Episode 711, Story 2: Seadrome

Tukufu: our next story investigates an inventor's dream of bringing the US and Europe closer together. May 27, 1927, Charles Lindbergh made history flying alone, non-stop, across the Atlantic. His flight captivated the public, and made the dream of transatlantic air travel a reality. But nearly 14 years before Lindbergh's flight, a lone inventor had proposed a technology he believed would safely carry air passengers across the ocean in comfort, rivaling the day's luxurious steamships. Ed Mauro of Rochester, New York believes a collection of photos and badges links his family to this extraordinary dream.

Ed: My grandfather might have helped build the strangest ship I've ever seen.

Tukufu: So let's see your photos!

Ed: Here's some pictures of a Seadrome I believe it's called.

Tukufu: A Seadrome? What exactly is a Seadrome?

Ed: Well I believe they were supposed to be very large floating airports for passenger traffic, developed by a gentleman back in the 1920's. And my grandfather, Charles Nagy, uh, I believe may have worked on them.

Tukufu: This Seadrome looks a little like a modern aircraft carrier. The photographs appear to be of a prototype. Who took these photos?

Ed: I honestly don't know.

Tukufu: The photos may have belonged to his grandfather.

Ed: I know he worked as a ship builder uh, down in Chester, Pennsylvania, and it would be natural that he would have worked on something like this.

Tukufu: You have any other information you can give me that might help?

Ed: A recommendation letter for employment that an outfit down in Chester provided to my grandfather.

Tukufu: Ed believes the letters may hold some clues to where his grandfather worked while the Seadrome was being constructed.

Ed: We don't know the exact name, the top has been, been cut off in the copying process over time.

Tukufu: He also has several work badges from his grandfather.

Ed: I'm afraid to say, that's about all I've got.

Tukufu: What do you want me to find out for you?

Ed: He passed away in 1935, and it'd be so great to find out that he built the Seadrome. And secondly, what ever happened to the technology? Thank you for your help.

Tukufu: These photographs show the Seadrome both in a workshop and entering the water from a pier. Doesn't look seaworthy to me. How would this thing float? Where is this being launched from? Did Ed's grandfather work on this project? This letter doesn't appear to be much help. They made sheet metal products, steel drums, roofing. Doesn't say anything about ship building. Something, something Ward Company.

June 8th, 1931. The Depression has a grip on American society. And so the guy probably was down on his luck, looking for another job. Did Sun Ship Building have something to do with the Seadrome? And, if so, did Ed's grandfather work for Sun long enough to have worked on the Seadrome? In the 1920's passenger air travel was just coming into its own. But unlike steamships, passenger airplanes were unable to cross the Atlantic. Here's an article from the New York Times from 1929. *Seadrome model gets test today*. An experimental model of the giant Seadromes, which may soon form the mid-ocean landing field for transatlantic passenger airline, was launched today. The inventor's name was Edward R. Armstrong, born in 1876 in Canada. As a boy, Armstrong's favorite writer was Jules Verne, the author of the fantastical novels about conquering earth's geography. In real life too, the great leaps in technological invention, made anything seem possible: the illumination of cities with electric light, the age of gas-powered automobiles, and of course, the advent of air travel. After a stint as a circus strong man, he moved on to the early automotive and aviation industries, finally settling at Dupont, the chemical and gunpowder engineering company. In 1913, when he was 37, Armstrong first came up with the idea for the Seadrome. Armstrong wanted to anchor 8 Seadromes hundreds of miles apart from each other, stretching from New York to England. Airplanes would hop from one Seadrome

to the next. Lindbergh's 1927 transatlantic flight only fueled more interest from backers like the Dupont Company. After all, Lindbergh's flight was dangerous and uncomfortable. The Seadrome would take that trip and make it easy and comfortable, according to Armstrong. Lindbergh even supported Armstrong's effort and his dream. Armstrong began selling the idea to airlines. Everything seemed to point toward Armstrong's dream becoming a reality – so what happened? Armstrong expected the construction of the full-scale model to begin December of 1929 at the plant of Sun Ship Building Company. Is this the connection between Charles Nagy's tag and the Seadrome? My online research has turned up a collector who claims to have an archive of Armstrong's papers.

"I own Mr. Edward R. Armstrong's personal portfolio concerning his invention, Seadrome."

I've come to the Cradle of Aviation Museum on Long Island, New York to meet the collector, Bruce Figarsky, who like Armstrong himself, has a passion for all things aviation. Where did you get this collection from?

Bruce: I was uh, heading cross-country from California, and uh, along the highway over by Lincoln, Nebraska, there was a flea market.

Tukufu: What do you have? This is an incredible find. We have this long journal full of articles from the popular press. Not only here in the United States but from other areas in the world. The landing area and refueling station would float 70 feet above the waves, supported by hollow tubular columns ending in ballast tanks filled with water. These would be anchored by steel wires designed by John A. Roebling's sons, the company formed by the builders of the Brooklyn Bridge. Plans included luxury hotels and restaurants so passengers could stay the night in the

kind of comfort previously offered only on steamships. It's not clear from this collection what happened to the Seadrome, but it appears to have spawned another invention. Here you have a blueprint. Listen to this, "for off shore drilling in the Gulf of Mexico and other continental shelf areas, the platform design presented here offers a number of interesting features entirely new to the industry." This blueprint is dated 1937, nearly 10 years after Armstrong was set to launch his Seadrome prototype. How did all of this end up being sold at a flea market? What happened? I'm meeting Jon Williams, Curator of Prints and Photographs at the Hagley Museum and Library. They have an archive of Sun Ship Building documents. I'm trying to find out if this particular individual worked to help build this model of the Seadrome. What role did Sun Ship Building Company play?

Jon: Edward Armstrong had in mind that Sun Ship Building would build the actual Seadrome when it got to that point in the project. Jon explains how Sun Ship Building had been founded in Chester by Sun Oil Company in 1917. Jon tells me that Armstrong hoped to contract Sun Ship Building to build the full-scale version of the Seadrome, but Charles Nagy's shipbuilding badges date more than 10 years before the Seadrome model was constructed.

Tukufu: Let me show you this letter I have. I'm not sure what it says. It's something, something, ward. Do you know anything about this company?

Jon: Well, this is very interesting because there's a document in the Seadrome records here that indicates that the H. H. Ward Company of Chester actually built the model of the Seadrome.

Tukufu: Jon's associate brings us some of the correspondence files of the Duponts, one of the major backers of the Seadrome. Jon shows me a progress report written by Armstrong to the Duponts. It's dated July 15th, 1929.

Jon: A Seadrome model is now being constructed at the works of W. W. Ward Company, sheet metal workers of Chester, Pennsylvania. But Armstrong actually got it wrong in this document. It was not W. W. Ward, but was the H. H. Ward Company.

Tukufu: Our guy worked for H. H. Ward during that time. This puts our guy at the right place, doing the right thing. So he could have actually helped in the construction of the Seadrome model.

Jon: Correct.

Tukufu: Jon says there's nothing in the Sun Company files about the construction of a full scale Seadrome. He thinks the project may have been abandoned due to financial problems. Thank you very much.

Jon: You're quite welcome.

Tukufu: Kim Nielsen is the Director of the US Navy Museum. I've sent him a copy of Ed's photos. He wants to meet me at the University of Maryland Life Center for Environmental Science in Cambridge, Maryland. This site on the Choptank River was once a part of the Duponts estate. So what did you think about my photo?

Mr. Nielsen: Well the photo you sent is of this view right out the window here. We're here where the actual Seadrome test took place.

Tukufu: My office discovered a film reel of the test launch at the National Archives. The riverbank looks very similar. So what happened after that successful test of the model?

Mr. Nielsen: Well, I have here a headline, "*Work on Seadrome to begin in 60 days*", New York Times, October 23rd, 1929.

Tukufu: "We are certain now that it is feasible" a member of Armstrong's team proclaimed about the construction of the full-scale Seadrome. But the date on the newspaper tells a story… it's just one day before Black Thursday, the beginning of the Great Stock Market Crash of 1929.

Mr. Nielsen: The Seadrome was dead in the water. Immediately the capital and the investors and the money dried up. They all went away. Armstrong was left with no financing for the Seadrome concept.

Tukufu: But now the former circus strongman wasn't ready to see his Seadrome sink. He asked the Aviation Section of the Society of Automotive Engineers for support. But one pilot heckled him, saying, "if they build one of those things it will be merely a monument to someone's stupidity and not much else." Armstrong turned to the Public Works Administration and asked for a loan to build 5 Seadromes in the Atlantic. Secretary of the interior Harold Ickes denied the request, citing the difficulty of guaranteeing the Seadrome's security. However, Secretary of Commerce Daniel Roper was impressed with Armstrong's plan, and helped him secure a meeting with the President.

Mr. Nielsen: He arranged a meeting with President Franklin Roosevelt and showed him the films of the successful test of the Seadrome here in the Choptank River. Franklin Roosevelt thought it was a good idea to be pursued.

Tukufu: In 1934, Roosevelt brought the engineer before the Federal Aviation Commission. The Commission invited several luminaries of flight to testify on the Seadrome concept. And what happened at the hearings?

Mr. Nielsen: Charles Lindbergh got up in front of the commission and actually testified against the Seadrome.

Tukufu: Armstrong must have felt betrayed by Lindbergh. What made Lindbergh change his mind?

Mr. Nielsen: Charles Lindbergh at the time was working for…

Tukufu: I'm certain this will interest Ed. I started with no knowledge, so everything has been a learning experience for me.

Ed: This is exciting.

Tukufu: I tell Ed that it was the H. H. Ward Company who had built the Seadrome prototype. His grandfather had been there at the right time to have worked on the project.

Ed: That's fantastic.

Tukufu: Mr. Armstrong was not able to get financial support to build the actual Seadrome. But Mr. Armstrong did not give up on the idea. The moment of truth for the project had come when a former Seadrome supporter, Charles Lindbergh, had testified against it.

Mr. Nielsen: Charles Lindbergh at the time was working for Pan American Airlines and they were developing large transatlantic aircraft that would not need to stop at a Seadrome.

Tukufu: Lindbergh testified that within a year, transatlantic passenger flight would be so advanced that landing on a Seadrome would be unnecessary. Airline executives also testified against the Seadrome. They said if the government paid for a chain of Seadromes, it would threaten the demand for the transatlantic airplanes they were building.

Mr. Nielsen: This would've of course been in direct competition with the Seadrome concept.

Ed: That's wild; I would have never guessed that in a million years.

Tukufu: I tell Ed that although Edward Armstrong never saw his Seadromes built, before he died in 1955, his technology was used in the development of semi submersible off shore oil rigs. And this is where it found its rebirth and has been floating all over the world today. So your grandfather worked for the guy who gave birth to the idea that made offshore modern oil drilling a reality.

Ed: That's huge. We sincerely appreciate all the effort you've put into this. Thank you very much.

Tukufu: My pleasure. In June of 1939, Pan AM introduced the first transatlantic commercial airplane flights. Ocean travel reached its height in 1957, when a million passengers crossed the Atlantic on over seventy steamships. But that same year, nearly as many travelers made the trip by air. 1958 saw the first non-stop commercial jet service from the US to Europe. At the same time the airline industry introduced economy class, and the demand for flight surged past ship travel, which sank to only 900,000 passengers in 1960. The birth of the modern cruise industry replaced regular steamship travel throughout the 60s.