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D.A. HALL, PLANNED LINDBERGH PLANE

Designer, 69, Dies on Coast
—Also Created a Bomber

Special to The New York Times

SAN DIEGO, July 2 — Donald A. Hall, designer of the Spirit of St. Louis, died May 2 at the Donald N. Sharp Memorial Community Hospital here. He was 69 years old. His widow, Elizabeth, said she had told only a few persons, "to carry out his wishes." She said Mr. Hall had suffered from a heart ailment for years, and had died of a heart attack.

Lindbergh's Last Hope

Capt. Charles A. Lindbergh had been rebuffed by three aircraft manufacturers before he telegraphed Ryan Airlines, Inc., of which Mr. Hall was chief and only engineer, on Feb. 3, 1927:

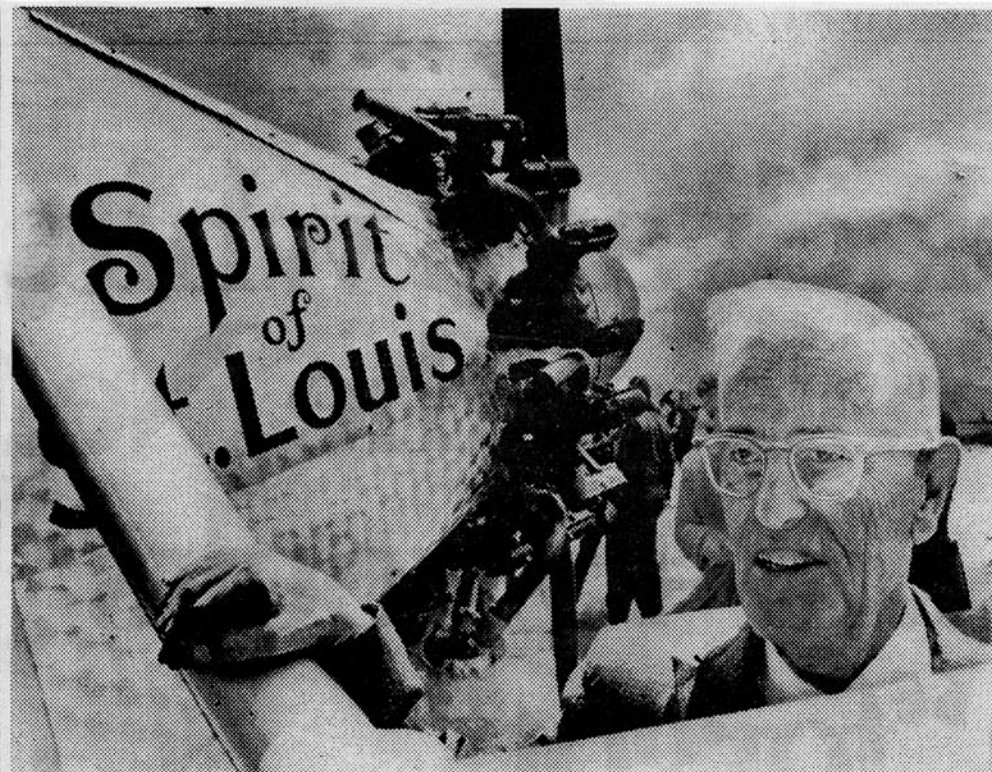
"Can you construct Whirlwind engine plane capable flying nonstop between New York and Paris stop, if so please state cost and delivery date."

When he received the answer, the following day, that Ryan "Can build plane" for less money and quicker delivery than he had hoped, Colonel Lindbergh wrote in his 1953 account of his historic flight, that his first thoughts were: "Does the Ryan company understand what it's offering to undertake? Has it engineers who can follow through with this promise?"

After turning down an offer from another aircraft company that wanted more money, Mr. Lindbergh went to San Diego on Feb. 23. He wrote:

"The Ryan factory is an old, dilapidated building near the waterfront. There's no flying field, no hangar, no sound of engines warming up; and the unmistakable smell of dead fish from a nearby cannery mixes with the banana odor of dope from drying wings.

"I open the door to a small, dusty, paper-strewn office. A



United Press International

Donald A. Hall, designer of the Spirit of St. Louis, with a copy of the plane last year

slender young man advances to meet me—clear, piercing eyes, intent face. He introduces himself as Donald Hall, chief engineer."

Conversations with Ryan officials, Colonel Lindbergh wrote, made it "increasingly obvious that the answer to my problem lies in Donald Hall. My decision as to whether the Ryan company is capable of building a plane with the performance I need must depend primarily on my estimate of him."

In their first conference, in Mr. Hall's "bare but spacious drafting room," the engineer said:

"Now we can't use the standard Ryan fuselage. Also, the wing span will have to be considerably increased so as to reduce the wing loading for take-off and increase the aspect ratio for range. That means we'll have to move the tail surfaces aft to maintain satisfactory stability and control. And that means the engine will have to be moved forward. When it comes right down to it, I've really got to design a completely new fuselage structure to meet your require-

ments. We will have to design a different type of landing gear while we're about it. Here's the type of landing gear I favor for your airplane . . ." and began to sketch.

Distance Marked on Globe

When they started discussing the amount of fuel required, Colonel Lindbergh wrote, the two men drove in Mr. Hall's car to the public library, where they measured the distance from New York to Paris on a globe with a piece of string.

Two months and five days later, the high-wing monoplane made its first test flight. Mr. Hall, according to his "Technical Preparation of the Airplane Spirit of St. Louis (The National Advisory Committee for Aeronautics, 1927)," spent 775 man hours, some in one 36-hour stretch at the drafting table, designing and preparing the plane for its flight to St. Louis on May 10.

Eleven days later, the plane and its pilot electrified the world when they landed at Le Bourget Aerodrome, Paris, after crossing the Atlantic from New

York in 33½ hours.

Mr. Hall was born Dec. 7, 1898 in Brooklyn, the son of a Western Union Telegraph Company supervisor. He graduated from Pratt Institute in 1919. He took a flying course in the Army Flying School at Kelly Field, Texas, and joined the Ryan company in 1926.

He had designed a night bombardment airplane for the Army Air Corps, which won a competition in 1922. After the Mahoney-Ryan Aircraft Corporation failed in 1930, Mr. Hall tried to start his own plant, but joined Consolidated Vultee Aircraft Corporation in 1936. In 1949, he became an engineer at North Island Naval Air Station, where he served until he retired in 1964.

A slender, bespectacled man of medium height, with light brown hair that had grayed, Mr. Hall enjoyed gardening and gathering historical data on aircraft during his retirement.

Surviving are his widow, the former Elizabeth Walker, whom he married in 1933; a son, Donald Jr., of San Diego, and a sister, Mrs. Alice H. Smith of San Francisco.