

compass. I also had a magnetic compass, but it was the inductor compass which guided me so faithfully that I hit the Irish coast only three miles from the theoretic point that I might have hit if I had had a navigator. I replaced a navigator's weight by the inductor compass. This compass behaved so admirably that I am ashamed to hear any one talk about my luck. Maybe I am lucky, but all the same I knew at every moment where I was going.

The inductor compass is based on the principle of the relation between the earth's magnetic field and the magnetic field generated in the airplane. When the course has been set so that the needle registered zero on this compass, any deviation, from any cause, would cause the needle to swing away from zero in the direction of the error. By flying the plane with the needle at an equal distance on the other side of zero and for about the same time the error had been committed, the plane would be back on her course again. This inductor compass was so accurate that I really needed no other guide.

"Am I on the Right Road to Ireland?"

Fairly early in the afternoon I saw a fleet of fishing boats. On some of them I could see no one, but on one of them I saw some men and flew down, almost touching the craft and yelled at them, asking if I was on the right road to Ireland.

They just stared. Maybe they didn't hear me. Maybe I didn't hear them. Or maybe they thought I was just a crazy fool.

An hour later I saw land. I have forgotten just what time it was. It must have been shortly before 4 o'clock. It was rocky land and all my study told me it was Ireland. And it was Ireland!

I slowed down and flew low enough to study the land and be sure of where I was; and, believe me, it was a beautiful sight. It was the most wonderful looking piece of natural scenery I have ever beheld.

After I had made up my mind that it was Ireland, the right place for me to strike rather than Spain or some other country, the rest was child's play. I had my course all marked out carefully from approximately the place where I hit the coast, and you know it is quite easy to fly over strange territory if you have good maps and your course prepared.

**Flew Low Over Ireland So He Could Be Seen.**

I flew quite low enough over Ireland to be seen, but apparently no great attention was paid to me. I also flew low over England, mounted a little over the Channel and then came down close to land when I passed a little west of Cherbourg. From Cherbourg I headed for the Seine and followed it upstream.

I noticed it gets dark much later over here than in New York and I was thankful for that. What especially pleased me was the ease with which I followed my course after hitting the coast of Ireland.

When I was about half an hour away from Paris I began to see rockets and Very lights sent up from the air field, and I knew I was all right.

**Eiffel Tower Lights Come Into View.**

I saw an immense vertical electric sign, which I made out to be the Eiffel Tower. I circled Paris once and immediately saw Le Bourget [the aviation field], although I didn't know at first what it was. I saw a lot of lights, but in the dark I couldn't make out any hangars. I sent Morse signals as I flew over the field, but no one appears to have seen them. The only mistake in all my calculations was that I thought Le Bourget was northeast rather than east of Paris.

Fearing for a moment that the field I had seen—remember I couldn't see the crowd—was some other airfield than Le Bourget, I flew back over Paris to the northwest, looking for Le Bourget. I was slightly confused by the fact that whereas in America when a ship is to land, beacons are put out when floodlights are turned on, at Le Bourget both beacons and floodlights were going at the same time.

I was anxious to land where I was being awaited. So when I didn't find another airfield, I flew back toward the first lights I had seen, and flying low I saw the lights of numberless automobiles. I decided that was the right place, and I landed.

**Reception the Most Dangerous Part of Trip.**

I appreciated the reception which had been prepared for me, and had intended taxiing up to the front of the hangars, but no sooner had my plane touched ground than a human sea swept toward it. I saw there was danger of killing people with my propeller, and I quickly came to a stop.

That reception was the most dangerous part of the trip. Never in my life have I seen anything like that human sea. It isn't clear to me yet just what happened. Before I knew it I had been hoisted out of the cockpit, and one moment was on the shoulders of some men and the next moment on the ground.

It seemed to be even more dangerous for my plane than for me. I saw one man tear away the switch and another took something out of the cockpit. Then, when they started cutting pieces of cloth from the wings, I struggled to get back to the plane, but it was impossible.

**Clubbed by a Good Samaritan.**

A brave man with good intentions tried to clear a way for me with a club. Swinging the club back, he caught me on the back of the head.

It isn't true that I was exhausted. I was tired, but I wasn't exhausted.

Several French officers asked me to come away with them and I went, casting anxious glances at my ship. I haven't seen it since, but I am afraid it suffered. I would regret that very much because I want to use it again.

But I must remember that crowd did welcome me. Good Lord! There must have been a million of them. Other men will fly the Atlantic as I did, but I think it safe to guess that none of them will get any warmer reception than I got.

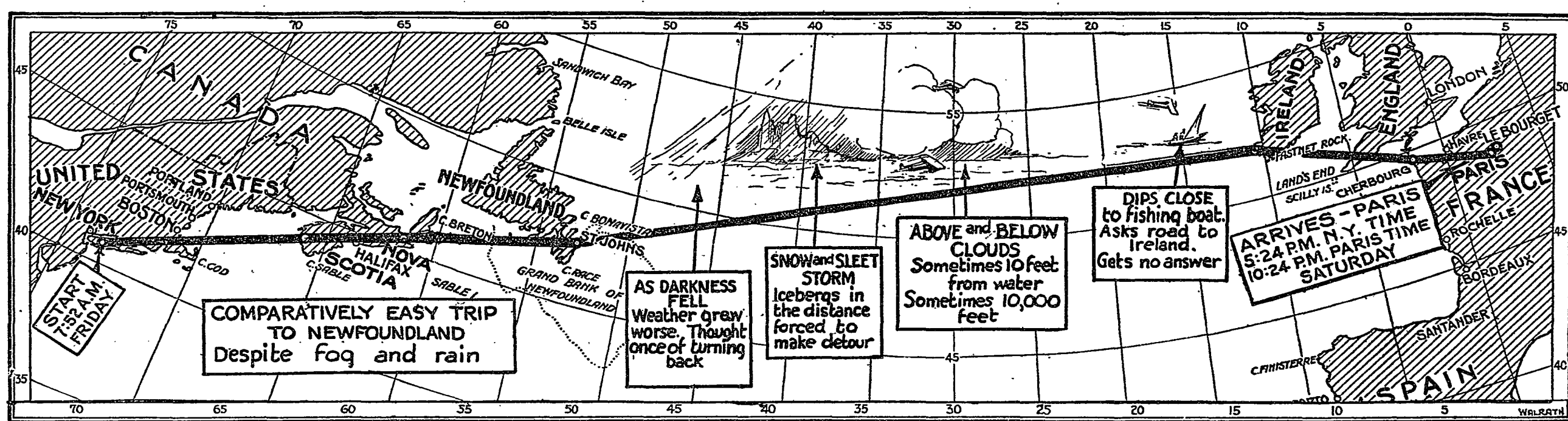
Finally I got here to Ambassador Herrick's house and I have certainly been all right since then.

**He Does Want to Do a Little Flying!**

I don't know how long I will stay in Paris. It looks like a good place. I have been asked if I intend to fly back to New York. I don't think I shall try that. But I certainly hope to get to do a little flying over here. Flying is my job and because I did this job successfully it doesn't mean I'm through.

I look forward to the day when transatlantic flying will be a regular thing. It is a question largely of money. If people can be found willing to spend enough to make proper preparations, there is no reason why it can't be made very practical. Of course, there are many things to be studied, one of the important points being whether the single-motor or multimotor ship is best. I understand there is soon to be a transatlantic flight made with a tri-motor plane. [This is evidently a reference to Commander Byrd's projected flight in the America.]

I didn't bring any extra clothes with me. I am wearing a borrowed suit now. It was a case of clothes or gasoline, and I took the gasoline. I have a check on a Paris bank and am going



MAP VIEW OF INCIDENTS ALONG LINDBERGH'S ROUTE AS HE DESCRIBES THEM.

to cash it tomorrow morning, buy shirts, socks and other things. I expect to have a good time in Paris.

But I do want to do a little flying over here.

**Lindbergh's Story Clue to French Fliers' Fate.**

Captain Lindbergh's story, as sent to THE TIMES last night from Paris, contains a strong clue to the probable fate of Captain Charles Nungesser and Major François Coli, the French aviators who, after starting in their single-motored biplane from Paris for New York, have never since been heard from. This was accentuated in the interview which Lindbergh gave in Paris yesterday to Carlyle Macdonald.

Lindbergh dilates on his own serious peril from sleet when he passed through a storm in a cold area off the Banks of Newfoundland. As Nungesser and Coli made their attempt much earlier, when it was even colder, the storms they met were probably more severe than those encountered by Lindbergh—storms in which ice would form more quickly on the wings and in great quantity. This would be quickly fatal.

The functioning of Lindbergh's motor is regarded as extraordinary. The fact that he had enough gasoline at the end to fly 1,000 miles further was remarkable in view of the heavy load the motor had to pull the first part of the way.

B. F. Mahoney, President of the Ryan Air Lines, which built the plane, estimates that this showed that Lindbergh's Wright motor averaged less than twelve gallons an hour.

**The Compass Which Kept Him Straight.**

The earth inductor compass mentioned in the story as the one Lindbergh used is the invention of Maurice Titterton of the Pioneer Instrument Company. It is one of the most valuable instruments for air navigation yet developed. Nearly all long distance fliers now use them, and they are being used on air mail and other routes. Commander de Pinedo uses one on his present flight. It was the only American instrument on board.

The compass works on an entirely different principle from the magnetic compass. It gives the true north by a certain relationship to the lines of force of the magnetic field of the earth. It consists of a rather large generator placed in the tail of the ship and driven by a wind propeller which sticks out of the top of the fuselage.

**Generator Acts on Compass.**

As this generator develops current it sets up an electrical field which holds a compass card in a constant relationship to the lines of force running north and south. So long as the generator turns the compass cannot vary from this position.

The position of the compass is registered in front of the pilot by a dial on which is an indicator needle. This needle points to any course which the pilot wishes to follow. As it swings off the pilot knows that his ship is swinging away from the course it should follow, and he merely swings back again.

**Needle Does Not Vibrate.**

The needle does not vibrate and turn as does the magnetic compass card under disturbed conditions, and the earth inductor compass is not subject to the variations which affect the magnetic compass.

**What He Means by Morse Signals.**

The Morse signals which Lindbergh tells of having sent out when he was over Le Bourget must have been made with his flashlight. He carried no radio apparatus. At one time he considered carrying a small emergency set, but when he found that he could get more gasoline into his tanks than he had expected he stripped his plane of everything that was not absolutely necessary.

He knew the Morse code used in flashing signals at night in the navy—in fact, Lindbergh seems to know a little of all technical matters—and it would have been an easy matter for him to have flashed a message by sticking his light out of his cockpit window.

Seeing them from below was another matter. That chance was very slim. And apparently they were not seen because of the small size of the flash and the brilliant illumination of the flying field.

## LINDBERGH IS HERO OF HOUR IN PARIS

By EDWIN L. JAMES.

Continued from Page 1, Column 3.

dangerously enthusiastic reception he got at Le Bourget.

Repeated efforts to discover what thoughts raced through his brain during the strained hours when he would have turned back had it not been likely that the going was just as rough behind him as in front brought the only reply that all he thought about was "getting there."

He admitted that he thought about his mother, with whom he talked by wireless telephone this afternoon, but he would not admit that he considered the weight of his past sins or any other things that people in danger are supposed to think about. In fact, he insisted that he was no more in danger than he had been many times before, figuring logically that there are all sorts of bad landings in an aviator's life.

As an aviator he explained that his engine never missed a lick and was going when he landed just as well as when he started.

He was not tired or sleepy, and with enough fuel left for another thousand miles could have gone to Vienna or any other place that distance beyond Paris. But he explained that Paris was the place he headed for, and when he got there this one particular job was done.

Flew to Le Bourget Twice. Incidentally, he solved the mystery of the airplane which flew over Le Bourget last night about ten minutes before the Spirit of St. Louis landed. It was he. Attracted by the lights, he had flown to Le Bourget, but thinking it further north than east of Paris, he had turned and flown over the capital to make sure of the right landing place and then returned to Le Bourget.

He said he had intended to taxi his machine up to the prepared

landing place, but gave up the intention when a human sea swept down upon him, shutting off his motor to avoid the propeller killing the enthusiasts who were down on him.

To the popular imagination perhaps the most striking feature of Lindbergh's flight was the manner in which he kept his course without any ordinary navigating instruments. This he explained by referring to his earth inductor compass, which he praises to the skies.

The principle of this compass is based on the relation between the earth's surface magnetic field and the magnetic field generated in the airplane. The slightest deviation from the set course causes the needle to swing away from the zero point in the direction in which the plane has left the course. But by flying with the needle on the other side of zero a corresponding number of degrees and for the same period as the plane deviated, the machine gets back onto the course.

The aviator explained that it was practically impossible for winds, storms or other influences to put him more than 200 miles off his set course, and at no time in his flight, except intentionally when seeking to avoid clouds, did he deviate that much. And he estimates that he hit Ireland only three miles off the ideal course he had set.

**Won't Forget Le Bourget Crowd.**

Lindbergh says that until his dying day he will never forget the reception last night at Le Bourget. His estimate of a million people is only an exaggeration he ever made perhaps, and there were probably a hundred thousand who made that mad rush which came nearer to wrecking him and his plane than did the Atlantic elements.

Tens of thousands who started toward the airport never got there because of the traffic jam, which was straightened out only after dawn today. Ten spectators are in hospitals, several with serious in-

juries. Nearly a ton of articles was picked up on the field this morning, varying all the way from false teeth to women's furs. Canes, umbrellas, coats, pieces of clothing, watches and jewelry were included in the haul, which is being held for claimants. Crippled cars which tried to climb trees and others stuck in the mud gave a busy Sunday to the garage repair forces.

It was 12:30 A. M. before Lindbergh could be gotten away in safety from the airport. When rescued from the crowd he was whisked away to a small building on the outskirts of the field, where the lights were turned out so he would not be discovered. Finally two French aviators got him into a car and went across the field onto a small road, to reach Paris an hour and a half later.

Lindbergh paused for a moment at the tomb of the Unknown Soldier and then went to the embassy, where he arrived before Ambassador Herrick, who was caught in the traffic jam which marred so many dispositions and mudguards.

It would take Lindbergh a year to fulfill all the proffered invitations. All day crowds blocked the streets around the embassy, and it was only late in the day that he got outside the gate to pay a visit to Captain Nungesser's mother.

Certainly there is nothing short about the French treatment of Lindbergh. The Government and the public are seeking to honor him in every possible way, and it is difficult to imagine a Paris crowd that could treat with greater honor a Frenchman who had made the Atlantic flight.

Newspapers of all shades of opinion laud Lindbergh and alike call him a real American. One has yet to detect the slightest false note in the French praise of the daring airman.

If last night's reception was rough, it was sincere. When 100,000 people—the vast majority of them French—got carried away with the enthusiasm which seized the Bourget crowd last night, anything might happen. The marvel is that only ten instead of hundreds had to be taken to hospitals.

Had any motion picture operator gotten a film of it, he would have had the best mob picture in existence. But the row of motion picture cameras which had been arranged behind the police cordon was swept away as so many straws and the operators carried a half mile away.

Anyhow, the French are treating Lindbergh all right. He is every one's hero today.

**FLIER HAS A BUSY DAY, BUT IS FEELING FIT**

**He Is Overwhelmed With Attention and Retires Early to Be Rested for Official Honors.**

By CARLYLE MACDONALD.

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PARIS, May 22.—Charles "Lucky" Lindbergh, who with all the romance of a Lochinvar nonchalantly flew out of the Western World and alighted thirty-three and one-half hours later just outside of Paris, slept ten long, dreamless hours in the American Embassy and awakened at 1 o'clock this afternoon and asked for a big American breakfast.

Rubbing his blue eyes and peering out of a window at the throng of Parisians massed at the front gates to pay their homage, he turned to Parnely Herrick, the Ambassador's son, and said: "My! I guess I overslept. You know, I had an important engagement at 11 o'clock to dictate the story of my trip."

Mr. Herrick assured him that Paris and the rest of the world fully expected him to sleep at least twenty hours.

"Oh, I feel fine and fit," he said, with a laugh.

Ambassador Herrick and his son had a quick conference regarding the question of something to wear for Lindbergh. Mr. Herrick's valet hastily took his measurements and in a few minutes an entire outfit was assembled.

The scheme, however, fell down when it came to the matter of shoes, nobody in the entire embassy having any big enough. So Lindbergh's old army shoes, black with the grime of the transatlantic trip, were worked

upon by two enthusiastic servants and restored to partial semblance of newness.

Ready for a Hearty Breakfast. "Now for some food," said Lindbergh, as a big tray containing ham and eggs, grapefruit, toast and coffee appeared at the door.

During the entire process of dressing the man whom the French now unhesitatingly call the "world's greatest aviator" kept up a steady flow of conversation with THE NEW YORK TIMES correspondent.

"It's funny, you know," he related, "but every one seems to think I ought to be half dead. I am all O. K., and why shouldn't I be after ten hours' sleep? No, I didn't dream about anything. I would like to take a look at that ship of mine and see if everything is all right."

By this time it was 1:30 P. M.—Ambassador Herrick had sent a hurried call for police reserves to keep back the wildly enthusiastic crowd which kept up a constant yell of "Vive Lindbergh! We want Lindbergh!"

Two hundred newspaper men from every corner of the earth were meanwhile assembling on the lower floor of the embassy, while in the courtyard twenty-five movie men and fully fifty photographers were nervously pacing up and down waiting a chance to snap the world hero of the moment.

When Lindbergh was busy consuming large quantities of food—his first real meal since last Wednesday—a messenger arrived from the King of Spain with a telegram of congratulations from Alfonso himself. The King was the first monarch to felicitate the airman. His message read:

For the courage and persistence you represent and for the admirable deed you have accomplished in spanning the vast Atlantic alone, I congratulate you and greet you affectionately.

ALFONSO, King.

In rapid succession came personal messages from President Doumergue of the French Republic, from Foreign Minister Briand, War Minister Painlevé, and the last thing the young man did before going to sleep was to read two cables from President Coolidge and Secretary Kellogg—the first to be delivered him after the message from his mother in Detroit.

Dictates Story of the Trip. Then, with breakfast finished, Lindbergh retired into one of the embassy's private salons with two correspondents of THE NEW YORK TIMES and a stenographer and prepared his historic account of his famous flight. Toward the close of this thrilling history the crowds waiting since an early hour could not be restrained any longer, the police keeping them back with difficulty.

Mr. Herrick entered the room and taking Lindbergh by the arm led him on to the front balcony overlooking the big crowd. Here with his arms entwined and both smiling broadly, the 25-year-old ambassador of the air and 72-year-old Ambassador of the American Government stood while the throng cheered wildly and yelled, "Vive Lindbergh! Vive l'Amérique!"

"Vive la France," shouted back the cool young man and the crowd went wildly enthusiastic once more. At this point Mrs. Parnely Herrick the Ambassador's daughter-in-law, brought a French flag and Lindbergh and Herrick each holding an end let it unfurl in the breeze. Again came another wild outburst from the crowd lasting until the aviator entered the house with a final wave and another of his engaging smiles.

After this came, thrilling his whole day, his telephone conversation with his mother in far-off Detroit, especially arranged by the telephone administrations of France, England and the United States.

Foreign Minister Briand's personal envoy also brought with him information that a large American flag would fly all day over the foreign office—the first time in the history of France that such an honor has been accorded to any one other than a sovereign.

There was also conveyed to Lindbergh in the course of the day an indication that the Government had decided to decorate him with the Cross of the Legion of Honor. A fitting ceremony will mark the conferring of this decoration.

After his chat with his mother

Throughout the day Lindbergh's love for his mother was always in evidence.

"You know, Mr. Ambassador, I would like to fly over to London in my machine to talk to my mother for a few minutes," he said soon after waking.

"Oh, no more flying for you, my boy, for a little while anyway," replied the Ambassador. A short time later he was able to tell Lindbergh that his fondest wish would soon be realized, as telephonic communication with Detroit had been arranged for 4 o'clock.

During a chat with THE NEW YORK TIMES correspondent as he was dressing, Lindbergh emphasized repeatedly that his was no "flying fool expedition."

"You know," he said, "they pinned that 'flying fool' business on me because I was so young and was not afraid of storms, but in this expedition I want to make it perfectly clear that the greatest aeronautic thought available was applied and that the machine and the engine were the result of some of the best engineering talent in the country."

"The instruments were of the highest type. In fact, the success of the trip was due to a large extent to my earth inductor compass."

Among the callers in the afternoon

was a blind veteran of the war. His meeting with Lindbergh was moving.

"My greatest sorrow," he said, as he grasped the flier's hand, "is that I cannot see you, for you are the bravest man in the world. All the blind people of France hail you in the darkness."

**He Is Greeted by Cobham.**

Still another visitor was Sir Allan Cobham, who flew over especially from London to convey the best wishes of the British aviators.

"Jolly good," the British airman said. "It was the greatest thing I have heard of."

Then they discussed the technicalities of the trip for a few minutes in a language which few about them understood.

When the great crowd of journalists had surrounded Lindbergh he waited a moment for silence and then began:

"I brought with me, gentlemen, the great sorrow of the American people for Nungesser and Coli. The French attempt was in the heart of the whole nation and we grieve with France over their noble failure."

**Offers Theory on French Failure.**

Instantly scores of questions were fired at him over his theory of what happened to the Frenchmen.

"There are a hundred possible explanations," he said. "Having followed about the same course, I have certain ideas about the Nungesser-Coli attempt. For example, a sleet storm, with which they apparently were not familiar, would have forced them down in less than five minutes—they could have done nothing—not so much because of the weight of ice on the wings, but because of the resulting change on the wing curve."

Among the scores of questions, he was asked if he was married.

"No," he said with a smile. "I'm not engaged, nor have I any prospects."

Lindbergh is anxious to fly over Paris with his plane, although the Ambassador and all the other Americans are urging him to forget flying for a few weeks. Apparently the Spirit of St. Louis is not damaged to any great extent. There is nothing but a few holes in the wings.

A correspondent of a Swedish newspaper tried his best to make it a Swedish victory because of Lindbergh's Swedish origin.

"Do you talk Swedish, Mr. Lindbergh?" he asked. "No," Lindbergh replied. "My father came from Sweden to America when he was three years old. My mother has no Swedish blood." Then Lindbergh gracefully prepared a little message of greeting to the Swedish people in honor of his father's origin.

## ORVILLE WRIGHT LAUDS LINDBERGH'S FLIGHT

**First Successful Flier Sees the Transatlantic Air Service Brought Nearer.**

Special to The New York Times.

DAYTON, Ohio, May 22.—No one watched the progress of Captain Charles Lindbergh's flight from New York to Paris with more eagerness than did Orville Wright, who was doubtful of success.

Mr. Wright, who made the first successful airplane flight in history on Dec. 3, 1903, at Kitty Hawk, N. C., and since then has seen the science of aviation established and shared in many of its phenomenal achievements and developments, is a man of a few words on any subject, but tonight he broke all his conversational records in praise of Lindbergh.

He believes that the flight has brought transatlantic aerial service nearer because Captain Lindbergh proved it could be done. He thinks that service between New York and Paris possible and that it is coming fast.

"The flight is beyond all expectation," he said. "It just goes to show that everything that has usefulness can be done and is worth working for. Back in 1911 we had it all figured out what proportions of weight could be carried with certain types of planes and several fliers figured out how they might cross the Atlantic."

"But it couldn't be done in those days and we hardly dared dream that some day it might be accomplished."

"What I was most afraid of was that Lindbergh might lose his way. Fog is the bane of all fliers and until we are able to navigate better through it with assurance of safety, such flights as this one will not become common."

"Lindbergh took great chances. What did he possess that brought him through? Grit, you say? Yes, but more than that. Good judgment for one thing. I do not know Lindbergh but I cannot help but feel that he is a most unusual boy."