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88th Observation Squadron, September, 1918. U.S. Air Service.

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Lt. Baz Bagby first row, sixth from left.

➤ INTRODUCTION ◀

IN OCTOBER 1919, a spectacular event took place across America. The round-trip race of 59 World War I planes with open cockpits and no parachutes began simultaneously on Long Island and in San Francisco with 22 predetermined stops. Few people know of the race today, but at the time it was followed closely by the press with front-page headlines announcing who was ahead, who was missing, who made an unexpected emergency landing, who crashed, and who fell victim to blinding snowstorms.

Many of the pilots were World War I heroes, having risked their lives just months earlier in the skies of France over German-held territory. They welcomed peace and knew they were lucky to be alive, but life seemed dull without the constant challenge of battle. The Transcontinental Air Race provided a new challenge. It was the brainchild of Brig. Gen. William (Billy) Mitchell, whose goal was to demonstrate to Congress and the public the capabilities of the U.S. Army Air Service. For Mitchell, the Air Race was a first step in publicizing the capabilities and advantages of a well-equipped air fleet, able to defend the country in a future war.

The Air Race provided good casting: dashing pilots in their regulation leather helmets and jackets, riding breeches, knee high boots, and for some a silk scarf. They were colorful personalities to follow in the newspapers. Lt. Belvin Maynard, known as “the flying parson” because he left the pulpit to fly in the race, was accompanied by his dog, Trixie. Lt. Dan Gish, wounded in the war, checked himself out of Walter Reed Hospital in order to participate. On the first day his plane caught fire, but undaunted, he continued in a different plane. One lieutenant left at the halfway point to fly to his alma mater’s football game. And a major was involved in a highly publicized argument over whether he or a lowly 2nd lieutenant had arrived in Long Island first.

The race takes its place in American aviation history, which began with balloons and gliders and reached an apex with the achievement of the Wright brothers in 1903. Before the U.S. entered WWI in 1917, courageous (or foolhardy) “barnstormers” began thrilling onlookers with their aerobatic displays, typically taking off from farmers’ fields. Early barnstormers, sitting upright in front of the motor and exposed to the elements, took risks flying over Niagara Falls, buzzing the White House and flying upside down past the Washington Monument. There were so many fatal crashes that when the U.S. entered World War I, there were few original barnstormers still alive to join the U.S. Army Air Service. Nevertheless, the “sport” continued after WWI.

Planes were modified during the war. The practice of throwing bricks or grenades at an opponent in flight, for example, was replaced by stationary guns for both the pilot and the observer, whose seat faced in the opposite direction so he could train his rearward-firing guns at a pursuing enemy. The U.S. declared war in April 1917, but playing catch-up, the U.S. Army Air Service was not ready for combat until a year later. It was an American, the young, nattily dressed Brig. Gen. Mitchell, who hastened the war’s end in November 1918 with his brilliant air strategy.

There was no easy transition to peacetime in 1919. It was a tumultuous year, and the Air Race in October was a welcome diversion for a nation unable to provide enough jobs for returning soldiers, racked by disastrous race riots, absorbed by a fear of Bolshevism on America’s shores, and concerned by a multi-state steel strike. For those who sought alcohol to wash down their disappointments, there was frustration over the passage of Prohibition.

The Transcontinental Air Race, in addition to providing sensational headlines and entertainment for children who were let out of school to see an airplane for the first time, led to important safety improvements. The race demonstrated that many of the airfields were not safe, and exposed other problems, including aircraft defects, some of which could be rectified. It did not lead, however, to the immediate fulfillment of Brig. Gen. Mitchell’s dream of an independent Air Force.

Due in part to the number of crashes and deaths during the Air Race, Congress was not forthcoming with financial support, and neither the government nor the public was interested in anticipating the idea of another war. Today, we can understand the resistance of the older military brass to an independent air force. They had been trained in the importance of the cavalry, and could not accept that airplanes could do a better job of reconnaissance, much less take an active role in defending the country or leading an attack on the enemy. Mitchell's personality got in the way of his message, culminating eventually in his court martial and conviction for insubordination in 1925. The U.S. did not have an independent air force until 1947, 11 years after Mitchell's death. Its first Chief was an Air Race pilot, General Carl Spaatz.

LOST:
ONE AIRPLANE, TWO PILOTS

*T*HE GREAT TRANSCONTINENTAL Air Race of 1919 began simultaneously on October 8 from two coasts. Forty-four planes left Long Island on October 8 bound west for San Francisco, while 15 planes from San Francisco headed east toward Long Island. Most of the planes were American-made de Haviland-4s (DH-4s), two-seated biplanes that had seen service in WWI. Others included five captured German single-seated Fokkers and seven single-seated British fighters, the SE-5. The bicoastal event was headlined in newspapers all across the United States. Reporters found plenty to write about as planes crashed, pilots lost their way, and seven contestants died.

On the third day of the Air Race the telegraph operator in Chicago was among the first to transmit the dire message: "Plane #14 is missing." The plane had made the five required stops since leaving Long Island two days earlier and had been last seen in Bryan, Ohio, as it departed for Chicago on the afternoon of October 10. Before it left Bryan, the pilots were warned of dangerous weather, with fog and rain in Chicago, but chose to fly anyway.

The plane was a de Haviland-4 with two open cockpits and a Liberty engine, able to reach a speed of 128 mph. It carried no parachutes, no flares, and no way to communicate with the ground or fellow airmen in the sky. Pilots of DH-4s were warned not to fly in heavy rain, which could cause serious damage to the wooden propeller. After the second day of the race there had been five crashes involving four deaths. A missing plane was therefore of great concern.

The pilot of plane #14, Lt. Col. John N. Reynolds, and his copilot,

my father, 1st Lt. Ralph B. (Baz) Bagby, were both veterans of the Air Service in France in WWI, winners of the Distinguished Service Cross and heroes of the war. Both believed that their experience flying in bad weather in France and Germany prepared them to fly to Chicago in spite of the fog and rain. During the war Reynolds had been commander of the 91st Observer Squadron of the U.S. Air Service, while Baz had flown 111 missions across enemy lines as an “observer” with both the French and the 88th Observer Squadron of the United States Air Service. Observer squadrons were particularly selected for attack by German aircraft because of the crucially important work they did. While the pilot maneuvered the craft over enemy territory, the observer carried out valuable reconnaissance, recording troop movements, taking photographs of the location of trenches, battery emplacements and airfields, as well as strafing the enemy on the ground with his Lewis machine gun and firing at the planes pursuing them.

By the time of the Air Race, Baz Bagby had acquired his pilot’s rating, but he had only 57 hours of stick time. He more than made up for this meager piloting time with his precise mechanical and navigational skills and familiarity with the DH-4. His confidence and sense of humor were added assets. Each of these traits was needed as early as the second day of the race, when he and Reynolds experienced a forced landing in a farmer’s field in Pennsylvania, resulting in broken landing gear and a damaged propeller. They eventually limped into Cleveland, exchanged the propeller for a new one and made some minor repairs, readying for their flight to Bryan, Ohio, the following day.

Baz and Reynolds rose at 4 a.m. on October 10 and prepared the plane for a 7 a.m. takeoff. They were hoping to fly from Cleveland to Bryan and on to Chicago and Nebraska. But the flight to Bryan took longer than expected, and at the Bryan airfield they were held up by a wire from Chicago saying not to proceed because the field was covered in water. Another wire announced a substitute landing field would be readied at Grant Park, a public park on the edge of Lake Michigan. The visibility in Chicago was reported to be poor, but as Baz later wrote, they were told to “come ahead if we wanted.” Of course they wanted—they

were in a race to win. Nonetheless, just half an hour after they left Bryan, the wind increased to a dangerous level for the small plane. Undeterred, they tried to maneuver around the storm, eventually heading north instead of west, but they couldn't escape it. Now, dangerously off course and headed in the wrong direction, they realized they had a choice: turn back or fly west over Lake Michigan to Chicago and make up for lost time. Even if the weather changed, the route over the water would be precarious, so they decided to turn back, find their originally intended route and fly into Chicago as planned from the south. On returning to their flight path, however, Baz wrote that they encountered "very low fog and another heavy rain." Over the small town of Buchanan, still on the Michigan side of Lake Michigan, they realized they couldn't make it to Chicago, and needed to descend for an emergency landing.

Baz, from his seat behind the pilot, had a better view of the ground than Reynolds, and directed him to a newly planted wheat field. As Reynolds came in for the landing he felt a slight rocking from side to side. Was it a shift in the wind? Were there problems with the rudder? He certainly didn't need any distractions. Both men were soaking wet in their open cockpits and exhausted from the strain of the last two days. Reynolds' hands ached from clenching the stick against the force of the wind. He would need all of his skills to land the plane if there was mud on the ground. They both knew the dangers of landing a DH-4 in the mud—the wheels, unable to roll, would stick like glue to the ground, causing the plane to nose over. The inadequately secured fuel tank just behind the pilot could break loose, crushing the pilot against the engine.

Leaning out of his open cockpit, trying to see through the mist and rain, Baz could see what Reynolds couldn't—the farmer's field awash in mud. The rocking continued, even stronger, putting the plane and both men in additional peril. Baz crawled out of his cockpit and worked his way back along the fuselage toward the rudder so that his body would act as a counterweight to the nose of the plane. This desperate maneuver had already caused the deaths of two airmen en route from San Francisco to Utah, and that same day would kill another in New York.

Why would men risk their lives to win this race?

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A NEW KIND OF GULL IN NEW YORK HARBOR

AIR PIONEERS:
THE THRILL OF DANGER

TAKING DANGEROUS RISKS in the air did not begin with the 1919 Air Race. In the 18th century, balloonists were soaring to great heights in untethered multi-colored balloons. Benjamin Franklin, U.S. Minister to France in 1783, was an invited guest to witness the take-off of the first successful manned hydrogen balloon flight from the Bois de Boulogne on the outskirts of Paris. Ten years later President George Washington gave a signed “passport” to French balloonist Jean-Pierre-Francois Blanchard, who launched his balloon over Philadelphia in 1793. The passport instructed that wherever he landed he should be treated with “good will which may render honor to their country.”¹ The balloon floated to a height of 5,000 feet, crossed the Delaware River and landed in Woodbury, New Jersey, less than 10 miles away. The flight lasted 46 minutes. The farmers were puzzled when handed the passport, but were impressed by Washington’s signature.

The English Channel was crossed by a balloon in 1785, so in 1844 it seemed plausible that a balloon could cross the Atlantic. The *New York Sun* on April 13, 1844, carried a story that had been sold to the editors as a “first hand report.” The headline screamed: “The Atlantic Crossed in Three Days.” The account explained that the feat was accomplished by a large, elliptical silk balloon secretly designed and built in England to transport passengers across the English Channel. Inflated by 40,000 cubic feet of coal gas, it was steered by a three-foot rudder/stabilizer. Under the balloon was a four-foot-deep wicker basket for

FACING PAGE: Wilbur Wright over the Hudson River, September, 1909. San Francisco Library.

eight standing, passport-carrying passengers. Hanging above the basket were items to keep the passengers comfortable: "water casks, cloaks, carpetbags...a coffee warmer." The balloon lifted off from north Wales bound for Paris on a foggy morning in April and rose rapidly, but a strong wind blew pilot and passengers in the wrong direction, over the Atlantic. Having no other choice, they headed for America. The second day out the wind decreased and the balloon ascended to 25,000 feet. When the travellers eventually saw the coast of South Carolina, they descended. The writer exclaimed: "This is unquestionably the most stupendous, the most interesting, and the most important undertaking ever accomplished or even attempted by man."

Two days later the newspaper retracted the story. It had been a clever hoax perpetuated by a penurious Edgar Allen Poe. The editors covered their embarrassment by adding to the retraction, "We by no means think such a project impossible."

Nevertheless, balloons had a practical purpose as early as the French Revolutionary Wars, when tethered balloons were used for reconnaissance. During the Civil War both the North and the South used manned, tethered, gas-filled balloons for knowledge of troop placements. Above the range of artillery fire at 1,000 feet the crew could send messages by telegraph or signal flags to the commanders below. Balloons continued to play a part in reconnaissance on the frontlines in France during WWI.

The precursor to maneuverable manned flight was the semi-steerable glider. An early air pioneer, Otto Lilienthal of Germany, was the first to popularize and suggest the possibility of heavier-than-air flight. He constructed over 2,000 gliders of his own design, many with ingenious, fantastical, eye-catching wings, and guided their direction by moving his body. Neighbors and townsfolk watched him taking off from natural steep hillsides or from a 49-foot hill that he created. He died on one of his experimental flights in 1896.

Four years later, two determined and brilliant brothers, Wilbur and Orville Wright, tried their own luck to get a controlled glider to fly. From their bicycle repair shop in Dayton, Ohio, they had designed a speedy bike, but their heart was in creating a manned craft capable of

flight. For their experiments, they would need wind for uplift, grass or sand for soft landing, and privacy, far from the prying eyes of those who might want to copy their ideas. They found the perfect spot at Kitty Hawk on the desolate Outer Banks of North Carolina, with its consistent winds, long stretches of sandy beach, and few residents. They spent the fall months there from 1900 to 1903.

Meanwhile, another designer, Samuel Langley, head of the Smithsonian Institution and a well-respected astronomer and physicist, was working on a catapult design for his tandem-winged Aerodrome, and prepared to launch it in October 1903. Patterned on a model he had built in the 1890s which had crashed in the Potomac River, Langley was nevertheless able to raise \$50,000 from the U.S. Army and a lesser amount from the Smithsonian, providing him the time and funds to have his design produced again. Launched with a catapult, which pulled rather than pushed the plane, it took off from a houseboat in the Potomac River and crashed in the river on its first flight in early October. After repairs, it crashed again in the river on December 8. Fortunately, his pilot survived. Finally, in 1915, the catapult design was successfully used by the U.S. Navy from a moving ship.²

On December 17, 1903, just nine days after Langley's Aerodrome fell in the Potomac the second time, the Wrights were ready to try a powered flight with an engine designed and built in their bike shop in Dayton. The plane was "whittled out of hickory sticks, gummed together with Arnstein's bicycle cement, [and] stretched with muslin they'd sewn on their sister's sewing machine in their own backyard on Hawthorn Street in Dayton, Ohio."³ The winds were 20–25 miles an hour. Orville and Wilbur took turns lying on the lower wing as the craft flew, each staying airborne for seconds. The last and most successful flight of the day was flown by Wilbur and lasted just less than a minute. They were elated, and sent an enthusiastic wire home to Dayton. Unbelievably, little attention was paid to their success.

By 1905 Wilbur was flying, unannounced, around the 48-acre Huffman Prairie near his home, making the tour of 24-1/2 miles in 39 minutes. Passengers taking the *Springfield and Urbana* interurban elec-

Form No. 123.
THE WESTERN UNION TELEGRAPH COMPANY.
 INCORPORATED
 23,000 OFFICES IN AMERICA. CABLE SERVICE TO ALL THE WORLD.

This Company TRANSMITS and DELIVERS messages by radio-telegraph, cable, or by land, which have been accepted by the sender of the following message, in accordance with the provisions of the Act of Congress, approved March 3, 1902, and the Act of Congress, approved July 1, 1903, and the Act of Congress, approved July 1, 1904, and the Act of Congress, approved July 1, 1905, and the Act of Congress, approved July 1, 1906, and the Act of Congress, approved July 1, 1907, and the Act of Congress, approved July 1, 1908, and the Act of Congress, approved July 1, 1909, and the Act of Congress, approved July 1, 1910, and the Act of Congress, approved July 1, 1911, and the Act of Congress, approved July 1, 1912, and the Act of Congress, approved July 1, 1913, and the Act of Congress, approved July 1, 1914, and the Act of Congress, approved July 1, 1915, and the Act of Congress, approved July 1, 1916, and the Act of Congress, approved July 1, 1917, and the Act of Congress, approved July 1, 1918, 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 home ~~ph~~ Christmas . Greville Wright BRDP

Orville Wright's telegram of success to his father, December, 1903.

and motorcycle racer from Hammondsport, New York, was also trying his hand at manned flight with his own engine and a new wing design. He was working with others, including Alexander Graham Bell. In contrast to the Wrights' secretiveness, Curtiss announced in 1908 that he would be flying a heavier-than-air flying machine, *June Bug*, on July 4th from a race track at Stony Brook Farm, just two miles outside of Hammondsport. Sponsored by the Aero Club of America, the event drew a crowd of 1,000 people who arrived by bicycle, motorcycle, and horse and buggy. Aeronautical experts and the press were on hand. The day dawned windy and wet, clearing by late afternoon. On his second try Curtiss, sitting in front of the engine clutching what looked like an upright bicycle wheel, kept *June Bug* aloft for one minute and 45.2 seconds, a paltry runner-up to the 39-minute unpublicized flight of the Wrights' machine three years earlier. Nevertheless, "pandemonium broke loose among the crowd." He received the *Scientific American* trophy for the first public flight in America. In 1908 Curtiss entered and won the First International Air Meet in France and began demonstrating his craft in front of awestruck crowds in France and the United States.

Once his patent was secured, Wilbur Wright, not to be outdone, followed suit by participating in air shows, setting records in distance and duration, and was celebrated in Europe and the U.S. by adoring throngs. His first public flight was in France on August 8, 1908, just a month after Curtiss's *June Bug* flight. By then the Wrights had acquired

tric railroad would occasionally see the Wrights in flight from the train windows. Then the Wrights stopped flying in order to protect the details of their plane before it was patented or sold. They didn't fly again until 1908.

Meanwhile, Glenn Curtiss, a bemedaled bicycle

a patent for their design from the U.S. as well as several European countries and a signed contract with the U.S. Army and a French syndicate to sell Wright-designed planes. In 1908 the Wrights sold the Wright Flyer to the Army for \$30,000. It was followed by a new design, the Wright Military Flyer, the following year, which was also purchased by the Army.

In 1909 both the Wrights and Curtiss were invited to participate in a 300-year celebration of the discovery of the Hudson River by Europeans. Curtiss declined on the day of the event because of the wind, but Wilbur Wright flew a round trip above the Hudson River between Governor's Island and Grant's Tomb and circled the Statue of Liberty in 33 minutes, a 20-minute flight today. The wary Wilbur had attached a 60-pound red canoe underneath the fuselage and carried a life preserver, just in case.

Both the Wrights and Curtiss created paid flying teams to perform at air shows and competitions. The more daring pilots began doing highly dangerous tricks. During a 10-day aviation carnival in Salt Lake City in April 1911, both teams were invited to participate in a race and to perform aerial maneuvers, including diving toward the ground and pulling up two feet from the field. However, a crowd of 12,000 was most thrilled when Curtiss flew his new invention, a seaplane. The Wrights discontinued their exhibition team that same year; six of their nine team members had perished in crashes.

In 1909 the Aéro Club de France issued Aviators Certificates to Glenn Curtiss and the



Glenn Curtiss sitting upright in his early plane. National Air and Space Museum, Smithsonian Institution.

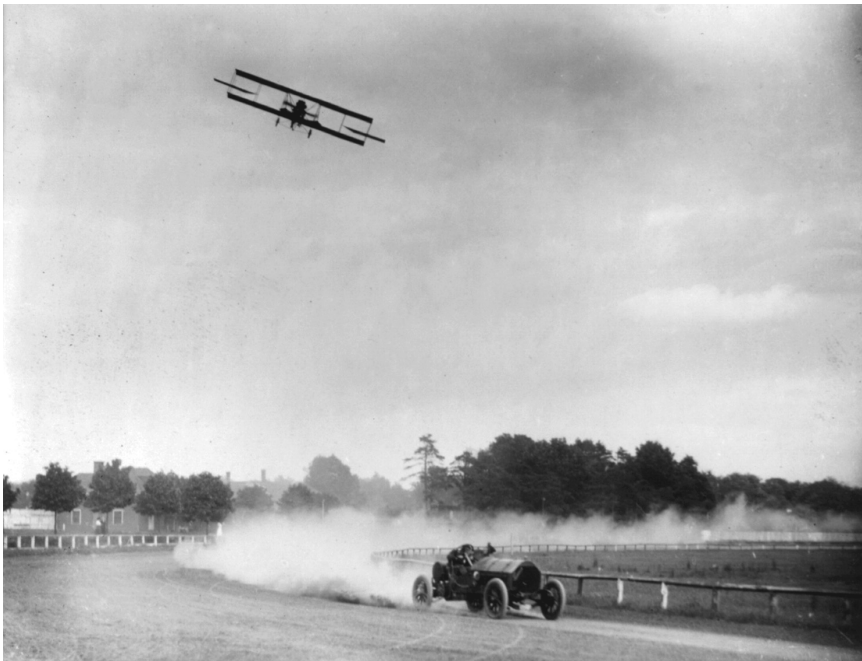
Wrights. The Aero Club of America issued its first pilot licenses about the same time. Glenn Curtiss was the first on their list while the Wright Brothers received honorary licenses. It also issued pilot licenses for seaplanes and balloon and dirigible operators. The Wright Brothers set up a school in France to train pilots, followed by schools in Maryland for Army Signal Corps officers, a civilian school in Alabama, and eventually, the Wright Flying School in Dayton. Many of their students would fly in their exhibitions. Curtiss followed suit a year later with schools in Hammondsport, New York, and San Diego. Curtiss also offered to teach Army and Navy pilots for free.

In its early days, flying remained a sport with little sense of a practical application. As a sport it was particularly attractive to motorcycle riders, who found flying both faster and more dangerous than their land-bound bikes. The original seat of the early planes, as in the *June Bug*, was constructed so that the pilot was in front of the wings, clutching an upright steering wheel, fully exposed to the weather. At first, the challenge to the pilot was to fly higher or longer. Prizes were awarded, making each event a competition. In 1911, a 27-year-old motorcyclist, Weldon Cooke from Oakland, California, was the first to respond to a \$1,000 prize offered by the Mill Valley and Mt. Tamalpais Scenic Railway Company to a pilot who would fly over the 3572-foot Mt. Tamalpais, north of San Francisco. The prize was later withdrawn because the flight was considered too dangerous. Undeterred, Cooke took up the challenge anyway. From the air over Berkeley, he dropped a letter to the President of the University of California, where he had been a student. This "air mail" letter was an early suggestion of a practical application of air flight. Cooke reached the summit of the mountain, but encountering wind and fog on the way to San Francisco, he changed his plans and descended 3,000 feet. Losing power, he slowly circled down to the village of Mill Valley and landed safely in a muddy area near what is today Sycamore Park.

Pilots who flew risky aerial demonstrations at county fairs or in farmers' unplanted fields came to be known as barnstormers. They were attracted by the financial awards, the thrill of danger, and the

adulation of the crowds. It is said that some of the crowd came to see the fatal accidents which might occur as the pilots tried flying upside down, doing loops, barrel rolls, and even walking on the wings. In 1913 Weldon Cooke died in such an event: flying on a vertical bank in a canyon, he hit a downdraft and couldn't get his plane horizontal again—just days after he had promised his mother he would give up flying.

The same year that Weldon Cooke responded to a \$1,000 offer to fly over Mt. Tamalpais, Calbraith (Cal) Rodgers, another aspiring aviator, found a \$50,000 offer by William Randolph Hearst too irresistible to ignore. Hearst's challenge was to fly across the country in 30 days – the first transcontinental flight, an unheard-of proposition. Rodgers, also an auto racer, had more flying experience than Cooke, including flying lessons from Orville Wright. Rodgers was deaf but he didn't let that inhibit his competitive spirit; he talked the Armour Meat Packing Company into sponsoring him, agreeing to advertise their soft drink

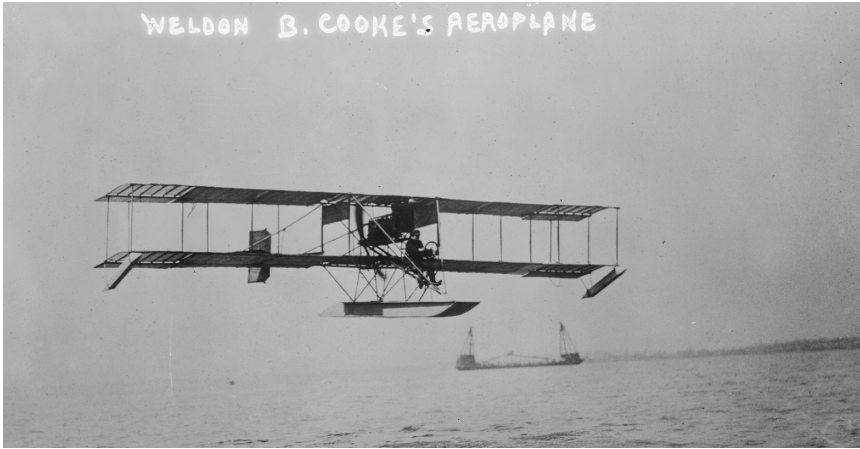


Lincoln Beachey racing Barney Oldfield, famous race car driver, in 1912. Library of Congress Prints and Photographs Division (ID cph.3b18665).

"Vin Fiz" on his plane's rudders and wings. And the plane? A specially designed Wright flyer, model EX, a biplane with two eight-foot pusher propellers (pusher propellers were behind the engine). His seat was located at the front just under the wings. Armour financed a three-car train that would follow Rodgers, containing a touring coach and a baggage car with parts that a specialized mechanic could use if there were any problems – and of course there were. Rodgers left Long Island on September 17 dressed in a business suit over sweaters, and travelled 104 miles to Middletown, New York, in two hours. His problems began the next day at take-off when he hit a tree and crashed into a chicken shed. It took three days to set his plane aright. Accidents unfortunately became the norm, with Rodgers experiencing broken bones and broken planes, but not a broken spirit. When it became obvious that he could not complete the trip in 30 days, he continued on, still following the train tracks (with a few mistaken detours on other lines) that would take him to the west coast. When he arrived in Pasadena there was a crowd of 20,000 to greet him, and 50,000 when he made it to the ocean at Long Beach after 84 days. (There was a month's delay between Pasadena and Long Beach after a serious crash in which both plane and pilot had to be repaired.) The plane had been mangled so many times that when he finished he only had "...one rudder and a single wing strut remaining from the original aircraft..."⁴ This brave and determined man died four months later in a flying accident at Long Beach thought to have been caused by a flock of seagulls, one of which was found in the rudder of his wrecked plane.

On the west coast, another pilot had his eye on the Hearst prize. Robert G. "Bob" Fowler, flying a Wright Flyer Model B (the same as Rodgers), made his first attempt from Golden Gate Park in San Francisco and crashed 138 miles away in Colfax, CA. His second attempt from Los Angeles was successful but it took almost four months, so he too, missed out on the prize.

Women were also eager to display their aerial skills. Journalist Harriet Quimby was the first woman to receive a pilot's license in the U.S. She learned how to fly at Moisant School of Aviation on Long



Weldon Cooke's seaplane, 1913. Library of Congress Prints and Photographs Division (LC DIG-ggbain-13387).

Island in 1911. Other firsts in one year's time included Harriet being the first female to fly at night and the first woman to cross the English Channel. Described as "vivacious," "slim," and "beautiful," she wore a stylish purple satin flying outfit with knee high boots—certainly another first. She died in 1912 at a Boston Aviation event flying a French Blériot XI 1912 which crashed for no known reason. Katherine Stinson, the fourth licensed female pilot in America, was nicknamed "The Flying School Girl" because she looked like a teenager. Stinson was skilled at aerial feats such as the loop-the-loop. After being turned down by the Air Service in WWI because she was a woman, she nevertheless was determined to do her part in the war and became an ambulance driver for the Red Cross in France.

Barnstorming was even more popular in the 1920s, and women continued to participate. Bessie Coleman, of African American and American Indian heritage, grew up in a sharecropper's family in Texas, one of 13 children. In 1916, at age 23, she began working as a manicurist in the White Sox Barbershop in Chicago, where after the war she heard the firsthand stories of returning pilots. Inspired, she was determined to pursue a flying career. Although she was turned down by flying schools in America, she enrolled in Berlitz to learn French, and in 1920 left for



Barnstormer Lincoln Beachey over Niagara Falls, 1911. Library of Congress, Prints and Photographs Division (LC-USZ62-5840).

France, where she received her pilot's license. Back home, she soon realized that if she wanted to support herself it was best to become a barnstormer, so she returned to France and Germany for further instruction, came home and took up barnstorming, doing figure eights, loops and near-ground dips. She became a sensation, was billed as Queen Bess, and then died in 1926 when the Curtiss Jenny plane she was flying went into a dive, caused by a wrench caught in the engine of the plane.

In the 1920s some barnstormers were walking on wings from plane to plane, hanging on the wings and doing handstands on the wings. They made most of their money by charging for rides, but this entertainment lost its allure with the Depression. The most spectacular pre-war barnstormer, Lincoln J. Beachey, originally helped to design and fly dirigibles. On his first flight (1911) in a Curtiss plane, he found himself in a dangerous downward spin. Choosing a counterintuitive response, he pushed the stick forward and turned into the spin, which enabled him to survive to do that trick and many others for fame and financial rewards. That same year he flew 20 feet over Niagara Falls and under Honeymoon Bridge just above the rapids. He was the first to do figure eights and the vertical drop. In one stunt he raced a train and touched

his wheels on the top of it. In another, repeated many times, he raced against Barney Oldfield, a well-known race car driver, as people placed bets on who would come in first. In a real race, Beachey would have won every time, but he and Oldfield worked out who would win, so that crowds kept returning to bet on the outcome. In 1914 Beachey buzzed the White House. President Wilson, looking up from his desk in the Oval Office, could clearly see Beachey heading straight for him before Beachey changed direction and flew upside down past the Washington Monument. Next was the Capitol, where people rushed out to the Capitol steps to see him. His awesome feats were described in newspapers, magazines, and newsreels, and he performed at the Panama Pacific International Exposition in San Francisco in 1915. There, sadly, at an aerial demonstration before 50,000, he attempted a dangerous maneuver in his new monoplane. The wings fell off and he fell to his death. Another stunt pilot, Art Smith, took his place at the exposition.

Barnstorming continued, almost as if each new participant looked for a crazier and more dangerous trick to entrance the crowd. In 1917 Lomer Lockyear first walked on a wing while he was in flight in order to screw a loose cap on a radiator. He then incorporated wing walking as part of his routine. Pilots were making money. They typically worked alone and usually charged \$5 to take someone up in the air. They spent the night at a farmer's home "under a wing or in a hammock strung between the struts."⁵ Some pilots did their exhibitions with a group known as an Air Circus, with an advance man who went ahead to advertise when the circus was coming to town. They charged higher prices for rides. In the 1920s some daredevil pilots were walking from plane to plane in flight and hanging from the wings. They were taking precautions, but the audience below couldn't see the harness or hooks strapped to their wrists. A member of a circus could average \$1,500 per plane per day.

By the time Beachey died, WWI had already begun in Europe, and air power would play a key role in the conflict. Sadly, few barnstormers survived to join the U.S. Air Service when America finally entered the war in 1917.

