

AFEHRI File 19-10

**Research Materials/Source Documents
ENLISTED FIRSTS**

FILE TITLE: Early Air Force Pioneer, Father of Blind Flight - Sgt (later Captain)
William C. Ocker

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"Ocker hardly looked the fearless flyer part with his bowlegs, thinning hair, and gold-rimmed bifocals suspended on a rather generous nose."

Ben Pearse on William Charles
Ocker, Air Force Magazine, February
1956.

**SERGEANT
WILLIAM CHARLES
OCKER:**

THE ARMY'S THIRD ENLISTED PILOT

by

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William Charles Ocker, a man destined to change American military aviation forever, was just one of thousands of farm boys who volunteered for the Army during the Spanish-American War. He was not a handsome man and seemed an unlikely candidate for aeronautics with his seventh grade education. He was, however, a serious student, but to look upon him, few could guess the greatness that lay within.

Charles was born to parents of German descent, in a large family that consisted of six brothers and sisters, in Philadelphia, Pennsylvania, on June 18, 1880. He received his education in the public schools of the day.

Ocker's early military experiences began when he entered the Army on June 25, 1898. He served with the artillery and cavalry (see photo page 2), and saw action in both the Spanish-American War and the Philippine Insurrection.

While serving in the Philippines as a young artillery man, he was involved in several ambushes and skirmishes, with one resulting in his capture. It was the Army's policy to negotiate with the enemy for the release of American prisoners. Displaying a strong sense of duty, Ocker refused to be released until his captors returned his rifle. Remarkably, after a period of time his captors, reluctantly, did exactly that!

Sergeant Ocker performed guard duty in 1909 at Fort Myer, Virginia, when the Wright Brothers' plane was being assembled near the parade grounds in preparation for the first Army tests.

When he saw the epic flight that sold the Army its first airplane, Charles was greatly

impressed. The desire to fly began to consume him. Back in the Philippines, he spent many days on a low hillside overlooking the polo field at Fort William McKinley observing student pilots of Lieutenant Frank P. Lahm. One particular student, Corporal Vernon L. Burge, really caught Ocker's attention.

Burge was the only enlisted man in the Army permitted to train as an aviator. Until then, Ocker had not considered it possible to become a pilot, but Burge's example gave him reason to contemplate the opportunity.

Burge's accomplishment drew nothing but frowns from the Army brass. When Lieutenant Lahm informed headquarters about it, the Chief Signal Officer of the Army declared:

"Teaching enlisted men to fly runs contrary to War Department policy."

Despite the Army edict, other enlisted men followed in Burge's footsteps. Corporal William A. Lamkey, the Army's second enlisted aviator, joined the Signal Corps on May 17, 1913. He graduated from the Moisant flying school in 1912 and came to the Signal Corps already a pilot. Lamkey purchased his discharge on 10 June 1915 and went to fly for Pancho Villa in Mexico. He later enlisted as a U.S. Naval aviator when World War I began.

Sergeant Ocker, a veteran of 14 years' service, forfeited his hard-earned rank in the hopes of attaining enlisted pilot status. While serving in



Private William C. Ocker served in the U.S. Cavalry before entering aviation. (USAF Museum Photo)

the southwest, at Ojo Las Cienegas, New Mexico, Ocker requested a transfer to the Aeronautical Division. His commander agreed. *"I've been thinking of transferring myself,"* the Captain said.

His name was Billy Mitchell, later chief of the Air Service American Expeditionary Force in France. Ocker was granted permission, and transferred effective September 23, 1912, gaining assignment as an aeroplane mechanic at the Army Aviation School at North Island, San Diego. There, the Army maintained two aeroplanes.

By 1913, Ocker had become a skilled mechanic while working on the school's two

deviate from a straight course. Under the tutelage of Macauley, who considered him an exceptional student, Charles advanced in very slow stages until both instructor and student were comfortable with the results (see photograph below).

During the FAI aviator test, one task required Ocker to ascend to an altitude of 1,000 feet, shut off the motor and "voplane" to ground. The target, a copy of the Union newspaper, was held in place by a couple of students.


Although the aviators present wagered that the junior "birdman" could not repeat his two previous performances landing on the paper, Ocker astounded them by piloting the Curtiss Speed 5 again squarely on a small section of newspaper.

"It was the remarkable series of landings ever made by a student flying for his pilot's license. Ocker's mastery of the machine was evident."



Sgt. William Ocker (4th from left) at the Curtiss Flying School, North Island, San Diego, CA, circa 1912-1914. (USAF Museum Photo, Lee Arbon.)

planes, nicknamed "Lizzie" and "Julia." In his off-duty time, he moonlighted at the Curtiss Flying School, also located on the island. After gaining sufficient experience, he was allowed to assist in repairing machines at the rate of 15 cents an hour. Instead of wages, Ocker took flying lessons in a one-seat Curtiss Pusher from Theodore C. Macauley. The instructors at the Curtiss school were very strict and did not permit pupils to

FEDERATION AERONAUTIQUE INTERNATIONALE	
AERO CLUB OF AMERICA	
No. 293	
The above-named Club, recognized by the Fédération Aéronautique Internationale, as the governing authority for the United States of America, certifies that	
<u>William Charles Ocker</u>	
born 18 th day of <u>June</u> 18 <u>88</u>	
has fulfilled all the conditions required by the Fédération Aéronautique Internationale, for an aviator pilot, and is brevetted as such.	
Dated <u>April 29th</u> 191 <u>4</u>	Signature of pilot: 

Federation Aeronautique Aviator Certificate No. 293, awarded to William C. Ocker, April 29, 1914. (USAF Museum Photo, Lee Arbon.)

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was superb, and his feat of landing three times on a newspaper is one which few birdmen can duplicate."

In April 1914, Ocker received FAI Aviator Certificate # 293 (see photograph previous page) and joined Vernon Burge and William Lamkey as the only three enlisted pilots in the Army.

Charles was fortunate to be involved in the testing of some of the early stabilization devices of the time. The Army conducted many of these tests from the Curtiss flying boat that Ocker maintained. The stabilization devices were a type of early automatic pilot designed to reduce pilot fatigue, especially on long flights. Elmer A. Sperry, the inventor, often supervised Ocker in these experiments. Later on, using one of Sperry's gyros, Ocker changed aviation forever by unlocking the secret to "vertigo."

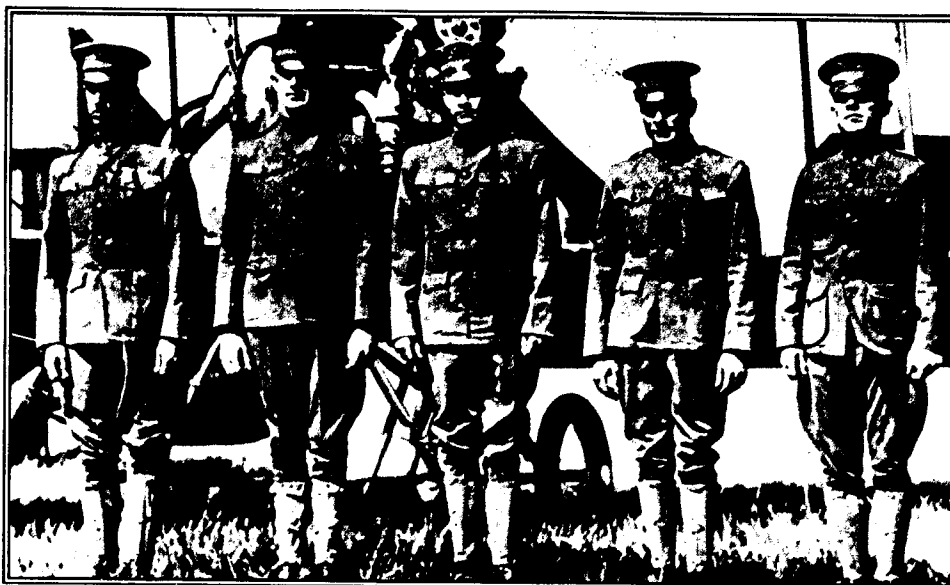
Enlisted pilots may have been a legitimized commodity in 1914, but getting flying time was a problem. The Air Service did not have enough planes to go around, and enlisted men rarely got a crack at them. As a consequence, many enlisted pilots spent their time as mechanics.

Ocker was the proverbial exception to the rule. He was counted among the best pilots in the Air Service and helped test and develop aerial radio equipment in 1916. One particular experiment teamed him with Captain Clarence Culver. They flew from the Signal Corps Aviation School at North Island to Santa Monica and sent back airborne radio signals to receiving stations along the way.

Later, Ocker again made the San Diego newspaper. Flying in Military Speed Scout No. 32, Ocker ascended to a height of 10,000 feet and remained in the air an hour. The headline read:

"Aviator ascends 10,000 feet, circles over harbor for hour; spectators thrilled by sight."

The newspaper said it was one of the finest flights made by a mechanic attached to the U.S. Army's First Aero Squadron since the recent edict permitting enlisted men to pilot their own machines. Thousands of spectators throughout the city



Sgt. William Ocker, first left, with enlisted pilots of the North Island Aviation School, April 1916. (USAF Museum Photo, Lee Arbon.)

craned their necks to catch a glimpse of the aviator as he slowly circled at a dizzying altitude over the harbor. Known as one of the finest fliers in the Army, Ocker frequently made the papers (see photograph above).

That following September, he dazzled the residents of San Diego again by performing 15 loops over the city in the Curtiss Military Tractor No. 30. As soon as he landed another enlisted pilot, Albert D. Smith, not to be outdone, refueled No. 30, took off and duplicated the performance.

Ocker was commissioned on January 11, 1917, in the Reserve. During World War I, as a

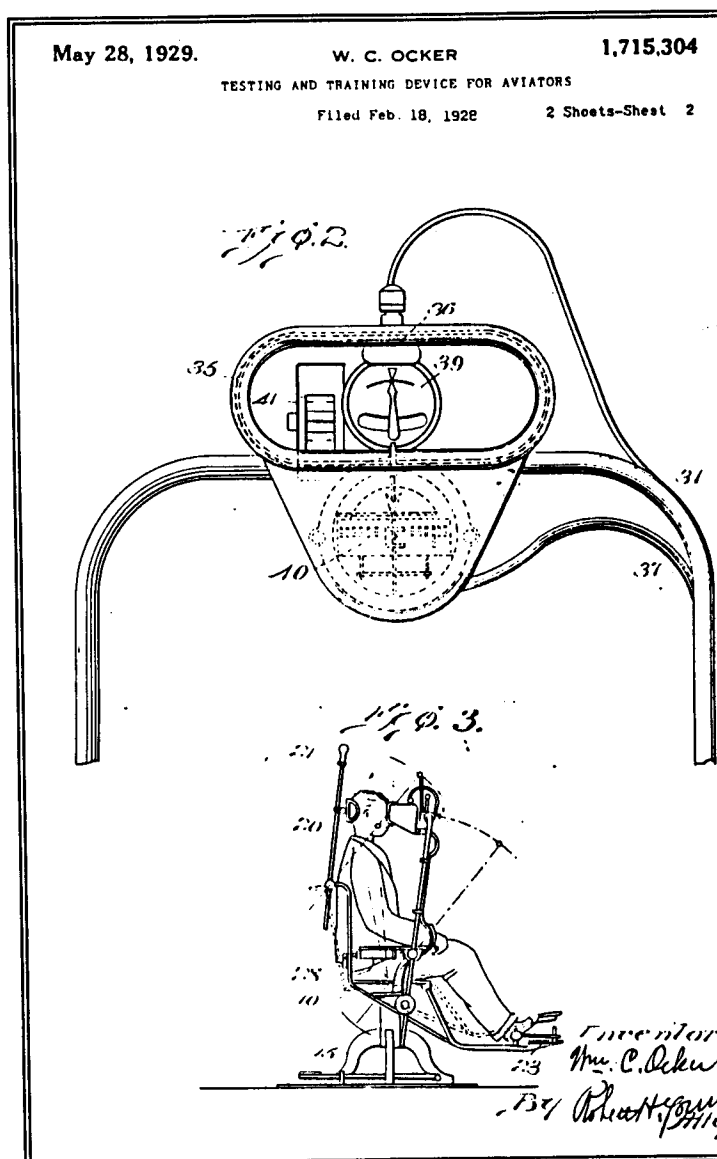
Captain, he taught others and was the first in the Aviation Section to not only receive a reserve commission, but also to be called to active duty. When he was "called up," the Army stationed Ocker at Chandler Field, Lake Charles, Louisiana, where he acted as the field's commanding officer from March 15 through April 13, 1917.

Flying in adverse conditions, unable to see the ground with no horizon, pilots became disoriented. While the pilot was banking to the left, he often felt he was banking in the opposite direction. Used to *"flying by the seat of their pants,"* a pilot put little faith in instruments or those who were in favor of them.

Captain David A. Myers, the flight surgeon at Crissy Field, California, was very interested in the problem. When a pilot took a physical examination, Captain Myers gave the aviator a ride in the Jones-Barany revolving chair. The chair mirrored the conditions of disorientation and caused pilots to experience the same sensations as those experienced while in a fog or adverse weather conditions. Captain Myers tried the induced vertigo test on Captain Ocker in January 1926 to get the reaction of an "old-time" pilot. After the test, Ocker left without a comment. Ocker himself struggled with the problem of spatial disorientation. He carried aboard his aircraft one of the first turn-and-bank indicators designed by Elmer Sperry (a personal friend). For eight years, he religiously mounted the indicator in his aircraft, but felt it usually malfunctioned in bad weather. He soon returned to the surgeon's office with a light-tight view box in which he mounted his turn indicator, a magnetic compass, and a flashlight. He asked to be tested again.

Seated in the Jones-Barany chair, Ocker started the gyroscope to activate the turn-and-bank indicator and gazed

into the box while Myers turned the chair. Reading the indicator rather than relying on his senses, Ocker answered correctly every time as to the direction of motion, starting and stopping. Ocker and Myers knew on the spot they had come up with the answer to man's inability to fly without visual reference to the earth. They began testing other pilots and experimenting on their own (see device below). Ocker would fly the airplane while Myers rode behind in a cove-



The Testing and Training Device invented and patented William C. Ocker, May 28, 1929.

cockpit, communicating by pulling strings to tell Ocker what he believed was happening. They convinced many pilots of the need for instruments for blind flying by demonstrating their "**Vertigo Stopper Box.**"

Still, many pilots refused to believe the evidence, which triggered much debate and criticism. In 1930, the Army reassigned Ocker to Kelly Field, promoted him to major, and gave him \$1,000 as partial compensation for the time

and money he spent in developing his "**Vertigo Stopper Box.**" Since he was an Air Corps officer, he assigned his patent on the box to the U.S. government. Normally, the government did not pay, but in this case, Congress voted the money to Ocker. Ocker continued his experiments, assisted by 1st Lt. Carl J. Crane, which culminated in a book titled "*Blind Flying in Theory and Practice*" (see photo below). It was published in 1932, was the first of its kind and sold well. Everyone but

the U.S. military was interested; even the Soviet Union had it translated for their flight training programs. Ocker and Crane's work eventually led to the first instrument simulator with radio guidance features. When Crane patented it, he discovered it interfaced with another simulator by Ed Link. The subsequent investigation revealed Link would have to take a license under Crane's patent because Crane and Ocker developed their invention two years ahead of Link.

William Charles Ocker, David Myers, Carl Crane, and later James Doolittle, among others, pioneered instrument flying and contributed immeasurably to the advancement of military aviation (see photo next page). While Ocker and Myers first pinpointed the problem of disorientation using Ocker's invention, Doolittle and others opened the way by testing instruments and techniqu-

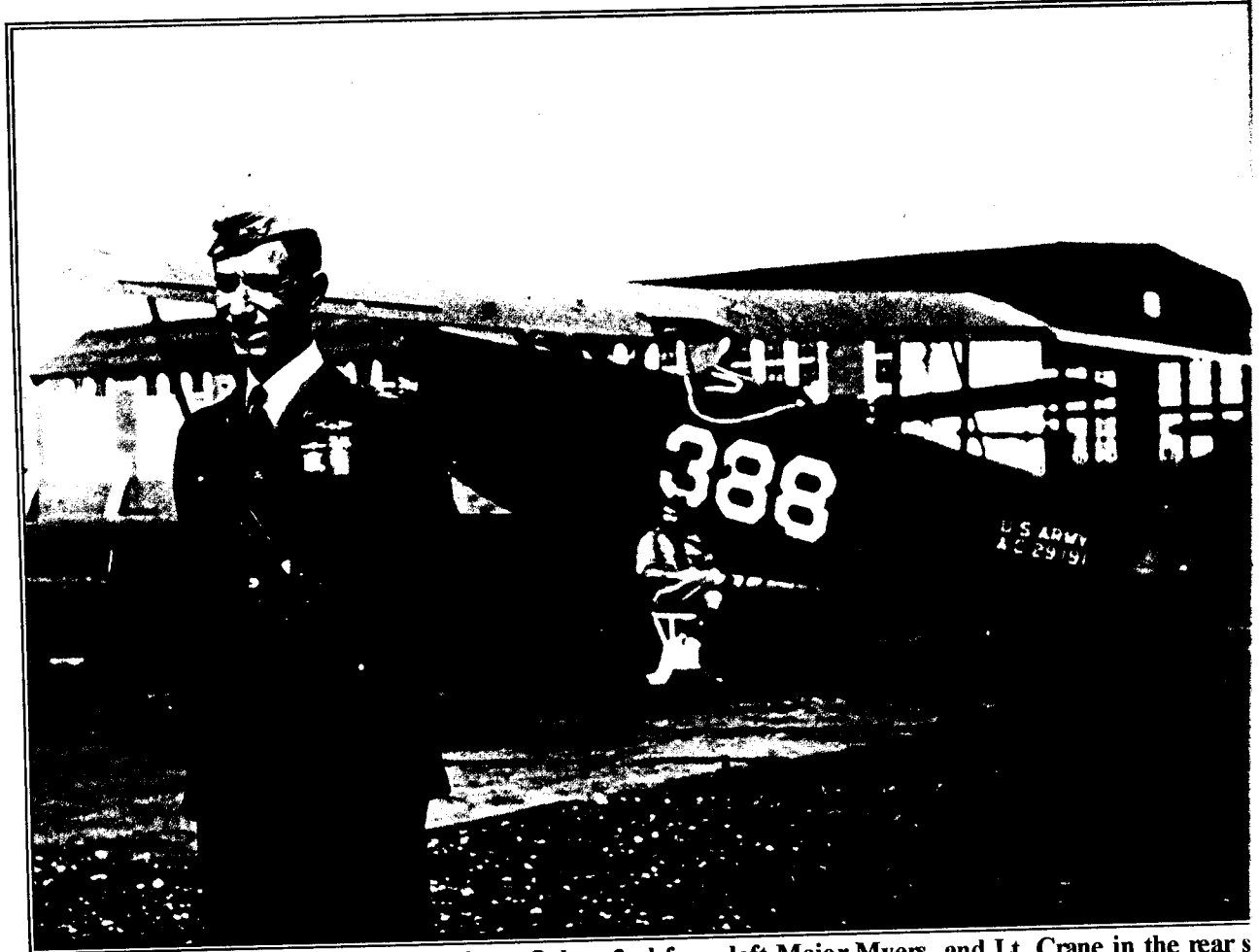


Lt. Carl Crane (l) and Major William Ocker (r) equipped for "blind flight," circa 1930. (USAF Museum Photograph, Lee Arbon.)

es that would permit instrument flight. Doolittle contributed by making the first official blind-flight landing. All were initial steps toward the problem's solution, however, years would pass before instrument landings were a common

Force Base.

After numerous experiments with blind flying instruments, Ocker, in what he termed an **"unofficial test,"** flew approximately 900 miles on June 1930, from San Antonio, Texas, to Scot



The blind-flight pioneers, forefront Capt. Ocker, 2nd from left Major Myers, and Lt. Crane in the rear circa 1928-1929. (USAF Museum Photo, Lee Arbon.)

occurrence.

William C. Ocker pioneered other devices and accomplished many other unique tasks related to military aviation. Among them, he flew a U. S. congressman (elect), O.D. Bleakley, to Washington, D.C.

While in Washington, D.C., Ocker's former commanding officer, Major Billy Mitchell used him to fly over and judge the suitability of several land parcels for future use as airfields. Ocker's choice became Bolling Air

Field, Illinois. He piloted his aircraft from covered cockpit that afforded no view of the outside world.

Later, Ocker announced he had developed an instrument called the **"Flight Integrator."** designed it to **"restore the sky"** when it is hidden by darkness, rain or fog. It was actually an electrically driven gyroscope with a moving screen that depicted a sky with clouds. It featured a miniature airplane that banked in the same manner as the plane in which it was installed.

In 1938, William Ocker, along with Lieutenant George R. Smith, invented and patented a radical new type of airplane propeller that made less noise and vibrated less. Thus, it was less stressful on the blades.

Ocker also invented the **"Pre-Flight Reflex Trainer."** He and Major Carl J. Crane developed it in 1941. It was used by the Army to familiarize aviation students to an airplane's motion prior to them setting foot in a cockpit trainer.

William C. Ocker was the Commanding Officer of Chandler Field and in charge of flying instruction at Gerstner Field in 1918. He served at Wilbur Wright Field, in the Office of the Director of Air Service, Washington D.C., and commanded the 56th Service Squadron at Langley Field, Virginia.

At one point in Ocker's career, he created such resentment over his blind-flight theories that he was administered two psychological examinations at the direction of his supervisor. He later joked:

"I am the only Air Corps officer who has two letters to prove I am sane."

When Colonel Ocker retired, he resembled one of his very famous sayings:

"I would like to be known as the oldest, not the best pilot."

He was one of the oldest pilots in point of service in the Army Air Corps and was considered one of the Air Corps' best fliers.

Colonel William C. Ocker died at Walter Reed Hospital, Washington D.C., at age 62, on September 15, 1942.

At Davis-Monthan Air

Force Base in January of 1955, the service corrected a long-standing oversight. The Air Force presented the Legion of Merit to Mrs. Doris Ocker, awarded posthumously to her husband, Colonel William C. Ocker, twelve years after his death. The award was a tribute to Colonel Ocker, written by an officer who realized that many lives were saved during World War II as a result of the training devices Colonel Ocker pioneered. It was a personal victory for Ocker who endured ridicule and hardships with no thought for himself.

"The authors of citations accompanying medal awards, of course, are anonymous. But if the author of Ocker's were not, it would read: By Nathan F. Twining."



Sergeant William Charles Ocker in full dress enlisted uniform, before 1911. (USAF Museum Photo, Lee Arbon).

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