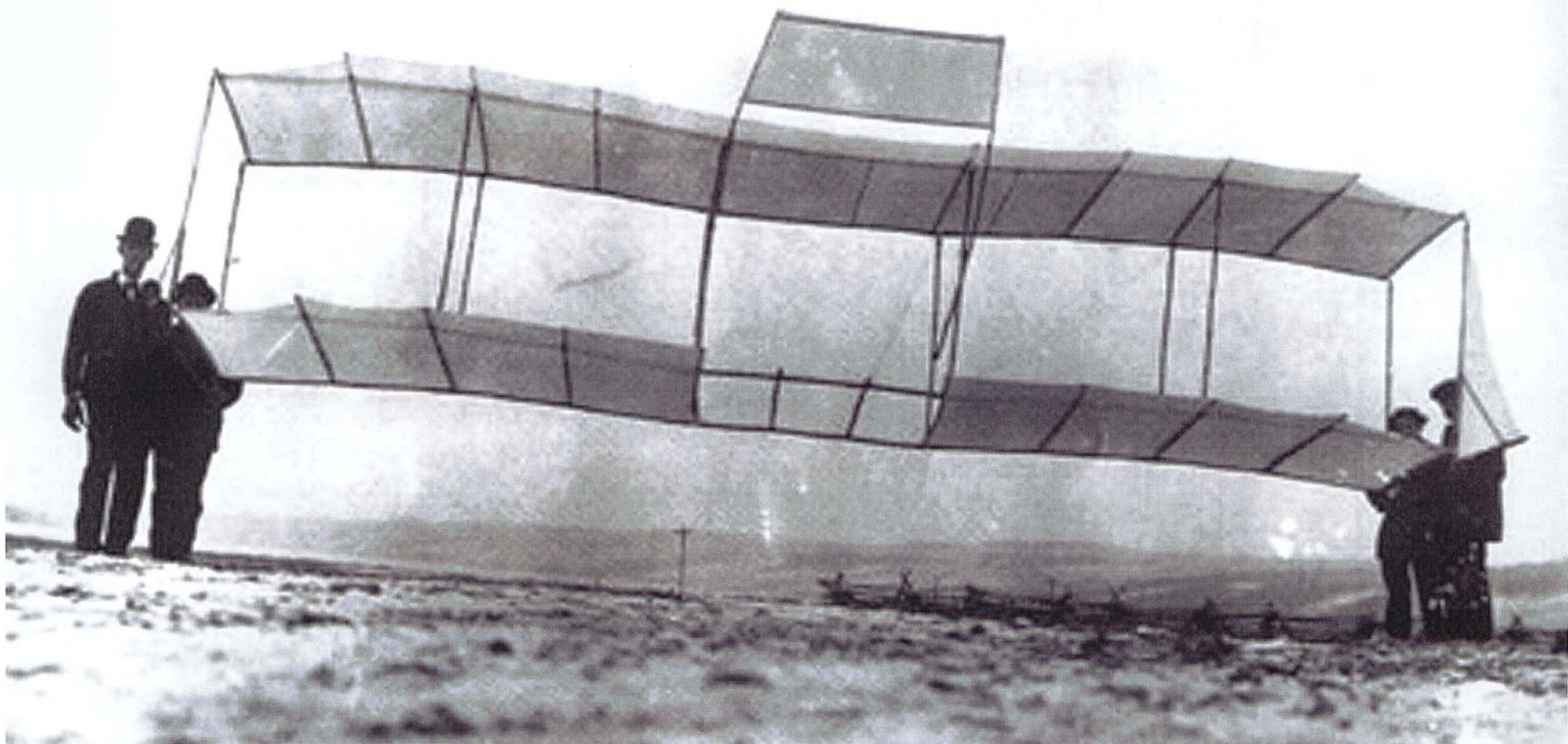


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Front Cover:

AEA Glider at Hammondsport, NY - Photo was taken in January 1908 at Kingsley Flats, near the Baldwin dirigible hangar, where it was assembled and then brought out to be photographed.

Back Cover:

Alexander Graham Bell displaying his various kites at the first Aeronautical exhibition in the US, in January 1906.
Note the dirigible gondola and engine overhead to the left. Photo from the Smithsonian Institution.

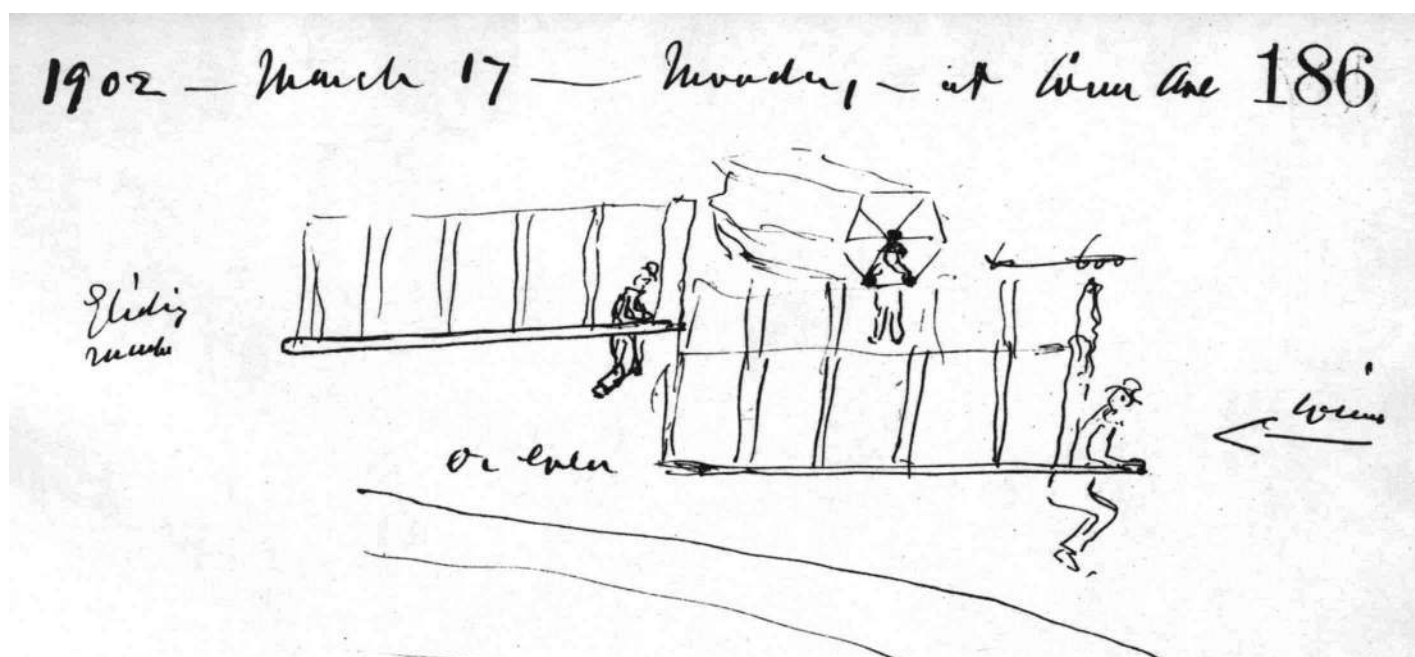
Editor's note: The following article by Simine Short is presented here to draw attention to local aviation pioneer, Glenn H. Curtiss, of Hammondsport, NY, and his early experiments in soaring; and to give a nod to the National Soaring Museum's new Executive Director, Trafford L-M Doherty, who comes to NSM following more than 13 years as executive director of the Glenn H. Curtiss Museum in Hammondsport. The article originally appeared in WWI Aero magazine.

From Kite to Glider to Powered Flight - the AEA gets into the air

by Simine Short

While attending the 1905 International Railway Congress in Washington, Alexander Graham Bell invited Octave Chanute to come to one of his social "Wednesday Evening" gatherings. On 10 May, about 25 to 30 scientific friends, including Samuel P. Langley, his assistant Charles Manly and Emile Berliner of telephone fame, congregated at Bell's mansion on Connecticut Avenue. The discussion soon turned to aviation and Chanute spoke of several aeronauts, including Wilhelm Kress from Austria, John J. Montgomery from California, and the Wright brothers, but Bell had only one question: "Had the Wrights really flown?" Chanute's simple reply left a lasting impression: "*I have seen them do it.*" He had indeed seen Orville fly on 15 October 1904 at Huffman Prairie, Ohio. It was only a brief flight that ended in a rough crosswind landing with damage to the airplane that took about a week to repair.

Graham Bell had a long-standing interest in aeronautics. He had witnessed Langley's successful launch of his aerodrome No.5 in 1896 and was highly impressed. He then began his own research in manned flight using mostly tetrahedral box kites.



Bell's sketch of envisioned gliders. 17 March 1902. Alexander Graham Bell Papers, Library of Congress

The era of humans flying in airplanes seemed to have arrived and the competition to advance was faster than first expected. William Glassford, from the Army Signal Corps, wrote to Chanute in the summer of 1907 that the military leadership had taken more interest in aerial navigation, to which Chanute simply replied: "*I think that the dirigible and the aeroplane should be taken up by our government.*" Half a year later, the chief Signal Corps officer of the U.S. Army requested proposals for a flying machine and a dirigible balloon. They received eight proposals for dirigibles and twenty-four bids for airplanes.

The airplane specifications required it to be easily assembled and disassembled, carry two persons and carry sufficient fuel for a flight of 125 miles, and fly at a speed of at least 40 miles per hour. Chanute thought that these strict requirements marked a new era in the development of this inchoate craft. "*They may bring such new elements into war as to render it far less frequent, and they may develop such new uses of their own as to make the world better and happier.*"

On 1 October 1907 the Aerial Experiment Association (AEA) was formed under the guidance of Alexander Graham Bell with Mabel Bell's financial support. The purpose of the group was "carrying on experiments relating to aerial locomotion with the special object of constructing a successful aerodrome". Joining Bell in this group were Frederick W. "Casey" Baldwin, Douglas McCurdy, Thomas Selfridge and Glenn H. Curtiss. Each member was to design his own aerodrome in the coming year and each aerodrome was to be equipped with a Curtiss engine, but Bell insisted that the group's initial flights should be motorless.

The AEA began their experiments with one of Bell's kite designs, the Cygnet, an imposing cell structure of 42½ feet span that included over 3,000 tetrahedral cells made from red colored silk.

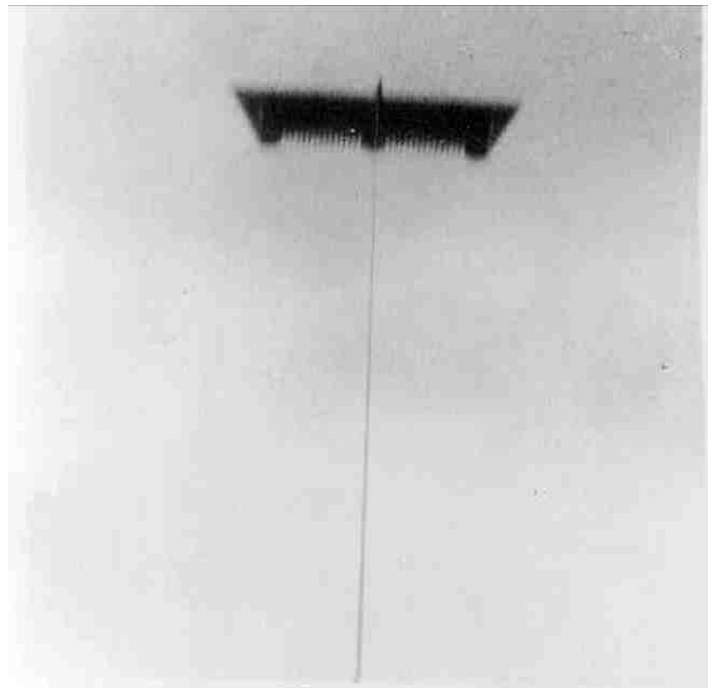


Douglas McCurdy, the AEA's treasurer and later secretary, described the events that followed in a personal letter to a man named George, written sometime in 1908 (no exact date or last name has survived): "At the conclusion of experiments with the Cygnet the season was so far advanced that we decided to move our headquarters to Hammondsport, New York, where the motorcycle works of Mr. Curtiss were established. Selfridge's experience in the Cygnet had fired us all and we longed to build a machine, which would glide in the air free from any attachment to Mother Earth."



The AEA team in April 1908 meeting at Bell's home, "Beinn Bhreagh". L-R: Curtiss, Baldwin, Bell, Selfridge and McCurdy. From AEA Souvenir Album No.39 (1909).

Selfridge had the honor to mount and then pilot that kite. In December 1907, he was towed by a motorboat across Lake Bras d'Or near Baddeck, Nova Scotia. The Cygnet was perfectly stable and remained in the air for about seven minutes, before the kite came down on the water. The kite was then dragged to pieces, as Selfridge did not release the towing line, but the pilot was uninjured. This flight is considered the first "heavier-than-air" flight in Canada with a pilot on board. As the association's leader, Bell then assigned Selfridge to be the one to design Drome N°1.



Kite Cygnet I, with Lieut. Selfridge on board, flying over the Little Bras d'Or Lake near Baddeck Nova Scotia, Dec. 6, 1907. Photograph taken from the Steamer Blackbird by W.J.P. Davidson.

photo from the Alexander Graham Bell papers, Library of Congress

Graham Bell was more than anxious to move ahead. The construction of a bi-plane glider was just the first step in building a powered aircraft not based on tetrahedral kites. He telegraphed Curtiss urging him to start building. *"Any schoolboy can build a glider according to Chanute's drawings"* was Bell's simple remark. Thus the first AEA glider was based on those built and flown by Chanute's team in summer 1896 in the dunes of Lake Michigan.

Two members of the AEA wrote up accounts of the glider flying experiments. McCurdy wrote the more colorful one: *"The machine which we preferred to build is popularly known as a glider and from the information given the world by the German engineer Lilienthal, the Wright Bros. and Dr. Chanute of Chicago it was not very difficult to design such a machine."*

The glider which we constructed was a simple arrangement of two surfaces one above the other spaced 6 feet apart. It was about 20 feet long and about 6 feet deep. At the center of the bottom surface was a hole, which would allow a man's body to pass through. A hill having a fair slope was selected from which our experiments could be performed. The glider was carried to the top of this hill and four men were detailed to hold on to each of the four corners. You take your position in the center of the machine with your head and shoulders coming up through the hole on the bottom surface and hold on tightly to two firm sticks which are secured on either side of you to the front and back edge of the glider.

We had arranged the usual signal of 1,2,3 -- go. At the word "go" you and the four men at each corner of the glider rushed forward to the brink of the hill and you and the glider are thrown off into the air. You half expect to be dashed to the ground; but such is not the case however. You feel for a minute as if you are on air and you are and much after the manner of a toboggan you gently coast down the slope. If you loose your balance for a moment you are capable of getting quite a dump but if the ground is covered with about two feet of snow, as it was in our case, you don't mind that very much.

Many glides were made with this machine by the different members varying in length from 10 feet to a hundred yards. And although I must say not much mathematical data was obtained from these experiments still we had acquired the feeling that every aviator possesses that to glide free in the air is beyond expression by words."

The diary notes, written by Thomas Selfridge, AEA secretary, provide additional details.

"1908 Jan 13 Monday at Hammondsport: *I arrived here Saturday noon and found the glider almost ready. We decided to try it Sunday, weather permitting. We were unable to get out on account of a heavy snowstorm. The machine is a single Hargrave cell of curved surfaces, with two small vertical end pieces and a spring horizontal tail. The surfaces are 25 x 6 with a flexible edge of 1 in the rear. They are entirely covered with cloth with the exception of the bottom of the middle panel. Total surface: $300 - 30 = 270$ sq ft; the surfaces are 5ft apart and the panels are 5ft x 5ft x 5ft. The tail consists of a flat surface $3 \times 4 = 12$ sq ft, stretched between two bamboo rods and inclined about 15° with the main surfaces. This angle, owing to the flexibility of the bamboo rods becomes reduced as the speed increases that is helping automatically to change the angle of incidences of the surfaces.*

Its front edge was 5ft in rear of the rear edge of the surfaces. Two bamboo skids were placed at each end to afford protection in alighting. The structure then weighed 68 lbs. On testing the machine, the bamboo skids gave way and were replaced with stout pieces of spruce of triangular cross section. These brought the weight up to 72 lbs. They were bowed like carriage springs and in the triangle at their after end cloth was placed to give the required vertical surface.

The ribs were T shaped and part of them formed the upper and lower fore and aft chords of the panels. The glider was taken out in the afternoon to the hills on the other side of the valley from Hammondsport. The air was very calm. Four glides were tried on a very gentle slope but it was impossible to get up enough speed here to obtain the necessary lift. We then went further up the hill until we came to quite a precipitous low knoll. After a couple of tries, Baldwin and I both made a couple of good though short flights. We then took it up the hill to what looked a very promising place. Here we made in all about 25 glides, Baldwin and I alternating and Curtiss trying once. We obtained a number of very good flights and two of 100 yds and 90 yds respectively. These were measured by pacing. Our instruments had not arrived yet, so we were unable to take any accurate measurements. Later the wind came up and caused the glider to swing to the right back up the hill. We couldn't seem to correct this, even by moving our weight. The machine stood up remarkably well and developed surprising strength. At the end of the day the breakage amounted to both skids, one T rib and one arm support. These were fixed without any trouble."

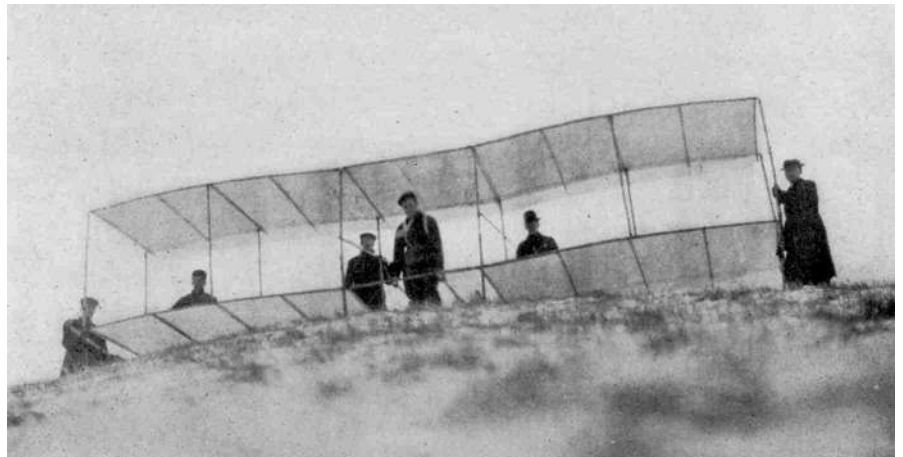


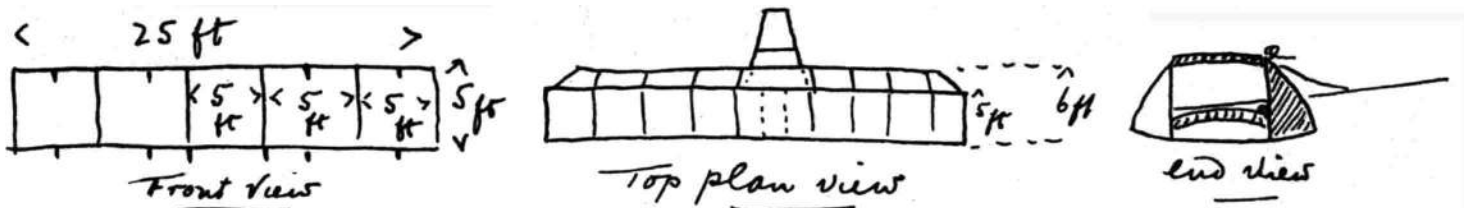
photo from "The Curtiss Aviation Book" (1912) p.38



Glider experiments during the winter of 1907-1908. This photo was taken on the hill across from the present Glenn H. Curtiss Museum, where the village of Hammondsport maintenance buildings now stand. Photo from the collection of the late William E. "Tony" Doherty.



Picking up pieces after a rough landing. The road at the base of the hill is Back Valley Rd. in Hammondsport. Route 54 had not yet been built. The Curtiss Museum now stands in the distant field. Note the photographer with tripod in the background. From the G. Carl Adams scrapbook. Photo courtesy of the Glenn H. Curtiss Museum.

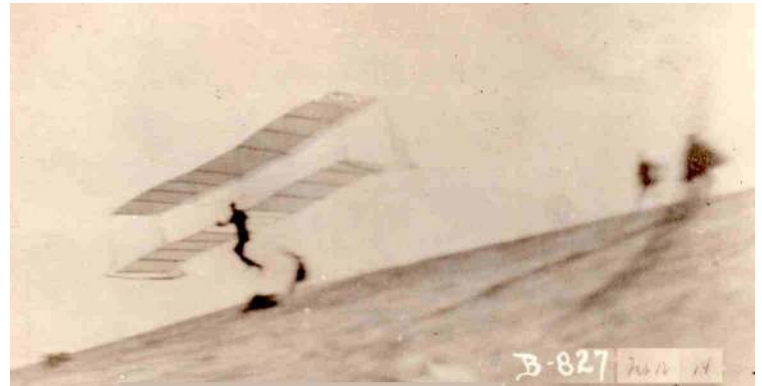


Selfridge's drawings of the AEA glider 1908 ↑

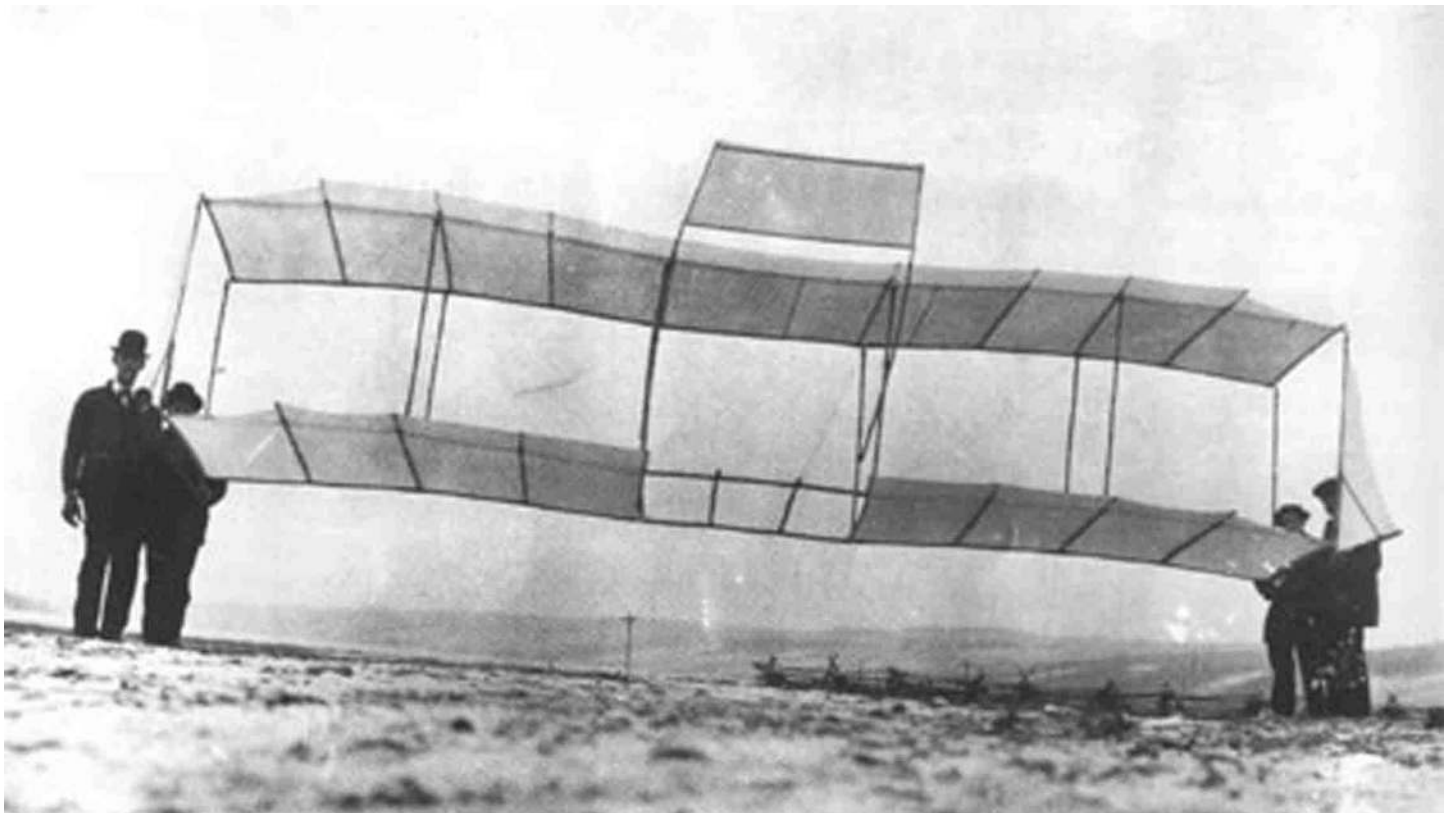
"1908 Jan 14 Tuesday at Hammondsport: On Monday night we discussed the advisability of using a tail attached to the frame with a spiral spring and the putting on of front controls. We decided to try the tail but concluded we weren't ready for the controls yet.

This morning was spent in looking up material for the tail and putting on an extra pair of heavy skids in the center. These brought the weight up to 75 lbs. The new tail wasn't finished, so the old one was returned. The wind was blowing quite strongly and in puffs.

A long distance telephone call prevented me from going out with the others. When I did reach the hill I found the wind had made it very difficult to make good flights. On one glide the machine had come down backwards and broken the tail all the skids and the back edges of the lower surface. I tried one glide with the tail off, but found the machine very unsteady. A new tail was rigged and new skids put on the ends. Curtiss then made a long glide of almost 70 yards, but had to do a great deal of moving about. We decided it was too difficult to handle the machine in the wind and so stopped for the day."

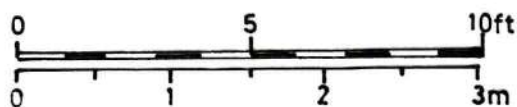
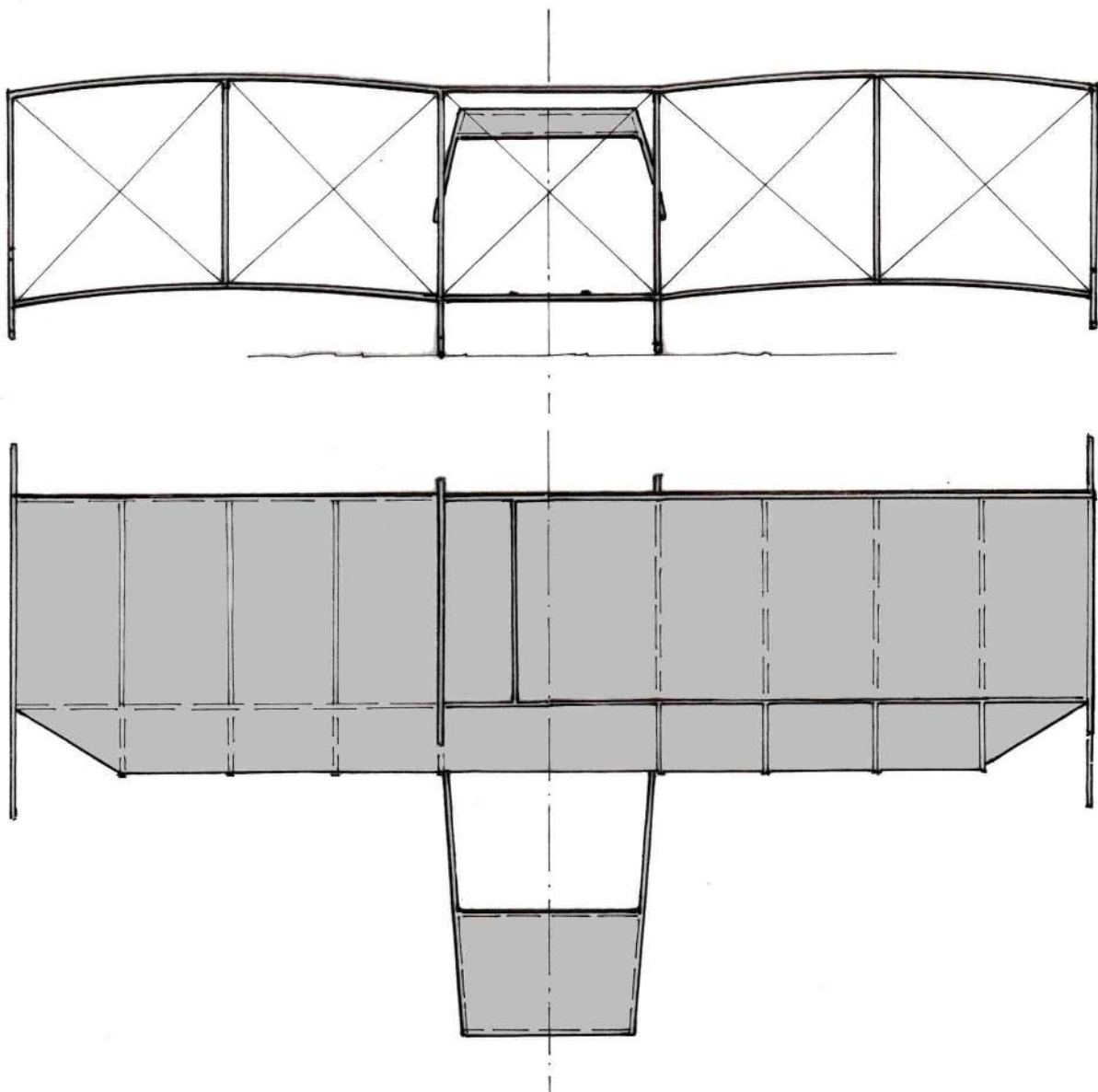
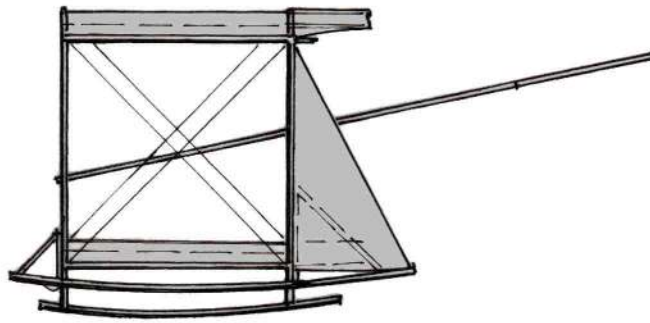


Starting to fly - Photo courtesy of the Glenn H. Curtiss Museum, Hammondsport, NY

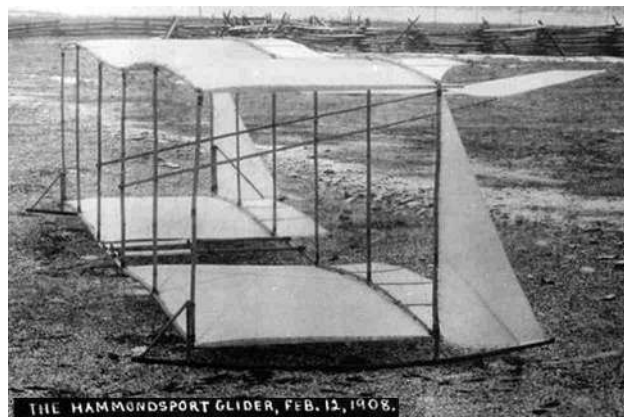
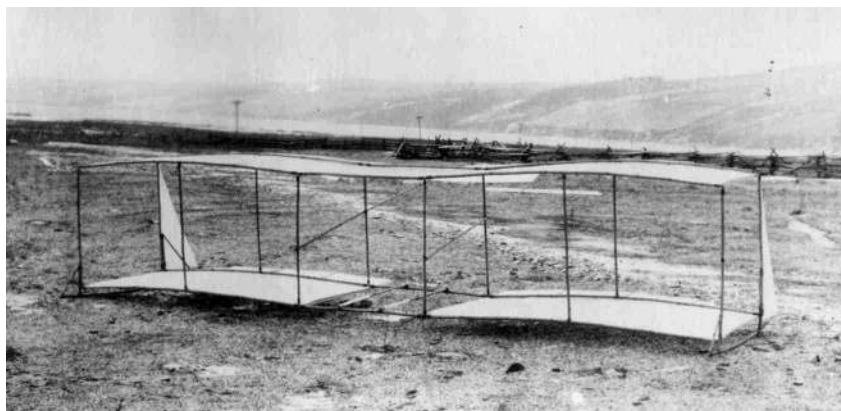


Back view showing construction details. Photo from the AEA Souvenir Album No.39 (1909)

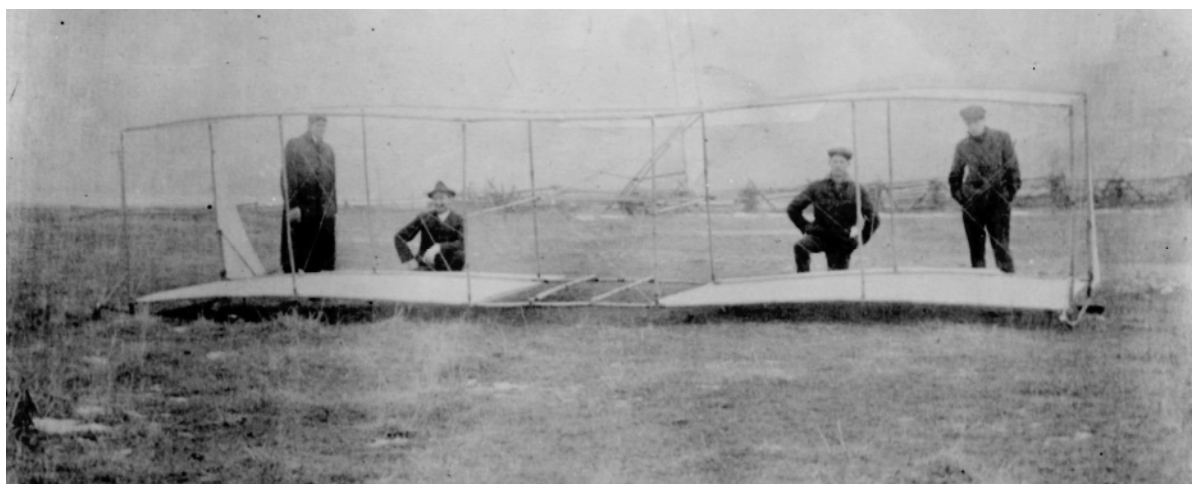
*Drawing by Reingard Keimel,
Aviaticum Museum,
Vienna, Austria*



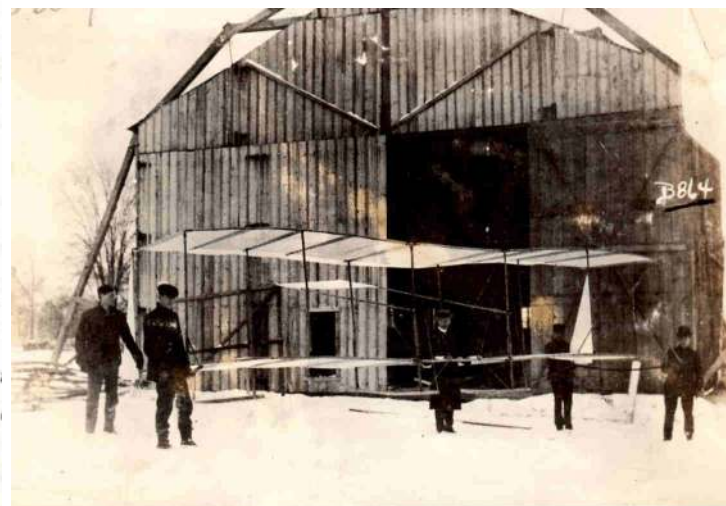
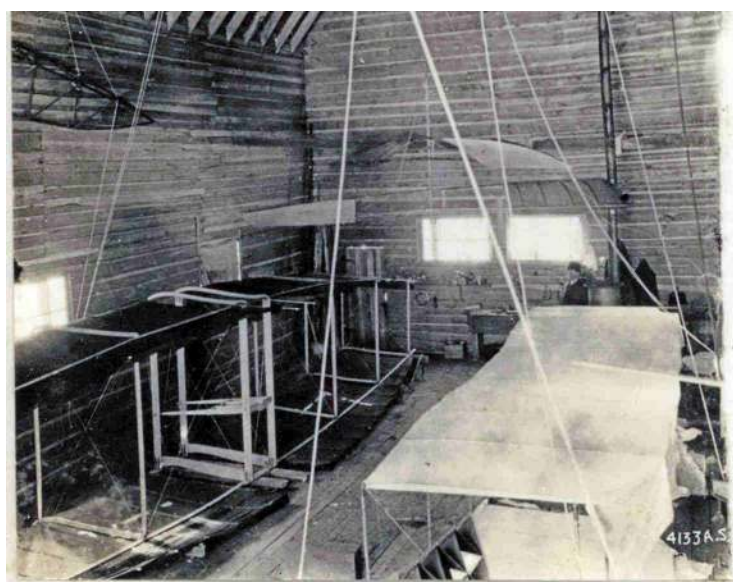
Curtiss AEA-Glider 1908



Front and side views of the AEA glider sitting at Kingsley Flats, showing the new tail design (fixed horizontal stabilizer) and wing tip vertical stabilizers on each side. Photos from the Alexander Graham Bell Souvenir Album.



Another view of the glider at Kingsley Flats, location of the present day Hammondsport Central School



Interior of dirigible hangar. Note the "Red Wing" wing assembly on the left and AEA glider on the right.
Photo from "The Hammondsport Era" by Louis Casey 1981

AEA glider in front of the Baldwin dirigible hangar, also at Kingsley Flats, about 1/2 mile from the launch area.
Photo courtesy of the Glenn H. Curtiss Museum,
Hammondsport, NY

"1908 Jan 15 Wednesday at Hammondsport: *On Monday went to Bath to see about some fish shaped stock. He obtained no results. Curtiss called up another firm about the matter, and to-day Baldwin went to see them with good results."*

In an effort to improve the glider, but also looking ahead to the design work needed for the Aerodrome No.1, Selfridge contacted the Wright brothers, asking for advice. Interestingly he had written them a year earlier and asked if he could work under their supervision and learn all he could about aeroplanes. At that time the Wrights responded that they intended to sell their flyer and would not do any research, thus they could not accept his offer.

*The Messrs. O. & W. Wright,
Dayton, Ohio.*

Gentlemen

15 January 1908

I am taking the liberty of writing you and asking your advice on certain points connected with gliding experiments or rather glider construction, which we started here last Monday.

Will you kindly tell me what results you obtained on the travel of the center of pressure both on aerocurves and aeroplanes?

Also what is a good efficient method of constructing the ribs of the surfaces so that they will be light and yet strong enough to maintain their curvature under ordinary conditions, and a good means of fastening them to the cloth and upper lateral chords of the frame?

I hope I am not imposing too much by asking you these questions.

Very respectfully,

T. SELFRIDGE,

1st Lieut., 5th Field Artillery.

The brothers responded three days later, on 18 January 1908. Interestingly, this letter would play a role in the Wright vs. Curtiss patent litigation a few years later.

Dear Sir:

We have your letter of the 15th instant. You will find much of the information you desire in the addresses of our Mr. Wilbur Wright before the Western Society of Engineers, published in the Journals of the Society of December 1901 and August 1903.

The travel of the center of pressure on aeroplanes is from the center at 90 degrees, towards the front end as the angle becomes smaller. The center of pressure on a curved surface is approximately at its center at 90 degrees, moves forward as the angle is decreased until a critical angle is reached, after which it reverses, and moves toward the rear edge. The critical angle varies for different shaped curves, but is generally reached at some angle between 12 and 18 degrees. With the angles used in gliding flight the travel will be between the center of the surface and a point one-third back from the front edge.

The methods of construction used in our gliders are fully described in an article by Mr. Chanute in the REVUE DE SCIENCE in 1903 (we do not remember the month) and in the specifications of our United States Patent #821,393.

Very truly yours,

WRIGHT BROS.

The ribs of our gliders were made of second growth ash, steamed and bent to shape.

1000 AMERICAN MACHINIST June 17, 1909.

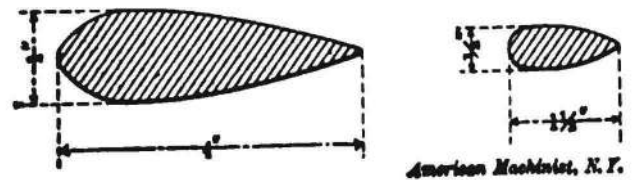


FIG. 2. TYPICAL FISH-SHAPED SECTIONS

Selfridge acknowledged the letter and thanked the Wrights:

"Gentlemen:

22 January 1908

Yours of the 18th instant received, for which many thanks. I have been able to obtain a copy of your patent and shall endeavor to secure the other references you mention.

Yours,

T. Selfridge,

1st Lt. 5th F.A."

In the meantime, Roy Knabenshue and Tom Baldwin (they were working at the Curtiss shop as Baldwin's airship proposal had been accepted by the Army Signal Corps) convinced Selfridge to contact William Avery, as they both had watched him fly the biplane glider at the St. Louis World Fair. Avery responded on 24 January.

"Transportation expenses to and from Chicago and \$10/day would bring him to Hammondsport and I will give you the benefit of all my experience. If you expect to have me make flights on any of the machines I would expect extra pay for making them."

But the group decided that they could handle building and then flying the glider by themselves.

The glider provided some very practical basis for the decisions on wing structure and fuselage for their first aerodrome, the Red Wing. And as Curtiss wrote in an article in 1909: *"Much knowledge was gained with these first attempts at flight, also much pleasure."*

The first aerodrome was chiefly designed by Selfridge and built by members of the AEA. The Red Wing was a single-seat 26-foot long biplane with bowed wings, 43 feet across, powered by a Curtiss 40 hp V-8 engine. Curtiss made sure that the engine and propeller would operate properly prior to attempting flight. Wire cross structure provided structural strength while keeping the weight down. A moveable rudder at the rear of the craft was to move it from left to right and an elevator in the front was to supply vertical movement. There was no means of lateral control as we know it today. As Selfridge was called away to army duties at Fort Myer, VA, Casey Baldwin and Glenn Curtiss took turns flying the aircraft in early March.

Douglas McCurdy described the making and then flying of the Red Wing:

"Gliding flight is, of course, limited. It depends upon the length of hillside, which is at your command. How much better it would be, we thought, if a motor and aerial propeller could be placed in the glider which would push the machine along through the air for any distance we wished to go and, in fact, convert the simple glider into a flying machine."

This plan was actually followed out although as the additional weight of motor and propeller would require more supporting surface a larger glider was therefore constructed in which the motor and propeller were mounted. It was obvious that we must have rudders to control our direction of flight and, as we were free to go either to the right or left or up and down, two rudders were therefore required. The one to steer to right or left as in the case of an ordinary boat was placed in the rear of the machine and the one to control up or down movement was pivoted about 12 feet out in front of the machine. This was exactly like the rudder in the rear but instead of being in a vertical position was horizontal."

As it would be too uncomfortable for the operator to hang on to the machine and, in fact, impossible to work his rudders in such a posture, it was deemed advisable to arrange a seat where he could comfortably sit and, if all went well, enjoy himself to his hearts content."

This machine, when completed, was named the "Red Wing" and constituted what is technically known as an aerodrome. Two runners were provided like those used in a sleigh and our plan was to cause the machine to advance running over the ice by her own propulsion and, if a sufficient speed could be obtained, the machine must rise off the ice, due to the air acting on the under surface of the machine as in the case of a kite, and she would fly."

Red Wing on Keuka Lake



Photo from Bell's Souvenir Album →

On March 12, 1908 the Red Wing was taken from its shed and placed on the ice of Lake Keuka. The townspeople gathered from far and near to see the fun and the interest they took in this queer looking bird was evidenced by the manner in which they crowded around asking questions, all talking in an excited manner.

We thought it best at the time to run the machine slowly over the ice, making no attempt to fly but simply to see if our running gear, propeller, controls etc. were all working well. Mr. Baldwin stepped into the operators seat and the engine started. Men held on to the machine while the motor buzzed and the propeller twirled causing such a draft of air as to make you hold tight on to your hat to prevent its being blown away. Soon the order was given to the men to let go and away shot the machine gathering in speed when after travelling a distance of about a hundred feet responded well to the action of her front rudder and rose gently into the air, flying onward over the ice at an elevation of about 12 feet landing again without damage at a point 319 feet distant.

The crowd who had gathered there to witness simply an experiment were amazed and cheer after cheer pealed forth and people ran here and there knowing not what they did. There before their very eyes the machine had accomplished a flight, which was the first ever publicly made in America (the Wright Bros. at that time having conducted their experiments in secrecy).



*Selfridge's Red Wing on the ice of Keuka Lake - March 9, 1908
photo from Alexander Graham Bell's Souvenir Album - Library of Congress*

The flight of the Red Wing made headlines in many newspapers around the country. The report in the Washington Post of 13 March 1908 also quoted Israel Ludlow: "*The problem is to make a fair start, and this has been accomplished in this instance. Now, successful development will undoubtedly be very rapid. Now that a flight of 319 feet has been made, I believe a flight of as many miles by a heavier-than-air machine is not at all unlikely during the coming summer.*"

The second aerodrome of the AEA, the White Wing, was similar to Red Wing, however, the group added moveable lateral control surfaces on all four wingtips that would later become known as ailerons. Curtiss, with his motorcycle experience, claimed mechanical and control differences over the Wrights' wing warping principal. But that is another story.

Little has been published about the glider flying experiments in Hammondsport, either at the time or in more recent years. And one wonders why. Alexander Graham Bell wrote to Douglas McCurdy on 17 March 1908 and that letter sheds some light on the circumstances:

"Dear Douglas:

I think it very important that you should make every effort to keep a photographic record of what is being done at Hammondsport, on the same general plan as the record you kept at Beinn Bhreagh.

The photographs sent by Mr. Curtiss would not be sufficient as evidence of diligence and invention, for they bear no identifying mark, they have no date, and they are kept in the hands of the experimenters themselves. You should keep a systematic record for the Association, numbered and dated as at Beinn Bhreagh. You should be responsible for the negatives, and a book of prints should be in the custody of Lieut. Selfridge as Secretary, and the date of receipt of the prints should be initialed by him. There should be also at least two other copies made to be preserved in different places in case of fire. I think one copy should be sent to me, and you should have a third. My copy I can deposit in the fireproof building of the Volta Bureau in the custody of Mr. Hitz, not a member of the Association.

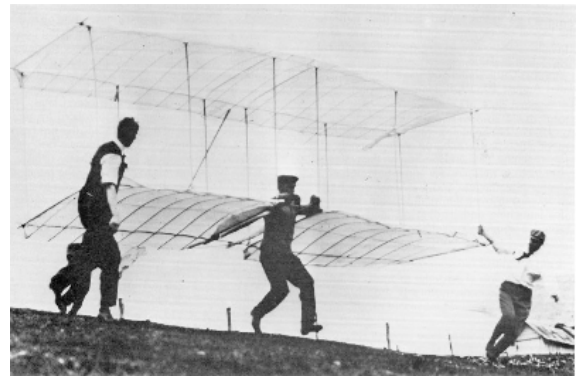
Now my dear fellow do look after this for the importance of the photographic record is greater than you have any conception of. Sometime or other litigation on flying machine inventions will arise and I am seriously troubled by the lack of proper records.

When referring to any invention or experiment, we must have evidence in black and white that a certain invention or experiment was made at a certain time, and I fear that you cannot produce such evidence of what has been done in the past at Hammondsport.

The glider and the Aerodrome Red Wing have been changed from time to time. Additions have been made and the apparatus has been modified in various ways. What record have you of these changes, and the date of the modification? The easiest way, I think, and by all means the most satisfactory is to preserve a record consisting of dated photographs. In fact just the plan we had at Beinn Bhreagh.

Yours sincerely, Alexander Graham Bell"

In closing, readers might be interested in seeing one incorrect photo that propagates through the literature, and that is commonly described as an AEA glider, which it clearly is not. All glider flying was done between mid January and early March 1908 in upstate New York. It is too cold there to wear short-sleeved shirts during the winter months. Also, even though several changes were made to the AEA glider, the general structure of this Chanute-type glider is quite different to the one built by the "Bell Boys". The photo was taken in mid April 1908 showing members of the 'Aviation Committee' from the Aero Club, who spent a weekend on an estate on the North Shore of Long Island experimenting with a biplane glider. Members of the party succeeded in 'aviating' for short flights of from thirty to forty feet with the glider, from ten to fifteen feet from the ground.



Not the AEA glider

References:

The Alexander Graham Bell Family Papers at the Library of Congress, 1862-1939 (<http://memory.loc.gov/ammem/bellhtml/bellhome.html>).

Diary notes by Thomas E. Selfridge, from September 24, 1907 to July 24, 1908, Alexander Graham Bell Papers, Library of Congress

Personal letter written by Douglas McCurdy to George ??? sometime in 1908. Alexander Graham Bell Papers, LoC.

The Aerial Experiment Association, Bulletin No. 39, issued Monday, April 12, 1909, dedicated to Dr. Octave Chanute. Octave Chanute Papers, University of Chicago Library.

Casey, Louis S. (1981). Curtiss, The Hammondsport Era, 1907-1915.

Editor's note: The following tale featuring a Schweizer 1-30 was written by the late William E. "Tony" Doherty and ties into our first article in this issue by including references to Alexander Graham Bell and the AEA.

In 1958, the Schweizers entered another phase of the expanding sport aviation field with a low-cost power plane, the SA 1-30. To keep the price attractive to potential buyers, the SA 1-30 was designed to utilize many of the assemblies and sub-assemblies of the 1-26 and other gliders. It had a welded steel tube fuselage with some sheet metal structure around the cockpit, a set of conventional 1-26 tail surfaces, and a spring-type Cessna landing gear. Its light weight, high lift, and low-mounted 1-26 B wings with spoilers, enabled pilots to operate from very short fields. The 65 HP version 1-30 was such a delight to fly, that it was sometimes used by the Schweizers and their staff for short business trips.

A Canadian Junket - August 1964

by William E. "Tony" Doherty

During the annual (Schweizer) plant shut-down, I planned a combination business and vacation trip in the 1-30. My ultimate goal would be the Alexander Graham Bell Museum at Baddeck on Cape Breton Island, Nova Scotia. En route I would visit Schweizer dealers at Sugarbush, Vermont and West Lebanon, New Hampshire, and on my return, stop at New England Light Aircraft at Salem, New Hampshire.



At that time the 1-30 had a 90HP Lycoming engine, which limited its range to 150 still air miles (no headwinds, that is). That meant the pilot had to plan his routes and refueling stops with care and pay close attention to the strength and direction of the wind.

I took off from Elmira and made a first stop at Ballston Spa, where the Mohawk Club flew. I went on the Sugarbush, where I stayed overnight. The next day I made my stop at West Lebanon, circled Mt. Washington to admire the views of it and the White Mountains. It was a beautiful day and I was heading northeast and checking my groundspeed when I got a hell of a kick in the butt. The plane dropped abruptly and just as abruptly jumped back up again. I hit the top of the canopy and on the way back down my camera, which was hung around my neck, contacted my nose. Was it the vortex left by a large, fast aircraft, or what? We still had all of our surfaces, but it seemed like a prudent idea to land at Augusta, Maine, to check things out and top off the tank.

The airport operator helped me check over the 1-30, but the only damage was to my nose. The operator thought it was a bounce off the White Mountains, an example of clear air turbulence. I took off again for St. John, New Brunswick, where I cleared customs and then flew on to Moncton.

In Canada, only the largest city airports have fixed base operators as we know them in the States. Private transient planes are handled by the flying clubs, and the club's chief flying instructor is usually the person in charge. Moncton also had a control tower and a flight service station operated by the Department of Transportation. The local club was friendly and cooperative.

When I said I was heading for Baddeck, the chief flight instructor pulled out some charts to help me lay out my course. There was lots of open space on those charts, but very few airports. The closest one to Baddeck was at Sydney, about 50 miles northeast of Baddeck. There was a small airport shown at Trenton, halfway between Moncton and Sydney. The distance between Moncton and Sydney was some 290 miles, which meant that refueling midway was crucial.

The strip at Trenton belonged to a mining company, and the instructor very kindly called and determined that I was okay to land, and that there was 80 octane fuel available. We went across the field to check the weather and found that it would be fine the next day, but iffy thereafter.

A club member drove me to a hotel in town and picked me up again the next morning. He and the instructor helped me with the pre-flight check, gave me “a prop” as we say, and I was off. Meteorology was right; it was a beautiful day. I flew the north coast with Prince Edward Island on my left, and tiny fishing villages, Pugwash and Malagash, below.

When I landed at Trenton, a French-Canadian attendant greeted me and, moving to the pump said, “You need fuel?” “Eighty octane”, I said. “Mon Dieu”, he said. He led me to the porch of a building and one of the rustiest fuel tanks I had ever seen. We manhandled it over to the plane and he fetched a hand pump and a wrench. I proposed we take a break for a cup of coffee. I had no idea how much rust there might be in the fuel, and I thought a pause might let it settle. Did he have a chamois or a fine strainer? Evidently not. Our language communications were imperfect.

I had him hold the pump well off the bottom and I strained the fuel through my handkerchief. There were a few specks of rust on it. When I took off, I spiraled up directly over the field. The country I’d passed over was very picturesque, but didn’t offer much in the way of emergency landing fields. I reached 5000 feet without a sputter, so I headed off on course.

I passed Antigonish on St. George Bay and on to Cape Breton Island. Flying up the eastern shore of Bras d’Or Lake, I could see Baddeck to the west, and just ahead, Sydney Airport, south of the city. As I touched down, the ship gave a slight lurch to the right. I thought that it was a gust of wind, but it was soon clear that the right rudder was out. Luckily, the wind wasn’t strong, so by going very slowly and using gentle bursts of power, I reached the flying club area without a single pirouette.

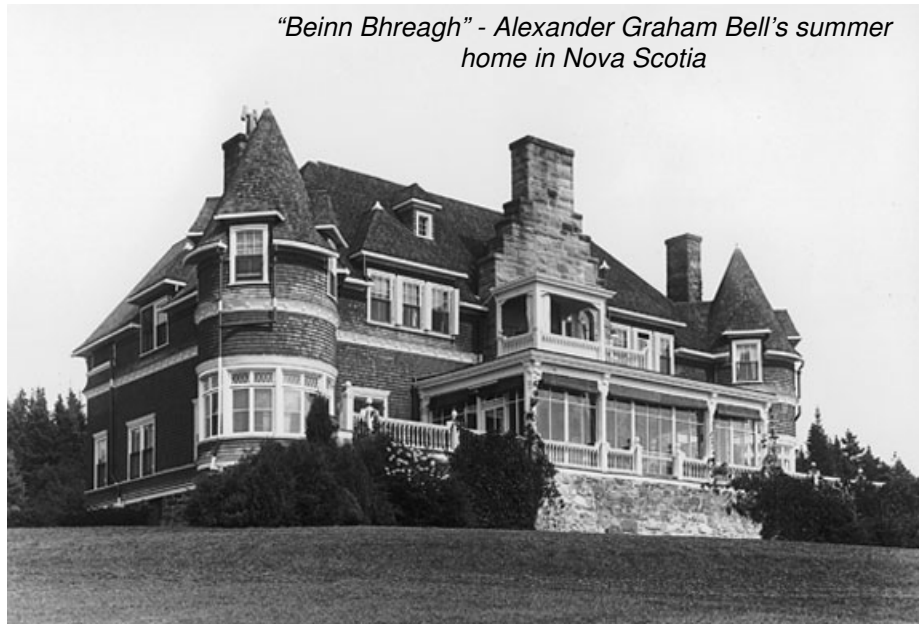
The local chief flight instructor came out and asked what the problem was. I said the right disc brake had gone and probably needed a new puck. The CFI was also the chief engineer, so we pushed the 1-30 into the maintenance hangar - where it developed that they had every size puck except the one I needed. But by using a truck brake shoe, a hacksaw and a grinder, we made one, and it worked.

I asked the CFI where to tie down and he asked me why. I said I proposed to rent a car and drive to Baddeck to visit the museum. “Why don’t you fly down?” he said. “No airport”, I said. “Of course there is”, said he. “Show me”, I said, spreading the chart. He said it wasn’t on the map, but was on the point just south of the Bell Mansion. “A fellow used to fly a *Bonanza* in and out of there all the time”, he said. He added that there was a fire patrol strip just two miles east of the village. So there it was, a chance to fly into one of the most important historical sites in the history of aviation. And with its 90HP engine, the 1-30 had good performance on short take-offs and landings. Assured by the CFI, I went to Flight Service to file a flight plan and check the weather. A strong northeaster would be coming through within the hour and would probably close down the field.

I hadn’t had anything to eat since breakfast, so I grabbed a quick sandwich and hurried back to the plane. With the CFI assuring me there’d be no problems, I took off in increasingly gusty wind and headed southeast.

Pushed by a stiff tailwind down the north end of Bras d’Or Lake, I could soon make out the point of the land on which stood Dr. Bell’s stately summer residence. His laboratory was located nearby. It was here that the Aerial Experimental Association was founded in 1907.

“Beinn Bhreagh” - Alexander Graham Bell’s summer home in Nova Scotia



The mansion was impressive. Much less impressive was the airstrip described by the CFI at Sydney. There was indeed a field below and west of the house, but as I flew over I saw a man crossing the field - and he was either the shortest man in Canada or the wheat in the field was the tallest. The wheat was up to his armpits and it was obviously impossible to land there. I flew on to look for the fire patrol strip and could find no sign of it at all. It simply did not exist.

I'd begun to realize that I'd been had, or been fed some ludicrously out-of-date information. I was just able to raise the Sydney tower and they reported that the ceiling was below 300 feet, visibility less than a half mile and winds gusting to 60 mph. Field closed!

What next? Since I was flying at 500 feet and unlikely to visit the vicinity again, I took a picture of the striking tetrahedral-style building. Out of the corner of my eye I saw a racetrack. I remembered childhood tales of barnstormers taking off and landing on racetracks. I said to myself, "Why not?". But my guardian angel intervened. When I flew over for a closer look, I saw that a water line was being laid and a ditch went right across the center of the straightaway.

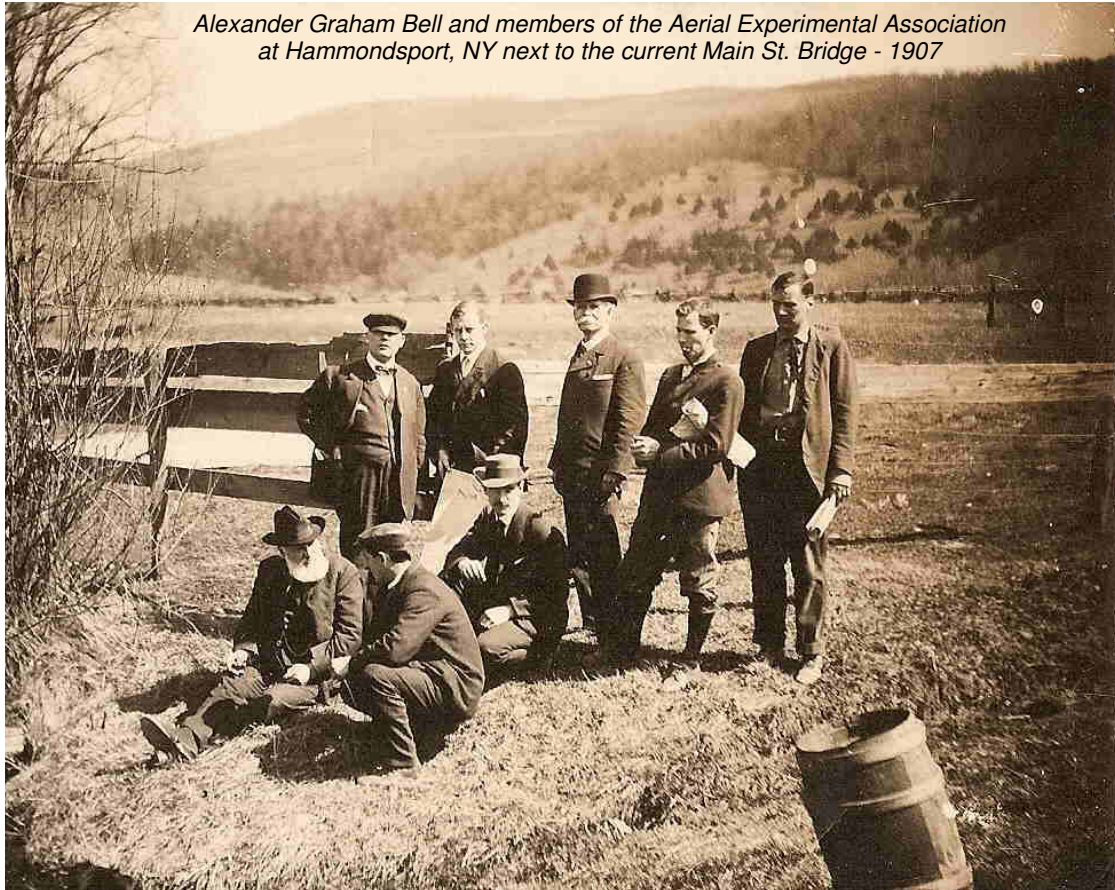


By this time I'd been circling Baddeck for fifteen minutes. My fuel was not good for more than the 100 miles back to Trenton, so I gave up on Baddeck and started heading downwind, climbing gradually to get a little altitude (money in the bank) under us.

I made it back to Trenton late in the afternoon. I really don't believe my French-Canadian friend was all that delighted to see me, certainly not as delighted as I was to see him. But out came the rusty barrel and the pump. We had a cup of coffee. Out came the dirty handkerchief and I was on my way again. I got back to the Moncton Flying Club just at sunset - six hundred miles and 10 hours after I left.

I hope Dr. Bell knows that I tried.

Editor's note: On July 27, 2009, the Sydney Airport was renamed after John Alexander Douglas McCurdy, member of the AEA and Canadian aviation pioneer who first flew the Silver Dart, held Canada's first pilot's license, and was Lieutenant Governor of Nova Scotia from 1947 to 1952. Sydney Airport is now known as the J A Douglas McCurdy Sydney Airport.



*Alexander Graham Bell and members of the Aerial Experimental Association
at Hammondsport, NY next to the current Main St. Bridge - 1907*

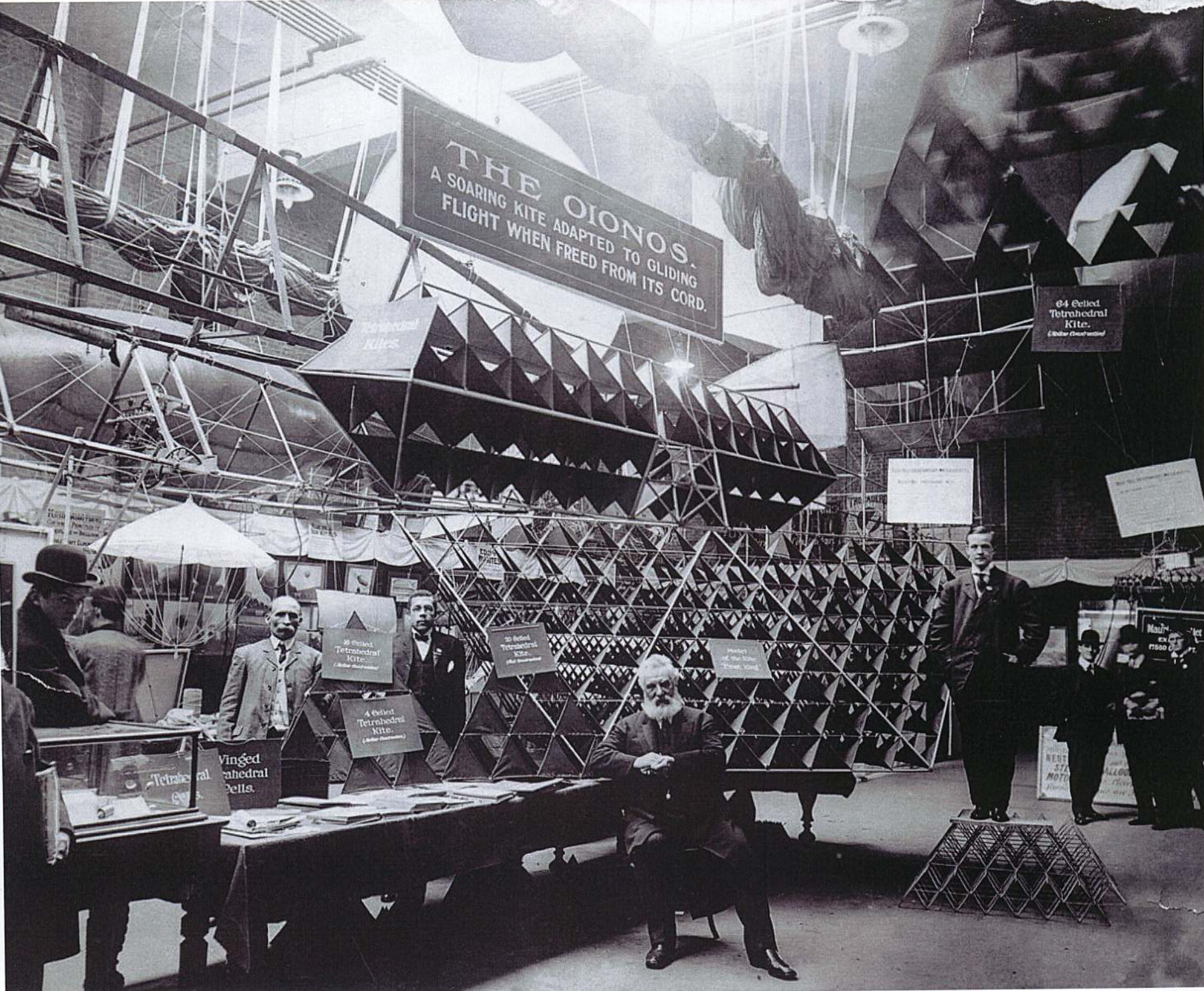
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