

# NSM

Historical Journal  
Summer 2018





# **National Soaring Museum Historical Journal**

Summer 2018

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*Gunther Groenhoff, Robert Kronfeld and Wolf Hirth in 1931*



Editor - The text for the following article was extracted from a book by Norman Ellison, *British Gliders and Sailplanes 1922-1970*. Mr. Ellison divides his history of British gliding into four segments: 1849-1908; 1908-1920; 1920-1929; and 1929-present (1970)

## British Gliding History

The history of motorless flight in Britain can be divided into four periods. The first period up to 1908 started way back in 1849 when Sir George Cayley persuaded a boy to fly in one of his small gliders. Later, in 1853, Sir George's coachman was launched across a small valley at Brompton, near Scarborough. This experiment terminated abruptly when the craft reached the other side of the valley, and the frightened coachman stepped from the wreckage and addressed his employer with the now famous words "Sir George, I wish to hand in my notice".



*Cayley's Glider*



*Sir George Cayley*

Further would-be aviators carried out many other experiments over the years that followed, including Percy Pilcher's many glides at various places up and down the country until his death in 1899.

The first period came to an end when S. F. Cody successfully flew a powered aircraft of his own design at Farnborough, Hampshire. This was five years after Wilbur and Orville Wright had achieved the world's first powered flight at Kitty Hawk in 1903.

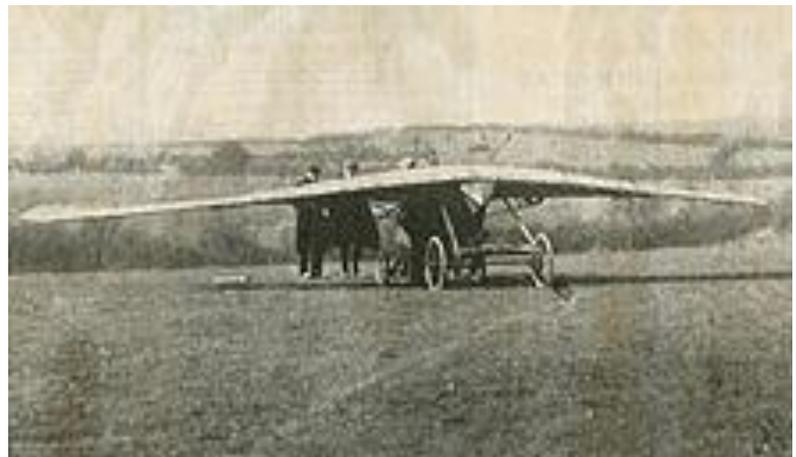
The next period, up to 1920, takes the story through WWI when, of course, no gliding was done at all. The world was too busy flying other types of machines. But before the war, many gliders were built in Britain by various people whose object was to get into the air by any means whatsoever. Altogether, nearly sixty different types of gliders were built up to 1914, and details of most of these can be found in the book, "British Aircraft 1809-1914" by Peter Lewis. However, E. C. Gordon England in 1909, flying a glider designed by José Weiss, did manage to climb to a height of nearly forty feet on one occasion in an attempt to soar. This was the first time anyone in Britain had been able to record a gain of height, and nothing like it was to happen again for another thirteen years.



*Percy Pilcher*

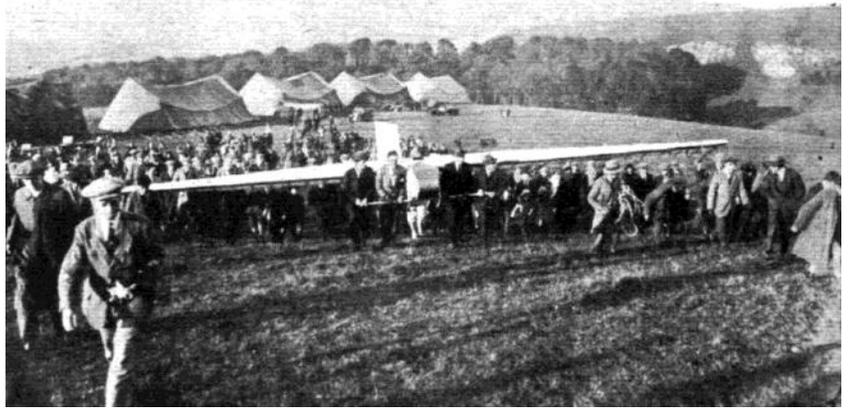


*Colonel Samuel F. Cody*



*E. C. Gordon England's glider "Olive", named after one of builder, José Weiss's five daughters.*

After the war the sport of gliding began again in Germany, with annual meetings at the Wasserkuppe in 1920, 1921 and 1922. Once the technique of hill soaring had been discovered, flights of three hours duration were achieved and distances of over six miles were obtained. Reports of these flights began to appear in the British press and aroused great interest. As a result, the "Daily Mail" newspaper, which had previously built up quite a tradition of supporting aviation activities with large cash prizes, offered a prize of £1000 in August 1922 for the longest glide over thirty minutes duration.



*F. P. Raynham's glider at Itford*

A competition was arranged at Itford Hill near Lewes in Sussex for the week of 16th-21st October. This gave the competitors six weeks to design, build and transport their gliders to Sussex. In view of the short time available, it was somewhat surprising that thirty-five entries were received by the organizers. These gliders were of all shapes and sizes including biplanes, monoplanes and tandem wing monoplanes, plus helicopters, ornithopters, a biplane glider fitted with a full set of sails, and two bicycles fitted with wings.

On the day the contest began, it became evident that about only half of the entries would arrive, and that some of those that did arrive would not have a chance of winning the contest, even if they were capable of flight at all. The weather throughout the week was rather stormy and the wind blew consistently from the East instead of from the South-West as had been hoped. As a result, and due to the haste in which nearly all the gliders had been built, only thirteen gliders actually flew in the contest, eight British, two French, one of German origin, but flown by an Englishman, and two Dutch gliders both flown by Anthony Fokker. Most of these gliders did not survive the week's gliding in the gusty winds, but in spite of all these difficulties, some remarkable times were achieved. F. P. Raynham established a British endurance record of 1 hour 53 minutes flying in the Handasyde glider. Squadron Leader Alec Grey flew for over an hour and a half in the Brokker, eventually placing third. Initially regarded as something of a joke, the Brokker was, as its name suggests, a fusion of a Bristol and a Fokker aircraft - specifically, the upper wing of a Fokker D.VII married to the engineless fuselage of a Bristol Fighter. It was put together by Gray and W. J. Buchanan from two of the cheap and unwanted airframes left at the end of World War I. But the contest was won by a Frenchman Alexio Maneyrol flying the tandem-winged Peyret glider. He established a new world record for endurance of 3 hours 21 minutes on the last day of the contest and thus won the £1000 prize in a machine that had been considered beforehand by the experts to have had little chance of success. The contest, therefore, finished on a note of triumph and fully justified the efforts of the sponsors and organizers, and it was hoped that the sport of gliding would continue in Britain after this initial success. <https://www.youtube.com/watch?v=6TOMlff2mPU>



*Unlikely winner - the tandem Peyret glider*

*General view at Firle Beacon Hill, Itford, showing a small portion of the crowd assembled, watching Maneyrol's winning flight.*



After the competition, a private gliding club was started at the R.A.F. Staff College, Andover, and the members started to repair Gordon England's glider. Warran Merriam converted his glider into a two-seater and for a fee of £25 he offered courses of instruction at the Whiteley Bank School of Gliding on the Isle of Wight. The course lasted as long as the pupil desired.

Mr. Raynham and his glider took part in a film on the cliffs of Torquay, and the "Flight" aviation magazine organized a glider

design competition and offered £25 as a first prize. Two designs were eventually declared as joint winners, one being a biplane glider, the other was an entry by two American designers. A further prize of one thousand guineas was offered by Mr. Gordon Selfridge for a flight of over fifty miles by a glider in Britain during 1923 but when that year arrived the aviation world began to think of other things, and so Britain lost interest in gliding for the next eight years

At the end of 1922, gliding as such was not appreciated or understood in Britain. There did not appear much future in soaring for hours on end over one spot, and if one wanted to travel any distance by air, one used an aeroplane. In 1922 this form of travelling was expensive and so people began to develop small aircraft to do this sort of flying as cheaply as possible. On the Continent, competitions had already been held for small low-powered light aircraft, and so in Britain the "Daily Mail" organized a competition in 1923. This was known as the Motor Glider competition, and ever since this date, glider designers and manufacturers have had to endure approaches from people asking one inevitable question "Why don't you put a little engine in it?" So ended the third period of gliding in Britain.

## 1929 to the present day

Over the next six years, hardly any gliding took place in Britain but the light aircraft movement proceeded from strength to strength culminating in the development of the famous de Havilland Moth. Even in Germany, gliding had become hill-bound and frustration had set in. However, at the 1928 Wasserkuppe meeting, Robert Kronfeld managed to contact a thermal under a Cumulus cloud and leave the gliding site using the newly-discovered technique of flying around in circles. Thus, thermal soaring was discovered and the sport of gliding received a new impetus. After this, many cross-country flights were attempted and rapid progress was then made in both altitude and distance flying. Even better flights were made in 1929 after Lippisch had invented the Variometer (Vertical Speed Indicator) when it became possible to identify thermals. These new distance flights were fully reported in the British magazine "The Aeroplane", and the fourth period of British gliding began when Mr. D. C. Culver organized a "gliding lunch" at a restaurant in London in December 1929 for anyone interested in taking up gliding. He expected thirty people to attend but nearly double that number arrived. A committee was formed at the meeting, which eventually led to the formation of the British Gliding Association. Interest in gliding suddenly became enormous and was further increased by the gliding demonstrations organized by the B.G.A. and "The Daily Express" when Robert Kronfeld and Carli Magersuppe showed how easy it was to do slope-soaring. Kronfeld also flew a fifty-mile cross country flight from Itford Hill to Portsmouth. (Kronfeld flew his sailplane, *Wien*, which was the archetype of the modern soaring sailplane, and made England's first long-distance soaring flight. He was later killed while test-flying an experimental British glider in 1948.)



Isle of Wight



Robert Kronfeld



**The  
British Gliding Association  
Journal**

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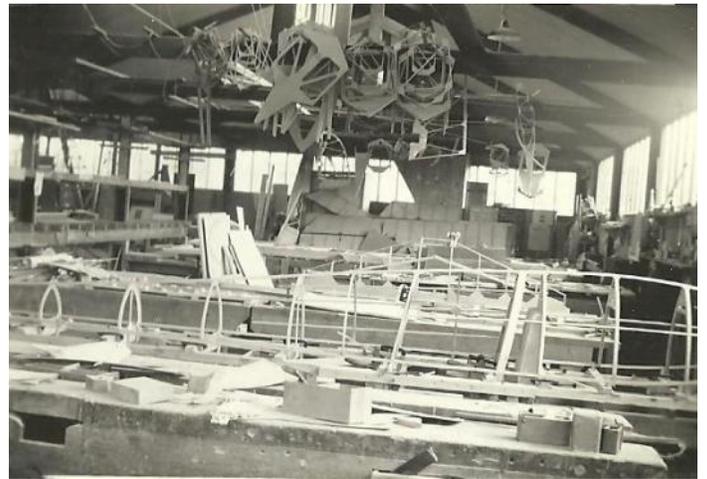
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TWO SHILLINGS AND SIXPENCE

THE BRITISH GLIDING ASSOCIATION  
44a, DOVER STREET  
LONDON  
W.1

Over one hundred gliding clubs sprang up like mushrooms all over Britain. Primary gliders were either built by the club members or purchased from a number of manufacturers who had similarly appeared overnight. Every hill appeared to have a gliding club on it with lots of people messing about with various gliders, including one that resembled a garden chair fitted with wings and held together with a forest of wires. Most of the clubs were formed by people with no previous flying experience, and, to attract as many people as possible, subscriptions were kept as low as possible. There was a general shortage of money at the time as the country was in the middle of a financial depression. There was also an acute shortage of suitable gliding sites due to general indifference to gliding by landowners and other people who were more concerned in preserving their precious grouse - well, at least until the 12th of August annually! The net result therefore was that most clubs only managed to glide their primary gliders to the bottom of their hill, usually breaking something or someone in the process, and gliding soon became known as aerial tobogganing. There appeared to be no way out of this situation and, when a club had broken its one glider, frustration generally set in and people began to drift away from the gliding movement. The only people who remained were the few whose prime interest was in carpentry. Most of the clubs therefore disappeared over the next two years, and with them went the early glider manufacturers.

A few gliding clubs remained, however, those that had been able to find the right combination of finances, gliding site, more than one glider, and instructors who had had previous flying experience. The main one was the London Gliding Club at Dunstable, and, later, those clubs at Sutton Bank, Yorkshire, the Lond Mynd, Shropshire, Camphill in Derbyshire, Barrow-in-Furness, Newcastle, Ulster, and the Southdown and Dorset clubs in the South of England. These all gradually gained in experience, grew in size, and successfully achieved true soaring flight. A British team was entered in the first truly international contest at the Wasserkuppe in 1937. Later achievements included distance flights of over two hundred miles and a British altitude record of over fourteen thousand feet in 1939. The clubs were supported by a glider manufacturing industry that grew with them out of the remnants of one of the early gliding clubs, namely Slingsby out of Scarborough, and other smaller manufacturers, mainly centered around the London Gliding Club at Dunstable.



*Slingsby glider factory*

Soaring for pleasure stopped in September 1939 upon the outbreak of the Second World War, although some local flying was carried out until mid-1940. The gliders that were built in the next five years were for a very different use than pleasure flying and they were huge machines carrying up to sixty troops or seven-ton tanks. Most of the pre-war gliders were stored away although a few of them were used for radar research when they were towed out into the middle of the English Channel, released, and tried to return to England unseen by both human and electronic eyes. Towards the end of the war some of the pre-war gliders were used by the newly-formed Air Training Corps. This "junior branch of the R.A.F." was created during the war to increase air-mindedness in boys, and as aircraft could not be spared they were taught to glide. Additional gliders were therefore required and so, before the war had ended, gliders for pleasure gliding were again being built in Britain. When the war ended in 1945 British gliding was therefore able to make a good recovery, using basic gliders already in production, but also using new two-seat training gliders introduced by Slingsby's just after the war, and new high-performance gliders, the Eon Olympia, a large batch of these being put into production by a furniture firm that had just stopped making the large war-time transport gliders. British gliding therefore had a reasonable start after the war and there was no shortage of trained pilots to become instructors to train others. Dual instruction became standard practice, and very soon the old pre-war primary training gliders were discarded. The end of the war also brought a surplus of instruments and parachutes on to the market and, later, old war-time airfields became available for use as gliding sites, although this was not until the fifties. Up to then there was rather a shortage of suitable sites.

The widespread use and understanding of thermal soaring just about coincided with the availability of these airfields and so the clubs no longer had to rely on gliding sites situated at the top or close to a hill. Winch launching from these long runways gave a good launch height, and aerodromes, of course, eased the introduction of aero-tow launching. The war effort also gave the manufacturers the benefit of synthetic waterproof glues

In the mid-fifties the gliders began to change in character. Competitions that had previously been of a goal or distance-flying type now changed to shorter races around a triangular course, for a variety of reasons that need not be gone into in this book but were mainly of an international nature. Speed became the all-important factor, and with the availability of newer wing sections the manufacturers were able to meet this challenge and produced gliders that instead of just staying up would fly fast between thermals. However, the new wing sections necessitated the making of accurate profile shapes to the wings. The traditional method of making wings, from spruce ribs, birch ply covered leading edges, and then covering the remainder of the wing with fabric, was a reasonably cheap and light way of making wings but it did not give a very accurate or smooth profile shape. The first methods used to make a smoother wing involved the use of either more wing ribs, the method adopted by Elliotts of Newbury Ltd., or in the use by Slingsby's of thicker wing skins using Gaboon ply. Fuselages, too, came in for considerable improvement to reduce drag, and Gaboon ply was also used for fuselage construction. On the Continent this same problem of surface finish was solved by the use of sandwich construction. In this type of construction two skins are separated by a lightweight filling. Various materials were used for the skins, including plywood, light metal alloys, or glass-fiber reinforced plastics (G.R.P.), whilst for the core balsa wood, metal honeycomb, or plastic foams were used. This led directly to the exclusive use of glass-fiber for the whole airframe, with G.R.P. construction for the wings, and the first sailplane built out of this material appeared at the 1963 World Championships which, that year, were held in Argentina. In Britain, gliders continued to be made in wood, although G.R.P. was used for certain double-curvature parts, but with the introduction of the latest laminar flow wing sections it became obvious that these could not profitably be made using the traditional methods of construction. There was by this time only one glider manufacturer in Britain and the choice of new materials was either G.R.P. or Light Alloy. For reasons given later in the book, Britain chose to change over to all-metal construction. However, things did not quite work out as planned, and following the disastrous fire in November 1968, Britain's only glider manufacturing company was later declared bankrupt. This meant that, for the first time since the sport of gliding re-commenced in Britain in 1929, the gliding fraternity in this country did not have a home-based manufacturer to supply gliders to the gliding movement.



In order to rectify this state of affairs a new manufacturing company, Torva Sailplanes Ltd., was established in August 1969 and decided at once that the future lay in the manufacture of sailplanes made in G.R.P. materials. Gliders of Continental manufacture made in glass-fiber had begun to appear in this country in 1968 and continued to be imported in greater numbers over the next two years. Torva's summing up of the situation was confirmed in November 1969 when it was announced that Slingsby Sailplanes Ltd. had been reformed and that it, too, was planning to produce G.R.P. sailplanes. Britain now has at least two glider manufacturing companies and so the gliding movement in this country is assured of continuing support in the form of home products. The British gliding movement today is in a very healthy state. There is a large active membership spread over fifty-eight clubs all over the country, plus nineteen service clubs who also have four overseas clubs in their organizations. According to the 1970 Annual Report of the British Gliding Association 731 gliders are operated as well as 57 tug aircraft. In addition to the above the Air Training Corps has 165 gliders spread over two centers and twenty-eight schools. Perhaps the greatest danger to the sport of gliding today is the lack of airspace in which to fly. The spread of controlled air-space over Britain since the war has brought severe limitations on the flying of gliders in certain parts of the country, particularly in the South-Eastern quarter. Cross-Channel flying from England to France, which was successfully attempted by Geoffrey Stephenson in 1939, became after the war the goal of many flights, but only eleven pilots managed to complete the crossing before controlled air-space restrictions put an end to such flights in the late fifties. In 1969 the London Gliding Club on Dunstable Downs was threatened with near extinction by the spread of a Control Zone from Luton Airport. This threat was eventually averted, largely through the efforts of the B.G.A. Air-Space Committee and the gliding movement itself, but the future still holds doubts as much depends on the site chosen for the Third London Airport. Civil aviation is not the only threat to glider flying. There are also large areas of air-space used by the R.A.F. and the other services for flying training and low flying. As I write these words, the Northern National Gliding Championships are taking place at Sutton Bank and at the same time there are R.A.F. jet aircraft roaring around the sky at all altitudes from just above the ground to contrail level. On visiting the club one of the competitors told me that it is quite a shattering experience to have a Phantom suddenly blast its way past you whilst one is quietly sitting in the sky going about one's lawful occupation of competing. The Contest Director admitted to me that it was "quite a problem", and, in spite of informing the relevant authorities, he regretted that it would be necessary to report an "air-miss" that occurred during the contest. One other probable danger to gliding lies within the gliding movement itself, and this is the danger from those who desire to fit gliders with little engines. Now that reliable, efficient and quite small engines have at last been developed, "gliders" with engines fitted to them are beginning to appear in large numbers. I know that not everyone, particularly the principal advocaters, will agree with me, but I think that these machines are a potential threat to the sport of gliding, and if rules are not properly framed, the gliding movement could, without realizing it, find that it had become just another light aircraft organization. However, before launching into the arguments for and against, a survey of machines already produced introduces the next chapter.



Sutton Bank

### Self Launching Sailplanes, and others

Gliders and sailplanes have from time to time been fitted with small engines for a variety of reasons, and in this chapter it is hoped to sort them into their proper categories. In Britain the first glider to which it was planned to fit an engine was a version of Pilcher's Hawk in 1899. Next in date order came the Pianette in 1932. This was a B.A.C. VII glider modified by Mr. C. H. Lowe-Wylde to a single-seater with an engine fitted on top of the wing. The Dunstable Dart by A. R. Weyl in 1935 originated from an idea to make a powered version of the Slingsby Falcon 3. Also in 1935 L. E. Baynes built the Carden-Baynes Auxilliary, but the next glider to have engines fitted to it was the General Aircraft Hamilcar in 1945. This was introduced for military requirements and, being a special purpose aircraft, does not really fit into this chapter so it will promptly be ignored. After the war Wing Commander K. H. Wallis fitted a small engine on top of a Petrel sailplane in 1947, and in the same year the Slingsby Motor Tutor made its first flight. The next motorized sailplane to appear was the Slingsby Powered Capstan in 1968, but in 1969 there was a powered conversion made at Cranfield, Bedfordshire, of a Slingsby Kirby Tutor when two Villiers engines were fitted to the lift-struts with two small propellers positioned just behind the pilot's head. These then are the motorized "gliders" so far produced in Britain (1970). It now remains to put them into their correct categories.

The types produced by Lowe-Wylde, Weyl, Wallis, and the Slingsby Motor Tutors were aimed at the "low-powered flight" market. <https://www.youtube.com/watch?v=pRkmgMoO9ww> However, they became known as "motor-gliders", a regrettable title, one most likely left over from the 1923 Motor Glider Competitions. This title was totally incorrect as they were in fact just low-powered Ultra-light Aircraft with high aspect ratio wings. Gliding and soaring was never intended to be carried out with these aircraft.

Percy Pilcher's idea was to install a small engine to enable him to climb to a suitable height to enable him to soar. As no suitable engine was available at that time, he designed his own 4 h.p. oil engine, and it was planned to fit a four foot diameter pusher propeller behind the pilot. However, he died on the 2nd October 1899 from injuries sustained when he crashed in the Hawk glider two days previous at Stanford Hall, near Lutterworth, Leicestershire. His launching method on that day was by a tow from a team of horses but, being an engineer, he probably preferred mechanical horse-power and so planned the first self-launching glider.



*Percy Pilcher*



It is interesting to recollect that in 1959 the B.B.C.

Television reconstructed the scene of Pilcher's last flight and instituted a search for his engine as a part of a general series of programs entitled "Lost without trace". A replica of the Hawk was built and flown at Stanford Hall on the 18th July but this flight also ended in a mishap when the replica was caught by a gust of wind during "taxi" trials. The craft became airborne but on landing the undercarriage was pushed through the port wing and the replica was wrecked. Pilcher's ideas were revived in 1935 by Sir John Garden, and L. E. Baynes with the Garden Baynes Auxilliary took these a stage further by making the engine retractable to make an efficient sailplane. The engine was only 250 cc. producing 9 h.p. and this was

probably the smallest "powered aircraft" ever to have flown. Both the Pilcher and the Baynes types can therefore be listed as Self-launching Sailplanes. In the nineteen-sixties single-seat low-powered ultra-light aircraft began to be built in great numbers, especially in France, but two seat sailplanes also began to appear complete with an engine either on top of the fuselage on a pylon or as original designs with an engine in the nose. The latter types were used on the Continent as training gliders for sailplane pilots, the idea being to increase the length of instruction periods by being able to prolong the flight, and to do this regardless of the weather. The clubs found that they were obtaining greater utilization than hitherto, and the pupil was able to book a period of instruction at any specific time. These two seat sailplanes are therefore known as Powered Trainers.

The first British powered trainer to aim at this market was the Slingsby Powered Capstan of 1968 but this was destroyed in the fire at the factory before a Certificate of Airworthiness could be issued and production commence. A powered version of the T.53 was later planned but was still in the project stage when the Aircraft Co. became bankrupt in 1969. Slingsby Sailplanes Ltd. now build the Scheibe Falke powered trainer under license. Now that instruction in gliding techniques using a powered trainer has been successfully introduced into this country it now remains to be seen whether the cost of instruction can be kept down to a minimum over the next few years. The author sees no threat to the gliding movement's future as long as the powered trainer is only used for training and "circuit bashing". The danger lies in the widespread use of single-seat self-launching sailplanes, especially for local soaring from small airstrips and aerodromes. If everyone went off on their own, and flew from their own airstrip, this would leave the actual gliding clubs as being nothing more than groups of people learning to fly, and it is here that a possible danger threatens the whole gliding movement. It is a fact nowadays that the average soaring pilot wants the best performance he can obtain from a sailplane, but only at a price that he, or a group, can afford. He is not, therefore, likely to make any compromises on items that detract from the sailplane's soaring ability, or spend extra money on items that spoil the performance. He is therefore much more likely to purchase the best sailplane that he can afford rather than one with a poorer performance that is likely to cost just as much as the one without an engine. It may be very convenient to be able to switch on an engine when one is unfortunate enough to run out of lift but, surely, it is the challenge presented to the glider pilot, to stay up in the air knowing that he has no other source of power than his own ability to recognize and locate lift, that makes the sport of gliding so attractive to the individual, and one of the main reasons for its very existence.

**NORMAN H. ELLISON** - 1931-2001 - Author of *British Gliders and Sailplanes* (1971) - from SSA *Final Glide*

Norman H. Ellison was born on September 11, 1931 in Luton, Bedfordshire, England, the son of Robert and Lillian Ellison. He was raised in England where he attended school. He did an Aeronautical apprenticeship at Percival Aircraft Ltd, Luton and completed the apprenticeship as a fully qualified jig and tool designer. Mr. Ellison served with the National Service from 1953 to 1955 with the Royal Navy Fleet Air Arm, as a Petty Officer Designate on the aircraft carrier HMS *Indefatigable* and sailed on her to the West Indies. Later, he was stationed at the Royal Naval Air Station at Culdrose in Cornwall where he flew in Percival Sea Prince aircraft, the type that he helped to build at Luton.

From 1955 to 1979 he worked at the English Electric plant at Whetstone, Leicester, and then in the Jig and Tool Drawing Office at Jones and Shipman Machine Tools in Leicester. Subsequently, he went back into the aviation industry with a period at Armstrong-Whitworth Aircraft Ltd at Baginton, Coventry where he worked on the TSR2. When the government axed this project he joined Auster Aircraft Ltd, Reasby, Leicester.

In 1967 he had an opportunity to work on manufacturing sailplanes and joined Slingsby Sailplanes Ltd. at Kirkbymoorside in North Yorkshire some 30 miles from York. At this point he moved with his family from Blaby to Kirkbymoorside. However, in November 1968 a fire destroyed much of the factory and the company later went bankrupt. In 1969 a new company, Torva Sailplanes, Ltd., was formed in nearby Scarborough to design and build sailplanes and glider equipment. Norman joined the firm in October 1969 and was involved in the design of the TORVA Type TA glider, a single-seat, Glass Reinforced Plastic craft. Later, sailplane manufacturing was restarted at Slingsby after Vickers Ltd of Barrow-in-Furness took over the assets of the old company. Norman went back to Slingsby and worked in the drawing office and later on he worked with the inspection team.

In 1979 Norman moved to Seattle to take up a two-year contract at Boeing Commercial Airplane Co Ltd in Seattle. He left on July 1, 1995 on his retirement.

Norman enjoyed gliding and was a member of the Boeing Employees' Soaring Club, serving as secretary, member of the Seattle Glider Council where he held positions of Secretary and Chairman of the Board of Directors. He was also a member of the Britannia Club. Nationally he served as Washington State Governor of the Soaring Society of America and assisted the National Soaring Museum by gathering significant information about pioneers of soaring in the Northwest. He won several badges in gliding and delighted in organizing and managing annual Regional and National soaring contests sponsored by the Seattle Glider Council in Ephrata, Washington. He owned two sailplanes, the first one was a Slingsby Skylark (tail ID: 2 Easy), and the second one, a Standard Libelle. He happily adorned his Libelle with an unusual tail ID (an exclamation mark!).

Norman was the author of two books, *British Gliders and Sailplanes* and *Percivals Aircraft*. In addition, he contributed to *Thursday's Child* about Ricardo Morrow Tate, published in October, 2001 in England. He also did historical research on soaring.

He was very interested in and knowledgeable of classical music, enjoyed the symphony and the opera and had a wonderful collection of classical music.

Norman became a US citizen in 1982, the same year he met and married Alison R. Ridgwell. He became a baseball coach for his stepson and learned the rules of the game to the point of being able to give advice to other coaches. He kept in touch with his many friends over the world via email and letters. He was a very kind and gentle man with a great sense of humor.



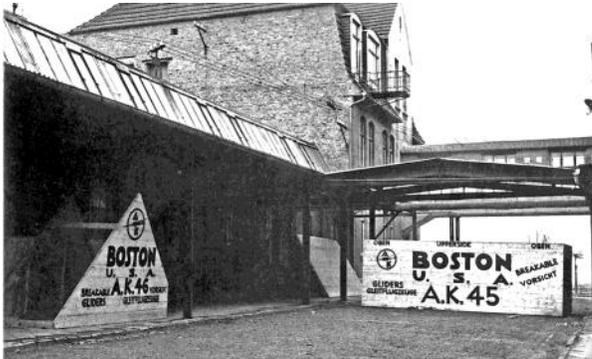
*Slingsby factory*

## SOARING: GERMANY'S GIFT TO SPORTING AMERICA - Simine Short

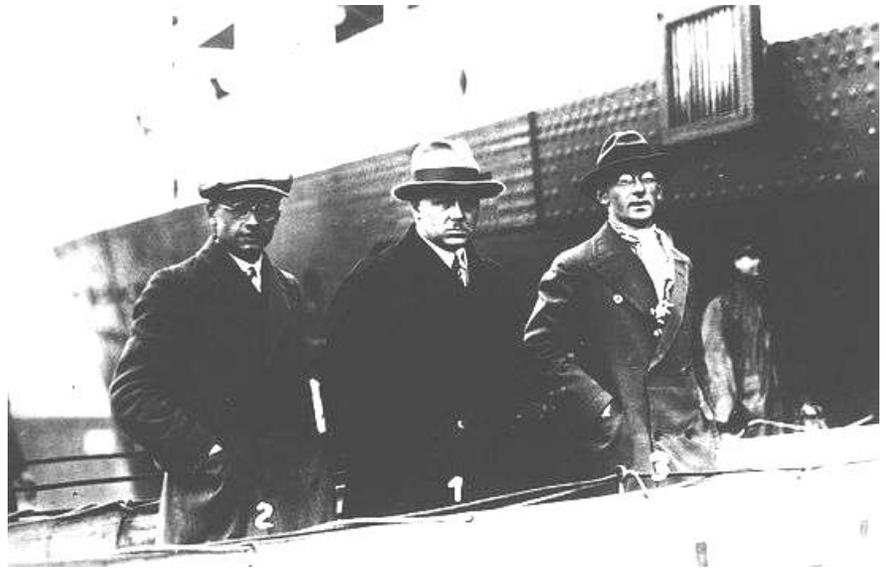
In early spring of 1895, James Means of Boston suggested an aeronautical camp and meeting to encourage students of mechanical flight to meet and learn how to fly gliders. As for the location, the necessary seclusion could be found somewhere on Cape Cod; the scarcity of trees there, and the comparative steadiness of the wind, would make this area suitable. To make this meeting a full success, Means, with his friend Octave Chanute, had invited Otto Lilienthal from Germany to come to the United States to teach Americans how to build, fly and repair gliders. This camp was never realized, but some Bostonians, who had not forgotten the work of the early pioneers, followed with interest the progress of soaring in Europe in the early 1920s. They wanted young America to wake up to the interesting possibilities of the sport of soaring and stage a gliding contest in the area around Provincetown. Again, nothing happened.

Members of the Greater Brooklyn Flying Club formed the American Motorless Aviation Club in late 1927, as several of its members were much interested in motorless flying. C. K. (Carl Kurt) Fröhlich, manager of the North German Lloyd in New York City, was familiar with the Rhön-Rossitten-Gesellschaft and encouraged other members to supply financial funding so that some German pilots could come to America to give practical demonstrations of gliding and soaring.

Three German glider pilots, Captain Röhre, director of the Rossitten Soaring School, and two members of the Darmstadt Academic Flying Group, Peter Hesselbach and Paul Laubenthal, arrived in New York on 1 May 1928, bringing along the high-performance "Darmstadt," a two-seat trainer and several primary gliders.



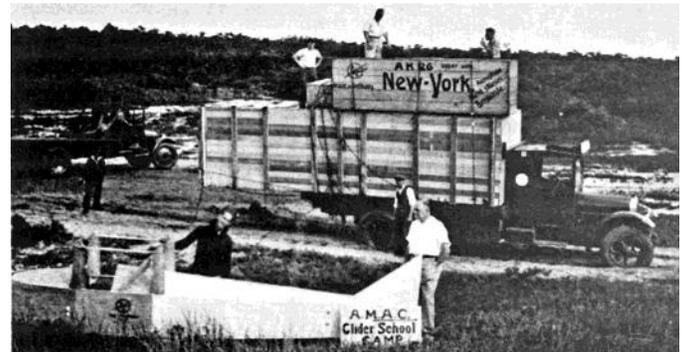
Gliders from the Kassel Flugzeugbau Company ready to be shipped from Germany to the United States. (photo from the Flugzeugbau Kassel Archive)



Paul Laubenthal, Paul-Franz Röhre and Peter Hesselbach on the way to the USA (NSM photo)



Darmstadt sailplane on its trailer, ready for shipment to the States. (photo from the AKAFlieg Darmstadt Archive)



The crated gliders are delivered to the Cape Cod camp in 1929. (NSM photo)

With the help of J. C. Penney, Jr., who flew them in his airplane over the coast between Boston and New York, searching for a suitable location. Just as Means had discovered 30+ years earlier, Cape Cod appeared to be perfect.

The first good soaring flight was made on 26 July, lasting for fifty-eight minutes (<https://mirc.sc.edu/islandora/object/usc%3A51505>), enabling Peter Hesselbach to break Orville Wright's record of 1911.

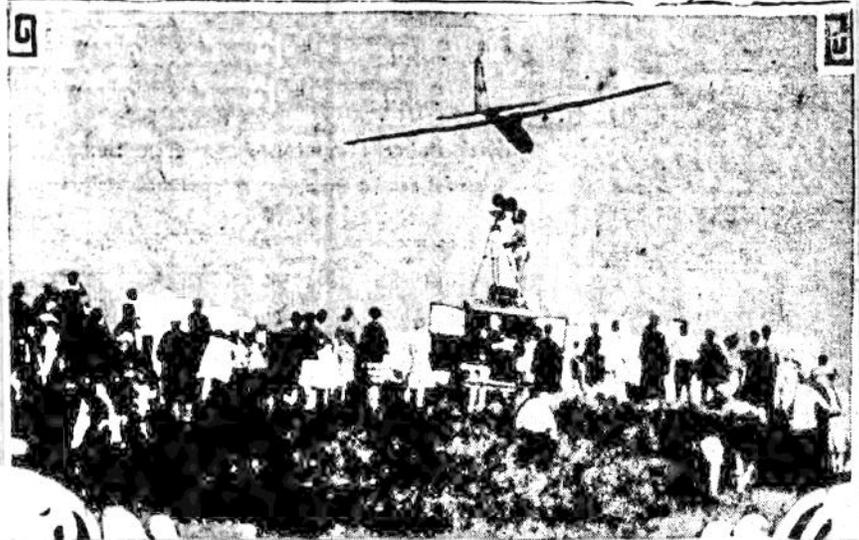
Three days later, the young pilot from Darmstadt broke his own record with a flight of four hours and nine minutes. This achievement was welcomed with acclamation that could be read in newspapers in every part of the United States. Robert Kronfeld stated in his book "On Gliding and Soaring," ...*now this great country, which is always so enthusiastic for sporting feats, began to bestir itself.*

But setting records was not the main purpose of the expedition; the most important goal was to pass on to others the accumulated experience obtained in Germany to save American pilots from going astray on wrong paths in the beginning. Through much mutual understanding and camaraderie, the German-American cooperation left as its memorial the Cape Cod Flying School. It is not known how many students learned to fly in the two (+) years of its operation, but we know that Ralph S. Barnaby was one of its students who won the first International Soaring certificate with his fifteen minutes and six second flight on 18 August 1929. The National Soaring Museum honored Barnaby and his flight with the "Landmark of Soaring No.1" in 1981.

Page Two

LONG ISLAND DAILY PRESS, MONDAY, JULY 30, 1928.

### Glider Makes New Record



**PETER HESSELBACH**, famous German pilot, yesterday remained aloft for 4 hours 5 minutes over Highland Light, Cape Cod, in his Darmstadt glider. He eclipsed the mark set by Orville Wright at Kitty Hawk. Hesselbach also holds the European gliding record with a mark of 14 hours 23 minutes.



↑ A group of Navy ensigns learning to fly in the Pruefling in 1929. Ralph Barnaby, 3rd from left  
← Landmark of Soaring #1 at Truro



Hauling Barnaby's glider back up the hill at Truro

*Extracted from Robert Kronfeld, On Gliding and Soaring (1932)*

## OUR FIRST SOARING FLIGHT IN AMERICA by Paul Laubenthal

Cape Cod! The name conjures up in my mind our wonderful experiences in a beautiful warm New England summer on the Atlantic coast of America. As I pen these words, only three months, but four thousand miles separate us from the golden slopes of the sand hills of that peninsula. It so chanced that its position made it the starting point of American history, and it afforded us flyers the best opportunity we had ever experienced in the history of Soaring Flight.

"Where the pilgrims found maize the German gliders await insurance," wrote our friend Daniel Rochford, a true flying enthusiast, in his Boston paper soon after we had settled down on Cape Cod. Here on this coast lay the first settlements of the Pilgrim Fathers, those stern Puritans who became the founders of the United States of America in general and the State of Massachusetts in particular. But I do not propose to write history, except that of our flights on Cape Cod.

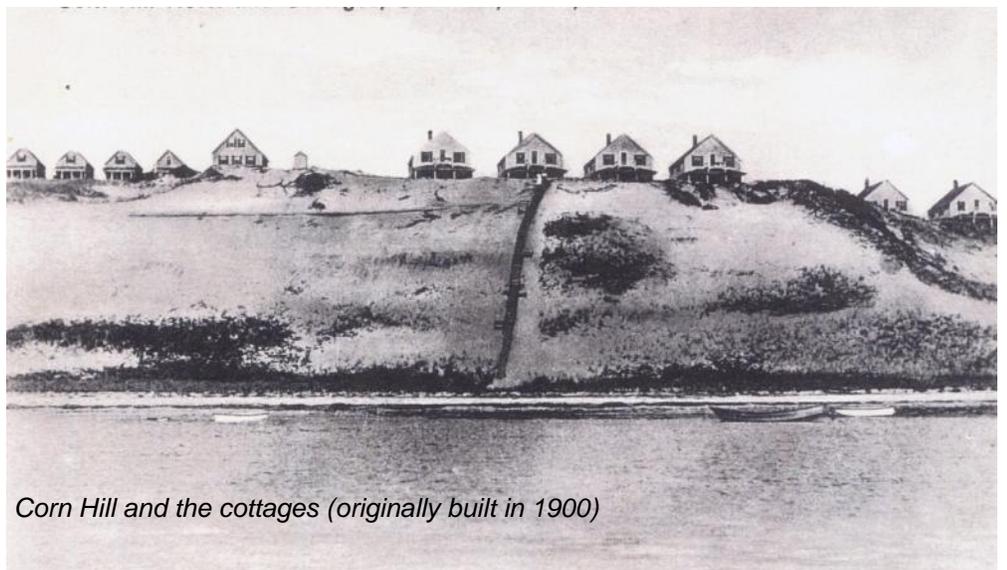
The discovery of Cape Cod for our motorless flying was due to chance and the kind endeavors of a member of the North German Lloyd. Cape Cod is a peninsula stretching out like a bent finger into the sea northeast of New York and southeast of Boston. The country reminded us of the Kurische Nehrung, but without its gloom. Soft, billowy hills are covered with dry, grey-green grass and sapless, straggling green whortleberry bushes. In the fruitful marshy country at their feet, we see everywhere the white-painted wooden cottages of the summer visitors. We took two of the little summer cottages and made ourselves as comfortable in them as possible. <http://cornhillcottage.blogspot.com/>



*Corn Hill cottages in 1928 and as seen today*

Our flying area lay almost at the northeast point of the peninsula, eleven miles from Provincetown. The steep slopes of these dunes extend westward, and from their summits the coast of the opposite mainland is plainly visible in clear weather.

At first we were in no particular hurry, for we had still to conclude our insurance arrangements. Moreover the wind had not yet been able to make up its mind to blow favorably for us; we had therefore leisure to explore the coast and investigate its possibilities. We found that the steep coast extending outwards in a huge convex bulge towards the ocean seemed more likely to be practicable for us than the inland slopes. Starting conditions were far better there, but we realized that it must depend entirely upon the prevailing winds whether we undertook our first flights from Corn Hill or the neighborhood of Highland Lights, a signaling station on the ocean side.



*Corn Hill and the cottages (originally built in 1900)*

We had thought that we could make our preparations in all secrecy, but we were greatly mistaken. All events in America are exposed to a much greater publicity than is the case in Europe, and our manager, Frank Blunk, had already drawn attention in a newspaper to the arrival of three German soarers on Cape Cod. Unfortunately for us, he thus saddled us with the pack of reporters and film photographers who are always at the service of an omnipotent press on such occasions. In the days before our first flight we were regularly besieged; as a matter of course, this army soon made itself as much at home in our two cottages as we were ourselves in a manner that was as amazing as it was naive. But among these pressmen there were some splendid fellows who showed the most complete understanding of our difficult position and did much service to us by their reports.

For us the period of waiting was a great trial. Everyone wanted to see us flying and urged us to action with all the emphasis of a press that meant so much to us as far as popular success was concerned. We received weather reports and carried on our investigations day by day. The blacksmith of Provincetown made us a starting apparatus and rings for the launching cable, while with mingled hopes and fears, we awaited the coming of a fair wind.

On 17 July we pulled the "Darmstadt" out of its shed and assembled it. One after the other we were compelled to climb in and pose; then an entirely unknown lady got in and hardly was her picture taken than another photographer came running with his box of tricks and wanted everyone to pose again.

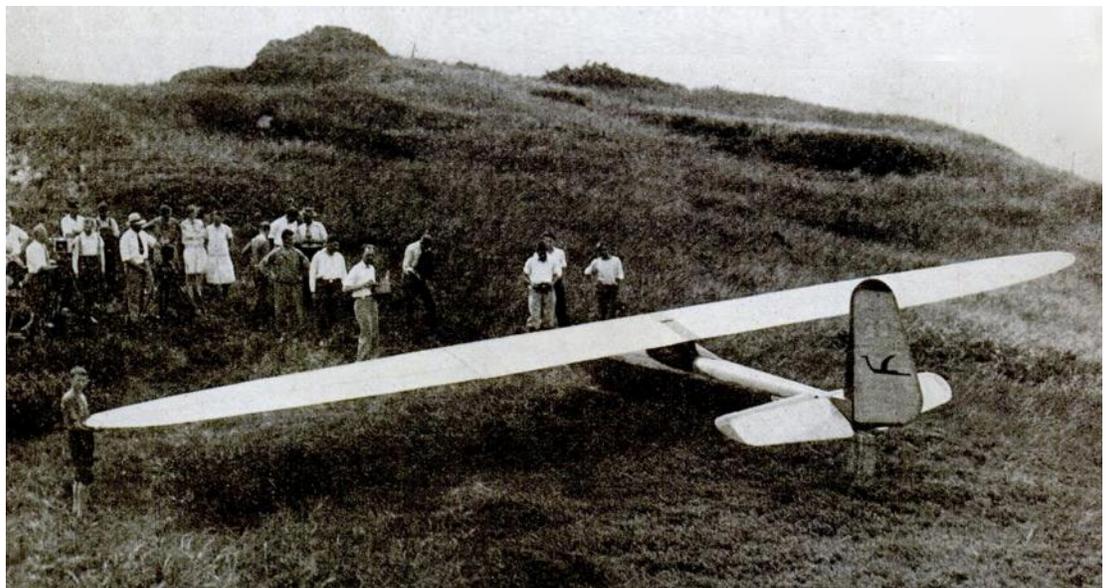
The next day the wind changed to the east and wafted heavy, low clouds against the slopes of Highland Lights. As this wind promised to hold we motored on 20 July the "Darmstadt" to the ocean slope where we proposed to attempt a start. The rumor of our coming had spread rapidly and we steered to the little parking place into which the coast road broadened out amid hearty cheers from a crowd of spectators. The wind was favorable but the clouds hung deep and were drifting in black masses over the ocean. Before we could unhitch the trailer, rain and mist had rolled up and we hastened to house our bird in the shelter of a neighboring barn.

A day later we refused to let the weather deter us from putting the "Darmstadt" together. It was a mistake on our part; the wind was not blowing strong enough to make flight possible. Reporters, film-shooters and summer visitors surrounded us, questioning, taking notes, begging for autographs. They challenged us, alleging that we were always putting them off, and demanded that we should at least show them something. What was the use of talking and explaining? To prevent public interest cooling and spare us the otherwise inevitable sarcasm of the press, a flight of sorts had to be made. So we decided upon a "good-will" start, which should end in a glide down to the whitish-yellow sea beach.

There was very little room, and the starting-run for the launching crew was all too short, but something had to be risked, even though we were working with untrained volunteers. It was not easy to select our helpers, for every one wanted to take part. After giving our crew preparatory exercises with the rope, Hesselbach climbed in and began to give the starting orders, while Captain Röhre directed the tail crew.

A short whistle blow. As the tension began to make it felt our bird slipped forward until brought up sharp by the tail crew. At the second whistle things began to get a move on and the crew ran forward in the direction of the slope. Then a third whistle blow, which was for the tail crew. I was the foremost one on the rope, at the right, and shouted: "Run-run!" The tension slackened; as I ran, I looked round. The machine slipped, glided, seemed to free itself and slowly approached the slope that fell away immediately ahead of me. The start had been a poor one, and it was made worse by the dead eddy directly behind the edge of the incline.

What was to be our luck? After a moment of suspense the skid slid again, the left wing turned towards the ground, and, swaying slightly, the bird came to a standstill close to the edge. We all breathed more freely, but the silence of the spectators betrayed the anxious expectation with which they had followed the last movements of the machine. Although they acknowledged our personal courage, we could read on their faces their doubt as to whether motorless flying was humanly possible. We knew that we could not make another start here.



A wonderful golf court lay a few hundred yards to the south of the station, with their smooth green lawns extending right up to the slope. We all know how precious and holy the golf courts are to the American, but nevertheless, through the influence of a lady friend, we obtained permission to use the links on condition that all spectators should be kept outside their boundaries.

Four further takeoffs were made in a faint easterly breeze. They were hardly to be termed starts in the strict sense of the word, as it was impossible to hold back the plane until the rope reached its full tension. The spectators smiled more broadly, and the press representatives hardly troubled to conceal their doubts. Further attempts had to be abandoned as the wind dropped completely.

But on Thursday, 26 July, a strong northeast wind blew from a cloudless sky. A brief inspection of the ocean side raised my hopes; a wonderful steady breeze was blowing towards me across the open plateau, and the distance out at which "white horses" topped the waves proved its constancy. This was just the weather for us; within an hour we had the machine ready to start. The wind blew from the northeast at a velocity of about twenty-four feet per second. Some golfers, clad in the white

flannels of summer, willingly helped us to start. The same commands as before. Slowly at first, but gradually gathering speed our bird glided on her wide spread pinions; she floated gently to the edge and then, caught up by a rising breeze, she flew off in a gentle left-hand turn, following the lines of the dunes. Spectators, pressmen and photographers at first stood dumb, and their silence lasted until the plane began to rise. Then an immense and uncontrolled enthusiasm broke loose; cheers rose up to the bird which was now soaring more than three hundred feet above our heads. Everybody rushed to us, congratulated us, and shook hands with us. "To see a thing like that is worth waiting for a whole month," said a cinema man, grasping our hands excitedly; then he dashed back to his camera.

The "Darmstadt" was still flying calmly and steadily above us, but it seemed that Hesselbach intended to land, for he flew inland in wide curves, turned back and let the machine float close down over us. Then he glided over the edge of the slope and swung himself aloft once more, a maneuver, which evoked further enthusiasm. After a few more flights backwards and forwards, accompanied by steep turns, our bird took an inland course.

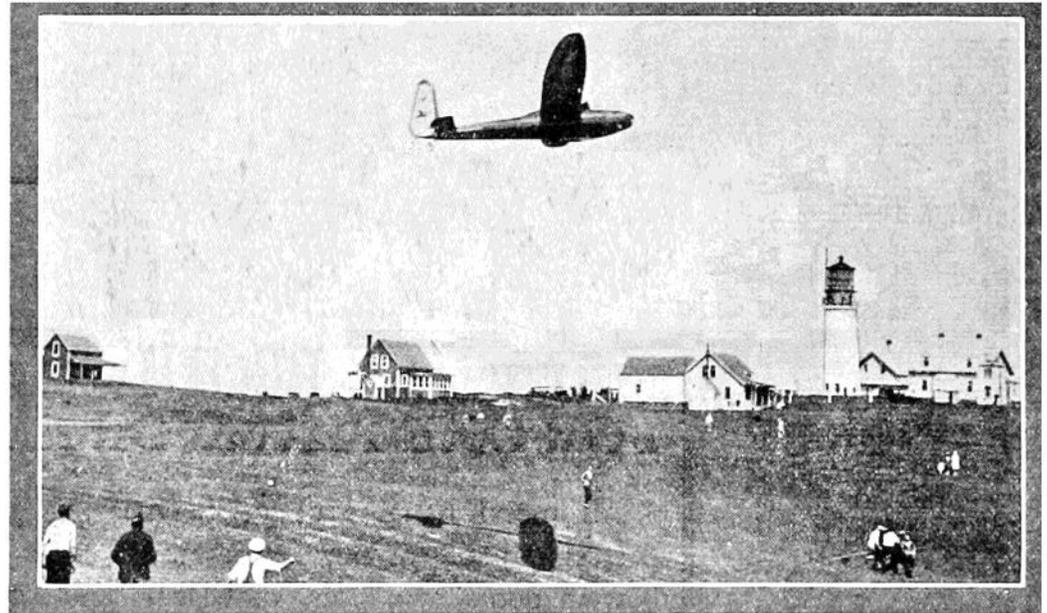
As he descended, the whole surface of the plane was visible for a moment; then it disappeared behind a rise in the ground but immediately reappeared, flying low down and directly towards us. The machine settled down gently, slipped along a little, and subsided slowly on to its left wing. The flight had lasted an hour all but two minutes. All the spectators rushed up cheering, shouting, whistling, and giving vent to their delight in every possible way.

The bird lay motionless; enough had been done for one day. And while we were still busy dismantling the machine the news of this first soaring flight in the New World was being transmitted over all the cables of the New World.

*Editor's note:* Having just returned from a trip to Cape Cod, I can report that our Landmark of Soaring marker is in good shape, having a fortunate location next to a pilgrim marker with the American flag in the center, all on the beach level adjoining a parking lot. I can additionally report that one of the small Corn Hill cottages is currently for sale with a price tag of \$679,000 for 560 vintage square feet! Check it out on the internet. Lots of photos of a property virtually unchanged since Barnaby stayed there in 1929.

## AERO DIGEST

SEPTEMBER, 1928



*P. & A. photo.*

Peter Hesselbach in his Darmstadt glider at Cape Cod, Massachusetts.

## The Cabots of Boston - Early Aviation Enthusiasts

During the period of the late 19th into the 20th centuries, creative minds and adventurous spirits, were hyper-focused on the possibilities of human flight. Rich and poor alike, all caught up in the excitement of it all. Young men were building aircraft of all sorts in family barns and back yards. Enthusiasts with money to spare, rushed to invest in this new adventure, supporting aviators and builders and sponsoring aviation contests. One such family was the Cabot Family of Boston. Over the generations, the Cabots of Boston intermarried with other wealthy Boston families and produced a socially cohesive aristocracy: the Brahmins.

At 10:35AM on December 17, 1903 at Kitty Hawk, North Carolina, Wilbur and Orville Wright's "Flyer" completed the first heavier-than-air, powered flight -- a distance of 120 feet in 12 seconds. Two days later, the Wrights' friend and mentor, engineer Octave Chanute, wrote to Massachusetts aviation enthusiast, Samuel Cabot, IV, to share the news of the success. This letter (right) details the technical specifications of the Wrights' aircraft, a 40-foot-wide machine powered by a ten horsepower engine and two propellers. Its average air speed was 31 miles per hour and, as Chanute writes to Cabot, the Wrights had managed on December 17 to fly it four successful times, the longest flight recorded at 57 seconds.

"Mr. S. Cabot  
Boston, Mass

Dear Mr. Cabot,

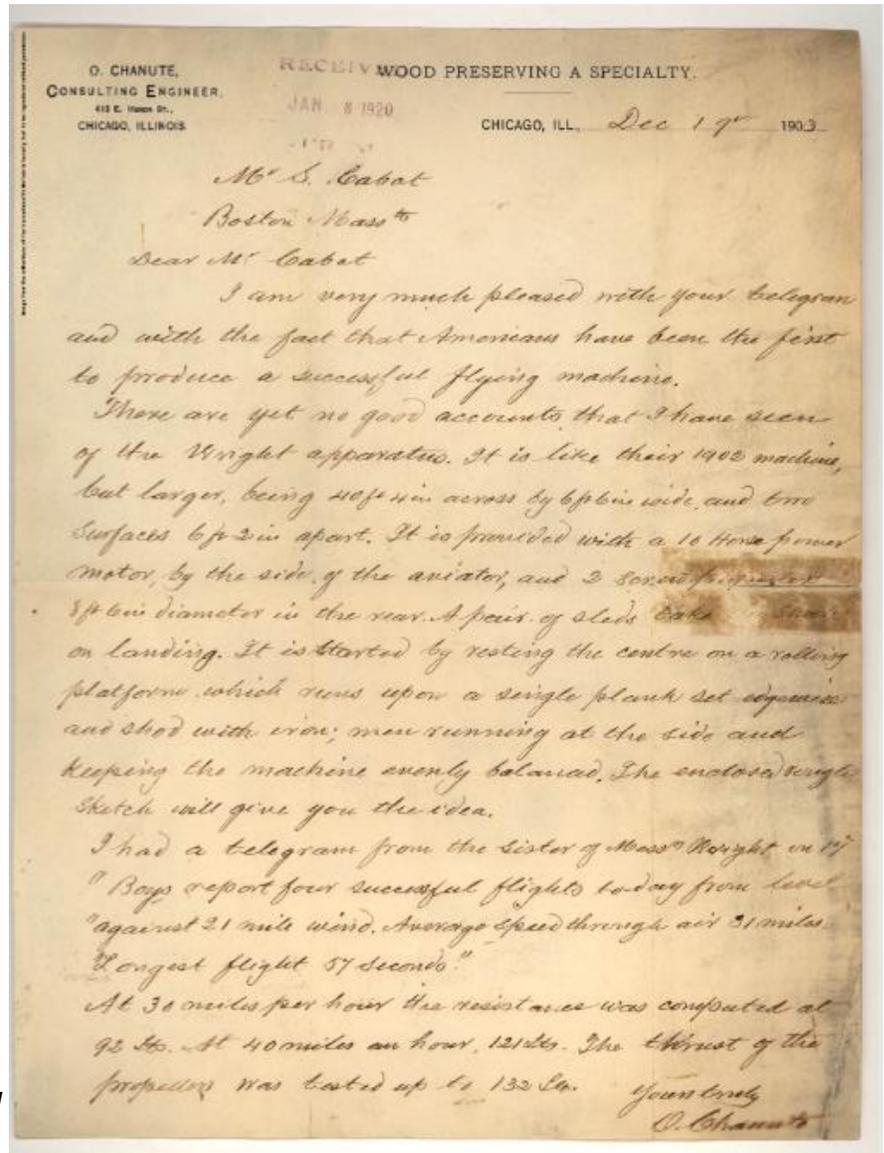
*I am very much pleased with your telegram and with the fact that the Americans have been the first to produce a successful flying machine.*

*There are yet no good accounts that I have seen of the Wright apparatus. It is like their 1902 machine, but larger, being 40 ft. 4 in. across by 6 ft 6 in. wide and two surfaces 6 ft. 2 in. apart. It is provided with a 10 Horsepower motor by the side of the aviator, and 2 screw propellers 8 ft 6 in. in the rear. A pair of sleds take the shock on landing. It is started by resting the center on a rolling platform which runs up a single plank set edgewise and shod with iron; men running at the side and keeping the machine evenly balanced. The enclosed rough sketch will give you the idea.*

*I had a telegram from Messrs. Wright on the 17th: "Boys report four successful flights today from level against 21-mile wind. Average speed through air 31 miles. Longest flight 57 seconds."*

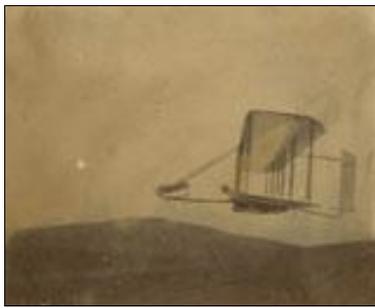
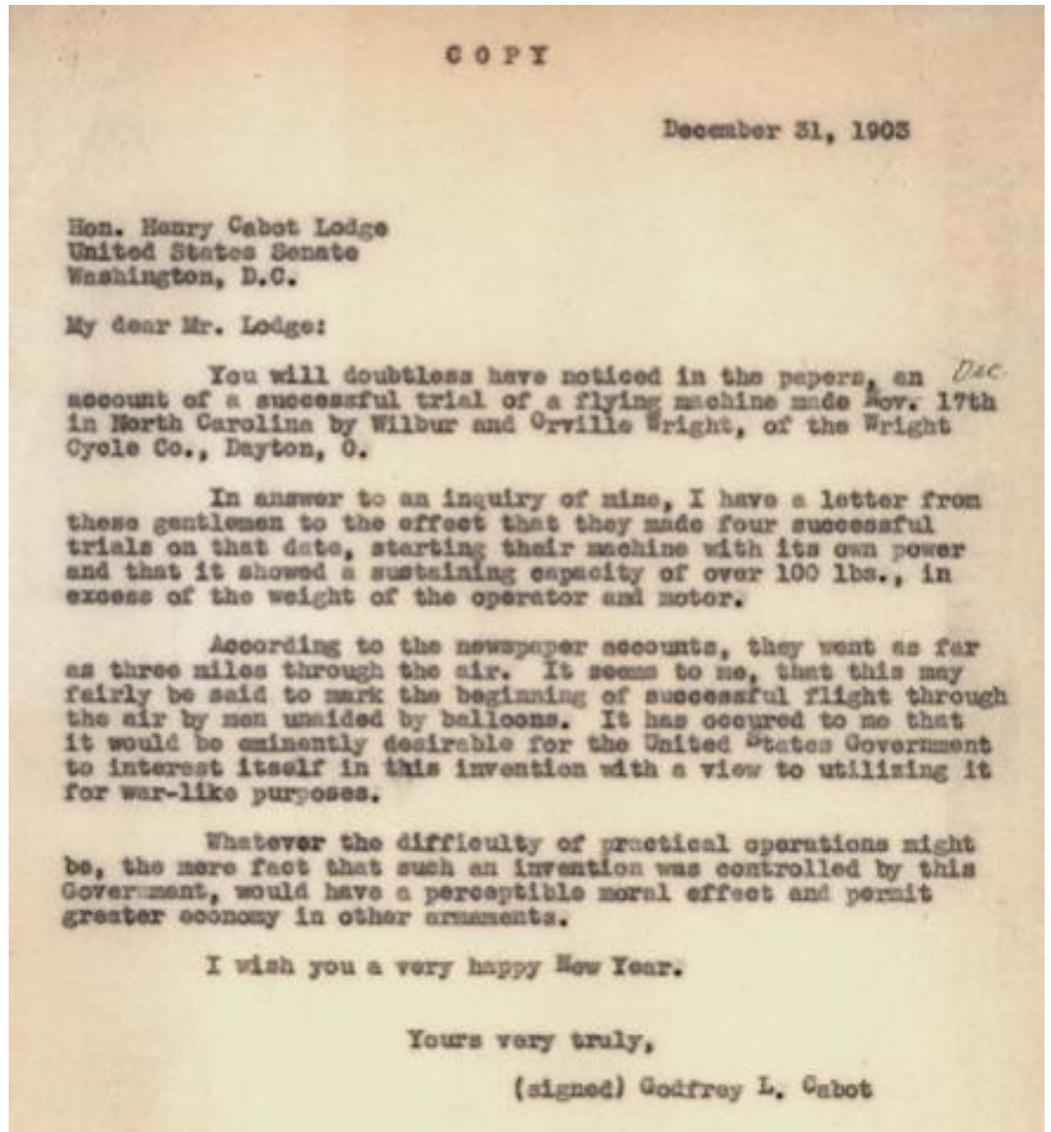
*At 30 miles per hour the resistance is computed at 92 Lts. At 40 miles per hour, 121 Lts. The thrust of the propellers was tested up to 132 Lts.*

Yours Truly, O. Chanute"



Upon hearing of the Wright brothers' achievement, Massachusetts businessman, inventor, brother of Samuel Cabot, IV, and aviation pioneer, Godfrey Lowell Cabot, wrote to Senator Henry Cabot Lodge informing him of the successful trial and suggesting that "it would be eminently desirable for the United States Government to interest itself in this invention with a view for a war-like purpose." Lodge forwarded this letter to the War Department, but it would be five years before the Wright brothers sold an aircraft to the United States Army.

Octave Chanute also photographed some of the Wright brothers' early experimentations with flight. He took the three photographs below of their glider experiments at Kill Devil Hills at Outer Banks, North Carolina during October 5-14, 1903. Besides the Wright brothers' own photographs of their experiments, now located at the Library of Congress, Chanute's photographs are the only other photographs known to have been made of the historic gliding experiments at the Outer Banks.



These three photographs and the letter to Henry Cabot Lodge are taken from the Massachusetts Historical Society's collection of the photographs and papers of Godfrey Lowell Cabot, who was the brother of Chanute's correspondent, Samuel Cabot. The Cabot brothers inherited their fascination with aviation from their father, Dr. Samuel Cabot. Godfrey Lowell Cabot later patented a device for picking objects from the ground while in flight and an innovative method of in-flight refueling.

## Cabot Family's Rise to Prominence

John Cabot (b.1680 Isle of Jersey) and his son, Joseph Cabot (b.1720 in Salem), became highly successful merchants, operating a fleet of privateers carrying opium, rum, and slaves. Shipping during the eighteenth century was the lifeblood of most of Boston's first families. Joseph's sons, Joseph Cabot Jr. (b. 1746 in Salem), George Cabot (b.1752 in Salem), and Samuel Cabot (b.1758 in Salem), left Harvard to work their way through shipping, furthering the family fortune and becoming extraordinarily wealthy. Two of the earliest U.S. Supreme Court cases, *Bingham v. Cabot* (1795) and *Bingham v. Cabot* (1798) involved family shipping disputes. In 1784, Samuel Cabot relocated to Boston.

George Cabot and his descendants went into politics. George Cabot became a U.S. Senator from Massachusetts, and was appointed but declined to be first Secretary of the Navy. His great-grandson, Henry Cabot Lodge (b.1850 in Boston) was also a U.S. Senator from Massachusetts from 1893 until his death in 1924. In the 1916 election, Henry Cabot Lodge defeated John F. Fitzgerald, former mayor of Boston and the maternal grandfather of John, Robert and Edward Kennedy. George's great-great-grandson, Henry Cabot Lodge, Jr. (b. 1902 in Nahant) was also U.S. Senator from Massachusetts from 1937 to 1943 and from 1946 to 1953, when he lost to John F. Kennedy in the 1952 Senate race. Henry Cabot Lodge Jr. went on to be the U.S. Ambassador to United Nations under President Eisenhower and ambassador to South Vietnam under President Kennedy. He was 1960 vice presidential candidate for Richard Nixon against Kennedy-Lyndon B. Johnson. George's other great-great-grandson, John Davis Lodge (b.1903 in Washington, DC) was the 64th Governor of Connecticut. George's great-great-great-grandson, George Cabot Lodge II (b.1927, son of Henry Cabot Lodge) ran against the successful Edward M. Kennedy in the United States Senate special election in Massachusetts, 1962.

From John Cabot's grandson, Samuel Cabot's side, Samuel Cabot Jr. (b.1784 in Boston) furthered the family fortune by combining the first family staples of working in shipping and marrying money. In 1812, he married Eliza Perkins, daughter of merchant king, Colonel Thomas Perkins.

Samuel Cabot, Jr.'s son, Dr. Samuel Cabot III (b.1815 in Boston), an eminent surgeon, married Hannah Lowell Parker. Their daughter, **Lilla Cabot Perry**, was a noted Impressionist artist, and son, **Godfrey Lowell Cabot** (b.1861 in Boston, founded Cabot Corporation, the largest carbon black producer in the country, used for inks and paints; their son, **Samuel Cabot, IV**, was a chemist, inventor and businessman; founder of Valspar's Cabot Stains.

The widely known "Boston Toast" by Holy Cross alumnus John Collins Bossidy features the Cabot family:

*"And this is good old Boston,  
The home of the bean and the cod,  
Where the Lowells talk only to Cabots,  
And the Cabots talk only to God."*



**Godfrey Lowell Cabot** attended Massachusetts Institute of Technology for a year before graduating from Harvard College with a degree in Chemistry in 1882. He was an early aviation enthusiast, founded the Aero Club of New England, and later became president of the National Aeronautical Association..

Godfrey founded *Godfrey L. Cabot, Inc.* and its successor, *Cabot Corporation*, in 1882. It became an industrial empire which included carbon black plants and tens of thousands of acres of land rich in gas, oil, and other minerals; 1,000 miles (1,600 km) of pipeline; seven corporations with worldwide operations; three facilities for converting natural gas into gasoline; and a number of research laboratories.

By 1890, Cabot Corporation, had become America's fourth largest producer of carbon black, which was used in products, such as inks, shoe polishes, and paints. But with the subsequent advent and popularity of cars, carbon black became in much greater demand as six pounds of it was required in the production of a single tire, and Cabot's incomes soared.

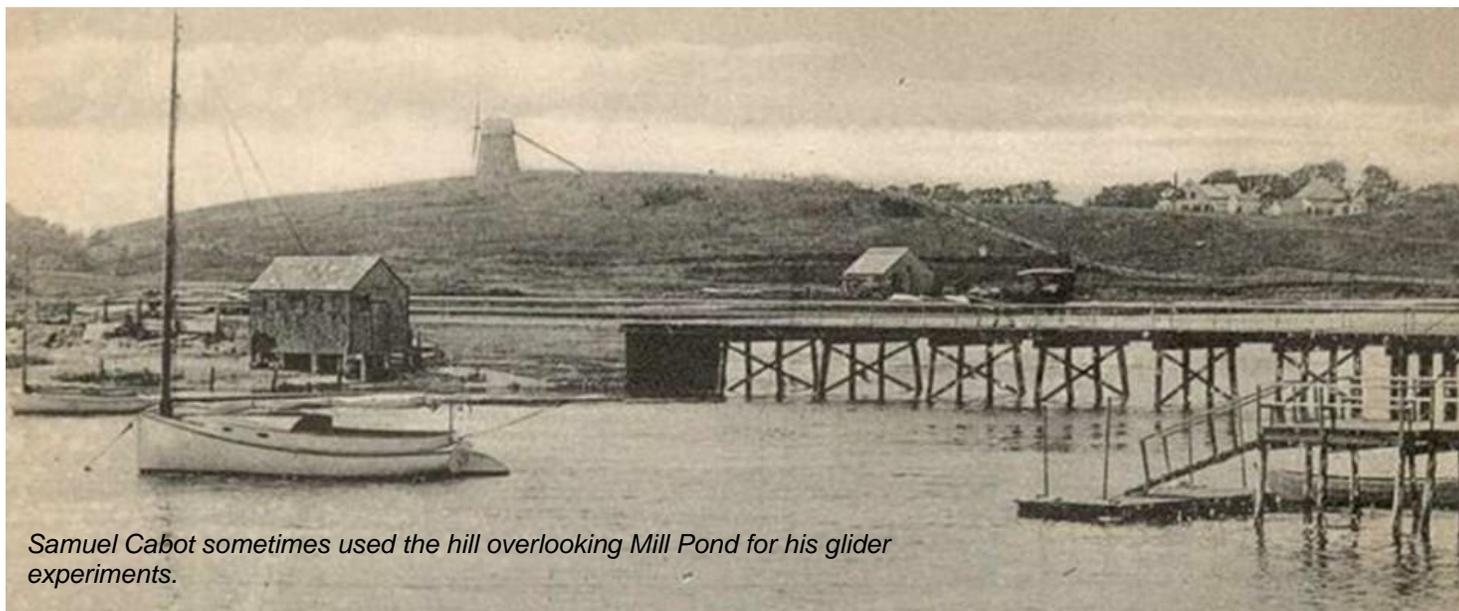


*Samuel Cabot IV*

Samuel Cabot IV studied chemistry at M.I.T. and Zurich Polytechnic (now ETH Zurich). After visiting factories in Europe, he was inspired to work on coal tar-based products. He set up a laboratory in Chelsea, Mass in 1877 and his brother, Godfrey, joined him in 1882. They produced household disinfectant, sheep dip, wood preservatives, and shingle stain using coal tar that was a by-product of the gas works in Boston. They later bought a factory in Worthington, PA, which produced lampblack for making ink from natural gas.

In the 1890s, Samuel bought a small cottage just south of Bridge Street in Chatham, Mass. Cabot's house overlooked the Mitchell River, not far from the bridge. He soon engaged local carpenter James A. Crowell of Stage Harbor Road to act as caretaker and enlarge the house. By 1893 Cabot began experimenting with glider flight on his land, which included a beach suitable for landings. Crowell assisted him. Local and national press described a machine flown there in 1894 as having been based on the kite principle, made of bamboo and having a size of 25 to 30 feet with a wing area exceeding 100 square feet.

Chatham's hills, "where strong winds are almost perpetual", made perfect launch pads, according to the Boston Sunday Globe of Aug. 1, 1897. The gliders sometimes launched from the southeastern tip of Morris Island, which Cabot eventually owned, and landed in the ocean. If the wind shifted, they launched from a slope on Mill Hill and landed in the Mill Pond. When the winds were not strong, the glider launched from the roof of a barn. Flights extended for as long as 50 feet, according to Crowell.



*Samuel Cabot sometimes used the hill overlooking Mill Pond for his glider experiments.*

Gustave Whitehead was an employee of the Boston Aeronautical Society when Samuel Cabot IV invited him to Chatham in August 1897. In Chatham, they collaborated on glider flights. The German-born Whitehead later became a controversial figure, as he claimed to have flown a motor-powered airplane in 1901, about two years ahead of the Wright brothers' famous 1903 flight at Kitty Hawk.

The carpenter Crowell, who became a windmill builder later in life and worked alongside Cabot, told a publication called Cape Cod Magazine in 1926 that the Wright brothers owed a great deal to Cabot's experiments.

Over the many decades of American history, the Cabot family members have distinguished themselves in medicine, architecture, politics, and philanthropy. Massachusetts General Hospital, the Boston Symphony, and Harvard University are only a few of the beneficiaries of Cabot wealth.





*Gunther Groenhoff, Robert Kronfeld and Wolf Hirth in 1931  
photo from the collection of Hellmut Hirth*

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Anyone is invited to contribute article material and photographs 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 the NSM. Material that is to be returned must be accompanied by a self-addressed, stamped envelope. No compensation other than credit will be given. Materials sent by e-mail should go to: [info@soaringmuseum.org](mailto:info@soaringmuseum.org). If we receive an overabundance of articles for the upcoming edition, your material will be saved for a future edition.

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