

FIRST SOLO BLIND FLIGHT A SUCCESS

By Lieut. Joseph S. Edgerton, Air Reserve.

ANOTHER milestone in aviation progress was reached a few days ago when Capt. Albert F. Hegenberger, Army Air Corps, made the first "blind" solo flight, seeing nothing but the instruments before him from take-off to landing. If the elements which made Hegenberger's achievement possible can be applied to air transport operations, one of the greatest foes of aviation will have been whipped.

Dense ground fog on an air transport today brings all flying to a halt. As long as the fog holds no mail or passengers move by air. The only solution is artificial fog dispersion or "blind landings" through the fog. Fog dispersion so far is impracticable, if not impossible. Blind landings, apparently, form the practicable solution.

Until Captain Hegenberger's solo flight, no man had landed "blind" and alone, though "Jimmy" Doolittle three years ago landed blind with a check pilot aboard to take over duplicate controls in case Doolittle's skill failed or his calculations went awry.

Hegenberger used radio to guide him into the field, to mark for him the point at which to begin his glide and to warn him when he neared the field boundary. He employed a super-sensitive altimeter to indicate his altitude above the landing area. Other flight instruments were normal, including artificial horizon, gyro compass, radio compass and standard flight instruments. The flight was made at Dayton, Ohio, home of the Air Corps Materiel Division, where Captain Hegenberger is stationed as navigation officer.

Modest to a fault, quiet and unassuming, Captain Hegenberger is a brilliant figure in aviation, though seldom in the limelight. He first came to public fame when he flew from California to Hawaii with Lieut. Lester Maitland, the first Pacific flight. He is regarded as one of the world's three foremost aerial navigators.

So retiring is Hegenberger that the world remained for many days in the dark as to his achievement. Captain Hegenberger was on the high seas, enroute to Rome to attend the first international meeting of ocean flyers when the story of his success was given to the world by F. Trubee Davison, Assistant Secretary of War for Aeronautics, who learned of the flight from Hegenberger's official report.

Of the crucial moment when Captain Hegenberger, alone in his swiftly moving plane, felt his way toward the surface of the earth which he could not see, he has little to say in his report. It is difficult for the layman to put himself in Hegenberger's position during that moment. To get something of the idea, imagine yourself driving an automobile. The windows are all curtained so that you can get no glimpse of anything outside the car, no sky, no road - nothing but the blank curtains and the instruments. You have a radio direction finder, with a little arrow showing when you deviate to the right or left of a given course. You are driving at 50 miles an hour across an open field. At the far side of the field is a great yawning chasm of appropriate depth - say something like the Grand Canyon. There is but one avenue of safety, a very narrow bridge. If you miss the bridge, curtains. A radio beacon is guiding you to the bridge and your only indication is the little pointer. You may not slacken speed but you must hit the bridge precisely.

Your problem, however, would be much simpler than Hegenberger's. Gravity would hold you on the ground and you wouldn't have to worry about that. You would have to worry only about whether you were too far to the left or right. Hegenberger had to worry, not only about whether he was to right or left of the runway, but also whether he was too high or too low and whether he was actually over the landing field or over some other place or terrain not at all suitable for the landing of airplanes.

It must have been with a feeling of exquisite relief that he felt the wheels touch the ground and the plane roll to a stop safely. Of this feature of the experiment, however, Capt. Hegenberger has only this to say: "The radio transmitters mark the field boundary and all you have to do is just fly along the ground, take things very gently and easily, and when you feel it hit - well, just ease back on the stick."

A magnificent flight, and one worthy of a large and imposing monument on the green fields of aeronautical progress. - Washington STAR.

Ed. Note:

According to the announcement of Mr. Davison regarding this first solo Blind Flight, Captain Hegenberger took off and, after flying for five minutes, landed solely by the aid of the instruments on the panel in front of him without once seeing outside of the cockpit. This successful flight was the seventh in a series of nine attempts. During the first three flights, observers were carried in the plane who knew nothing of flying. On the seventh flight, Capt. Hegenberger took off alone, made two 180-degree turns and landed at the take-off point. He was guided during this flight by the various instruments already enumerated. On the ground were three radio sets, two of which were of obsolescent type. The cockpit occupied by Captain Hegenberger had a shielded cover which cut off all view outside the plane. He first tuned in on a transmitter distant from the field to simulate cross-country flying. After executing the first 180-degree

turn, he tuned in first on a portable transmitter placed 1,000 feet from the border of the field and then on another a mile and a half away. Although flying away from the field, he was able by lining up the two radio transmitters to ascertain the correct flight path on which to return for his landing. Executing his second 180-degree turn at a height of 1,000 feet, he began gliding down as he headed for the mile-and-a-half station.

Captain Hegenberger explained that for regular blind landings certain refinements of equipment will be needed. He expressed the desire to start a graduate class of Air Corps officers for training in blind flight take-offs and landings. This Army pilot of Hawaiian Flight fame is now on duty as navigation officer at the Materiel Division, Wright Field, Dayton, Ohio. His blind flying experiments are a continuation of those carried on under the Daniel Guggenheim Fund for the Promotion of Aeronautics by former Lieut. James H. Doolittle, now a Major in the Air Corps Reserve, and as brilliant a figure in commercial aviation as he was while actively connected with the Air Corps. On September 24, 1929, Major Doolittle first demonstrated to the world the possibility of landing an airplane by instruments alone. He carried a check pilot to take over the controls in case of emergency.

It may be stated that Captain Hegenberger is a pioneer in blind flying, for nearly nine years ago, on September 6, 1923, he flew the greater part of the journey from Dayton to Boston completely out of sight of land. Of course, there were no hooded cockpits in those days but, so far as vision of the ground was concerned, Captain Hegenberger and his passenger, Mr. Bradley Jones, Navigation Engineer at McCook Field, were not much better off than the present day airman piloting a covered wagon, aerial type.

Despite unfavorable weather conditions, they took off from McCook Field in a DeH at ten o'clock and landed at the Boston Airport 7 hours and 25 minutes later. The sky was obscured by clouds which stretched from 300 to 7,000 feet altitude. After sighting the Ohio State University at Columbus, the clouds became so dense that the flyers climbed above them and found themselves in clear sunlight a little above 10,000 feet. A solid layer of clouds stretched beneath them. Not a glimpse of a land mark was obtained for a number of hours. The entire State of Pennsylvania was passed over without their obtaining a glimpse of it. Flying by instruments alone, Captain Hegenberger, at about 3:40 p.m., estimated that he should be close to the Hudson River, so he descended through the clouds and crossed this body of water not five minutes later. The remainder of the journey to Boston was made under the clouds. The successful termination of this flight demonstrated the efficiency of air navigation instruments even in those early days of Army aviation.