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Redefining the Third Dimension

by BUDD DAVISSON

Let's talk about guts. And the willingness to try something that's neither proven nor viewed to be sensible. We all think we've seen it at airshows: "And now, ladies and gentlemen, Patty Wagstaff [insert your airshow favorite here] will do" We think we're seeing something of a daredevil in action when in actual fact, we're witnessing a superb athlete performing something that he or she has practiced and honed until the danger—while still very real—is seen more from our perspective than theirs.

More than that, there is little unknown about either the airplane or the maneuvers. But it hasn't always been that way.

When dawn broke on that new invention, the aeroplane, simply getting off the ground was enough. Having the control to make the airplane go more or less where you wanted was a challenge both in mechanical capability and piloting skill. Everyone was still figuring out how this new aeronautical contraption worked, so to one degree or another, everyone was a test pilot on every flight. Moreover, in-depth experience was something few possessed.

Considering that prior to 1912, aeroplanes seldom flew more than half an hour at a time and almost never flew out of sight, gaining the hundreds of hours on which the skill and art of flying are based wasn't easy. Early aviators were not only neophytes in terms of actual flight time, but they were also going aloft in a machine that no one in the world truly understood in all its dimensions.

And then there was Lincoln Beachey.

It is hard to imagine what was going through his mind the first time he pulled up and rolled his incredibly ponderous flying machine over on its back in a barrel roll. Today, with the exception of military pilots, the number of

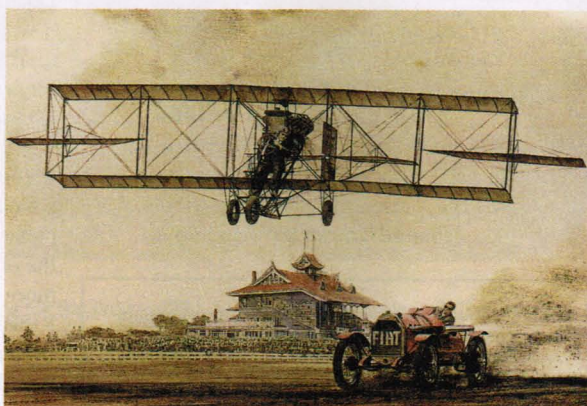
pilots who have actually seen the horizon twist until blue occupies the space normally reserved for brown is minuscule. It is estimated that less than five percent of the active pilot population have done any aerobatics at all, and only a tiny fraction of those would be considered proficient at it. Most pilots don't want to upset the canoe and are content to float around on the surface of the pond that is the sky. Others, however, refuse to recognize that there is a surface. They recognize the sky as a

dimensionless space in which, with the proper machine, they know no limits and can imitate the otter in its playful, beneath-the-surface cavorting.

Lincoln Beachey had that three-dimensional, otter mindset. The difference is, he was the first. There was no one to explain the concept of speed/G relationships, no one to explain the dire consequences of too much yaw and not enough speed, no one to prepare him for the unbelievable disorientation that occurs the first few times you hang from your seatbelt upside-down.

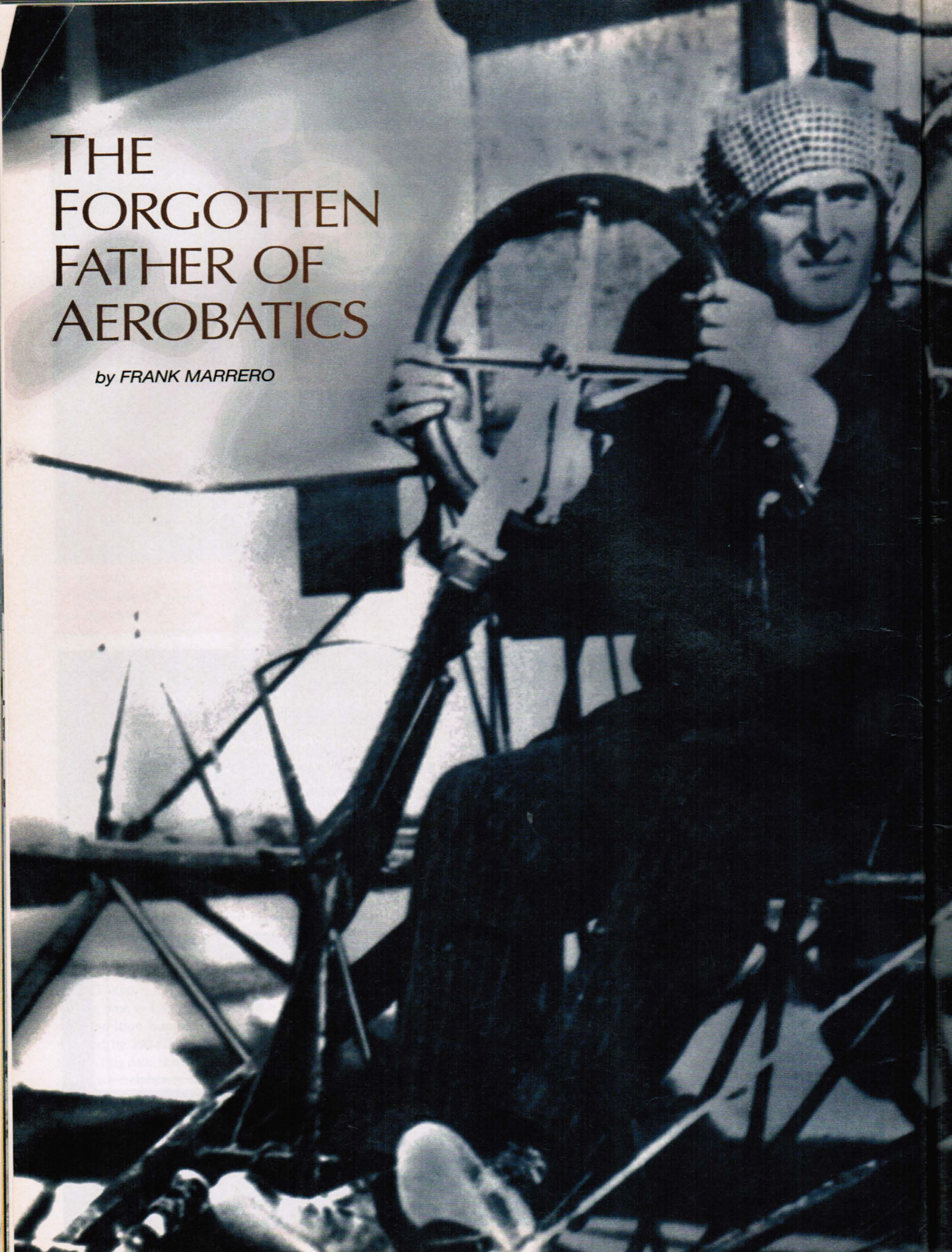
So many of us think of test piloting in terms of guys in pressure suits rocketing to the edge of nothingness or, as Corky Meyer or Whitey Feightner remind us,

taking a well-designed, well-constructed machine a step or two deeper into the blackness that lies just outside its known envelope. Then think of Beachey: he quite literally went where no man had gone before. In so doing, he stripped away the shackles that restrained pilots to the dimensionally limiting concept of straight and level flight. If the Wrights are given credit for opening a portal to the sky, then we should give a hand to Lincoln Beachey for showing us that the only limits that the sky presents are our own. †



THE FORGOTTEN FATHER OF AEROBATICS

by FRANK MARRERO

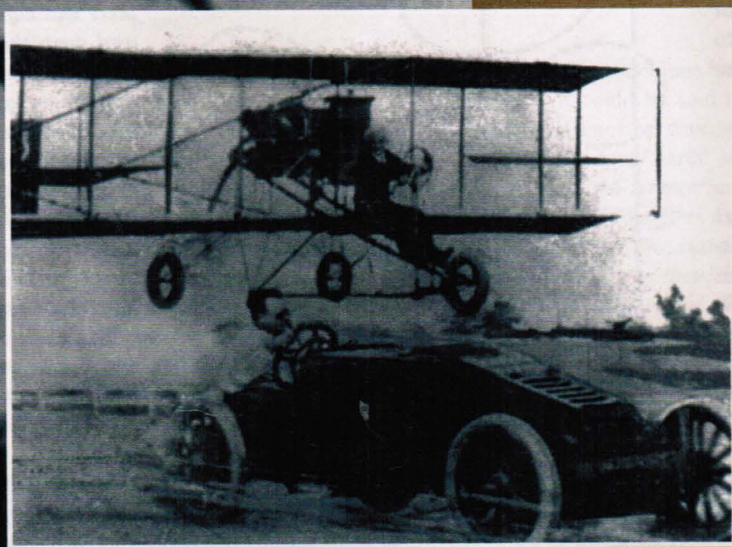


T

HE FEUD BETWEEN THE Wright brothers and Glenn Curtiss quickly reached a fever pitch after Wilbur's death in 1912. Orville publicly lashed out and declared that Glenn Curtiss, not typhoid fever, was the stressful cause of his brother's death. Perhaps Orville's bitter sadness tainted his conception of what was possible in aviation when in 1914 he disregarded and called impossible Lincoln Beachey's promotional proclamations of "upside-down flying and loop-the-loops" in a Curtiss-style machine. Said Wright, "It is probably done high in the air, 3,000 feet or so, an optical illusion and promoter's hype."

But Orville Wright, like everyone else, had not realized that Lincoln Beachey, "the flying fool," had matured and indeed fathered a new art form—aerobatics. Here, upon the canvas of the sky, the master's instrument was "the first fully aerobatic flying machine," a Little Looper. The sky suddenly exploded with flying freedom; the ability to go in every direction with perfect control—dancing and spinning, looping and outflying the birds—had been achieved, and the "father of aerobatics" knew it.

In 1912, 25-year-old Lincoln Beachey raced Barney Oldfield. Beachey often knocked off Oldfield's hat with the plane's front wheel.



Lincoln Beachey

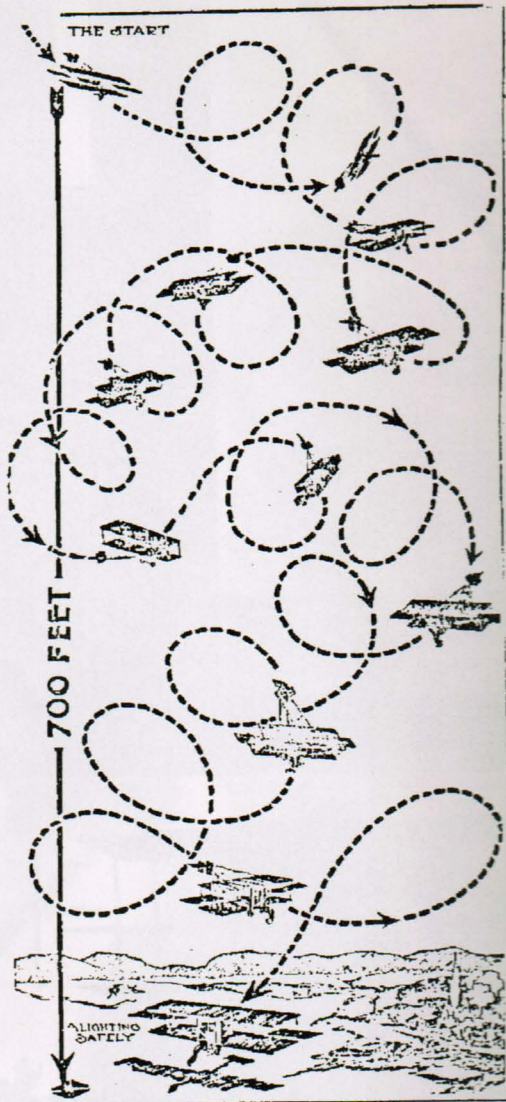
LINCOLN BEACHEY

I want to show such men as Henry Ford, Thomas Edison and other inventive and manufacturing geniuses how I handle the Little Looper. I do not believe they dream such things are possible. Instead of being a reckless chance-taker, I am really the pioneer explorer of the uncharted air lanes of the sky I want to open the eyes of the people to the possibilities of the aeroplane. My tour this summer will help advance the science of flying by ten years.

Indeed, 17 million Americans saw Beachey dazzle the sky in his Little Looper in the 126-city tour of 1914 (May 12 to December 31). Vast crowds were to "pack the parks to suffocation in every town," while ceremonial and grand entries into city after city confirmed that Lincoln Beachey was the "Alexander [the Great] of the Air" and had reached the acme of American adoration. His everyday glory was later compared to Lindbergh's triumphant return from Paris. And, also in the summer of 1914, Lincoln Beachey got his wish to fly for Edison—as told through the local newspaper:

Beachey's Stunts Amaze Edison

Thomas A. Edison declares that Beachey's loop-the-loop and upside-down flights are the greatest contributions to science since the Wright brothers first flew a heavier-than-air machine some ten years ago. "I was startled and amazed," said Edison, "when I saw that youngster take to the



The Fall of the Hawks started a mere 700 feet from the ground. As the "father of aerobatics," Beachey was reported to have done loops, even outside loops, during this sequence.

sky and send his aeroplane through the loop and then follow that feat with an upside-down flight. I could not believe my own eyes, and my nerves were a tingle for many minutes.

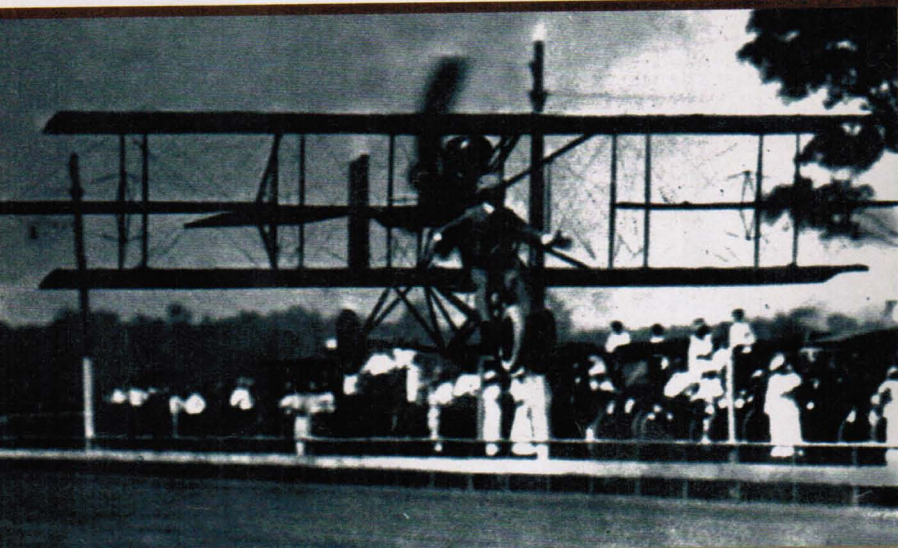
Two years ago, Orville Wright told me that man had done about all with the aircraft that could be done until the inventive genius provided some automatic balancing device calculated to act more quickly than man can think and act at the same time.

Contrary to my impression, Beachey's loop was not performed high in the air, at a distance that would enhance the opportunity for a trick of legerdemain. But almost over my head he spun around, outraging all—wonderful, so wonderful, in fact, that I was relieved when, after the third loop, Beachey came back to the earth.

Then I spent a whole day figuring out how it was possible for a young aviator to be performing a feat the man who invented and flew the first aeroplane declared was impossible; there was sufficient food for thought, and deep thought at that. When I sought out young Beachey and asked him for an explanation, he looked at me in a quizzical manner and replied, "I took you for my example and set out to do what others thought impossible. Then after studying it all out, I went at it and combined thought and action to a degree sufficient to get away with it."

That tells the whole story, doing what the other fellow declares impossible. And it is a rare sport doing it, too.

In Dayton, Ohio, Lincoln's drive to



During most 1914 flying exhibitions, Lincoln Beachey demonstrated that an airplane could be flown with no hands on the control wheel.

Beachey made sure he flew close to the crowd so they could clearly see the "genius of aviation."



perfection was acutely felt by Orville Wright. Legend has it that Beachey ended the show with 10 consecutive loops then, flipping his machine on its back, flew it upward until it stalled, fell tail first, backward upside-down, pulled its tail up until it stalled backward upside-down, and repeated this stunt—an upside-down double Z. It was similar to a falling leaf but, instead of side-to-side swinging, this was fore and aft—all with his hands off the wheel, his arms wide like the bird that he was, controlling his machine with only his knees and torso. A convinced Wright had to concede Beachey's genius:

I have watched him closely with my glasses and have never seen him make an error or falter. An aeroplane in the hands of Lincoln Beachey is poetry. His mastery is a thing of beauty to watch. His performance not only surprised me, but amazed me as well. He is more magnificent than I imagined. Beachey is the most wonderful aviator the world has yet seen, indeed, the most wonderful of all.

Beachey's greatest detractor became an ardent admirer. His fans included poet Elbert Hubbard, "poet laureate of the people," who anointed Beachey as a great master.

Each art has its master-worker; its Paderewski, its Saint-Gaudens, its Michelangelo, its Milton. There is music and most inspiring grace and prettiest poesy in flight by man in the heavens. And posterity will write the name of Lincoln Beachey as the greatest artist on the aeroplane. In his flying is the same delicacy of touch, the same inspirational finesse of movement, the same developed genius of Paderewski and Milton.

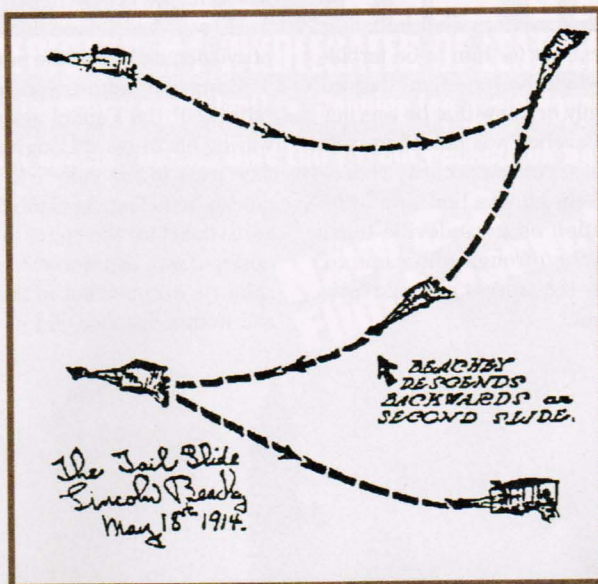
The following is from a then unknown poet in Chicago who, in 1912, was moved to cast into words the wonder he had seen in the air.

To Beachey, 1912

Riding against the east,
A veering, steady shadow
Purrs the motor-call
Of the man-bird
Ready with the death-laughter
In his throat
And in his heart always
The love of the big blue beyond.

Only a man,
A far fleck of shadow on the east
Sitting at ease
With his hands on a wheel
And around him the large gray wings
Hold him, great soft wings,
Keep and deal kindly, O wings,
With the cool, calm shadow at the wheel.

—Carl Sandburg

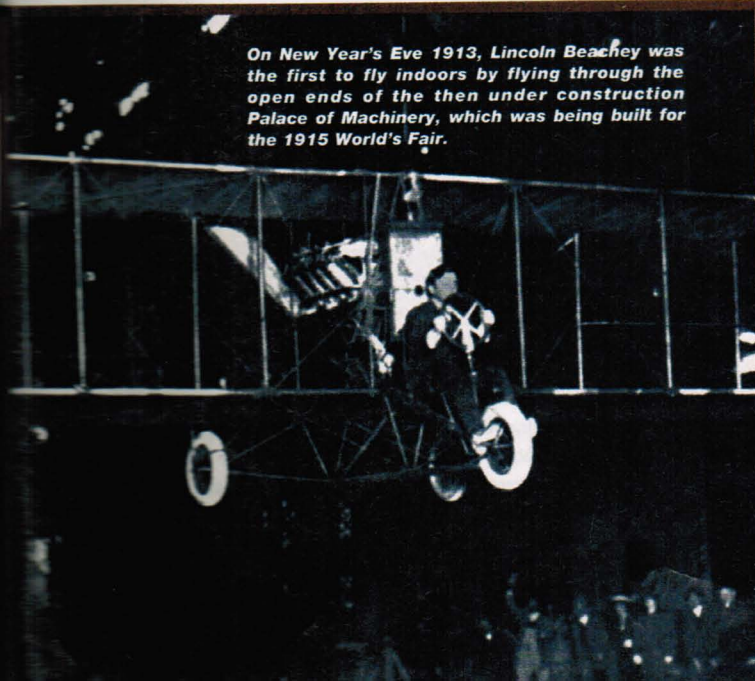


The "Z" is born—May 13, 1914. On August 2, 1914 in Dayton, Ohio, Beachey did this twice—upside down! The handwriting is his.

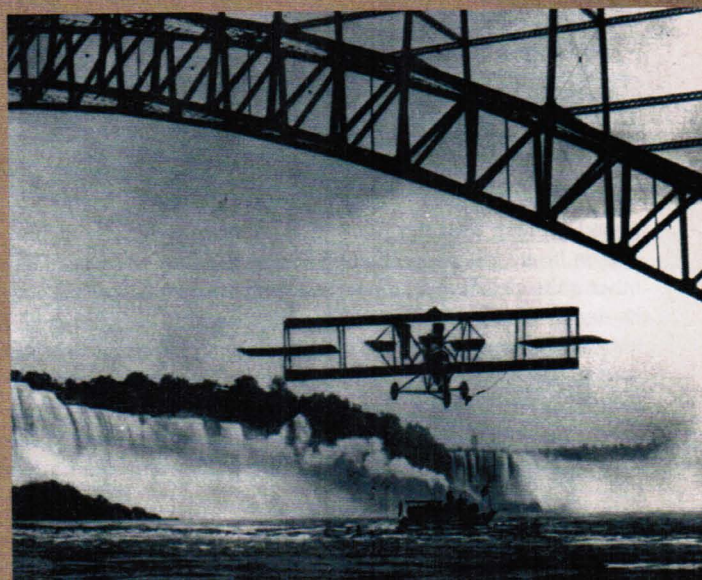
Men and women may have operated flying machines before Beachey—and with quite some flair—but it could be said that no one *truly* flew until Lincoln Beachey. Beachey was acclaimed as the first "Genius of Aviation," the first "Aerial Master," "Alexander of the Air," "the World's Greatest Aviator" and "Divine Flyer." He recalled overcoming the false barriers and presumptions of upside-down flying and looping: *The instant I achieved the loop, death and I shook hands. It was then that man's courage, coupled with an invention of science, had finally solved the deep mystery which through the ages had surrounded the flight of birds.*

Beachey is credited with inventing stall recovery, he was the first to achieve terminal velocity (by flying straight down), first to fly indoors, first to fly upside-down, first to master the loop,

On New Year's Eve 1913, Lincoln Beachey was the first to fly indoors by flying through the open ends of the then under construction Palace of Machinery, which was being built for the 1915 World's Fair.



During a flying exhibition, Beachey dived his Curtiss Pusher into the mist of Niagara Falls. To those on top of the Falls, it looked as if he had crashed into the water, but he recovered, and flew out of the maneuver and passed under this bridge.



LINCOLN BEACHEY

first to tail-slide (on purpose), first to barrel-roll and first to do a host of aerobatic routines. He broke state and national records for crowd size, set altitude and accuracy standards and achieved a level of national and world fame that few have ever attained. Lincoln Beachey "was known by sight to hundreds of thousands and by name to the whole world."

At one point in 1913, so many other aviators died imitating Lincoln Beachey that a public cry went out for him to be forbidden to fly. Beachey feared that he would be forgotten, that he would be thought of as a lucky fool; only *he* knew that he was not foolishly off the path, but forging it. Beachey was indeed forced, by public blame for all aviation deaths, to temporarily retire. While grounded, "the greatest of them all was tied to a little stage," and again he toured the nation on a vaudeville tour, explaining "aviatic" technicalities to the throngs who came to hear him speak. He explained not only the present and past "aviatic" issues, but was also often prophetic:

Some day we will be able to mount and ride any steed of the air, be he ever so tempestuous ... It is not time yet to fly across the Atlantic, the mechanics are not there yet, otherwise I would do it ... 'Flyabouts' will become a popular means of conveyance with the masses ... All wars will be decided from the air ... In the air, the nations of the world will someday join hands.

Lincoln Beachey wasn't just the world's greatest aviator; he was a passionate American who worked tirelessly to promote aviation in the U.S. In 1914, Russia had over 1,500 military planes; Germany and France each built more than 1,000; and Mexico carried 400, while the United States government poorly maintained 23. Beachey passed out millions of brochures urging readers to write their congressmen to enact real "aviatic" investment. Beachey personally and publicly petitioned the government to let him give the congressmen a demonstration. But when only two cabinet members arrived at the exhibition, Beachey knew he must break the rules if he was to get everyone to watch.

Legend has it that President Wilson was working on neutrality papers in the Oval Office when he heard what he thought was a fly. Picking up his swatter, he began to stalk the intruder. But the buzzing got louder and appeared to be coming from outside. Wilson looked out his window and saw, heading toward the windows of the Oval Office—like an arrow for a bull's-eye—an 800-pound biplane with the pilot up front staring directly at him. Wilson broke into a sweat when he and the pilot could see each other quite clearly, eye to eye, and the plane did not waver from its deadly course. At the last possible moment, the pilot pulled his machine straight up and spun it, flashing his name that was written across the wings: B-E-A-C-H-E-Y. The birdman climbed above the White House, looped back and dived again and again as if on a bombing run of complete devastation. Below, the crowds formed everywhere, filling the Mall, filling the streets

and rooftops, arresting the entire town.

Beachey dived toward the Mall, pulled up just 100 feet above the amazed onlookers, flipped over and flew upside-down past the Washington Monument. As he shot like a lightning bolt straight for the Capitol, every set of eyes was fixed upward and saw what the President had read: B-E-A-C-H-E-Y.

He was determined that every legislator would see the genius of aviation and know the power of the aeroplane.

Congress adjourned to witness the spectacle. Beachey "attacked" the Capitol again and again and ended his flight by waving his wings at Congress. The lawmakers cheered him as he flew back to the polo field across from the White House. After quickly refueling, he climbed to 3,000 feet and performed another aerial ballet for the entire town. Suddenly, he seemed to be stuck upside-down, and worse, his engine quit, and he began to fall and spin! He dropped out of the sky in a deadly upside-down spiral, and from a distance, did not seem to pull out of it. Personnel at the U.S. Army hospital saw the aviator fall and rushed to the field with ambulances. Telegraph operators also witnessed the fall and instantly tapped out the news to the nation: Lincoln Beachey was dead!

It was reported that at the polo field, Secretary of the Navy Daniels was congratulating Beachey when both heard someone yelling "Make way; move aside" and saw the crowds parting. The Army medics broke into the open area surrounding the aeroplane, frantically looked in all directions and asked in confusion, "Where's the crash?"

Beachey smiled and asked, "What crash?"

The medics were dumbfounded at the crowd's seeming lack of concern: "We saw a plane crash over here!"

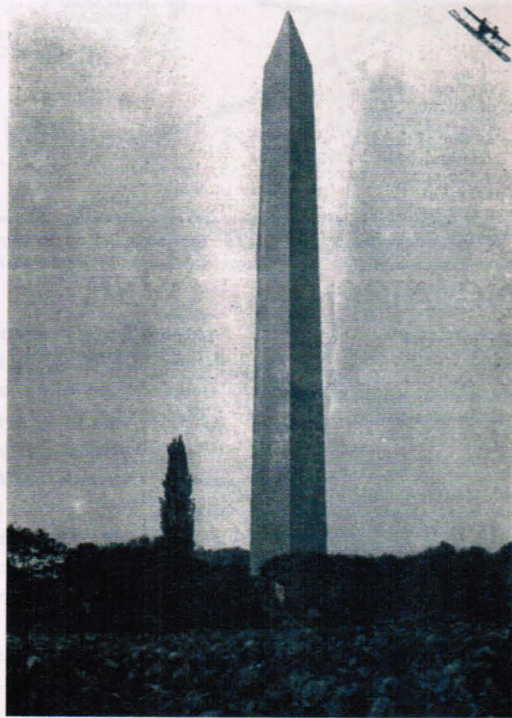
Beachey feigned insult. "That was no crash," the sky master said, proudly putting his hands on his hips. "I always land that way."

Beachey loudly let it be known, "If I had had a bomb, you would be dead. You were defenseless. It is

time to put a force in the air."

The editors of *Aero and Hydro*, the country's leading aviation voice, lauded Beachey's aerial demonstration as a heroic act that had forced the government to recognize the necessity of its involvement in the new technology of aviation.

While Beachey's flights were unofficially "official," Aero and Hydro cannot but believe that American aviation has been given a distinct impetus that will be incalculable in its benefits. Such a forceful and practical demonstration before the members of our Congress cannot fail [to be] of great good to all directly or indirectly concerned in our great aeronautic movement and we venture the prediction that its future stability is marked from this event. When the heads of the fighting men of the country and their staffs, and the senators and congressmen exhibit the enthusiasm we could not help but witness after the flights, when the Capitol is set all agog on the subject of aviation and evidences of greater military and naval aero activity



Beachey flies upside-down past the Washington Monument, September 26, 1914. All of Washington was "set all agog" by the "world's greatest aviator."

LINCOLN BEACHEY

immediately blossom forth, we cannot help but extend our best congratulations to Lincoln Beachey, "the agnostic of rational flying," so often falsely decried as a distinct menace to the science of flight, on his brilliant work and his magnanimous cooperation in this effort to wake up the country to things aviatic and create a demand for meritorious "made-in-America" aeronautic products.

Many lawmakers sent expressions of gratitude to Beachey, saying he had opened their eyes to the development of air power. Congress proposed that San Francisco be the site of the first governmental aero post in America under the direction of California's premier aviator. Beachey was honored by the proposal, but having already committed himself to headlining the upcoming World's Fair, he declined the position. Still, the die had been cast, and Congress at last began to appropriate a significant number of dollars to the creation of a force in the air.

The cynics who for years had called Beachey "crazy" and "dangerous" were silenced by the government's recognition of his aeronautical genius. Many of the country's top aviators endorsed his stalwart leadership, and newspaper editorials everywhere gave him unparalleled accolades. An editorial from a St. Louis paper summarized the public's sentiment toward America's most popular hero:

When a person talks aviation or aviators, 90 people out of every 100 instinctively say, "You know, I saw Beachey at such and such place," or "Did you ever see Beachey fly?" Why is it that Beachey is unique in being uppermost in the minds of everyone whom sky flying is talked of? Why is it today that Beachey is the only aviator in

North America who can play any type of city or town and, unaided, pack the parks and tracks and grandstands to suffocation? The principal reason is that Lincoln Beachey is to aviation what Marshall Field's is to the dry-goods trade, what the Imperator is to the shipping world, what Richard Mansfield was to the American dramatic stage. He is the big, central figure. In the esteem of the public, he stands alone. A serious accident to Beachey would wound the people of America more deeply than Beachey would hurt. There is genuine affection for him in the hearts of the American people. He is our standard, as far as aviation is concerned. Long may he wave. People no longer hold up Wright or Curtiss as examples of greatness in the mastery of the sky. This is a Beachey age. If Lincoln Beachey was flying from one park and twenty-four other aviators were flying in unison in a park across the street, the public would flock to see Beachey perform. It has been proven time and time again. Beachey did not achieve his present prominence or vogue without the hardest kind of struggle. He served a cold apprenticeship. But he was brave, unassuming, persistent. He was both a dreamer and a realist. He dreamed the "loop" five years ago, and when he told Glenn Curtiss and Bleriot

and the other world figures of aviation of his ideas, they laughed at him. Then, Pegoud, at Marseilles, France, performed the "loop" and astonished the scientific world. Out of his retirement came Beachey, and in four months he not only turned the first "loop" in America, but did Pegoud "one better." Then he perfected his "death drop," falling from the clouds from 5,000 feet with a dead motor, throwing the machine over and flying upside-down. It took him three months to perfect the "death drop." In that three months, he could have filled his purse by playing two scores of exhibitions and depending on his trick flying and "looping" for drawing cards. But Beachey does not figure time or money as opposed to being in a class by himself. He stayed at the San Diego Aviation field for months and perfected this drop, and when he came east last May, he was in a position to present a program which since that time has thrilled millions all over the eastern states, and which has more firmly than ever established him as the greatest aviator the world has ever known.

So what happened? With stature far surpassing his contemporaries and, even later, Lindbergh, the name of Lincoln Beachey fell into obscurity. Why or how did it happen?

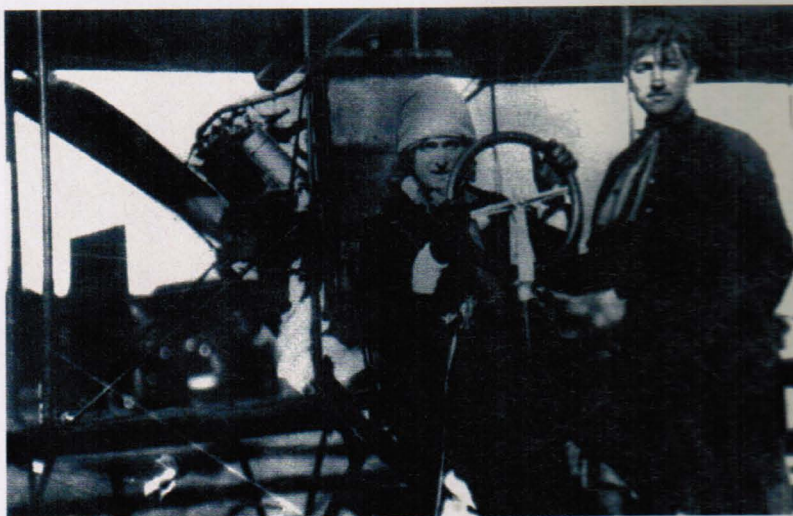
The reasons are many: first, Beachey suffered the genius's misunderstanding and was not given full recognition until near the end of his life; for years, he fought the "crazy fool" label:

Well, listen. The people demanded thrills in the first place. I was never egotistical enough to think that the crowds came to witness my skill in putting a biplane through all the trick-dog stunts. There was only one thing that drew them to my exhibitions—the desire to

see "something happen"—meaning, of course, my death. They all predicted that I would be killed while flying, and none near wanted to miss being at the death if they could help it. They paid to see me die. They bet I would, and the odds were always against my life, and I got big money for it.

Beachey's most infamous weakness was "too many women." He had a girlfriend in most major American cities and in many larger towns as well. In those days, sex was out of the question unless you were at least engaged to be married. To maintain some social face, Beachey literally bought diamond engagement rings by the dozen; he always kept one in his vest pocket, in case the need arose. (He eventually met his match, however, in Merced Walton and was truly engaged to be married.) Beachey's free sexuality did not exactly mark him for posterity.

His biggest blunder in this regard was the lousy timing of his death. The nations of the world had gathered for the World's Fair in Beachey's hometown of San Francisco and were to present him with a gold medal for his contributions to aviation when, on his demonstration flight, the wings of his new plane



To hide his identity, Beachey would sometimes fly in "drag" as Madame Lavaseur. Using this gimmick, he flew outrageously, creating a wild aerial comedy that thrilled millions.



During a flying exhibition in his newly built, but not fully flight-tested experimental monoplane, the wings collapsed at the bottom of a vertical dive. Beachey survived the 200mph impact with the water but was unable to free himself from the cockpit and drowned in San Francisco Bay.

folded backward at the bottom of a dive and he smashed into San Francisco Bay at somewhere near 200mph. He survived the crash but was trapped in his machine (evidenced by a struggle to get free) and drowned in front of a quarter of a million people.

Beachey's death was world news. San Francisco's phone system was jammed for 24 hours, and the news flashed on movie screens all across America. The mayor of San Francisco, "Sunny Jim Rolph," personally took care of all arrangements for what was said to be the largest funeral in San Francisco's history. Thousands lined the streets, members of the prestigious Olympic Club (of which Beachey was a member) carried the casket, and "the greatest of them all" was buried just at the outset of WW I. His grand memorials were to be delayed until after the European skirmish had been brought under control. Well, the skirmish became WW I, and five years went by before the first official Beachey memorial took place (they then went on for years). The name of the San Francisco airport was originally pro-

posed to be "The Lincoln Beachey Memorial Flying Park." Thousands came to the yearly memorials; the President sent telegrams; Col. Hap Arnold was master of ceremonies; ace and war hero Eddie Rickenbacker flew the plane that dropped Beachey's favorite flowers—pink roses and credited Beachey for the foundation of dog-fighting. But in the shadow of the new war heroes, the rascal genius was easily forgotten. The transatlantic flight of Charles Lindbergh gave the aviation-hero business a fresh face. Then the Great Depression and another world war pushed the name of Lincoln Beachey into relative obscurity.

America forgot one of its greatest heroes. A superstar and true pioneer of gigantic proportions fell like a meteor from public consciousness even though many books acknowledge him as the greatest of all the early aviators. Many museums and aviation historians likewise acknowledge him as the "father of aerobatics," but until recently, Lincoln Beachey remained mainly in his grave. †

"Lincoln Beachey: The Man Who Owned the Sky," by Frank Marrero, is a highly praised, well-written, fast-paced biography of the "greatest aviator of all time." Copies can be obtained through the publisher: Scottwall Associates, 95 Scott St., San Francisco, CA 94117; or if you would like an autographed copy, visit the author's Web page at www.FrankMarrero.com. You may even request a dedication.

The Resurrection

Frank Marrero's biography, "Lincoln Beachey: The Man Who Owned the Sky," has been well received and highly praised.

On March 15, 1998, "Beachey Day" as it had long been known in the City by the Bay, was again celebrated in San Francisco. The Coast Guard blocked off a half square mile of the Bay as Half Moon Bay's Eddie Andreinni re-created a Beachey airshow in his 1939 Stearman biplane. Down at the marina (on the east end of Crissy Field), Mayor Willie Brown anointed with champagne a plaque dedicated to Lincoln Beachey and announced that Lincoln Beachey Plaza would be built. Antique airplanes flew by, dropping Beachey's favorite pink rose petals.

There is a petition for Lincoln Beachey's likeness to be on a U.S. postage stamp. Endorsed by U.S. Senator Barbara Boxer, San Francisco Mayor Willie Brown, the Director of the Smithsonian Air and Space Museum and thousands of historians and flight enthusiasts, the petitioners are presently gathering names. If you would like to support this, please write to the Citizen's Stamp Advisory Committee,



Lincoln Beachey during a happy moment of his short life. This never-before-published photo comes from the private collection of Mrs. Frank Carroll.

USPS, 475 L'Enfant Plaza SW, Room 4474EB, Washington, D.C. 20260-6756, and send a copy to Beachey Stamp, P.O. Box 594, Nicasio, CA 94949.

Now is the time, if you are interested in any degree, to write a letter to your

congressman —Lincoln Beachey

The Hiller Museum (www.hiller.org) of Northern California Aviation History (just eight miles south of San Francisco Airport at the San Carlos airport), is California's newest and largest aviation museum. This world-class facility features Lincoln Beachey's Little Looper and probably the largest collection of Beachey material in the world. And while you are in the area, visit Beachey's grave in nearby Colma; it's in the last of the great Victorian graveyards—the breathtaking Forest Lawn Cemetery.

When we remember the past and honor our forerunners, we inherit their strength, wisdom and power. History's estate is given to those who honor their foundation. Write to the Postmaster General about the Beachey stamp, tell your local library about the Beachey book and, if you can, visit the Hiller Museum and lay a pink rose on Beachey's grave. Then our forgetting of this aerial giant will be over, and whoever does the work of remembrance will breathe in a great pleasure.

The random, non-ascribed quotations in this article were all taken from "Lincoln Beachey: The Man Who Owned the Sky," by Frank Marrero.