



Barnstorming USA Concrete Towers, Electric Beacons

The Milton Keynes Branch of Air-Britain
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BARNSTORMING

Barnstorming: Wing walking, Gladys Ingle in the 1920's



As you will see this article connects with "Concrete Arrows, Electric Beacons" about the development of the airmail service in the USA in last month's newsletter. [see below]. I have lifted it from and am grateful to a fascinating website reached by: <http://www.historyinsidepictures.com/Pages/BarnstormingBiplanePicturesandtheGoldenAgeofAviation.aspx> That can be found more simply by typing in: <http://tinyurl.com/n47vbr>

On another part of the same site is an article on the US Post Office night mail service of which I was unaware last month: <http://tinyurl.com/n3s7dyn>

I should issue a sanity warning on this website e.g. it does not acknowledge Obama ("Barry") as President.

Editor

Barnstorming was a popular form of entertainment in the USA in the 1920s in which stunt pilots would perform tricks with airplanes, either individually or in groups called a **flying circus**. The term **barnstormer** was also applied to pilots who flew throughout the country selling airplane rides, usually operating from a farmer's field for a day or two before moving on. "Barnstorming season" ran from early spring until after the harvest and county fairs in the fall.

On the morning of 11 November 1918, the combatants signed an armistice in a railway carriage in the Forest of Compiègne that ended the "Great War." The nations that had fought in that war suddenly found themselves with more aircraft than they needed. The United States alone had almost 3,000 De Havilland DH-4s. At most, the US Air Service could use only about 250 of these a year. If they were used at that rate, the supply of DH-4s would last for almost 12 years! During the war, the DH-4 had undergone some improvements such as placing the gasoline tank in front of the pilot instead of behind him, and the machine no longer deserved its nickname—"Flying Coffin." The plane, however, was so heavy and so expensive to keep up that individuals were not interested in buying it.



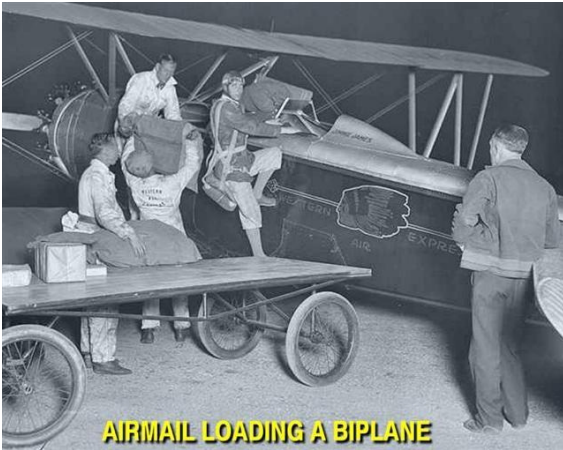
WW I Era Pilot & Machine Gunner in a DH-4

It would be a big problem to try to keep a large number of grounded planes in safe flying condition for such a long time. Furthermore, in the meantime, advances in aeronautical science could be expected to produce planes



De Havilland DH-4 (US Postal Museum)

that were far superior to the DH-4 biplane.



AIRMAIL LOADING A BIPLANE

was willing to accept to get rid of them. Some of the Jennies sold for as little as \$200, which, although a lot of money in those days, was a fraction of the original \$5,000 production cost.

When World War I ended, almost 9,500 men were in the Air Service. This was more than eight times as many as had been in the Aviation Section of the Signal Corps before the United States went into the war. Yet in the in the frantic demobilization of 1918-1919, almost 95 percent of the men in the Air Service were released to return to civilian life.

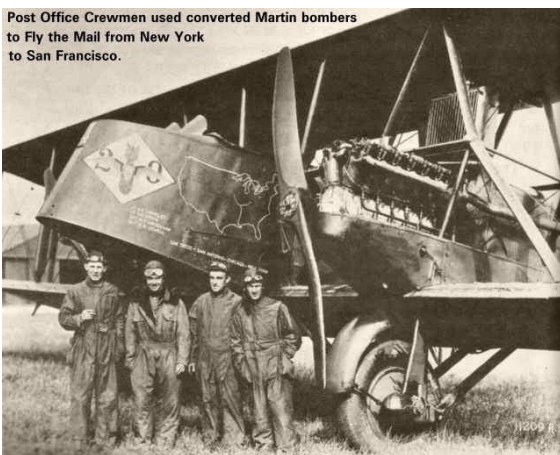
Many of these young flyers returned to their homes scattered throughout the United States. They were thankful for having survived the dangers of wartime aviation and were happy to be with their families and friends again. But before long, they became restless. They had enjoyed flying and did not really want to give it up so they began to wonder what they could fly again and for what purpose.

Civil airlines were able to use some of the DH-4s, and the Post Office Department acquired a few and flew them after having the cockpit, plywood fuselage and heavy-duty landing gear modified for mail service. Many—if not most—of the rest of the surplus DH-4s were dismantled. Some parts were salvaged and set aside to be used in repairs, and junk dealers got the rest.

The JN-4, the Curtiss "Jenny" was different—and in great demand. The "Jennies" were light, easy to maintain, and so slow that they could easily roar in and land nearby almost any barn—which perhaps explains the name "barnstorming." Furthermore, and more importantly, the Jennies were cheap—especially at the prices the Government



A Curtiss JN-4 (Jenny) flying over Ontario, c. 1918



Post Office Crewmen used converted Martin bombers to Fly the Mail from New York to San Francisco.

A few commercial airlines were being formed, but they were doing very little business and needed few pilots. The Post Office Department would hire a few. Nevertheless, if most were to fly again they would have to buy their own airplanes and sell their services. These were the men who bought many of the surplus "Jennies" from the government.

Some of the veteran flyers bought the JN-4s and eked out a living by taking up passengers who wanted a thrill and by giving flying lessons—in a time when flying was not yet regulated by laws and required no licenses. However, the demand for such services was so slim that one of the old-time pilots is quoted as saying that the "greatest hazard in flying is the risk of starving to death."



A Real Barnstormer in a Field

I (*the original author*) can remember my father telling me that at times pilots used to land alone in little two-cockpit Jennies on a field near the old Monogah No. 5 Coal Mine in the 1920's. Teenage farm boys like him usually only earned 50 cents a day for pitching hay, and he would take his meager day's wages and invest all in a fascinating ride with one of those starving biplane flyers.

This price for my father was a bargain because most of the hungry barnstorming pilots--who flew around the countryside randomly landing at any opportunity on various farms to attract

a little business—charged from 3 to 5 dollars. His most outstanding recollection of his aerial adventures was his surprise that he could not voluntarily fall out of the open cockpit when the pilot turned the plane upside down.

However, at the same time these starving pilots were flying alone and struggling to sell rides to poor farm boys at bargain rates to feed their wind-chapped faces, a more lucrative market—flying exhibitions with several actors—was taking center stage. WWI pilots, and anyone else who could fly and afford a cheap biplane and a small

entourage of reckless actors took to the air like a covey of quail, made money in the roaring twenties, and even survived in the austerity of the Great Depression in the nineteen thirties.

Those aerial stars opened their stage curtains in the beautiful blue skies, above county fairs, carnivals, and anywhere else that crowds gathered and were willing to pay to see them perform awesome acts on those strange flying machines—and the performers were not limited to the male gender.



Right - we see a good example of the opposite sex in Katherine Stinson, the first woman in the world to loop-the-loop, in front of her Curtiss biplane. She was a pioneer in stunt flying, the first woman in the world to loop-the-loop on July 18, 1915. In *'So Away I Went'*, William Bushnell Stout who knew her, tell us that "Katherine used to fit Roman candles on the wings of her airplane, when she made exhibition flights at state fairs. In many of the exhibitions at night, she would come down after the fireworks display in the middle of a half-mile track with only a burning tar barrel to indicate where and how she was to land."



In all her career, so far as I know, she never had an accident. It is said she taught Eddie Stinson to fly, and later her sister Marjorie. All three of them were excellent pilots—none better in his day that Eddie Stinson."

Sometimes the barnstormers' exciting aerial antics consisted of several pilots and who would work together as a team, calling them themselves a "flying circus". This spawned a variety of creative stunts and stars. Barnstormer Al Wilson shot golf balls. Mabel Cody danced. Gladys Ingle, famous for switching planes in mid air, sometimes shot arrows at a target (although she didn't necessarily hit it).

Gladys Ingle was a member of a barnstorming troupe called the 13 Black Cats in the 1920s. Ingle was a wing walker. In this film on YouTube (<http://tinyurl.com/4ugeh7>), she shows her fearlessness in a classic barnstorming fashion to 'save' an airplane that has 'lost' one of its main wheels. The daredevil is shown with a replacement wheel being strapped to her back on the wing of the rescue plane and then off she goes as "Up She Goes," a duet from the era, provides the soundtrack.

In the video, Ingle transfers herself from the rescue plane to the one missing the main landing gear tire. She then expertly works herself down to the undercarriage only a few feet from a spinning prop (*see blurry still right*). It's certainly a feat many mechanics wouldn't even try on the ground with the engine running.





Barnstorming with a Wing Walk

“Wing walking” was one of the tricks that always pleased the crowds. While the pilot flew the biplane in a circle, the stuntman would walk out on the edge of the lower wing, climb to the upper wing, and walk in toward the cockpit. Some of the wing walkers would give the viewers an extra thrill by standing on their heads.

“Breakaway” is a daring variation of wing walking. The stuntman would walk the length of the wing, appear to lose his balance, and fall. During a frantic struggle, drawing a loud awe from onlookers, he would manage to hang on, and finally to pull himself back onto the wing. From the ground, the excited onlookers could not see the stunt man was wearing a harness anchored to the plane by a cable. But even with these trappings, the stunt was difficult and dangerous.



Barnstorming with a Head-Stand Act

During Charles Lindbergh’s barnstorming days, he performed a stunt that the audiences would hardly believe. He would stand on the upper wing of a plane while the pilot flew a series of loops. The trick would not have been possible without some aids the viewers could not see. Lindbergh’s feet were strapped to the wing, and he was steadied by wires running from his belt and firmly attached to the wing, but as helpful as these devices were, they offered no guarantee of safety. Lindbergh did not win fame by barnstorming however, but by beating M. Drouhin for the \$25,000 award for the first transatlantic solo flight.



(Left) Barnstorming Aerial Cameraman

Barnstorming a biplane was a risky way to make a living. The biplane, even when newly purchased, was frail, and its wood and canvas was held together with wire. Engines often conked out, which forced landings. Malfunctioning equipment and poor judgment caused accidents that cost the lives of many barnstorming performers.

These daring aviators, however, were happy before passing on, doing what they loved—flying. Perhaps without realizing it, the barnstormers performed an added service for the hardworking public and taxpayers in general—an important service for aviation development. With their exciting exhibitions, those “flying gypsies” publicized aviation. When World War I ended, many people had never seen an airplane, and if they thought of aviation at all, it was probably with fear and disapproval.

(Left) Lifted from a speeding train!



OLD BLINDFOLDED WING WALKING STUNT MAN (UPI PRESS PHOTOS)

HEP072319-7/24/21-CHICAGO:Pat Wagner stands on the wing of a Steirman Biplane,piloted by her husband Bob,as they practice for Chicago's annual Lakefront Air and Water Show, 7/25-26. UFI Js/Bruno Torres



The caption reads:

'Pat Wagner stands on the wing of a Stearman Biplane, piloted by her husband Bob, as they practice for Chicago's annual Lakefront Air and Water Show, 25 July 1926'.

Despite the early date, and unlike many of the earlier pictures, this is 'Wing-walking' in the modern 'Health & Safety' style.

The final photograph:



No caption or notes given about this one, but they look happy!

Those brave aerial daredevils ushered in two decades between the world wars that saw improvements after improvements of aircraft designs. Barnstorming biplanes had broken through the clouds and led the way.

See below for 'CONCRETE ARROWS, ELECTRIC BEACONS'

CONCRETE ARROWS, ELECTRIC BEACONS

Credit for the illustrated text is to: <http://tinyurl.com/lk2nyts>

"[Airmail is an] impractical sort of fad and has no place in the serious job of postal transportation."
Second Assistant U.S. Postmaster General Paul Henderson in 1922



The dusty landscape of the American West is dotted with enormous concrete arrows. They look like cryptic messages from a primitive civilization — a civilization that was obsessed with westward expansion. And that assessment wouldn't be altogether wrong. But these enormous arrows pointing west tell only part of the story. Because at the dawn of aviation, they were part of America's highway of light — a high-tech system of lighthouses showing pilots how to get from New York City all the way to San Francisco.

When the U.S. Postal Service opened up airmail routes during the early 1920s, many people saw it as a frivolous novelty. What good was sending mail by air? Sure, planes could travel faster than trains. But airplanes could only operate safely during the daytime, whereas trains could run all night.

As a result, early transcontinental airmail delivery was a hybrid system. In 1922, letters sent by airmail would have to leapfrog the country, travelling by air during the day and by train at night. Using this process, a letter moving at its absolute fastest might take about 83 hours to get from New York to San Francisco.

The few pilots who did try to travel at night during this time were taking their lives in their hands. Nearly 1 in 10 early airmail pilots died during the early days of the postal service's airmail initiative, and emergency landings were common. There had to be a safer way. Enter the 'highway of light' — a system of airmail beacons that spanned the country.

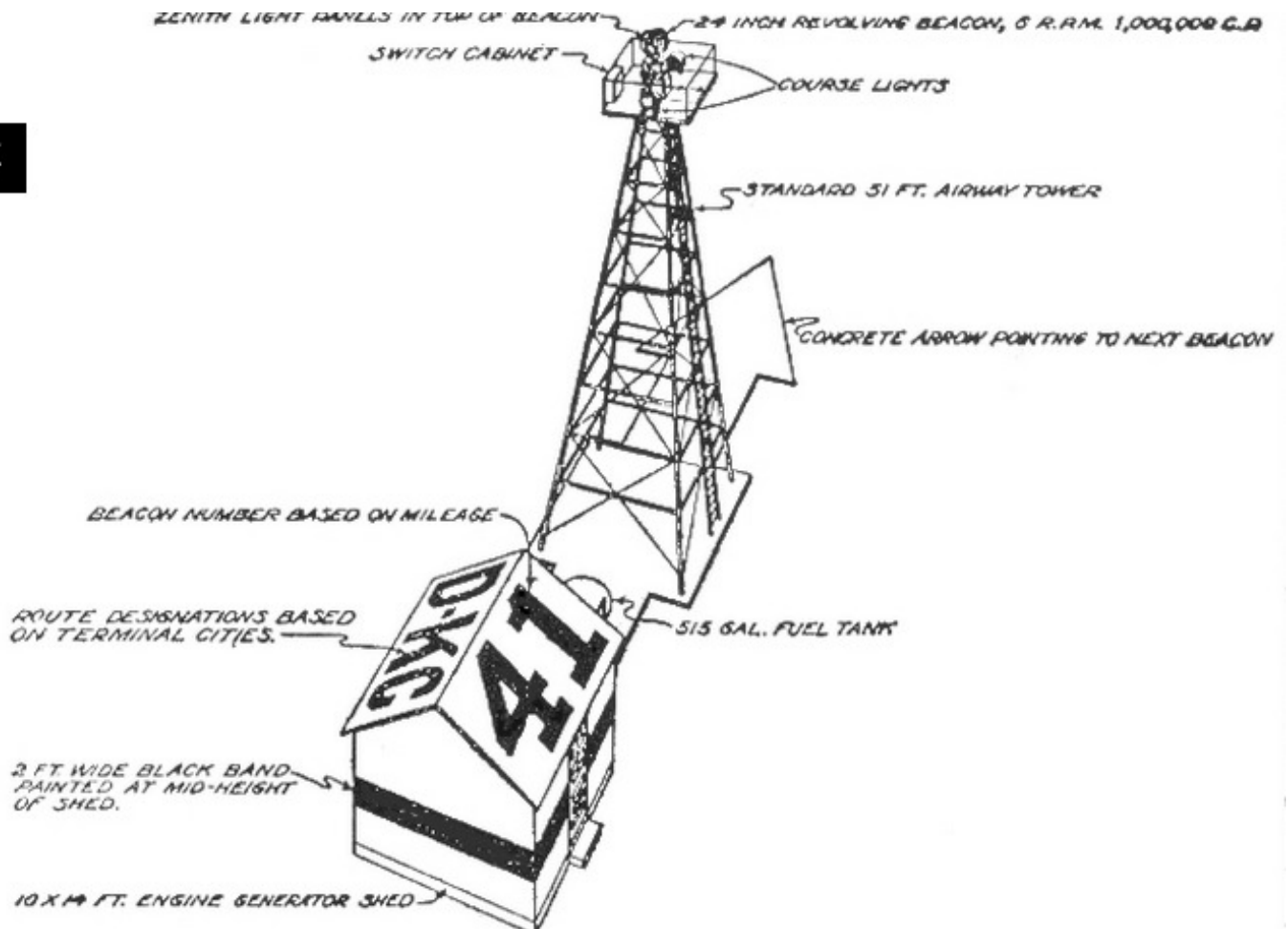
Built by the U.S. government, the airmail beacons of the mid-1920s helped pilots find their way much more safely — whether it was day or night. Spaced out every few miles, from New York to San Francisco, each site consisted of a revolving motor-driven light which sat at the top of a 60-foot tower.

Originally approved by Congress in 1921, the light beacon system was planned to cross the entire United States by mid-decade. Unfortunately, President Warren G. Harding slashed funding and the issue wouldn't gain steam again until the mid-1920s

Previously, the most reliable method of navigation for pilots was to use their old fashioned rivals as a guide; following the railroad routes ensured that they were staying on track. But this new system of towers — inland lighthouses with gigantic concrete arrows pointing the way — allowed air pilots to navigate without depending solely on yesterday's infrastructure.



The 1931 illustration below from the FAA archives shows how the light tower sat in-between a concrete arrow on the ground and a building that contained a petrol driven generator which powered the entire thing.



Once the new lighted airway was in place, that same letter that used to take 83 hours took just 33 hours to get from New York to San Francisco. By 1926, the Transcontinental Airway System's light beacons were brought under the authority of the Bureau of Lighthouses and crossing the country by air (day or night) was considered much safer.



Upon completion of the system in 1933, there were about 1,550 light beacons stretching across 18,000 miles, guiding the way and pushing America into a new era of communication. Long distance telephony was expensive. And even though radio was all the rage — and fast becoming a coast-to-coast experience — sending a letter was still the most economical way to deliver any message among private citizens.

Maintaining a network of light stations across the U.S. wasn't cheap. The October 1928 issue of Popular Aviation magazine laid out the enormous costs by looking at what it took to keep just one light station in proper working order.

The beacon light (not including the tower it rested on) was \$475, the automatic lamp changer was \$50, the lamps were \$6.50 (and only lasted for about 60 hours, tops), electricity to run it ranged from \$50-\$80 per month, \$5 per month was spent for someone to maintain the station, and renting the land (usually from a farmer) was \$5 per year.

By Popular Aviation's estimates, it cost about \$110 per month (about \$1,500 adjusted for inflation) just to keep a single station in operation. With about 1,550 stations, that worked out to a budget of about \$2.32 million (in 2013 dollars) per month.

As planes got bigger and technology allowed for safer travel, the highway of light would become a relic. New air travel records were getting knocked down left and right. And the postwar explosion in aviation made city-jumping old hat.

Today, the system's towers and generators are largely gone, leaving gigantic concrete arrows for bewildered backpackers to find. But these concrete ghosts — Jazz Age residue that lightly stains the American landscape — are a mere hint of the marvellous highway of light that guided daredevil postmen nearly a century earlier.