Lizzie Peabody: This is Sidedoor, a podcast from the Smithsonian, with support from PRX. I'm Lizzie Peabody. All right, should we go in?

Peter Jakab: Sure.

Lizzie Peabody: When you're standing in front of a single object that changed the world, it's hard not to feel small. Wow. It's a lot bigger in person than you realize.

Peter Jakab: Well, that happens with a lot of our collection. When you bring airplanes inside of a building, they get bigger.

Lizzie Peabody: Stretching across this gallery of the Smithsonian's newly renovated National Air and Space Museum is a machine made of white muslin, spindly wood, and wire. It's the airplane that carried Wilbur Wright over 800 feet through the air along a blustery beach in Kitty Hawk, North Carolina.

Peter Jakab: The 1903 Wright flyer is a seminal object, not only because it's the first airplane to make a successful flight, which it did, but what makes it even more important is that it embodies all the basic principles of every airplane that flew subsequently. Every airplane that flies today is really a Wright flyer in terms of how it's fundamentally designed and constructed.

Lizzie Peabody: Peter Jakab, senior curator at the National Air and Space Museum says even today's fastest, highest flying jet is just a souped up Wright flyer, so it means a lot to have the original right here at the museum.

Peter Jakab: The Wright flyer is one of the signature objects of the Smithsonian. It's one of the things that's most powerfully associated with the institution, and it certainly is a centerpiece here at the National Air and Space Museum.

Lizzie Peabody: But that wasn't always the case. Before it arrived at the Smithsonian, this airplane was a bargaining chip in a bitter decades-long feud that pitted bicycle builders from Ohio against a powerful and proud adversary, the Smithsonian itself. The story of that feud and how the Wright flyer landed right here, after the break.

#### [MUSIC]

Lizzie Peabody: If you happen to take a stroll along the banks of the Potomac River just outside Washington DC on December 8th, 1903, you'd have been pretty chilly.

Tom Crouch: It was a really cold day. In fact, there was ice on the Potomac.

Lizzie Peabody: The National Air Space Museum's Senior Curator Emeritus, Tom Crouch, says if on that December day, you'd wandered up around Buzzard's point, you'd have stumbled upon a small crowd.

Tom Crouch: The official Smithsonian photographer was there and all that, reporters and boats, as well as people watching from the bank of the river.

Lizzie Peabody: And if you'd craned your neck to peer above the heads of the crowd, you'd have seen a peculiar sight. In the middle of the river, a houseboat was anchored and on the roof of that houseboat sat what looked like a giant dragonfly, a machine with 50-foot sail like wings and twin propellers poised on top of a catapult.

Tom Crouch: They were going to shoot it into the air from the roof of a houseboat using streetcar springs to power the catapult.

Lizzie Peabody: The crowd was as tightly wound as the streetcar springs because if all went well, they would be witnesses to a first in human history. The first time an airplane powered by an engine would be flown through the air by a pilot, a pilot now climbing into the plane.

Tom Crouch: It must have been incredibly tense and exciting.

Lizzie Peabody: The flying machine poised for launch that day was the invention of astrophysicist Samuel Pierpont Langley. At the time, Langley was the head of the Smithsonian or Secretary of the Smithsonian, a title that also made him the nation's unofficial chief scientist. And according to Peter Jakab, Langley did not mind being the chief.

Peter Jakab: He had a tendency to fire people roughly.

Lizzie Peabody: Wow.

Peter Jakab: And then immediately say, "Where are so-and-so?" I said, "Well, you just fired him." "No, get him back here." That kind of a thing.

Tom Crouch: Langley would conduct every Friday, white glove inspections.

Lizzie Peabody: What?

Tom Crouch: Literally.

Lizzie Peabody: What does that even mean?

Tom Crouch: And he would do it in a morning coat and going from room to room, making sure everything was in order.

Peter Jakab: He knew who he was.

Lizzie Peabody: And he was important. Langley became secretary during a time of tremendous technological change. The 1880s to the 1910s saw the invention of the incandescent light bulb, early radio, automobiles, all sorts of things we take for granted as part of modern life today. Now, it's also during that time that the study of flight goes from a pie-in- the-sky fools errand to a serious course of study. And Samuel Langley as the nation's chief scientist, was captivated. He'd spent years doing experiments on model airplanes powered by engines, which he called Aerodromes. In 1896, his most successful model flew nearly three quarters of a mile.

Tom Crouch: And that was the first time that anybody had flown a heavier-than-air machine, powered heavier than air machine for a significant distance.

Lizzie Peabody: The success earned Langley a federal grant to turn his unmanned model into a full-size plane, which he did, and that was the machine sitting on the Potomac River in December 1903, the Great Aerodrome. The plan was to launch Langley's plane into the air by catapult. Once aloft, its powerful 52-horsepower engine would carry it through the sky, directed by a pilot.

Tom Crouch: Charles Matthews Manley, Langley's, aerodromic assistant, who was semi volunteer as pilot...

Lizzie Peabody: Semi volunteer?

Tom Crouch: Yeah.

Lizzie Peabody: This was not an easy gig because the great Aerodrome was designed from an unmanned model with no control system. So, Manley wouldn't actually have a lot of control over the airplane.

Tom Crouch: He's more like a passenger than a pilot.

Lizzie Peabody: Passenger or pilot, he was preparing to get wet.

Tom Crouch: Unfortunately, the pilot sits kind of the lowest thing in the machine. So if the Great Aerodrome works as advertised, if they fly it a mile down the river and it comes gently to rest in the water, when everything's said and done, the pilot's going to be underwater.

Lizzie Peabody: And that's the best-case scenario?

Tom Crouch: That's the best-case scenario.

Lizzie Peabody: But who's thinking about landing when history's about to be made in the air? Manley climbed aboard the Great Aerodrome. The Smithsonian photographer readied his camera. The Great Aerodrome's engine word, like a big insect, propeller's spinning.

Tom Crouch: Now this thing is going to go from zero to flying speed in less than 60 feet.

Lizzie Peabody: Manley gives a signal, the crowd inhales together, and they release the catapult.

Tom Crouch: Bang. Like that.

Lizzie Peabody: The aerodrome hurdles forward into the air, up, up.

Tom Crouch: It actually goes nose up in the air and comes down sort of upside down.

Lizzie Peabody: It crashed big time.

Tom Crouch: I mean, broken wood, snapped wires, fabric, forget flying. It couldn't take the impact of launch.

Lizzie Peabody: Miraculously Manley, the pilot, was okay. Unfortunately, the same cannot be said for the reputation of Samuel Langley. Congress had just watched the modern-day equivalent of nearly 2 million government dollars plummet into the Potomac. In the words of one reporter, "Like a handful of mortar." The papers were all over it.

Tom Crouch: The Aerodrome became the mud duck, an albatross.

Lizzie Peabody: The Great Aerodrome was dredged from the water, but its extraordinarily public failure sank Langley's scientific standing. All of his previous accomplishments suddenly seemed irrelevant. Peter Jakabs says...

Peter Jakab: He should have quit while he was ahead because Langley made the fundamental mistake of thinking he could simply scale up the Aerodrome Number Five and build a full-size piloted flying machine.

Lizzie Peabody: Langley had taken his successful model airplane, the Aerodrome Number Five, and just made it bigger. In hindsight, his mistake was obvious.

Peter Jakab: You can't just simply scale things up directly. There's an exponential factor in the structural design of Langley's Aerodrome when he tried to make the full-size one, simply was structurally unsound.

Lizzie Peabody: And Langley's failure gave the impression that human flight was still a far-off fantasy. I mean, if America's chief scientist couldn't figure it out, who could? A US Army observer watching that day wrote...

Speaker 4: We are still far from the ultimate goal. And it would seem as if years of constant work and study by experts together with the expenditure of thousands of dollars would still be necessary before we can hope to produce an apparatus of practical utility on these lines.

Lizzie Peabody: But it wouldn't be years. It would be days. Nine days later on a desolate stretch of beach, 200 miles south of Washington, a couple of bicycle mechanics from Ohio tested their flying machine. Orville lay flat in the center of the plane. His brother Wilbur held the wing like a father holding the handlebar of a tricycle, guiding it down a wooden track in the sand. A little 12-horsepower engine picked up speed. The wind blew sand that stung their skin. And then Wilbur let go of the wing. The flyer lifted into the air, a camera shutter clicked, and history was made.

Peter Jakab: It's extraordinary that we have the moment one of the great inventions happened.

Lizzie Peabody: The image of this exact moment hangs in the Wright Brothers Gallery of the National Air and Space Museum. The photo captures a success that was about as private as Langley's failure had been public. After all...

Tom Crouch: The Wrights were not guys with their hair on fire wanting to go out and bore holes in the sky. They were doing this because it was a problem that interested them.

Peter Jakab: The Wright brothers really were more engineers, not scientists. And there's a big distinction between that. Scientists are often generally trying to understand phenomenon in nature. They're trying to explain why things happen the way they do. Engineers are trying to build things. Engineers are trying to make things.

Lizzie Peabody: The 1903 Wright Flyer made four successful flights that day in Kitty Hawk. The last was the longest, 59 seconds in the air.

Tom Crouch: And they knew in their heart of hearts, they knew they'd done it.

Lizzie Peabody: Wilbur and Orville Wright spent the next several years patenting and quietly perfecting the technology behind the flyer. Finally, in 1908, they showcased their invention in a series of international flight demonstrations that effectively bored holes in the sky.

Peter Jakab: They really became kind of the first modern celebrities, the way we define celebrity today, where someone does something and they're instantly famous, and everybody wants a piece of them and that sort of thing. The Wrights were sort of the first figures like that. Lizzie Peabody: It's unclear what Samuel Pierpont Langley might have thought of the Wrights. He never lived to see them soar to international fame. He died only three years after the failure of his aerodrome in 1906 at the age of 71.

Peter Jakab: And really, he kind of died a broken man, just kind of humiliated by the failure of the Great Aerodrome.

Lizzie Peabody: But while Langley himself was gone, the world had not seen the last of his infamous flying machine that did not fly. The not-so-great Aerodrome returns after the break. After Secretary Samuel Pierpont Langley died, a new secretary took office at the Smithsonian, Charles Doolittle Walcott. Walcott was a geologist, and according to Tom Crouch a good one.

Tom Crouch: Walcott may have been the best scientist who's ever been secretary.

Lizzie Peabody: But even great scientists can suffer from questionable judgment. Walcott had been a close friend of Samuel Langley's. And after Langley died, Walcott wanted to restore his friend's tarnished reputation. So, he used his new position as secretary to Langley-ifi as much as possible.

Tom Crouch: So, he established the Langley Aeronautical Laboratory, put up a plaque in the castle, honoring Langley, established the Langley metal.

Lizzie Peabody: He even declared a holiday.

Tom Crouch: Langley Day.

Lizzie Peabody: When Smithsonian employees got the day off and distinguished aviators came to the Capitol to fly planes on the mall and wow people. As a Smithsonian employee, I have to say, I don't know what happened to this, but I am pretty sure we should bring it back, Secretary Bunch, if you're listening. So, one fine Langley day in 1914, Charles Doolittle Walcott is enjoying the festivities in honor of his old friend when a mustachioed man probably wearing a boater hat saunters up to him and says...

Tom Crouch: "Can I have the sad remains of the 03 Aerodrome? I'm interested in tandem wing airplanes," he said. "And you'll save me a little time and money if I can rebuild that one instead of building it. Yeah, yeah, yeah.

Lizzie Peabody: Now, it may have occurred to Walcott that there are better ways to research tandem-wing airplanes than to rebuild the broken remains of a decade-old machine that never flew. Nevertheless...

Tom Crouch: Walcott said "Sure."

Lizzie Peabody: And in hindsight, it's easy to see this as Walcott's first mistake because the man who'd approached him was Glenn Curtis, who at that very moment was locked in a vicious patent dispute with Orville Wright. Can you kind of summarize the patent controversy between the Wright Brothers and Glenn Curtis?

Peter Jakab: Well, it's probably an entire podcast on its own.

Lizzie Peabody: Fair enough. But not this podcast. So, to sum it up, the patent that the Wrights got on their flying machine was really broad. So broad, it was pretty much impossible for anyone to make another flying machine without infringing on it. And the Wrights were pretty chill about people building planes as long as those people were experimenting for the fun of it. But as soon as someone started making money on their airplanes...

Peter Jakab: When they started demonstrating them publicly or entering them in competitions for prizes, those sorts of things, the Wrights started filing patent infringement suits and were expecting people to pay them a royalty for what they were doing.

Lizzie Peabody: Glenn Curtis was a star mechanic and motorcycle racer who'd started building planes with amazingly lightweight engines and selling them.

Peter Jakab: And he was really the principle person in the United States who was doing that.

Lizzie Peabody: And Curtis didn't want to have to pay the Wright brothers a cent. So the Wright brothers sued him, and the case dragged out in court for years. The legal slog was so bad that when Wilbur Wright died of typhoid fever in 1912, Orville blamed the stress of the patent suits for weakening him. And Orville was left alone to defend their invention.

Peter Jakab: By this time, the center of aeronautical development and manufacture had really shifted to Europe. And the Wrights had filed patent infringement suits in many European countries as well. But in the United States, Curtis was the big rival.

Lizzie Peabody: Curtis finally lost the patent case in January, 1914, but he was not about to give up. So later that year when he approached Walcott at Langley Day with his proposition to go fix up the great aerodrome...

Tom Crouch: What he's actually thinking is, if he can get this thing in the air, geez, he can go back to court and say, "See, somebody was capable of flight before the Wright Brothers. They don't deserve that patent."

Lizzie Peabody: It's a Hail Mary to save his own patent suit.

Tom Crouch: Yeah, it was.

Lizzie Peabody: Both men had something to gain. Curtis figured if he could prove that Langley's Aerodrome was capable of flight in 1903, he could have the Wright brothers patent invalidated, and for Walcott, what better way to redeem his old friend's reputation than to put his failed invention in the sky? So off Glen Curtis goes with the aerodrome up to his shop in New York. He's determined to make it fly, and to do that, he needs to make a few minor adjustments.

Tom Crouch: The first thing Curtis has to do is figure out where to put the pilot, since they're not going to catapult them into the air, and he can't start the takeoff underwater. So, they put the machine on floats.

Lizzie Peabody: Curtis moves the pilot from the bottom of the plane to the top of the plane, and he ditches the catapult, and he puts in a new engine and a better control system and new wings, and a new tail, moves and kingpins and trusses around, minor adjustments. Now, by this time, Orville Wright is starting to get a little suspicious. When he finds out that Secretary Walcott is letting his arch nemesis rebuild and test fly the old Langley Aerodrome from 1903, he's pretty sure there's some shenanigans going on, so he decides to send his other brother, Lauren, to spy on the reconstructed Aerodrome's flight test. He figures Lauren's not famous.

Tom Crouch: Nobody was going to recognize Lauren. So, take a look, see what was going on.

Lizzie Peabody: Only...

Tom Crouch: They did recognize Lauren. They took his camera away and...

Lizzie Peabody: My gosh, really?

Tom Crouch: Sent him away. Yep.

Lizzie Peabody: This is like real espionage. Low and behold, in May of 1914, the refurbished Langley Aerodrome flew a few short flights along the surface of a lake in New York. Secretary Walcott wasn't there to see it, but he'd sent a delegate on his behalf, a fellow named Alzam.

Tom Crouch: Zam was a first-rate engineer. He was no slouch.

Lizzie Peabody: But Alzam had beef with the Wright brothers. In fact, he'd actually testified against them in court as a key witness for Glen Curtis.

Tom Crouch: Here's Alzam, who really has a thing for the Wright Brothers.

Lizzie Peabody: Not a good thing.

Tom Crouch: Not a good thing. He does a report that he brings back to Walcott, in which he says, essentially, "Okay, we've done it." That machine is the world's first flying machine capable

of flight. Okay, the Wrights flew first, but by golly, Langley was capable of doing it, if only things had gone a little different.

Lizzie Peabody: What Alzam fails to mention in this report is all the changes Curtis made to the original aerodrome. I mean...

Peter Jakab: It was not the same airplane. Curtis had radically modified the airplane to make it fly.

Lizzie Peabody: But Walcott was all too glad to hear the news and spread it. He didn't ask any follow-up questions. He just ordered the aerodrome back to DC to be prepared for display.

Peter Jakab: The real mistake that the Smithsonian made at that point was to reconstruct the airplane, yet again, returning it to its original 1903 configuration and identifying it as the world's first airplane capable of flight.

Lizzie Peabody: Did you get that? Langley's failed 1903 Aerodrome, the one that sank like a block of mortar, was displayed at the Smithsonian with a label calling it "The first man carrying airplane in the history of the world, capable of sustained free flight."

Peter Jakab: Well, this was a rather misleading position because the airplane couldn't have flown in its original configuration.

Lizzie Peabody: When Orville Wright found out about this, he was peeved, but he didn't say anything. He didn't want to look like he was picking on poor dead Samuel Langley. And besides, he wasn't even sure if Secretary Walcott knew about all the changes to the aerodrome. Maybe the Smithsonian had been duped by Glen Curtis. Orville stayed quiet for years until in 1921, an aviator friend of his published a complete catalog of all the changes to Langley's machine using photographs published by the Smithsonian as evidence. The information was out there for all to see.

Tom Crouch: And at that point, Orville really had something he could point to. And what he begins saying is, "I don't want to bash Samuel Langley. All I'm worried about is those 1914 tests. I think you ought to tell people the truth that you made these changes, X, Y, and Z. Tell them what changes you made and I'll be happy." And they wouldn't do it.

Lizzie Peabody: Who wouldn't do it?

Tom Crouch: The Smithsonian wouldn't.

Lizzie Peabody: Orville didn't back down. He wrote letters to Secretary Walcott, government officials. He even wrote to William Howard Taft, who was Chief Justice at the time.

Tom Crouch: And he couldn't get anybody to pay any attention to him at all. God, it was really maddening.

Lizzie Peabody: Why didn't Walcott pay attention at that point? Why did nothing change? I mean, clearly they had then documentation of...

Tom Crouch: He didn't want to.

Lizzie Peabody: He just didn't... He did not want to-

Tom Crouch: He just didn't want to. His commitment to Langley was so strong that what he was saying to himself was, "I don't know how important those changes were. Maybe they weren't important at all." But the point is, he wouldn't budge.

Lizzie Peabody: Walcott walled himself inside his castle and told himself what he wanted to hear. And from that high perch, he had the power not only to delude himself, but to mislead anyone who looked to the Smithsonian as a source of scientific truth. Orville Wright was beginning to feel like David battling Goliath. So, in 1925, he picked up the only weapon within his grasp, and he took good aim.

Tom Crouch: Orville comes up with the best idea he's had since the invention of the airplane. He said, "Okay, have it your way."

Peter Jakab: Orville makes a decision to send the Wright airplane to the science museum in London, essentially as a gesture of protest.

Lizzie Peabody: Orville wrote...

Speaker 5: I believe my course in sending our Kitty Hawk machine to a foreign museum is the only way of correcting the history of the flying machine, which by false and misleading statements has been perverted by the Smithsonian Institution.

Lizzie Peabody: He figured sending this symbol of American ingenuity abroad would get Americans' attention.

Peter Jakab: And in fact, that was what happened.

Lizzie Peabody: The public was outraged. People wrote furious letters to the Smithsonian. The press picked it up.

Tom Crouch: Major American magazines are doing articles, bring our airplane home.

Lizzie Peabody: It was a stroke of political genius, and it struck Walcott right between the eyes. For the first time, he was on the back foot. To save face and try to smooth things over, he assembled a committee of top engineers to review the two Aerodromes, 1903 and 1914, and make a ruling on the significance of the changes.

Tom Crouch: And they came back waffling.

Lizzie Peabody: Because they didn't want to displease him? He had some power?

Tom Crouch: The honest truth is they didn't want have anything to do with it, but they didn't say. "You're wrong." So, Walcott could take the wishy-washy stuff they've said and say to the world, "Well, I mean, here's what these great authorities think. What am I supposed to do?" Things go from bad to worse. It is a long story.

Lizzie Peabody: That it is. So, we're going to speed up just a little bit. In 1927, Walcott dies. A new secretary, Charles Greeley Abbott takes over. He makes a few feeble attempts to appease Orville, but it doesn't work. Charles Lindbergh gets involved. Even he can't make any headway.

Tom Crouch: I mean, Orville keeps saying the same thing. "All you have to do is give me a piece of paper, publicize it with the original 1903 Langley and the 1914. Show people what changes you made, and that's all you have to do."

Lizzie Peabody: But the Smithsonian wouldn't. Another decade passes, Orville writes in his will that the flyer will stay in London when he dies. And by the early 1940s, two decades into the feud, both sides had pretty much given up on reconciliation. And that is when an unlikely hero enters the picture, a writer by the name of Fred Kelly, he'd been working on a biography of the Wright Brothers. The problem was Orville Wright wasn't so pleased with how the book was going.

Tom Crouch: So, Kelly's really worried about whether in the end, Orville's going to let him publish this book. So, he thinks, "Well, if I can put Orville in my debt..."

Lizzie Peabody: So, he goes to Secretary Abbott and says, "Come on, man."

Tom Crouch: He's the one basically who just told Abbott, "If you just do what he wants, he means it. That's all he wants." And that's actually, I think, what pushes Abbott finally to say, "The time has come."

Lizzie Peabody: This is where I say never underestimate the desperation of a writer on a deadline.

Peter Jakab: Finally, finally, finally, finally, in 1942, the Smithsonian published an article very thoroughly and accurately detailing all of the changes and modifications that had been made to the Langley Aerodrome in 1914, and unequivocally crediting the Wright Brothers with having

invented the airplane. And that satisfied Orville. That's what he always wanted. He never wanted to besmirch the Smithsonian. All he wanted was an accurate accounting of what was done to the Langley airplane in 1914. And finally, he had gotten that.

Lizzie Peabody: Orville Wright was satisfied, but he didn't let the Smithsonian know that.

Tom Crouch: Being Orville Wright, he twists the knife a little bit. He doesn't say to Charles Abbott, "Okay, fights over."

Lizzie Peabody: He updates his will without telling Secretary Abbott. So when Orville Wright died in January of 1948, the Smithsonian had no idea what the fate of the flyer would be.

Tom Crouch: And if you look at the Smithsonian correspondence at the time, they're saying, "Well, I guess we lost."

Lizzie Peabody: But a short time later, the Executors of Wright's will notified Secretary Abbott that after its 20-year vacation abroad, the 1903 Wright Flyer would be shipped back to the United States to finally land at the Smithsonian. On December 17th, 1948, the feud officially came to an end, 45 years to the day after the Wright Brothers' first flight at Kitty Hawk. The 1903 Wright Flyer took its rightful place at the Smithsonian. 850 people gathered for the grand ceremony.

Peter Jakab: The British ambassador had come and was at the ceremony. And he said, looking at the flyer, "It's a little bit as if we have before us the original wheel." And I think that very, very well sums up the importance of the flyer. It is an object that really represents a fundamental shift in human history.

Lizzie Peabody: But like it or not, it's also an object that represents a fundamental truth about human nature and what happens when the darker parts of that nature, ambition and willful blindness, get the better of people, especially people with power. We're definitely not the hero of the story. We're kind of the villain of this story. What's the value of telling those stories too, the ones where maybe we don't look so great?

Tom Crouch: Well, it's because we don't always look so great. No institution is perfect, spotless. We grow and we change and we learn. And that's the value, I think.

Lizzie Peabody: Today, the Wright flyer has its own gallery in the Smithsonian's National Air and Space Museum, a symbol of innovation, progress, but also of a wrong righted at last. Beneath the 1903 flyer is the original label presented at its dedication. It states unequivocally...

Speaker 5: The original Wright Brothers airplane, the world's first power driven heavier than air machine, in which manmade, free-controlled, and sustained flight. By original scientific research, the Wright Brothers discovered the principles of human flight as inventors, builders

and flyers. They further developed the airplane, taught man to fly, and opened the era of aviation.

# [MUSIC]

Lizzie Peabody: You've been listening to Sidedoor, a podcast from the Smithsonian, with support from PRX.

## [MUSIC]

Lizzie Peabody: The Smithsonian's National Air and Space Museum is finally reopened. Go, go, go! It is spectacular. You can see the original Wright flyer there, as well as Langley's Model Aerodrome Number Five, the one that flew in 1896. And at the National Air and Space Museum's Udvar-Hazy Center, you can see Samuel Langley's, infamous great aerodrome, the mud duck that crashed.

## [MUSIC]

Lizzie Peabody: If you can't get to the museums in person, never fear. In our newsletter, we'll link photos of the new Wright Brothers Gallery, as well as pictures of the spectacular crash of the Mud Duck. We'll also link to some letters from the Smithsonian Archives from Wilbur Wright to the Smithsonian in 1899. Wilbur Wright introduces himself as a person "interested in the study of flight" and asks to be directed to any existing publications on the topic.

#### [MUSIC]

Peter Jakab: So, I always have said that it's very important for us to answer the mail because you never know which one of those letters is going to change the world.

Lizzie Peabody: Special thanks is episode to Peter Jakab and Tom Crouch, both of whom have written extensively on this subject. Tom Crouch's article, "Capable of Flight: The Sage of the 1903 Wright Airplane," was integral to this episode. Thanks also to Alison Mitchell, Katie Moyer, and Amy Stamm at the National Air and Space Museum, and to PJ Tabit and Dave Thackera for their voiceover work.

#### [MUSIC]

Lizzie Peabody: Our podcast team is James Morrison, Natahlie Boyd, Ann Conanan, Caitlin Shaffer, Tami O'Neill, Jess Sadeq, Lara Koch, and Sharon Bryant. Episode artwork is by Dave Leonard. Fact Checking by Adam Bisno. Extra support comes from PRX. Our show is mixed by Tarek Fuoda. Our theme song and episode music are by Breakmaster Cylinder.

#### [MUSIC]

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## [MUSIC]

Lizzie Peabody: I'm your host, Lizzie Peabody. Thanks for listening.

Tom Crouch: One of the neat things in my career is to have really been inside that family. I remember I was up in the Library of Congress going to through the Wright papers, and for some reason I'd never looked at Orville's notebooks because they're all published. And I just used the published, but for some reason I pulled the 1902 notebook out and it was just one of those spiral things that you stick in your pocket. And I opened the back cardboard and there was written in childish script, "Ivanett, Ivanett, "and I called her and I said, "Did you know your name is in the inside back cover of your Uncle Orv's 1902 notebook?" And she remembered. She said, "Yeah." She started school in 1902 and they lived just around the corner from the Wrights. And she said, "My mom took me over and Orville was there." And he said, "Well, how's school?" And I said, "Well, I can write my name." And he said, "Well, come show me." And the fact that I could pick up the phone and call the little old lady, that little girl had become, made the hair on the back of your neck stand up.

Lizzie Peabody: Wow.