

## *FIRST AIRMAIL FROM SHIP TO SHORE... AND VICE-VERSA*



In the late 1920s, while commercial aviation was still in its infancy, shipping companies toyed with ways to shorten the delivery time of trans-Atlantic mail. The most dramatic idea involved launching an airplane from the deck of a speeding ocean liner still at sea.

Flying on ahead, such an aircraft could deliver its cargo of 'air mail' as much as a day in advance of the ship's arrival in port. Another scheme that was developed was to utilize low flying daredevil pilots to deliver to or snatch mail bags from a ship equipped with a so-called 'airplane package transfer apparatus'.

Letters thus delivered were boldly, albeit not completely accurately marked **AIR MAIL** and constituted a pricey novelty at the time. Although it made for good press, the delivery of 'air mail-via sea' proved to be too expensive, dangerous, and cumbersome, and by the mid-1930s it had been abandoned.

Those experiments were not man's first attempt at delivering mail by using some form of airborne delivery system. Carrier pigeons and hot air balloons were tried, with mixed results, as far back as the mid-1700s. Following the Wright brothers' development of a practical heavier-than-air machine in the first decade of the twentieth century, others began to envision airplanes as a faster and more dependable means of delivering the mail.

After World War I, surplus military aircraft were used in the development of America's overland air mail service. Land-based routes were expanded, but the inability of aircraft to cross the ocean on a routine basis prevented any kind of inter-continental air mail service. Then, someone suggested a combination ocean liner/airplane delivery system.

### *~ THE LEVIATHAN EXPERIMENTS ~*

The SS LEVIATHAN, flagship of the United States Lines was advertised as the largest ship in the world, following reconversion in 1923 from a US Navy troop transport to return to her original role in life (but as an American ocean liner). Originally built in Germany as the VATERLAND, she had been commandeered by the US Government when America entered World War I.



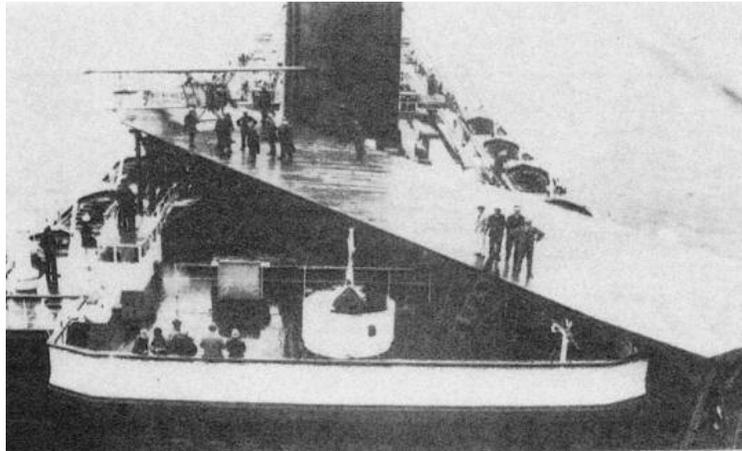
Also referred to as the Queen of the American Merchant Marine, she ran for eleven years on the trans-Atlantic run. But the lack of a suitable running mate for opposite direction sailings on a weekly basis adversely impacted the number of passengers she could attract.

Prohibition in the United States drove many passengers to the 'wet' ships of her competition. Plus, she was more expensive to operate than smaller vessels that could carry nearly as many passengers. The end result; she never was a financial success.

Several publicity and promotional schemes were concocted to improve her image and attract more customers. But the most unusual idea involved a proposal to fly mail...and even passengers...to New York from the LEVIATHAN while the ship was still two days and several hundred miles from port.

A 'flight deck' constructed of wood planks and about one hundred feet long was erected diagonally atop the forward superstructure of the big ocean liner. Long before military aircraft carriers began to use canted decks, the one temporarily installed above the LEVIATHAN's bridge and forward of her smokestacks had to be angled sharply to port to allow any airplane taking off to avoid the ship's towering foremast.

On July 31, 1927, when the ship was about 75 miles from New York harbor, the LEVIATHAN's odd-looking flight deck was utilized to launch an aircraft that had been loaded onboard before the ship left Europe. A fragile biplane, it had just enough fuel for a two hour flight and could only carry a payload of a little over two hundred pounds.



The pilot was Clarence D. Chamberlin, at the time a well-known American aviator. Largely forgotten today, he was the second person to fly across the Atlantic solo. Just fifteen days after Lindbergh's historic flight, Chamberlain flew from New York to Germany. He flew farther and longer than Lindbergh, and carried with him the first airborne trans-Atlantic passenger in history. But history only remembers the first...

With the LEVIATHAN steaming into the wind at her best speed of 22 knots, Chamberlain succeeded in making a risky cross-wind take-off at sea. He then flew about a hundred miles to an airstrip on Long Island, then on to Teterboro, New Jersey the next day to deliver the mail...and give a post flight interview. During that interview, he suggested that the use of a catapult, like those being used onboard naval vessels would be a better way to launch mail planes from ocean liners. Presumably, the ship's flight deck was removed shortly thereafter.



His load of 'air mail – via sea' consisted of a single mail bag that contained 916 letters, including 600 encased in envelopes that had been imprinted **FIRST AIRMAIL Steamer to Shore** for the occasion. Many of these philatelic treasures have been lost over time, but several well-preserved examples have survived; see the image at the top of the next page...and note the addressee on this particular and unique one.



A second experimental flight was attempted three weeks later by a US Navy pilot in an open cockpit, amphibian aircraft. His plan was to drop mail onto the LEVIATHAN's deck...perhaps aiming at the wooden platform atop the ship's bridge. But, fog prevented the pilot from finding the ship, and he was forced to return to with the mail undelivered.

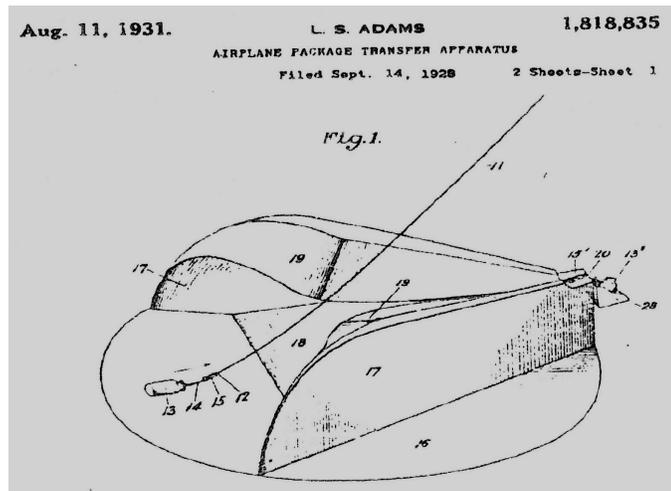


The returned letters, which largely consisted of colorful cachets created for the occasion, were returned to their senders, after being stamped **AIR MAIL FLIGHT FAILED TO S.S. LEVIATHAN** and also **RETURNED TO SENDER AUG 24 1927 DO NOT POST IN THIS WRAPPER AGAIN**. While many of these souvenir letters were apparently destroyed, some escaped the US Post Office's stampings and were delivered weeks later. The following example eventually reached the Hungarian addressee.



Note the mis-use of the 'USS' in the ship's name, above, and the ten cent stamp, commemorating Lingbergh's flight. That stamp was issued less than a month after his historic flight in May of 1927. The Post Office moved fast, in those days!

Two years later, the final air mail pick up and delivery experiment involving the LEVIATHAN was made...successfully. Dr. Lytle Adams was an oral surgeon by training, but also an inventor, entrepreneur and unabashed promoter. In the mid-1920s he developed and patented as the Adams Airplane Package Transfer Apparatus; depicted on the right. He convinced United States Lines' officials to let him try it out in June of 1929.



This contraption allowed for (1) the capture an incoming mail bag attached to a long cable, trailed by a low-flying airplane; (2) the automatic detachment of that bag and attachment of an out-going bag to the cable; and (3) the pick-up of the second bag fast enough for the plane to continue its flight unimpeded, and later reel in the cable and bag.

A platform made of steel tubing was erected on a deck of the LEVIATHAN to support Adams' apparatus. The liner left Cherbourg, France on June 2, 1929, bound for a New York Harbor. Adams arranged for a US Navy airplane to deliver to and pick up mail from the ship on either June 6<sup>th</sup> or the 7<sup>th</sup>. A series of mishaps almost ruined his plans.

On June 5<sup>th</sup>, a plane that was expected to be used crashed during a test flight. The pilot, Lt. Commander George Pond, USN, was unharmed. The next day, a substitute plane that was carrying the mail to the LEVIATHAN was struck by lightning before it could reach the ship. The aircraft was unharmed, but the unnerved pilot returned to base with his cargo undelivered. On June 7<sup>th</sup>, heavy fog prevented the same airplane from finding the LEVIATHAN. The souvenir envelopes that could not be delivered were returned to the people who had posted them; marked **Delivery and Pick-Up POSTPONED**.

By June 12, 1929, the LEVIATHAN was outbound, heading for Europe. Dr. Adams had arranged for another airplane, piloted by Commander Pond, to be outfitted with the necessary cable deployment and retrieval part of the Adams package delivery system. Pond had to make several low level approaches to the ship that day before successfully snagging the shipboard part of the apparatus with his trailing cable and mail bag.

It must have been quite a sight for the LEVIATHAN's passengers to watch the overhead maneuvers so close above the ship's towering masts. Unfortunately, no photos of the event could be found. Most likely, the platform was installed above the bridge, where the temporary flight deck had been, two years previously. Otherwise, the smoke and heat boiling up from the vessel's funnels would have made a difficult task perhaps impossible.

Dr. Adams and a friend had 2,000 cachets printed and numbered for the occasion. Half of them were addressed to Adams, who was onboard the LEVIATHAN when the first air mail pick-up at sea was accomplished. The other half were addressed to his friend, who remained in New York City. Undoubtedly, the cachets were given to friends or sold as keepsakes.



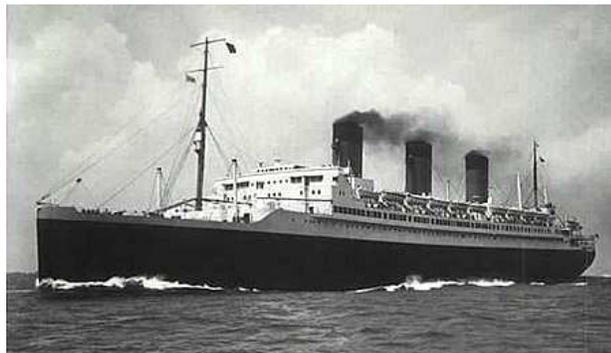
On June 25, 1929, a second successful mail delivery was made to the LEVIATHAN, while she was inbound to New York Harbor. But there was no pick-up made. Why is not known, but more souvenir envelopes dated onboard the ship for that flight were 'returned to sender' after being marked **WEST BOUND/PICKUP Deferred**.

These successes, while providing a lot of publicity for the parties' involved, did not generate any further interest in making airborne pickup and delivery of mail at sea a standard practice. Perhaps, in part, because in August 1929, a recession in the United States led to the 'crash' on Wall Street in October, when the Great Depression began.

### *~ ILE DE FRANCE CATAPULT CONCEPT ~*

By the late 1920s, ship-mounted catapults for the launching of aircraft at sea had been developed and made practical by several of the world's navies. A temporary catapult, installed on a United States Navy cruiser in 1915, was used to first launch an American military airplane at sea. By the mid-1920s, such devices had been perfected and were permanently installed in battleships and cruisers worldwide to facilitate amphibian scout aircraft, which would land alongside their mother ships for retrieval by crane.

The French Line's SS ILE DE FRANCE was completed in mid-1927 and entered the trans-Atlantic passenger trade. Somewhat smaller than the LEVIATHAN, her outward appearance was quite similar, as this photo indicates. But her passenger spaces reflected the very latest in 1920s art deco décor.



Following up on Chamberlain's comments about the desirability of using catapults instead of flight decks for launching aircraft from ocean liners, a 60-ton seaplane catapult was positioned on that vessel's stern in July of 1928.



—International Newsreel

Stern of the Ile de France with its plane-launching catapult is shown above. The cable which launches the plane can be seen in the picture at the right.

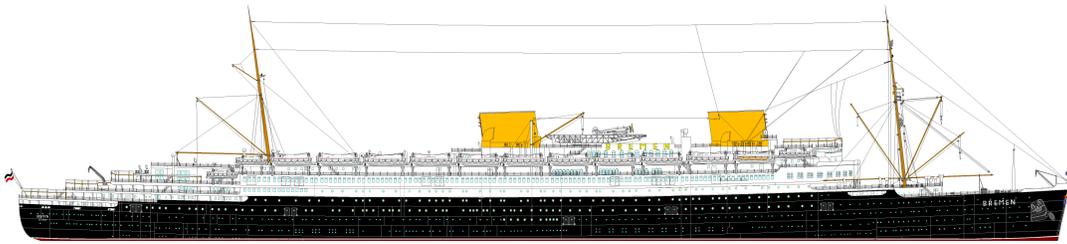
Two test flights were made in 1928 from the liner while she was underway. The first air mail delivery by a plane catapulted from a civilian ship occurred on August 13, 1928. A French Navy pilot was at the controls when his CAMS 37 flying boat was propelled into the air. The two tests proved that mail being carried by the ship could be flown from a position 200 miles at sea and delivered a day earlier than the ocean liner could dock.



The French Line extolled the possibilities of expediting the delivery of not only the mail, but also perishable goods and perhaps even passengers. But the cost of any sustained series of flights soon proved to be far too expensive to be practical. In October of 1930 the ILE DE FRANCE's catapult was removed.

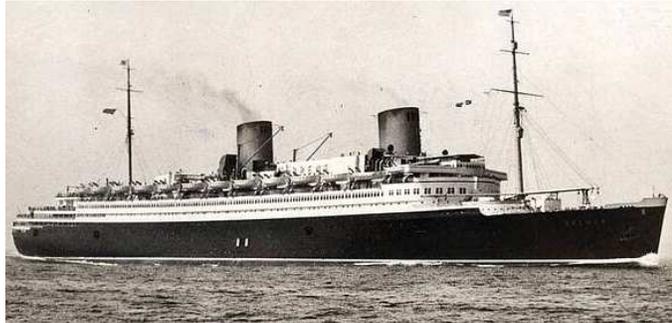
However, that was not the last of the 'air mail-via sea' attempts the world would see. In 1927, the German shipping line Norddeutsche Lloyd had begun carrying a seaplane onboard one of their liners to provide pleasure flights for passengers. The aircraft was water launched and retrieved by crane. Although popular with passengers, that approach turned out to be more trouble than it was worth. The German firm turned to catapults.

~ **BREMEN & EUROPA's AIR MAIL VIA SEA SERVICE** ~



In the late 1920s, Norddeutsche Lloyd embarked on a huge project; the design and construction of a pair of large and fast ocean liners for the trans-Atlantic service. Roughly the same dimensions as the LEVIATHAN, the BREMEN and the EUROPA were much faster; exceeding thirty knots on their sea trials.

Unlike LEVIATHAN, the twin German vessels had low streamlined profile due to their very short funnels. Too short, as it turned out, for while underway their aft passenger decks were often fouled with boiler exhaust smoke and gritty particles. A year after their entry into service, both ships' funnels were raised fifteen feet, thus changing their profile considerably.

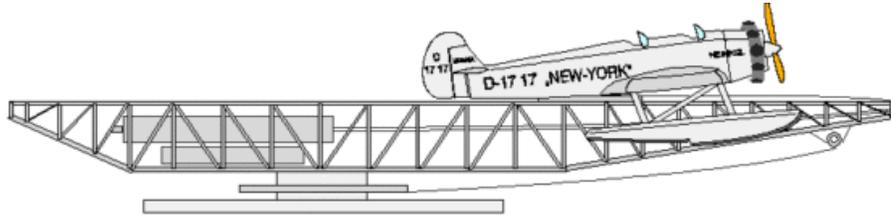


Designed to cruise at 27.5 knots, they were able to cross the Atlantic in five days. This enabled their owners to run regular weekly crossings in both directions. Both vessels were launched in August of 1928. BREMEN delivered eleven months later. But during her fitting out period, EUROPA was damaged by fire and badly damaged. This delayed her entry into service until March of 1930.

During the ships' design phase, Norddeutsche Lloyd commenced discussions with Deutsche Lufthansa about ways to improve mail delivery times between North America and Europe. Lufthansa, stifled by the inability of aircraft development in the 1920s to enable them to fly across the Atlantic, welcomed the idea of a partnership.

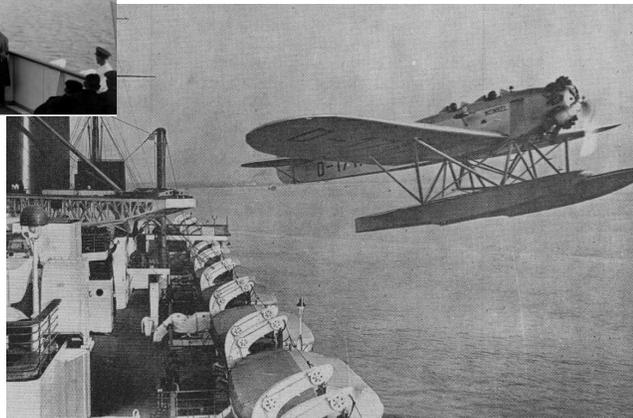
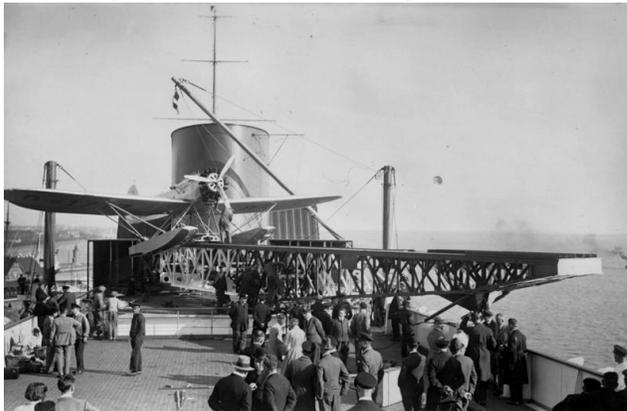
The two firms, after studying past military and civilian experiences with launching aircraft at sea decided to fit the two new German liners with powerful catapults. They also determined that aircraft with a suitable range and payload capacity and capable of withstanding the force of being hurled into the air were required. In addition, the aircraft needed to be equipped with floats to facilitate water landings at the end of their flights. A third German firm, aircraft manufacturer Heinkel provided a modified model of one of their existing aircraft, plus the catapults.

Heinkel came up with the HE-12; a monoplane that had dual open cockpits and was fitted with wooden floats. With a range of several hundred miles, this aircraft was capable of carrying two pilots and a sizable amount of air mail or other cargo at a maximum speed of 134 MPH. The first HE-12 was named in honor of the city of New York.



Heinkel's catapult design was powered by compressed air and mounted on a turntable. A dolly placed between the top of the catapult frame and the aircraft to be launched propelled an airplane down its 89 foot length to reach a maximum velocity of 105 MPH. The catapults were positioned between the liners' funnels on the vessels' topmost open decks and were serviced by a pair of stub cranes.

On July 16, 1929, the BREMEN left Bremerhaven, bound for New York on her maiden voyage. In addition to her passengers, the liner also had taken onboard a few Lufthansa employees and Heinkel HE-12 floatplane #D17-17. Four days, 17 hours and 42 minutes after departing Europe, BREMEN arrived in New York after shattering the record for a westbound passage on her first attempt. This triumph was shared by the earlier arrival of the HE-12, which had delivered 11,000 pieces of mail a full day before the BREMEN reached port. Both successes captured the imagination of the public.



EUROPA embarked from Bremerhaven on her maiden voyage on March 19, 1930. She arrived in New York just 36 minutes faster than her sister ship had made that same passage, and thus claimed the trans-Atlantic speed record. The BREMEN made a slightly faster westbound voyage three years later. A few years later, all of the sister ships' speed records were eclipsed by the French Line's NORMANDIE.



For the next few years, EUROPA and BREMEN routinely launched their small embarked seaplane when several hundred miles from shore. Each such event was a spectacle that passengers crowded around to witness. Each time one of the liners reached port, her aircraft that had arrived as much as twenty-four hours earlier was there, waiting to be lifted back onboard for further use.

Several models of aircraft were utilized for this service. The most interesting was the Junkers 46, which was first flown from the sister ships in 1932. In addition to being more powerful than its predecessors, this aircraft featured an enclosed cockpit and seating for six passengers. Brightly painted, the two models specifically built for 'air mail-via sea' service were named in honor of the vessels from which they operated.



More powerful catapults, needed to handle the heavier Junkers 46 were installed in 1932. Two years later, Norddeutsche Lloyd replaced these aircraft with six bi-wing American-made cargo only-carrying seaplanes. Apparently the use of the Junkers aircraft to satisfy impatient shipboard passengers to reach their destination a day early did not prove profitable.

With the advent of more capable, long-range and land-based aircraft to routinely move the mail between America and Europe, the catapults were removed from the BREMEN and EUROPA a few years later, and the era of 'air mail-via sea' ended.

## ~ *POSTSCRIPT* ~

After pioneering the delivery of air mail via aircraft launched from miles at sea in 1927, the LEVIATHAN continued to operate as a trans-Atlantic ocean liner...albeit at a significant financial loss...for eleven more years. In 1938, she was taken out of service and scrapped.

ILE DE FRANCE served the trans-Atlantic passenger trade until the start of World War II. Pressed into troop transport service by the Allies, she was returned to the French Line after the war and was modernized, including the removal of her third 'dummy' funnel. Between 1949 and 1959, she once again made numerous trips between Europe and America before the development of jet passenger planes forced a precipitous decline in trans-Atlantic travel by ship.



Initially sold for scrap, the ILE DE FRANCE instead became the 'star' of the 1960 disaster movie *The Last Voyage*. Partly destroyed by deliberately set fires and explosives during that endeavor, she was also flooded forward to simulate sinking, but survived as a burned out hulk to eventually be scrapped.

BREMEN's captain, secretly aware that the 1939 Invasion of Poland was imminent, slipped out of New York harbor without any passengers onboard his command two days before World War II started. While on her way back to Europe, her crew painted the vessel grey. Barely escaping being torpedoed by a British submarine, she was used as a barracks ship until a mysterious 1941 fire gutted her. She was then dismantled except for a portion of her double bottom; her steel used in Germany's war effort. What little was left was towed up a German river where her remains are visible at low tide even today.

At the start of World War II, EUROPA was in Germany. Plans were formulated to either use her as a troop transport during a planned German invasion of Great Britain or, later when that plan was abandoned, to become an aircraft carrier. But the carrier conversion never took place either. In 1945 she was captured by the Allies. She served briefly as a US Navy troop transport before being transferred to France as a part of Germany's war reparations. Rebuilt by the French, her name was changed to LIBERTE and she returned to the trans-Atlantic passenger service in 1950. Eleven years later, she was replaced by a newer and larger liner. The following year EUROPA/LIBERTE was scrapped.

And what about the first adventurous Americans, who demonstrated that 'air mail-via sea' was possible, albeit not practical or inexpensive in the late 1920s?

**Clarence D. Chamberlin:** Born in Ohio on November 11, 1893, Chamberlin's first aviation experience involved towing advertising signs. When America entered World War I, he enlisted in the US Army Air Service. On his 25<sup>th</sup> birthday, he was in Hoboken, New Jersey, awaiting deployment to Europe when the Armistice was declared.

Discharged, he returned home where he purchased a used bi-plane and then barnstormed up and down the east coast for several years before settling in Teterboro, New Jersey. Hoping to capture a prize offering of \$25,000 for the first solo flight across the Atlantic, he found a sponsor, purchased a monoplane and had its fuel capacity sufficiently increased to be capable of crossing the Atlantic non-stop.

On an over land endurance flight, Chamberlin and a companion flew non-stop for a world record breaking 51-plus hours; more than long enough to cross the Atlantic. But his plans to become 'the first across' were delayed by a legal dispute involving his sponsor delayed Chamberlin's attempt just long enough for Lindbergh to capture that honor. Chamberlin's subsequent success took place two weeks after Charles Lindbergh's historic flight which captured the rich financial prize and everlasting fame. Second place paid nothing.

Nevertheless, upon arrival at Tempelhof Airfield in Berlin, Chamberlin's accomplishment was widely acclaimed, and he spent part of the summer of 1927 engaged in a variety of aviation-related promotional events. He is pictured to the right with Thea Rasche, Germany's first female aviator. He departed Germany in late July of 1927 onboard the LEVIATHAN, but before arriving in port Chamberlin flew off the liner and made the previously described first ship-to-shore mail run.



A year later he purchased a factory in Jersey City with plans to convert it to become an aircraft manufacturing facility. He also started the Chamberlin Flying Service with aims to create a flying school and eventually offer air passenger service for the New York metropolitan area. But the Great Depression ended all of those dreams.

For the next several years, Chamberlin barnstormed again. At the beginning of World War II he created and ran several aviation trade schools in the New York City area, training thousands of men and women in aircraft construction and operation.

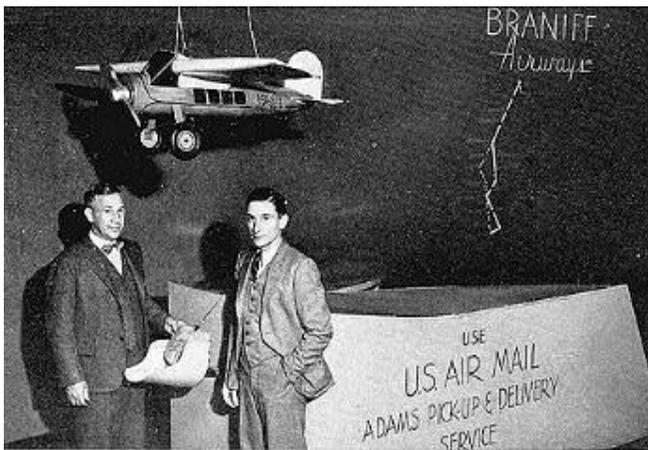
In 1973, Clarence D. Chamberlin was inducted in the New Jersey Aviation Hall of Fame. Three years later, he was enshrined in the National Aviation Hall of Fame at Dayton, Ohio. Later the same year, he suffered a heart attack and passed away on the last day of October, 1976 at age 83; thus rebuffing the old saying in the aviation world that there are old pilots and bold pilots, but no old and bold pilots.

**Dr. Lytle S. Adams:** A descendent of US presidents John and John Quincy Adams, Dr. Adams was an oral surgeon who once practiced in the small western Pennsylvania town of Irwin, Pennsylvania. When air mail service became popular in the mid-1920s, Irwin didn't have an airport. Any mail designated for delivery by air had to first travel over land to the Pittsburgh airport.

Inspired by the way speeding railroad trains routinely plucked mail bags from trackside posts, Adams began experimenting with novel methods of 'non-stop' mail bag pick-up by low flying aircraft.



This eventually led to a series of successes; the first of which was the previously described 1929 pick-up and delivery demonstration at sea involving the LEVIATHAN and the patented Adams Airplane Package Transfer Apparatus. He then parlayed this success and licensed his invention to several commercial airlines that held air mail delivery contracts in the 1930s.



Adams, far left in this image, in conjunction with now-defunct Braniff Airways demonstrated the feasibility of his system at the 1933-1934 World's Fair/Century of Progress Exposition in Chicago. In addition to this display, actual deliveries and pick-ups of US Air Mail were made daily from the air. A floating platform in the Exposition's lagoon was fitted with apparatus similar to that used several years before on the LEVIATHAN.

In 1937, Adams, with financial backing from the du Pont family, created All American Aviation. His intention was to utilize this entity to acquire US Air Mail contracts and then service small towns in the Ohio River valley using his mail bag pick-up system. Actual service began in mid-1939, using the Pittsburgh airport as a hub and providing air mail pick-up delivery service from surrounding small towns that did not have airports.

Eventually, Adams dropped out of the airline business, but All American Aviation prospered beyond all expectations. After a series of growth spurts, acquisitions and numerous name changes over several decades, it eventually became one of the largest commercial airlines in the United States...US Airways.

This photo depicts one of Adams' aircraft making a mail bag pick-up from a small Pennsylvania town. A mail bag was first attached to a cable with quick releases that was suspended between two tall bamboo poles. An airplane fitted with a hook at the end of a long trailing metal rod would then swoop down and snag the cable; allowing the pilot to reel in the mail bag. This system proved quite successful, and was employed during the 1940s in the mountainous regions of Pennsylvania and West Virginia.



On December 7, 1941, Dr. Adams was vacationing in the Southwest and had just visited the Carlsbad Caverns when he heard of the attack on Pearl Harbor. On his way home, he thought about how he might aid the war effort about to engulf America. Impressed by the nightly sojourns by millions of cave-dwelling bats that he had seen, Adams began to ponder...

*“Couldn’t those millions of bats be fitted with incendiary time bombs and dropped over the cities of Japan that were largely built of wood?”*

After acquiring some bats from Carlsbad, he began to experiment. The bats weighed only nine grams, but could carry twice their weight. And after a night of insect hunting, they sought out dark, secluded places to roost...like the eaves of flammable buildings in Japan.

On January 12, 1942, Adams sent a letter to the White House, suggesting the use of bats as an incendiary device delivery system. President Roosevelt forwarded Adams' suggestion to the military with this notation: ‘This man is not a nut. It sounds like a perfectly wild idea, but worth looking into.’

The military swung into action. Adams was retained to help develop ‘bat bombs’. The US Army’s Edgewood Arsenal created an incendiary bomb that weighed just 18 grams...a miniaturizing marvel for the 1940s. Other members of the military began capturing bats.

By March 1943 the program was ready for a ‘live fire’ test. Several hundred bats were fitted with supposedly detachable incendiary devices. But the problems subsequently encountered were numerous. The fatal flaws, in the military’s opinion, were an inability to control where the bats would go and the bats’ failure to detach and escape annihilation from their own fire bombs.



In his final report before closing down the experiment, the Army's project manager noted: 'Testing was concluded when a fire destroyed a large portion of the test material.'

What he didn't point out was that a barracks, a control tower and other military buildings that were not supposed to be part of the test had been set on fire by wayward bats!

Disappointed, Adams nevertheless insisted that the wide-ranging and uncontrollable bats were just what was needed to burn down Japan. But by then, military leaders knew that B-29's would soon be able to fly from Pacific Islands and fire bomb the Japanese Empire. Conventional military wisdom reigned. The surviving bats were returned to their caves.

After World War II ended, Dr. Adams retired from dental practice and moved to Arizona. But he continued to invent...this time working out a practical way to plant grass on arid and rough terrain. He devised a way to plant one pellet per square foot by dropping what he called 'seed balls' from low flying aircraft.



Before he passed away in 1970 at age 89, Dr. Lytle S. Adams, shown above, had successfully reseeded over 50,000 acres of Navajo Reservation land. The delivery system that he devised for accurately dispersing seed by aircraft was his last...and some say...his most practical and beneficial invention of them all. Variations of his invention remain in use today.

*~ A FINAL, PERSONAL NOTE ~*

These two American aviation pioneers both lived long enough to witness, along with the rest of the world, man's first landing on the moon in July of 1969. One can only imagine what thoughts they may have harbored, comparing their relatively primitive 1920s aerial adventures with NASA's signature accomplishment just four decades later.

My father, who was in his seventies at the time, was understandably amazed by the ability to land on the moon and record it live. As we watched that climatic event on TV together, he told me of seeing, as a boy, the Wright Brothers perform a rudimentary flying exhibition to promote aviation a year or so after their first flight. I thought then, and still do, what an astounding amount of aviation progress my father had been privileged to witness.

*Bill Lee*

November 2016