversary Of Man's Propulsion Skyward

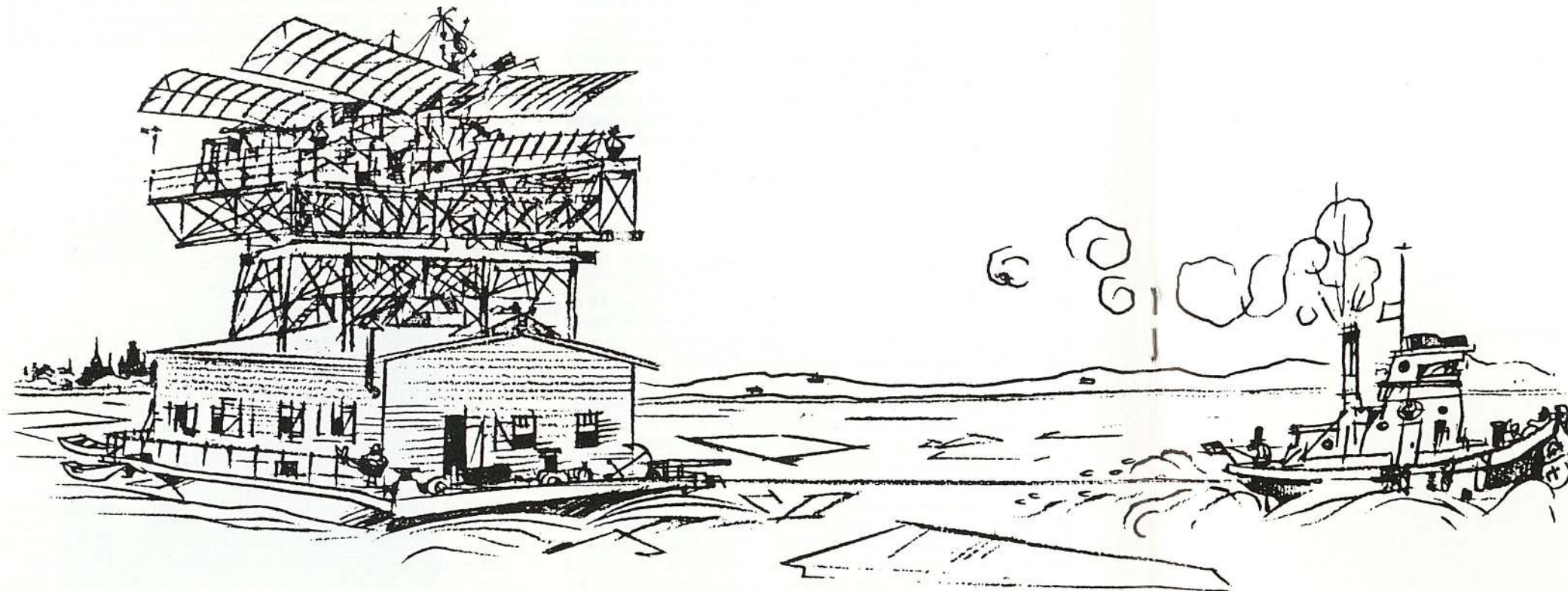
By Tom Crouch

Editor's note: This is a reprint of an article which first appeared in the December, 1978, SMITHSONIAN, with permission from the publishers, the author and the illustrator.

Author Dr. Crouch is curator of astronautics with the National Air and Space Museum. His most recent publication is A DREAM OF WINGS. Illustrator Robert Osborn's wartime cartoons helped teach safety to U.S. Navy pilots.

The sage of the Smithsonian did not get off the ground, and the press hooted. Then, quietly, two 'nobodies' began to fly

Shortly after 2:30 on the afternoon of December 8, 1903, the steam tugs **Bartholdi** and **Joe Blackburn** pulled away from a wharf at the foot of Eighth Street in southwest Washington with a large, flat-bottom houseboat in tow. The two vessels moved downstream through blocks of floating ice to an anchorage off Arsenal Point, near the confluence of the Potomac and Anacostia rivers. A midday calm had given way to winds gusting up to 20 miles an hour — hardly ideal conditions for workmen struggling to bolt a cruciform tail and four large wings to a steel-tube fuselage mounted on a catapult on the roof of the houseboat.



Langley's houseboat is towed down the Potomac while workers assemble Great Aerodrome on catapult.

Charles Matthew Manly was obviously in charge of the operation. For the past five years Manly had served as chief aeronautical assistant at the Smithsonian Institution. He took particular care with these final preparations, for he was about to trust his life to the ungainly machine resting on the launcher. If the events of the next few hours unfolded as planned, Charles Manly would become a very famous man indeed — the pilot of the world's first successful powered, heavier-than-air flying machine.

The director of the project, Samuel Pierpont Langley, watched the activity from the houseboat's deck. Secretary of the Smithsonian Institution since 1887, Langley was widely recognized as the nation's unofficial chief scientist. He had thrown over an embryonic career in architecture to pursue his first love, astronomy, after the Civil War and had become interested in flight in 1886, when he attended a lecture on aeronautics. He was inspired to undertake a lengthy series of experiments, and their results convinced him that human beings could fly.

When Langley's data and conclusions were published in 1891, some colleagues questioned the care with which he had conducted the experiments. The Secretary came to believe that redeeming his reputation required a practical demonstration of the validity of his conclusions. Between 1887 and 1891 he had constructed more than 100 rubber-band-powered flying models sporting various wing, tail and propeller combinations. None met his expectations.

Langley then turned to larger models, with wingspans of up to 14 feet. These could be propelled by light yet powerful steam engines. With Smithsonian funds he mounted a five-year effort that culminated in successful flights of two unmanned models — resembling giant dragonflies — for distances of up to 4,200 feet in May and November 1896. These flights silenced those skeptics who had questioned the quality of Langley's experimental data. Moreover, newspapers and popular magazines reported the flights and turned the Secretary into a celebrity. Thousands felt that the age of flight was close at hand and that Langley would inaugurate it.

Immediately after those 1896 flights of his models, the Secretary announced that he had decided to halt aeronautical experiments. In reality, he had begun a serious search for funding. By 1898, with the assistance of his friend Charles Doolittle Walcott of the U.S. Geological Survey, Langley obtained \$50,000 through the War Department's Board of Ordnance and Fortification, the agency charged with the development of new weapons.

Langley aimed at enlarging the size of his successful models roughly four times with as few changes as possible. The unmanned craft had been inherently stable, a requirement for



Charles Manly, pilot, and Dr. Samuel P. Langley.

Illustrations by Robert Osborn

DECEMBER: DIAMOND ANNIVERSARY

(Continued from Page 17)

all free-flying model aircraft. Langley, who feared that a pilot would be unable to cope with rapid shifts in the winds aloft, planned to retain this stability in the Great Aerodrome. The craft would include a movable tail to control altitude, and a rudder, but it would normally fly straight and level. Once the machine had provided the minimum demonstration, Langley planned to devise a suitable control system for it.

In one area, Langley's engineers broke new ground. The steam power plants that had propelled the small craft would be replaced by an internal combustion engine. A one-quarter-scale model was built to test the use of this power. For the Great Aerodrome, Stephen M. Balzer, a New York machinist and instrument maker, developed a five-cylinder rotary engine that operated intermittently, generating only four hp. Manly took delivery of the power plant and transformed it into a water-cooled radial, producing an impressive 52 hp.

By the fall of 1903 the old models had been successfully reflowed, and the new one-quarter scale machine had made a brief flight. On October 7, the crew was ready for a manned launch. After a preliminary engine run-up, the Great Aerodrome shot down the rail — and fell into the water "like a handful of mortar," in the words of one Washington reporter. Manly and Langley laid the blame on the catapult mechanism. They repaired the aircraft and modified the launcher for another attempt.

Final preparations for the second test flight on December 8 must have been particularly tense for Langley who, at the age of 69, stood at the pinnacle of his career, and who had chosen to expend 50,000 of the taxpayers' dollars and an additional \$20,000 in Smithsonian private funds on a project that many felt was doomed. A small group of invited witnesses joined Langley on board the houseboat. Dr. F. S. Nash, an Army contract surgeon, was present in case an emergency should arise.

By 4:30 the winter sky was darkening rapidly, and shifting gusts made it impossible to keep the boat heading into the wind. In a hurried conference, Langley and Manly agreed that the test could not be postponed. It might be weeks before the weather improved, and funds were not available to allow for such a delay.

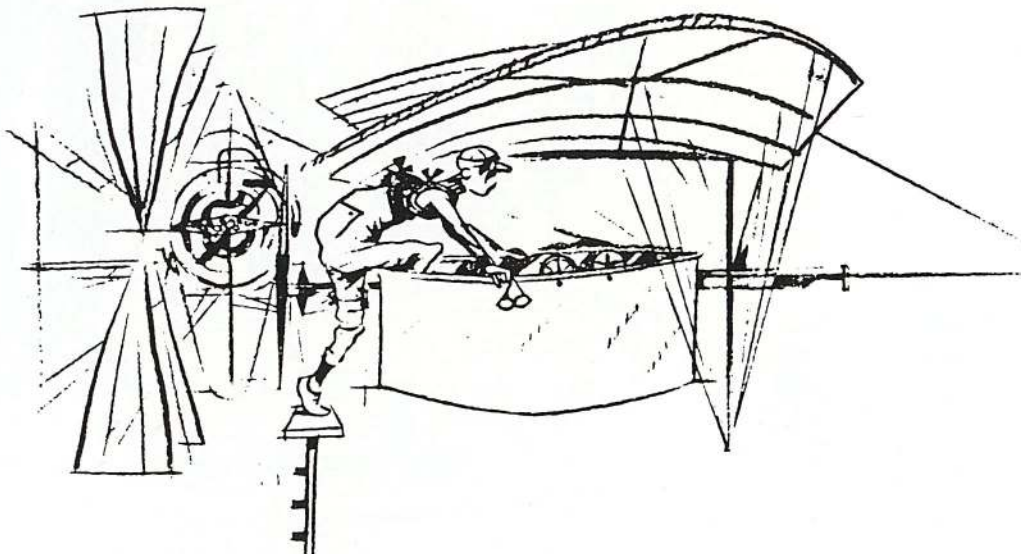
Manly quickly stripped off his outer clothes. He would make the flight dressed in a union suit, stockings, light shoes and a cork-lined jacket. Whether he succeeded or failed, he faced the prospect of a landing in the frigid Potomac and he had no intention of being weighed down by heavy garments.

The young engineer stepped through the tangle of brace wires and struts into the small fabric-sided cockpit. He seated himself on a board facing the right side of the machine, his hands resting on two small wheels mounted on the right wall of the cockpit. These controlled the up-and-down motion of the tail and operated the rudder on the underside of the fuselage. Before Manly ran up the engine, the invited guests joined members of the Washington press corps in a number of small boats. These provided a good view and put them in position to offer assistance should rescue attempts be required.

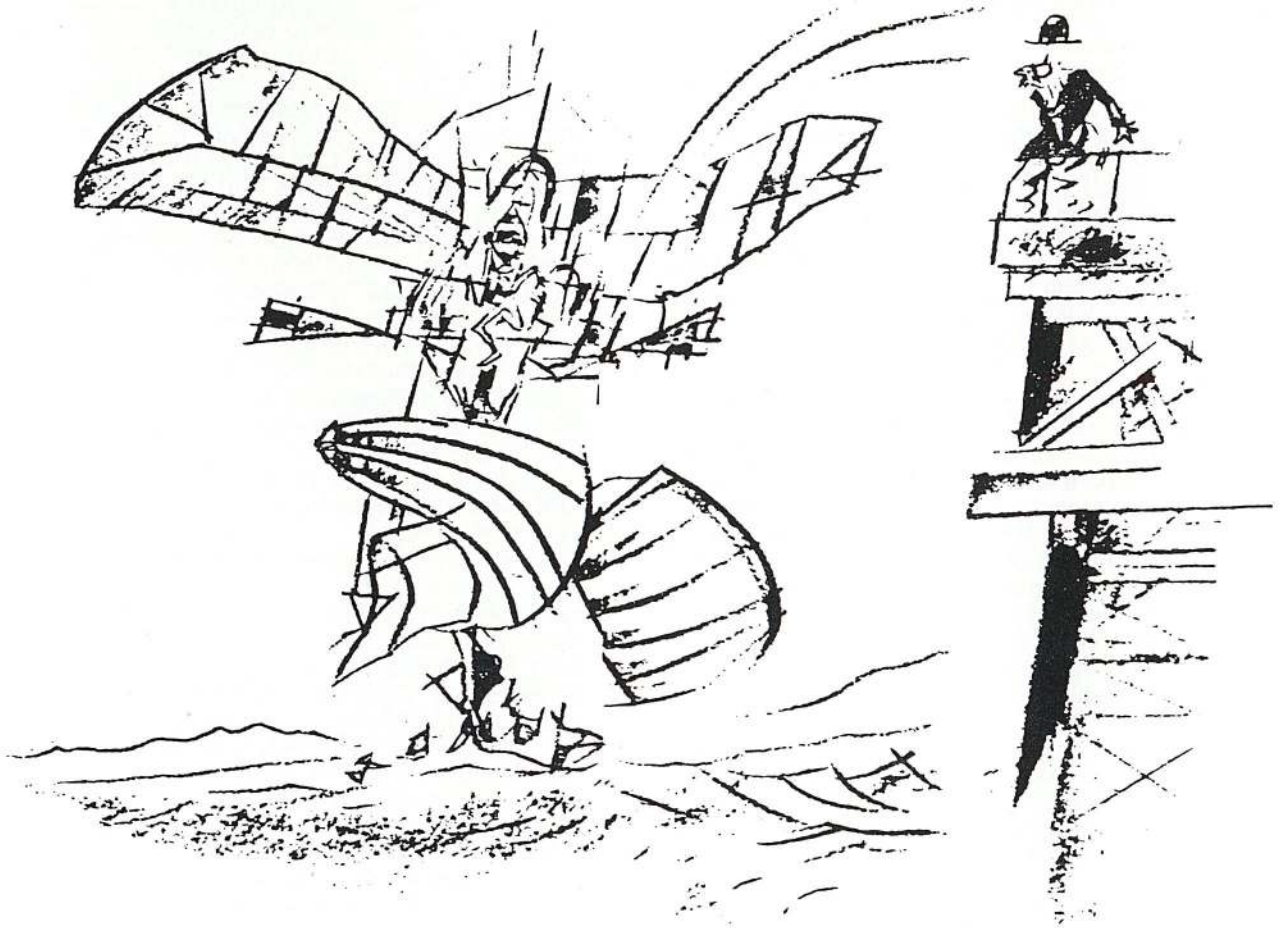
Satisfied with the sound of the engine and the operation of the controls, Manly gave the signal for release at 4:45. He sped down the 60-foot track, felt a sharp jerk and immediately found himself staring straight up at the sky as his aerial steed flipped on its back and dropped into the water.

Manly hung from the cockpit sides with his hands and entered the water feet first. In spite of his precautions, he found himself trapped beneath the surface with the cork-lined jacket caught on a metal fitting. Ripping the garment off, he struggled through the maze of broken wood and wire only to reach the surface beneath an ice block. He dived down finally emerging in free water some distance from the floating wreckage, just in time to see a workman plunge under the remains of the machine in a rescue attempt. Both men were quickly fished out of the water and carried to safety aboard the houseboat. Manly was uninjured but so frigid that Dr. Nash was forced to cut the clothing from his body.

Moments later, wrapped in warm blankets and fortified with whiskey, this genteel son of a university president startled the group by delivering a "most voluble series of blasphemies." Samuel Pierpont Langley's 20-year drive to develop a flying machine was halted.



Manly, stripped to union suit, enters cockpit. . .



...flips into the Potomac after being launched...



...and, warmed by drink, produces well-chosen words.

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DECEMBER: DIAMOND ANNIVERSARY

(Continued from Page 19)

The reaction to the disaster of December 8 was as immediate and harsh as Langley had feared it might be. Newspapermen, bitter over the Secretary's policy of secrecy, were little disposed to show mercy. A dramatic photograph showing the shattered aircraft falling toward the water appeared in the Washington *Evening Star*. Once considered the best hope for achieving flight, the machine was now dubbed "Buzzard" and "Mad Duck." Congressmen, ridiculing the expenditure of government funds on flying-machine projects, argued that a regiment of Langley machines "would not conquer the Fiji Islands, except, perhaps, by scaring their people to death."

On December 9, the morning after the Langley catastrophe, one of the men who would prove Langley's critics wrong boarded a train in Dayton, Ohio. Orville Wright faced a two-day journey to Kitty Hawk, a small fishing village and life-saving station on the Outer Banks of North Carolina. He carried with him new propeller shafts that would be fitted to another flying machine that had been conceived and constructed far from the glare of publicity that then surrounded Langley.

During the trip from Dayton, Orville had read the news stories of Langley's disaster. These accounts came as no surprise to him, for he and his older brother Wilbur had long believed that there was little hope for success with the Langley machine.

Still, both brothers must have felt a great deal of sympathy for the older man. As Wilbur Wright recalled three years later, "The knowledge that the head of the most prominent scientific institution of America believed in the possibility of human flight was one of the influences that led us to undertake the preliminary investigation that preceded our active work. He recommended to us the books which enabled us to form sane ideas at the outset. It was a helping hand at a critical time and we shall always be grateful."

Sons of a United Brethren minister, the Wright brothers were members of an extremely close Midwestern family, and were far removed from the urbanity of Dr. Langley. Aged 29 and 25 in 1896, they were still family-bound. For several years of his young manhood, Wilbur, the elder, remained unemployed, a semi-invalid because of an ice-hockey accident. Orville, who left high school before graduation, had tried his hand at a variety of tasks, but had achieved little financial success.

Their second joint venture (the first was printing), the Wright Cycle Company, provided a reasonable income and an outlet for their mechanical interests, but left the brothers with a great deal of free time, particularly during the winter.

The year 1896 was a crucial one for the brothers. Magazines and newspapers had been carrying reports of men taking to the skies. In Germany, Otto Lilienthal was concluding his sixth successful season of trials with a series of manned hang gliders. By the time of his death in a glider accident in August of that year, he had convinced most obstinate doubters that human beings could fly in wings of their own construction.

Octave Chanute, a world-famous civil engineer, was emulating Lilienthal that summer at an aerial-experiment station on the Lake Michigan sand dunes near Miller, Indiana.

Their interest whetted by published reports, the Wrights spent the next three years slowly absorbing the flying-machine and bird-flight literature available at home and in the local library. A letter to the Smithsonian Institution produced suggestions for further reading. Correspondence with Chanute cemented a friendship with this man who was to become their chief confidant.

Though the aeronautical literature of the period was a confusing mix of speculation and theory, one of the early marks of the Wright genius was their ability to winnow a few useful ideas from this contradictory morass. It was clear to them, for example, that the flight tests of manned gliders, as advocated by Lilienthal, offered a more rational path to success with a powered machine than did the use of scale models. Moreover, they believed that the practical success of Lilienthal guaranteed the accuracy of the air-pressure tables that he had developed for use in planning the wing-surface area of a flying machine. Chanute had suggested the most efficient aircraft structure in his classic biplane glider of 1896.

More important than these bits of information, however, was the fact that their review of previous work in aeronautics enabled the Wrights to identify the most troublesome problem that had blocked the route to success for others — control.

The Wrights recognized the almost universal search for a system of automatic stability as a blind alley that had led and was leading virtually all other aeronautical experimenters, including Langley, astray. The brothers were resolved that their pilot would be in absolute command of the motion and attitude of his machine at all times.

It had long been recognized that the presence of a horizontal elevator would enable an aircraft to climb or dive, while a



Back in Dayton, the Wrights seemed to mark time.

vertical rudder could be used to keep the nose of the craft pointed in the desired direction. The longitudinal, or roll, axis was another matter, however. Most of the inventors who had tackled the problems of flight prior to the Wrights saw such control as necessary only to correct for the rise or fall of wing tips struck by gusts. They assumed that the aircraft could be turned to the right or left by the action of the rudder alone.

As experienced bicycle riders, the Wrights realized that bicycles and airplanes are not naturally stable platforms. Rather, the operator must maintain equilibrium or he will fall. Such a craft cannot negotiate a sharp turn simply by angling a front wheel or a rudder. In order to maintain balance, it is necessary to lean into the turn. In the case of the airplane this requires a dip of the wing tip in the direction of the turn. Thus the Wrights sought a method of dipping or raising either wing at will, whereas other experimenters searched for a device to counter such an action. This realization of the necessity for active longitudinal control set the two Daytonians apart from other flying-machine innovators.

Wing warping was the Wrights answer. If a helical twist could be imparted to the wings, the shift in pressure would force one wing tip down and the other up. They first applied the technique in a small kite built during the summer of 1899, then planned the construction of a man-carrying device embodying the same principle.

As they prepared to enter the active phase of their work, the Wrights were only four years from ultimate success. Lilienthal, Langley, Chanute and others had struggled unsuccessfully for decades to develop a powered flying machine. The Wrights would accomplish the task in seven years, only four of which were devoted to active trials.

The wing-warping system allowed the Wrights to operate gliders with much larger wingspans than those of other designers. The performance of these craft astounded Chanute and everyone else who visited the camp near Kitty Hawk. Yet the Wrights were so dissatisfied at the close of the 1901 season that they seriously considered abandoning aviation. They had failed to achieve the results predicted by their calculations. Ultimately unwilling to walk away from the puzzle, they undertook a series of wind-tunnel tests in order to check the validity of the Lilienthal air-pressure tables on which they had based their preliminary performance computations.

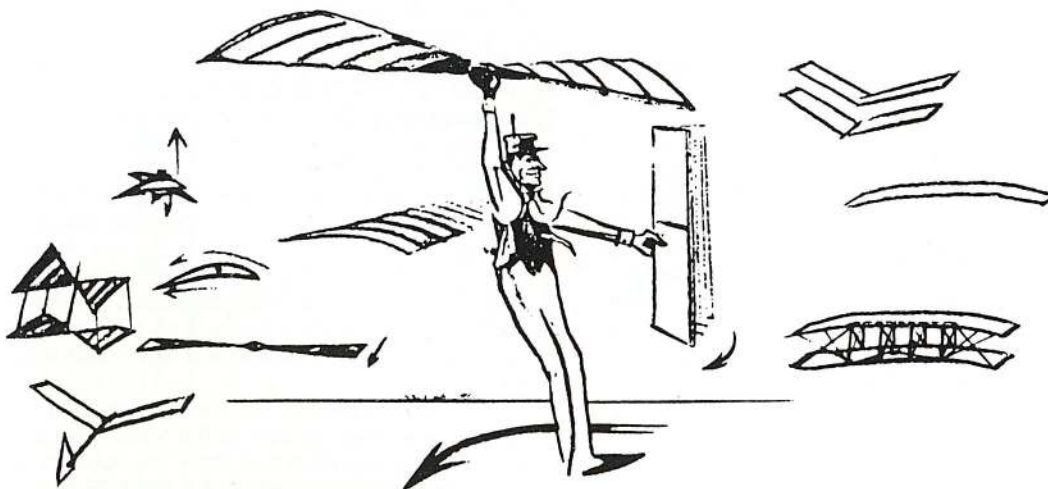
This episode is the clearest example of the intuitive engineering genius that the Wrights brought to bear on the problems of flight. While the renowned Langley clung to cut-and-try empiricism, the self-educated Wrights broke entirely new ground with their homemade wind tunnel. Their 1902 glider, which embodied the corrected wind-tunnel data, performed spectacularly and enabled the Wrights to modify their control system. They realized that they stood very close to final success and turned their attention to the propulsion system. Unable to locate a suitable lightweight engine at a reasonable price, they designed a four-cylinder power plant. Constructed by Charles Taylor, a mechanic in the bike shop, the engine was in many respects primitive, producing roughly 16 hp when first started, but dropping to about 12 hp after a minute or so of operation.

In the matter of propellers, the Daytonians were far in advance of their fellows. The brothers were the first to understand that an aircraft propeller is not an "air screw" in a literal sense. Rather, it is a rotary wing, the lift of which draws the airplane forward.

With their new engine and propellers on hand, and work on the structure of the large aircraft nearing completion, the Wrights began planning for their fourth season at Kitty Hawk. This year, 1903, they would expand their camp with the addition of a new shed to supplement the original building constructed in 1901. For the first time, they would be flying two machines, the 1902 glider having been refurbished for practice flying while the powered machine was being put together.

The brothers arrived at their Kitty Hawk camp at 1 p.m. on September 25, 1903. They had originally chosen this site after correspondence with Chanute, U.S. Weather Bureau officials and local residents. Attracted by reports of steady winds to keep their gliders aloft, hills from which to launch them and isolation that would permit them privacy, the brothers were to develop an affection for the self-reliant "Kitty Hawkers" (as they called them).

The Wright camp was situated just north of the Kill Devil Hills, a range of sand hummocks that derived its name, according to one account, "because sailors say it is enough to kill the devil to navigate this part of the [Albermarle] sound." The Wrights' only immediate neighbors were the crew of the Kill Devil Hill Life Saving Station, located roughly a mile from



Wright's controlled tilt of wings by warping them.

DECEMBER: DIAMOND ANNIVERSARY . . .

(Continued from Page 21)

their camp. The closest population center, the small village of Kitty Hawk boasted its own life saving station, a U.S. weather bureau, a post office serviced by a small mail boat from Manteo, and scattered houses.

But living conditions on the Outer Banks shocked the brothers. Sand sifted through the smallest cracks. Mosquitoes, as Orville reported in 1901, "chewed us clear through our underwear and socks. Lumps began swelling up all over my body . . . Misery! Misery!"

On arrival in 1903, the brothers discovered that a storm had lifted their original hangar from its foundations. Having just repaired it and completed a second shed, they were promptly assaulted by a ferocious gale. By November, cold weather had set in. In a letter to his father and sister, Wilbur commented that "In addition to . . . 1,2,3 and 4 blanket nights, we now have 5 blanket nights, & 5 blankets & 2 quilts. Next come 5 blankets, 2 quilts & fire; then, 5, 2, fire & hot water jug . . . Next comes the addition of sleeping without undressing, then shoes & hats, and finally overcoats."

A makeshift stove constructed from a carbide can provided heat, but filled the building with smoke so thick that when the brothers sat down to eat, the soot on the ceiling began dropping onto their plates. They added legs, chimney and dampers to the stove, which eased the situation.

In spite of the difficulties, the Wrights forged ahead with trials of the 1902 glider and worked to complete the powered machine. By early November, as Manly and Langley were waiting for a break in the weather over the Potomac, the brothers were encountering problems with a rough-running power plant and damaged tubular propeller shafts that eventually forced Orville's quick return to Dayton to supervise work on a new set of solid spring-steel shafts.



Orville, rushing new shaft to Kill Devil Hills, had read of Langley failure.

Finally, on December 14, preparations seemed complete. The toss of a coin determined that Wilbur would have the honor of the first full trial of the powered machine. The craft lifted off on this occasion, but nosed up too sharply and fell to earth, causing slight damage. Three days later, with repairs complete, they were ready for a second trial.

The morning of December 17 dawned cold. The puddles of standing water had frozen overnight, and a 27-mile-an-hour wind was blowing from the north. Hoping that the wind might abate, the brothers enjoyed a leisurely breakfast and remained indoors until 10 a.m., when they decided to make the trial.

They hung out a signal to summon the volunteer ground crew from the Kill Devil Station. The Wrights then maneuvered four 15-foot sections of two-by-four, the tops of which had been sheathed in metal, to a level area some 80 feet west of their buildings. The aircraft, which would ride along this takeoff rail on a truck constructed of two modified bicycle hubs, was then taken out of the hangar and prepared for flight.

Work in the biting cold was difficult, requiring frequent retreats to the comfort of the carbide-can stove, but by the time John Daniels, W.S. Dough and A.D. Etheridge arrived from the Kill Devil Station, preparations were nearing completion. Two visitors, W.C. Brinkley from Manteo and young Johnny Moore from Nags Head, accompanied the lifesavers. Robert Wescott, who had remained on duty at Kill Devil, watched the proceedings through a spyglass, while four miles away Captain S. J. Payne, chief of the Kitty Hawk Station, was also training his telescope on the men clustered around the plane.

At about 10:30 a.m., a few drops of gasoline were pumped into each cylinder. The coil box for starting was attached. The engine was allowed to run for several minutes while Wilbur and Orville discussed the situation. One of the witnesses years later recalled that "we couldn't help notice how they held on to each other's hand, sort o'like they hated to let go; like two folks parting who weren't sure they'd ever see each other again."

Finally, the two shook hands and Orville climbed into place beside the engine, prone on the lower wing with his feet braced against a board tacked to the trailing edge. His hips lay in a cradle free to move from side to side. To bank to the right, or to raise the left wing tip, he would shift the cradle to the right. This action would impart the correct warp to the wings and turn the rudder to the proper angle. With his left hand Orville grasped the elevator level that would, he hoped, control the rise or fall of his machine.

His right hand operated a second lever that had only three positions. In the "off" position, it was pointing slightly to the right over the leading edge. When pushed straight forward, it opened the cock connecting the half-gallon gasoline tank to the engine and permitted starting. When Orville was prepared to begin the flight he would pull the lever to the left, slipping a line that bound the aircraft and the truck to the rail and permitting them to move forward. At the same time, a stopwatch, the anemometer that served as an airspeed indicator, and the engine-revolution counter were set in motion. The lever was not a throttle, for the engine had only two speeds, on and off. Upon landing, however, the pilot would shove the control to the right to shut off the gas and kill the engine.

With Orville in place, Wilbur walked to the cluster of witnesses. Daniels was dispatched to man the camera pointed at the end of the rail. The elder brother now suggested that the men "not look too sad, but . . . laugh and holler and clap . . . hands and try to cheer Orville up when he started." Wilbur then took up a position by the right wing tip, replacing a low wooden bench that had supported the wing up to this point.

At 10:35 Orville moved his right hand toward his left and the craft began to move slowly into the 27-mile-an-hour wind. Wilbur had little trouble keeping up with the slow forward speed of the machine. As it rose into the air after a 40-foot run, Daniels clicked the shutter just as everyone broke into cheers on cue.

The airplane rose and fell erratically as it sailed forward. After 12 seconds of flight it struck the sand at a point about 120 feet from where it had left the rail. It hadn't taken very long and the machine hadn't traveled very far, but it had undeniably risen from the ground and flown forward under its own power, landing at a point as high as that from which it had taken off. On this isolated North Carolina beach, a man had flown.

The small crew carried the aircraft back to the rail for a second trial, then retired to the shed for a bit of warmth. At 11:20 the group emerged from the building and Wilbur took his place on the machine for a flight 75 feet longer than the first. Twenty minutes later Orville made his second trial, which lasted 15 seconds and covered a little more than 200 feet. At about noon Wilbur tried again, turning in the best performance yet, a spectacular 852 feet in 59 seconds.

The men carried the airplane back to camp. As they clustered around it, a gust of wind caught the machine and

sent it tumbling. Daniels went head over heels through the wood and wires, suffering severe bruises. When the airplane came to rest it was extensively damaged. Once the witnesses had helped drag the wreckage into the hangar, they returned to the station. One of them then raced down the beach toward Kitty Hawk. When he encountered Captain William Tate, in whose home the Wrights had lived during their first experiments, he was yelling excitedly, "They have done it! They have done it! Damned if they ain't flew!"

The Wrights ate an unhurried lunch, then strolled up to Kitty Hawk themselves, calling on old friends in the village to confirm the reports of their success, but not before sending a telegram to their father. The message, slightly garbled, was received in Dayton at 5:25 that evening:

Success four flights Thursday morning all against twenty one mile wind started from Level with engine power alone average speed through air thirty one miles longest 57 seconds inform Press home Christmas.

Orevelle Wright

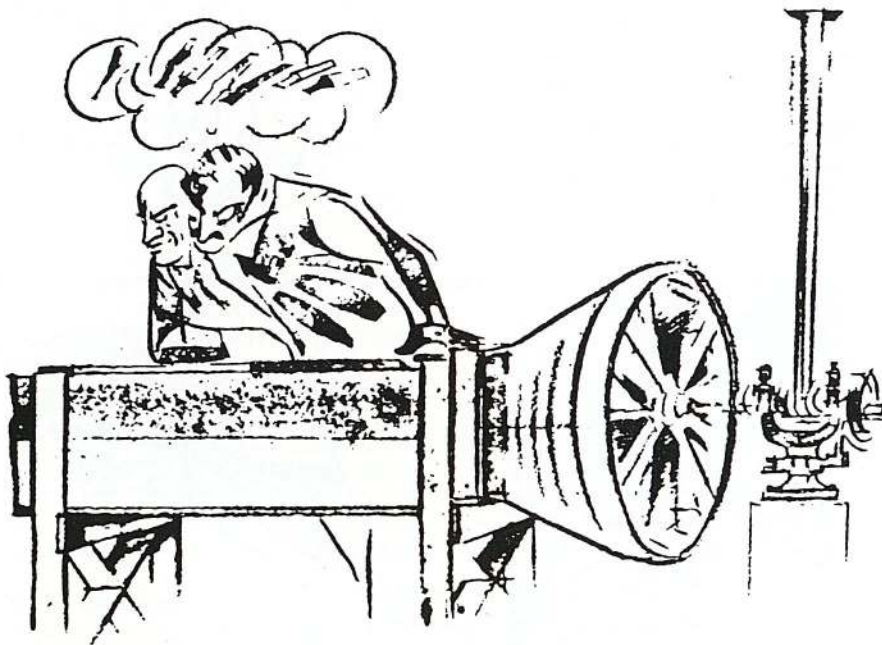
The two aircraft of December 1903 were to remain inextricably linked for almost 50 years. Following its final crash on December 8, efforts were made to pull the Langley Aerodrome from the Potomac mud. In so doing, the machine was completely smashed, only the engine remaining undamaged. With the funds left in the Aerodrome account, Manly ordered at least the fuselage refurbished. All parts were placed in storage in the hope that someday trials could be resumed. Following Langley's death in 1906, his old friend and successor, Charles Walcott, revived the dream of flying the Great Aerodrome.

In 1913 Walcott established the Langley Aerodynamical Laboratory at Smithsonian. The new organization was designed to spearhead American theoretical flight research. Dr. Albert F. Zahm, a one-time friend of the Wrights who had become one of their bitterest enemies, was placed in charge of the new organization. Zahm inherited the Aerodrome and determined that the time had come to prove that the craft could have flown. Glenn Curtiss, who was at the time being sued by the Wrights for having infringed their basic aeronautical patents, was chosen to rebuild and test the Great Aerodrome.

Orville Wright can hardly be blamed for interpreting the Smithsonian's actions as a breach of ethics. Should the Aerodrome fly, Curtiss would be able to claim that the Wright machine had not been the first capable of flight with a man, thus winning an enormous advantage in court.

Curtiss did rebuild the airplane, incorporating a great many major and significant alterations reflecting the advance of aeronautics since 1903. The rebuilt and much altered Aerodrome did, in fact, make a number of short hops. It was later returned to the Smithsonian, where it was restored to the 1903 configuration and placed on exhibit. Smithsonian publications began to describe the Aerodrome as "the first aeroplane in . . . history . . . capable of flying with a pilot and several hundred pounds of useful load."

Wilbur Wright had died of typhoid in 1912, leaving Orville to fight the patent suits and defend their priority as the first to fly. Orville was naturally incensed by the Smithsonian's refusal to accept their valid claims to the invention of the airplane. As early as 1910, Walcott had made it apparent that the Institution had little interest in exhibiting the Wright 1903 machine. This rebuff, complicated by Walcott's later sponsorship of the Langley Aerodrome and the favoritism shown



Brothers made crucial discoveries with their novel wind tunnel.

DECEMBER: DIAMOND ANNIVERSARY

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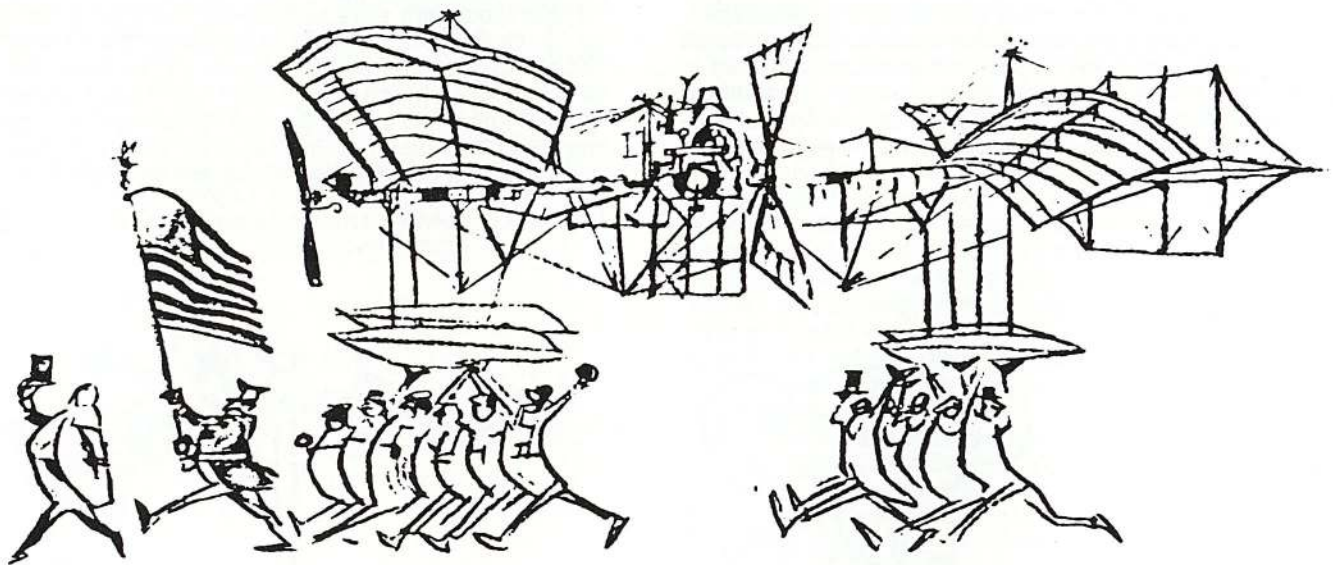
toward a business and legal opponent of the Wrights, guaranteed that the 1903 airplane would not find a home in the National Museum until amends had been made.

The original Wright Flyer was first rebuilt for exhibition at the dedication of new buildings at the Massachusetts Institute of Technology in 1916. It was exhibited periodically at aeronautical events until 1928, when Orville, convinced that the Smithsonian would not change its position on the priority of the Langley over the Wright machine as the first aircraft capable of flight, ordered the 1903 Flyer sent to England where it was exhibited for more than a decade in London's Science Museum, before being moved into underground storage for safety during World War II.

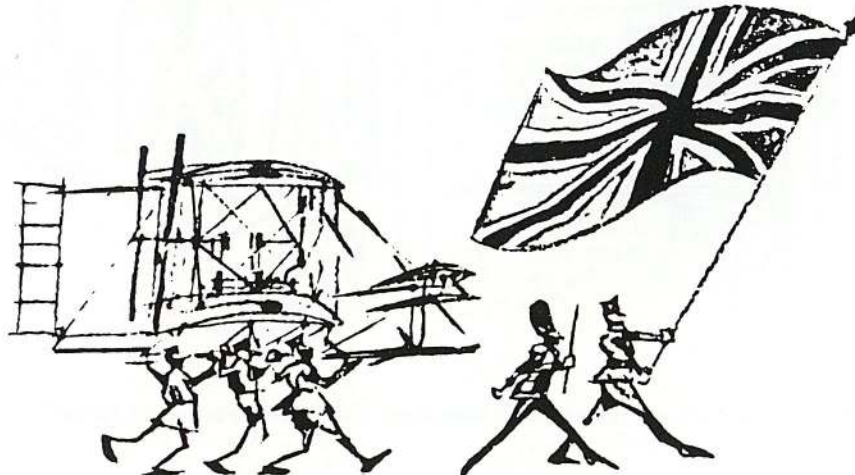
In 1942 Charles Abbott, Walcott's successor, was finally able to satisfy Orville as to the Institution's change of heart. Six years later the priceless 1903 Flyer was returned to the United States and given a place of honor in the Smithsonian Arts and Industries Building with a formal presentation on December 17, 1948 — 11 months after Orville's death.

Visitors now enter the National Air and Space Museum through a gallery entitled "Milestones of Flight." The 1903 Wright Flyer, the world's first airplane, holds the central position, hanging suspended in the center of the area, surrounded by other air and space vehicles that have carried mankind on a journey begun at Kill Devil Hills. Nestled in an upper corner of the gallery, above the Flyer, is the fifth of Langley's steam-powered flying models. Both aircraft serve as reminders of the tragedy and triumph experienced by the first generation that took to the skies on fragile wings fashioned by the human mind and hand.

(Ed. It was decided to reprint this article because of the Wright brothers' inextricable history in soaring. Orville Wright set the American record for motorless flight of nine minutes, forty-five seconds at Kitty Hawk, NC on October 24, 1911.)



America kept Langley's plane; Britain got the Wrights', but not permanently.



SSA INSTALLS PLAQUE AT KITTY HAWK

Editor's Note: The following was written as a Press Release for the plaque installation ceremony in December, 1963. The National Soaring Museum is proud to have a copy of this historic bas-relief by Ralph S. Barnaby on exhibit in the lobby of the Museum.

The gliding and soaring flights of the Wright Brothers are now memorialized at Kill Devil Hills, North Carolina. On the occasion of the celebration of the 60th anniversary of the Wright Brothers' first powered flight, The Soaring Society of America presented a bronze plaque to the U.S. National Park Service for permanent display at the Wright Brothers National Memorial. The plaque consists of the likenesses of Wilber and Orville Wright in bas-relief and the caption — **They Taught Us To Fly**. Accurately depicted on the background of the plaque are the gliders which the Wrights flew on the Kitty Hawk dunes in 1901, 1902 and 1911.

It is quite significant that the sculptor of the plaque is a person long associated with the soaring movement in this country, Capt. Ralph S. Barnaby, USN (Ret.) He was a founder-director when The Soaring Society of America was formed in 1932, has served four terms as its president and in 1960 was presented the Society's highest award, the Warren E. Eaton Memorial Trophy.

Ralph Barnaby has many sculptured works to his credit. Among these are busts of Admiral W. S. Sims and Admiral W. A. Moffett displayed in Memorial Hall at the U.S. Naval Academy, also busts of the first Secretary of Defense, James Forrestal, Admiral David W. Taylor and Admiral Sims at the Mariner's Museum, Newport News, Virginia.

The beauty and significance of the plaque was aptly noted by Conrad L. Wirth, Director of the National Park Service, U.S. Department of the Interior. In his letter thanking the Society he said, "We can see that the sculpturing of the brothers' remarkable likenesses was a work of love by Captain Barnaby."

The plaque was presented in the name of the Society by past president Lt. Col. Floyd J. Sweet, USAF (ret.), December 16, 1963. It was accepted by James B. Myers, Superintendent, Cape Hatteras National Seashore Recreational Area. It was bright, cold and windy on the 16th and 17th of December on the Outer Banks of North Carolina. The most oft heard remark was, "Why couldn't the Wright Brothers have made their historic flight in summertime!"

Capt. Barnaby revealed in his remarks at the unveiling of the plaque that his early schooling was directed toward a career in art; that is, until he saw his first airplane and built his first glider in 1909.

At the time of his retirement from the Navy in 1947, Capt. Barnaby was Commanding Officer of the Naval Air Development Station, Johnsville, Pennsylvania. Since then he has been on the staff of The Franklin Institute, first as head of the Aeronautics Section of its Laboratories for Research and Development and later as Manager of Project Development. Currently he is Exhibits Consultant to the Institute's Science Museum.

Members of the Society participated in aerial demonstrations during the presentations and wreath laying ceremonies at the Visitors Center and during the dedication of the First Flight Airport near the Kill Devil Hills monument. From the Mid-Atlantic Soaring Association were Joe Caicuts flying his BG-12 and Gene Wilburn, pilot of the M-ASA Piper PA-12 towplane. Art Lowe of Lynchburg, Virginia flew his Schweizer 1-26 towed by Major Linford Bachtell of Washington flying his Cessna 180. These pilots put on a most impressive show. Assisting in the ground operations were SSAers Ben Greene of Elizabeth City, N.C., Nathan Frank of M-ASA and Paul Kurbjun, Hampton, Virginia.

Also presented for installation and display in the Visitors Center was a full scale reproduction of the original Wright Flyer, a gift of the Washington Chapter of the American Institute of Aeronautics and Astronautics. SSA members who worked on this project were Nathan Frank and Floyd Sweet.

History records that the Wright Brothers first conducted experiments at Kill Devil Hills in 1900 with a machine which they flew as a kite. In 1901 and 1902, they returned to the North Carolina site with man-carrying gliders and conducted numerous gliding flights which were the prelude to their successful powered flights on December 17, 1903.

The accomplishments of Orville Wright at Kill Devil Hills in 1911 are less well known. He spent a month there that year making numerous extended glider flights — 103 in all. The three man-carrying gliders are faithfully depicted on Capt. Barnaby's plaque.

On October 24, 1911, Orville Wright soared for 9 minutes and 45 seconds, an international record which stood for 10 years. It was exceeded first by Dr. W. B. Klemperer, SSA Honorary Vice President, on August 30, 1921, when he flew his "Blue Mouse" for slightly over 13 minutes on the Wasserkuppe in Germany.

As a U.S. record, Orville Wright's flight was not exceeded by an American pilot until Ralph Barnaby soared for 15 minutes and 6 seconds at Cape Cod on August 18, 1929, for which he received U.S. "C" license Number One from the National Aeronautic Association. The Society's members are indeed fortunate to count as one of their own, Ralph S. Barnaby, pilot, scientist, sculptor, and one dedicated to the cause of soaring.



Left, Ralph S. Barnaby and Floyd J. Sweet at the 1963 ceremony.

In Appreciation

The National Soaring Museum thanks the Membership for the support and encouragement it has given the Museum during the past year. Without this support the Museum could not serve the soaring community.

The list of members is through December, 1981. If we have missed anyone or if there are any corrections, please accept our apologies and notify us so that corrections may be made.

SOARING CLUBS/ CORPORATIONS

Aero Club Albatross
Arizona Soaring Assoc.
Caesar Creek Soaring Club
Calisioga Soaring
Cleveland Soaring Assoc.
Colorado Soaring Assoc.
El Paso Soaring Society, Inc.
Glider Pilots Ground School
Harris Hill Soaring Corp.
Lane's Lebanon Air Service
Mohawk Soaring Club, Inc.
Napoleon Soaring Club
Nutmeg Soaring Assn.
Philadelphia Glider Council
Phoenix Club Soaring Group
Plath Ground School
Prestige Transportation Co.
Refugio Soaring Circle
Ridge Soaring Inc.
Sailplane Enterprise
St. Louis Soaring Assoc., Inc.
Sierra-Nevada Soaring
Skylark North
Southern California Soaring
T/H Enterprises, Inc.
Thermal Ridge Soaring, Inc.
Vacaville Soaring, Inc.
Wave Flights, Inc.

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Harris Hill Soaring Corporation
(MEMBERS LISTED IN APPROPRIATE CATEGORY)

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Howard Blossom
Tom Page
Siegfried Rupp
Bernald S. Smith
Stanley W. Smith

MUSEUM PATRONS

Terry R. Brandt
William C. Feldbaumer
Ben Greene
Wylie H. Mullen
Floyd J. Sweet
Woodson K. Woods

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P.J. Baugh
Dick Brandt
William R. Brown
Francis P. Bundy
Howard E. Burr
George F. Byard
Chemung Canal Trust Co.
William B. Cleary
Peter H. Craig
James R. Crisp

A. Felix du Pont
Christopher du Pont
S. Hallock du Pont
Warren E. Eaton
Elm Chevrolet
Elmira Savings Bank
Elmira Savings & Loan
Elmira Star Gazette
Robert B. Evans
Fairway Spring Co., Inc.
Goff Communications, Inc.
Frank R. Gross

Stanley A. Hall
Carl Herold
Walter B. Hausler
Mervin L. Hicks
Alton H. Hollister
Amory Houghton
James R. Houghton
Brian Johnson
Richard H. Johnson
William T. Kane
C.J. Kelleher
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Edward Knight
Robert E. Kramer
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Grenville Seibels, II
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Malcolm L. Stevenson
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Paul J. Vinci
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Hal Wyman
Thomas Young

Charles J. Fisher
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Robert J. Fortunato
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H.C. Funk
Russ Gehling
B. Reade Genzlinger
Giles S. Gianelloni
Jack Greene
Lyman D. Gridley
Samuel N. Harmatuk
Willis M. Hawkins
C.F. Henderson
Horseheads Kiwanis Club
W. Edgar Jessup
David C. Johnson
Robert N. Johnson
Warren F. Jones
J. Arthur Kieffer
Bruce S. Klee
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We also wish to thank the many friends who have donated their significant soaring data and artifacts to the Museum's growing collection. These contributions will enable the National Soaring Museum to provide visitors with an educational and enjoyable experience and provide for the preservation of soaring's rich tradition.

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 James & Simine Short
 Stanley W. Smith
 James W. Urquart

**SSA's THIRD EAST COAST
SAILPLANE HOMEBUILDERS' WORKSHOP**

The National Soaring Museum hosted the 3rd National Sailplane Homebuilders' Workshop September 5, 6, & 7th on Harris Hill, Elmira, NY. The event was organized by The Soaring Society of America based in Los Angeles, CA, Robert Storck, Waldorf, MD, the archivist for the Vintage Sailplane Association, Jack Green, Boonton, NJ, and Howard Trampenau, local soaring enthusiast and well-known aircraft homebuilder. The nation's leading designers demonstrated all aspects of amateur aircraft building to the sailplane homebuilders and pilots from throughout the country, however, this year at each session the main thrust was to have the homebuilders, not the designers, review their experiences in building and flying a particular design.

Static displays and flight demonstrations were featured for visitors to the Hill. Designs which were reviewed were: the Eaglet, Mini-Bat, Monerai, Moni, HP series, Cherokee, Pioneer, Monarch, Duster, Woodstock, Tern, BG-12, Flying Plank, and the Mitchell Wing. Activities during the weekend included a "Fly-Market", (an interpretation of a Flea-Market) and an auction of tools, materials, plan sets, instruments and memorabilia related to sailplane homebuilding.

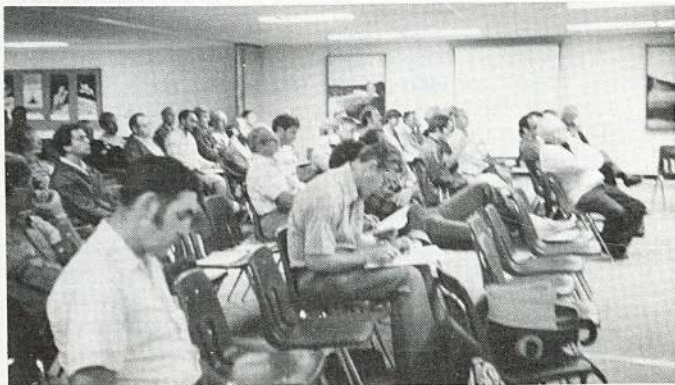
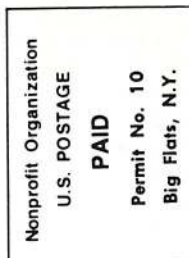
The interest in sailplane homebuilding has grown to such a point that this year for the first time there was a second workshop in Tehachapi, CA.

A sailplane design contest evolved out of the 1980 Workshop and a section of this year's proceedings was to review preliminary plans and drawings of submitted designs. The fly-off and final judging is scheduled before Labor Day of 1982. The panel of judges include: Walt Mooney nationally known among homebuilders and modellers, Irv Culver a former aerodynamicist at Lockheed and designer of the "Screaming Weiner", Einar Enevoldson engineering test pilot at Edwards Test Facility in the Mojave Desert, Stan Hall consultant at Lockheed and probable U.S. homebuilding champion, having built 10 sailplanes, Jack Laister designer of the kit-built Forty Niner, the racer Nugget, and the Yankee Doodle the forerunner of the LK-10A, and Oran Nicks Deputy Director of NASA's Langley Research Center. The panel of judges is Chaired by John McMasters and the advisor is Bruce Carmichael both holding positions of responsibility in the aerospace industry.

Regional Director for The Soaring Society of America Paul Schweitzer, Big Flats, NY met with the general membership of the Sailplane Homebuilders' Association to consult and advise the group in their effort to become a division of The Soaring Society of America.

Featured speaker at the informal banquet Sunday evening was Richard Schreder, Bryan, OH, internationally known competition pilot, holder of many soaring awards, member of the United States Soaring Hall of Fame, and designer of the HP series.

Over 200 persons participated in the three-day workshop. The members of the Harris Hill Soaring Corporation and their Junior Organization were responsible for coordinating many of the social events as well as the flying activities.



National Soaring Museum
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