

THE LIFE AND WORK OF WILLY ACHIM FIEDLER, *Designer, test pilot, aeronautical and missile engineer* 1908-1998

by Rit Staalman and Monica Wagner-Staalman

1. Germany

PERSONAL RESUMÉ

source: Biographical Data Form 'Who's Who in Science and Engineering', First Ed. 1992-1993

see also: http://de.wikipedia.org/wiki/Willy_A._Fiedler

Personal data

Fiedler, Willy Achim, Designer, Test Pilot, Aeronautical and Missile Engineer, Consultant

born: Freudenstadt, Württemberg, Black Forest, Germany, 23 January 1908;

father: Carl Fiedler (photographer); mother: Caroline Kurz

Married to: Greta E. Lange (born 16/06/1914) from 1937 until her death in 1993.

they have four children: Petra, Monika, Achim and Karen. Achim dies at an early age.

Willy remarries with Monica Wagner (born 16/01/1940) in 1996.

He dies on 17 January 1998 in Los Altos Hills CA, USA.



Willy on his way to school (ca. 1916)

Willy Fiedler, cont'd

Professional Education:

Dipl.Ing.	Technische Universität	Stuttgart	D	1928-1933
Flugbaumeister	DVL (Prof. Hoff)	Berlin	D	1937

Career History

designer	British Aircraft Ltd	Feltham	GB	1936
a/c study + piloting	DVL	Berlin-Adlershof	D	1937
a/c assessment + piloting	G-Fieseler Werke	Kassel	D	1938
Test Direction	G-Fieseler Werke "V1"	Peenemünde	D	1942-1944
Co-owner, Techn. Director	Bachem Co. ("Natter")	Waldsee	D	Feb 1945
Civil Service 9 - 4514	US-Navy, NAMTC	Point Mugu CA	USA	1948-1956
Manager Scientific Staff	Lockheed Missile & Space	Sunnyvale CA	USA	1956
Chief Scientist	ditto	ditto	USA	1958-1974

Career-Related Activities

Advisor to Pacific Missile Range Comm.		Point Mugu	CA	1958
Consultant	Defense Science Board Meetings	Washington	DC	1950-1954
Consultant/Define configuration	TRIDENT Missile IDA/US Navy	Washington	DC	1966

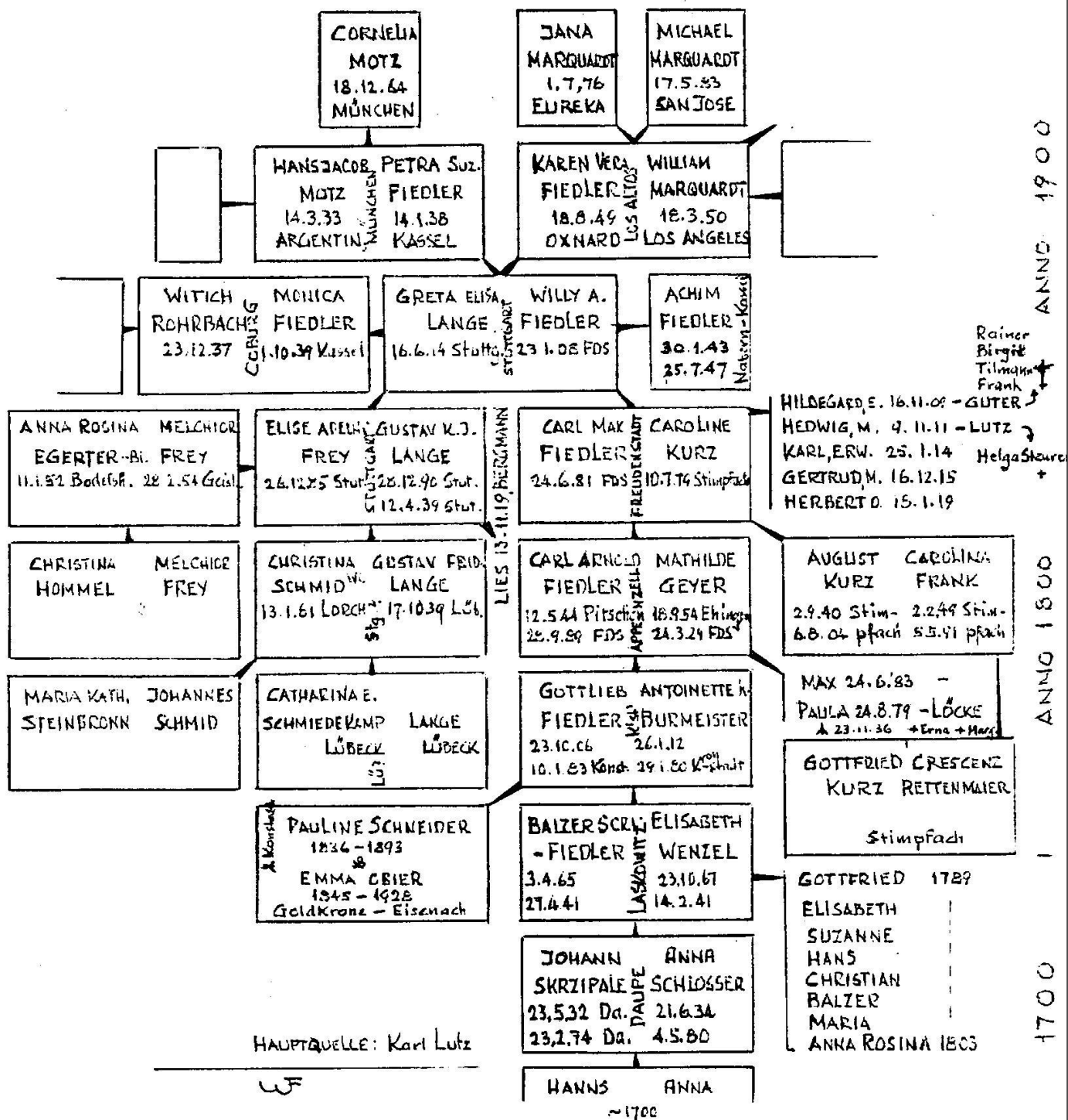
Award

Distinguished Civilian Service Award	Dept of Defense/US-Navy	1954
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Carl Fiedler, photographer, Willy's father

— Vorher — Jetzt — Nachher —



Family Tree of Willy Fiedler, drawn by himself, circa 1985

FREUDENSTADT AND WÜRTTEMBERG



Freudenstadt Germany; Fiedler company building



Dutch General map of Germany, showing the major cities



Map of Würtemmberg, showing Freudenstadt, Friedrichshafen and Stuttgart (source: Wiki)

WÜRTTEMBERG AND AVIATION; UNIVERSITY OF STUTTGART

When tracing aviation history in this part of Germany, it would be unjust not to mention the *godfather* of the 'Flugzeug Metallbauweise': *Count Ferdinand von Zeppelin* (1838-1917). Zeppelin (for short) was a fiery cavalry officer from Württemberg, Germany. He had been observing the use of balloons on the battlefields of the American Civil War. Their lack of steerability he saw as a great disadvantage and the idea of making the unruly things *dirigible* became an obsession to him. He owed his allegiance to the king of Württemberg. When he was passed over for the command of a cavalry division in the Reich's army being newly formed at that time, he said farewell to the service to dedicate himself fully to his passion of flying. The king provided his loyal subject with a site located at Lake Konstanz (Bodensee) to build a factory for 'airships,' or should we call it a shipyard?

In 1899 Zeppelin bought the exclusive rights to the use of that wonder metal of the Victorian era: 'aluminum'. He obtained the rights from *Carl Berg* (1851-1906) of Ludenscheid, Westphalia, who was one of the first manufacturers of rolled aluminum profiles and sheet. By the time the Wright brothers were flying their first motorized airplane (1903), Zeppelin had already constructed and flown his first airship with the new material at Friedrichshafen, Lake Konstanz.

By the beginning of the First World War he had built one dozen more¹ for civilian use alone and started *DELAG*, a regular airline flying to and from Berlin using zeppelins.² With these exploits he had achieved an enormous popularity with the German people and certainly with the Württembergians.

The 'zeppelin' airship had an aluminum skeleton, in effect a huge, riveted three-dimensional space framework, determining the outline of the large, cigar-like form, which was covered with rubber-soaked fabric. The invention of the gasoline engine by Daimler had provided an excellent means of propulsion for the floating giants. Their whole appearance indeed resembled a ship. Accommodation for the passengers was roomy; there was even an observation deck and the people aboard could walk about freely or look down at the earth below through the large windows (see picture of Willy's father aboard the airship 'Sachsen', 1913).

By 1914, von Zeppelin's enterprise had grown to a major industrial undertaking in Friedrichshafen and at least 10 'zeppelins' were in the service of the Army and the Navy. When World War I erupted, they were put to use for observation and bombing. As a military weapon, they were a failure, however. By the end of the war no less than ninety of the total fleet of ninety-seven had been destroyed by the Allies. The Count then turned his attention to the building of large bombing planes. Of great importance for the advancement of aviation in



Carl Fiedler aboard zeppelin Sachsen

¹ Karl Grieder (1989): "Zeppelin - Dornier - Junkers"; Markantes aus der deutschen Luftfahrtgeschichte ;Desertina Verlag

² Henry Cord Meyer (1991): "Airshipmen, Businessmen and Politics 1890-1940"; Smithsonian Institute, Washington DC.

Germany, he furthermore sponsored the appointment of *Dipl.Ing. AlexanderBaumann (1875)* as *Professor Luftschifftechnik at the T.H. Stuttgart*. It was at this university that Willy Fiedler was going to study in 1928.³

First Flight (As told to M. W.-S.)

“You ask me when it was that I first flew?” replied my dear Willy to my query. “Well, come and sit on the patio with me. Pull up a chair, here in the shade. But first bring me a glass of wine. No, no, not the expensive one. The Carlo Rossi is every bit as good. No sense wasting pennies...”

That was my dear late husband, Willy Fiedler. We had but five years together, he and I. His last ones; we knew it would be short. For the last two we were man and wife also to the public at large. But before I had agreed to come live with him, it was perfectly clear that he expected more of me than just my presence. And tacitly I had agreed, never expecting it to become official. Everybody loved my Willy. I was no exception. And he loved me. We were both in dire straits at the time. He in his mid eighties, with advancing dementia – still only just apparent, but there if you but looked. I, with my industry having died a rapid death at the hands of the Apple Computer revolution in typesetting – unwilling to change careers at this late stage (I was in my early 50’s) and not trained for the changes that were taking place in my line of work, advertising typography. To continue in my chosen field, I would have had to become an artist as well, something I am decidedly not. My pleasure was to take the ideas of art directors and their assistants and translate them into black and white masterpieces of typography.

So I brought my dear Willy his glass. We always had a table under the Monterrey pines that graced our home with shade (and needles). So many gatherings had taken place there, even during these last few years together. As he was able to travel less and less, I invited his friends – many of whom lived within a short distance of the Los Altos Hills house he had built largely with his own hands and to his own idiosyncratic plans. Without me, he would not have been able to stay. Without him...who knows?

The love we shared, the companionship, was to cheer us with warmth despite the long decline.



“I was about eight when I started to fly. Well, you might not call it flying, but I would.

“I was an average little boy. My father was very strict, and my teacher at the lyceum was a magician. He could appear suddenly behind you when you were whispering with a friend, and, WHACK, a ruler would land on your knuckles. Both gave me reason to seek my solitude.

“Please don’t get me wrong. I had lots of fun. Besides, I sat behind the only girl in our class – she had gotten in because she was so very smart – and I was in love with her, she was so beautiful. Many years later, her sister would be the first girl I would ever kiss, pretending it was her. I never got up the nerve to ask her out.

“But that was not what we were talking about.

“You know, I was born in January of 1908, so I grew up pretty much along with human flight. In 1914 the war started – we lived fairly near the border. Freudenstadt was never in any danger, up there in the middle of the mountains of the Schwarzwald – no industry to speak of, no garrisons, though in World War II they bombed the place to smithereens, but that’s another story.

“My father was the town’s only professional photographer. To visit the outlying areas for taking portraits, he had the first car in our town. An open vehicle, with only one front wheel. What fun to ride, the wind whipping back your hair!

³ Willy Fiedler’s tuition at the TH Stuttgart was underwritten by his uncle, who was an important manufacturer of photo development equipment, in the hope that Willy would one day come to work for him. [M.W.-S.]

“He happened to be friends with Graf von Zeppelin, whose company was headquartered at the nearby Bodensee, Lake Constance to you. When I was about six, Papa managed to talk the Graf into taking him up with cameras to photograph many of the town’s houses from the air. Also ones in the surrounding countryside. He took me with him, you know, in *an airship*! My mother cried the whole time we were up in the air – somewhere I still have photographs... But, you’ll be surprised; this was not really *my* first flight.

“Afterwards I went with my father to many of the farmhouses and rural estates to sell them pictures of what their houses looked like from the air. There were many takers. People really liked having photos of their homes from that perspective. So unique! They felt very special, you know. Not everyone had such a picture on the mantle. Papa did rather well at this, as did I. Almost every housewife would feed me cookies or cake.

“Now, Freudenstadt is high in the mountains, so supplies were hard to haul in, particularly before trains and automobiles. As much as possible, people therefore use local building materials. Well, the mountains all around are made of dark red, very hard sandstone, making excellent building material, so we of course had a quarry. Here one tends to think of quarries as holes in the ground, but that was not the case with ours. Near where we lived, above the Hotel Christophsaue (now sadly closed) was what we call the *Steinbruch*, a place where one breaks stones. A quarry, in other words. But it was up against a low mountain, not dug out of a hole. This quarry forms cliffs in what is otherwise well-rounded countryside. Even better, these cliffs overlook the drop-off into the valley where one of our neighboring villages is situated, the town of Wittensweiler.

“Now. After school, to avoid going home and doing chores or homework, or to hear the angry growls of my father for some surely imagined infraction of mine, I would climb up above the quarry and look out across the world. Very often, one would see birds using the updrafts here, soaring ever higher and higher. I loved to watch those birds! Oh, how I wanted to be like them and fly! Luckily, my mother never found out, but finally I decided to lean far out over the cliff-side, sure that if the air held up the birds, it would also hold up...me. So I spread my arms, stepped to the edge ... and leaned, leaned against the flow of air! I flew!

“You see. I am still here – eighty years later! “

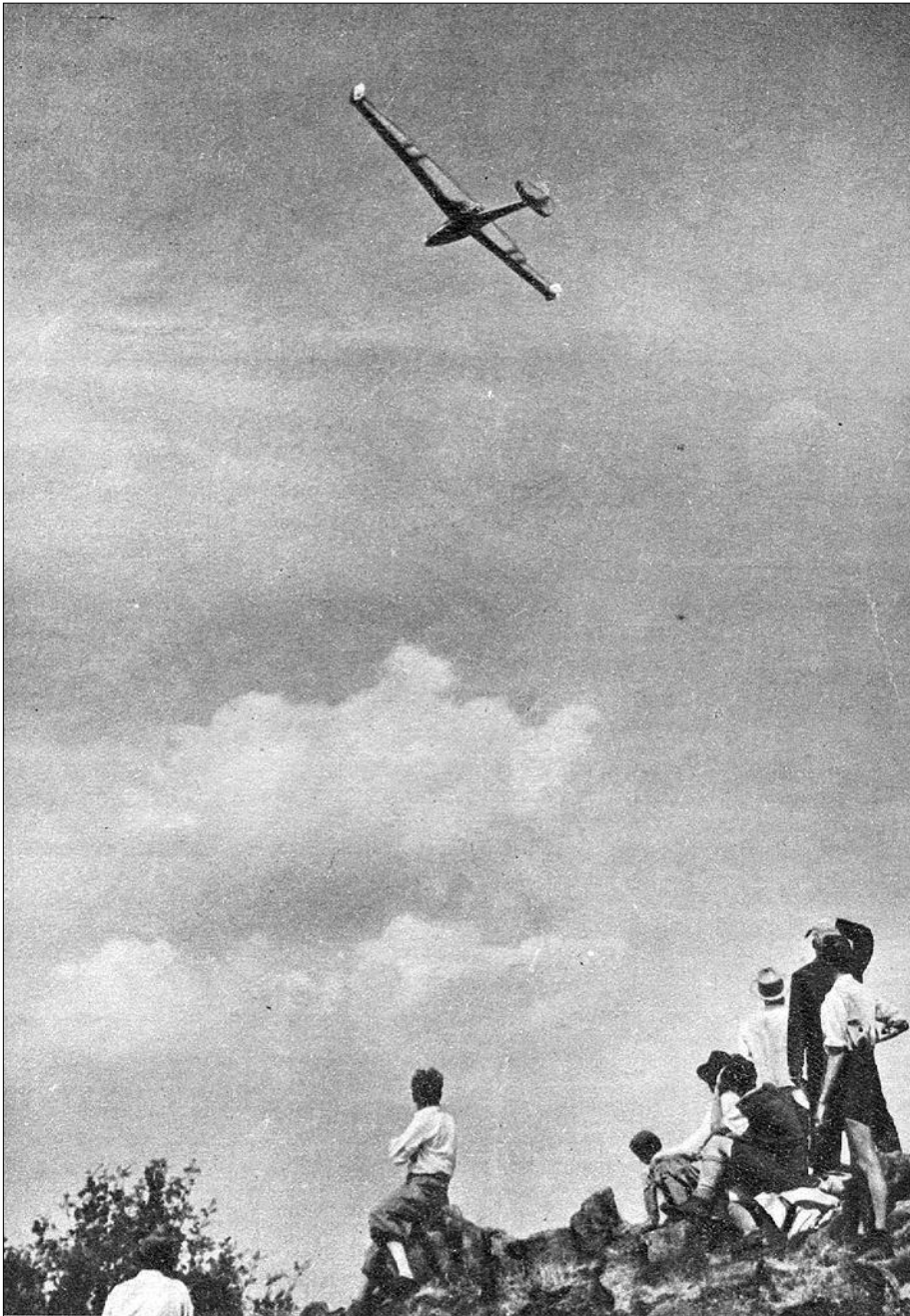
SOARING AT RHÖN



Rhönwettbewerb 1929 ; Erich Bachem starts in the glider ‘Stadt Stuttgart’

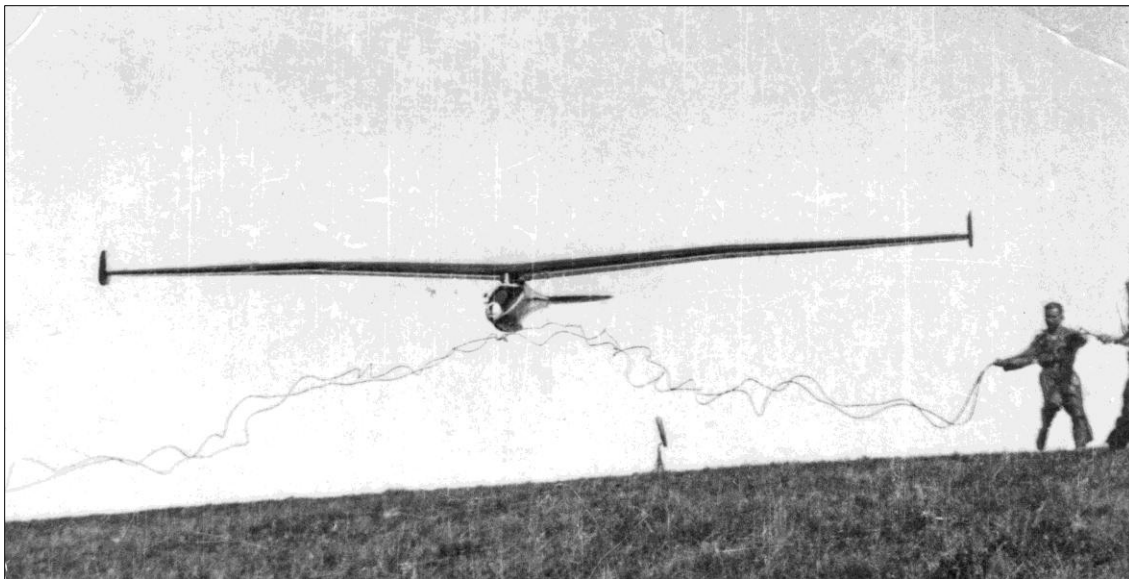
Akaflieg Stuttgart

The „Akademische Fliegergruppe Stuttgart“ or „Akaflieg Stuttgart“ was founded in 1926 by members of the Technical Aviation Study Group TH Stuttgart to foster the construction of airplanes of own design. The first one was the *F1 Fledermaus*, designed by Willy Fiedler. This glider was the first development of the group. Its design was optimized in the wind tunnel. Instead of a vertical rudder it had two wing tip rudders (Endscheiben) for directional steering. With a weight of the fuselage of no more than 21 kg (47 lbs!) the airplane was an absolute lightweight champion and after its first flight in 1933 it won several prizes at the Rhön glider competition of the same year. It was constructed of wood. Later, in 1938, Willy Fiedler would be involved in the construction of another top performance glider, the **fs 18** (max L/D ratio: 26.9).⁴



The F-1 Fledermaus flying at Rhön

⁴ See: http://de.wikipedia.org/wiki/Akaflieg#Akaflieg_Stuttgart and: <http://en.wikipedia.org/wiki/Akaflieg>.



Fiedler F-1 Fledermaus being started (Notice the advanced wing design)

As a student at the Technische Universität Stuttgart Willy Fiedler was, like many students, a fervent glider pilot. As part of his final examination he designed and built a remarkable glider: the **F-1**, later called: '*Fledermaus*'. A special feature of this craft was the absence of a tail rudder. Its function was delegated to two small vertical surfaces at the wing tips, not unlike the 'winglets' of today. This innovation however did not quite perform as expected and, after a difficult landing of his good friend and fellow student *Karle Baur* and at the direction of such experts as *Alexander Lippisch*, Willy modified his design and added a conventional vertical tail fin. Karl Baur earned his "Silver C badge" with the *Fledermaus* in 1934.⁵ Today, much of interest about this part of aviation history can be experienced 'live' at the fascinating *Flying Museum Hahnweide*: <http://www.fm-hahnweide.de/>



Fiedler F-1 Fledermaus, rudderless glider (source: www.LuftArchiv.de)

⁵ For a so-called "Silver C" badge the free flight had to last at least 5 hours, covering a distance of 50 km and gaining 1000 meter in altitude. Read *Isolde Baur's* book about her husband: "Karl Baur, A Pilot's Pilot": J.J. Fedorowicz Publishing, 2000, ISBN 0-921991-47-9.

GLIDER AIRPLANE F 1 - "FLEDERMAUS"

of the Academic Flight Stuttgart

by Willy Fiedler

The design goals for this *high-performance* airplane were, obviously apart from good flying characteristics, the ability to turn tightly within thermals, the possibility to spoil the glide angle in order to land in small fields, sufficient stability around all three axes for flight in clouds, high safety standards for the pilot and capability for aerobatics. The wingtip rudders will fulfill these requirements to some degree, without increasing parasite drag. It is to be expected that they will also improve the general performance of the wing, decrease the danger of sliding into a spin while banking steeply and afford control to recover from a spin.

The wing is in three parts with a span of 16.6 m, an area of 15.4 m². It is a gull type wing like the Fafnir, with the usual single spar construction and a safety factor of 8.8. The center has a wing section Göttingen 535, the outer wings are Göttingen 527. The nose is diagonally laminated with 1 to 2.5 mm thick plywood. Fractile pressure is 110 kg/m². Eigen frequency wing is 150 Hz. No vibrations were felt when towed to the Rhön Competition at 120 km/h, even with undampened elevator. In order not to load the auxiliary spar, the ailerons (each 1.3 m²) are attached to the main spar. This has not increased their effectiveness, yet the steering forces have remained small. The hinging axis lies in the wing upper skin; the rudders are being activated by hidden pusher rods with differential action. The vertical disks at the wing tips (Endscheiben) consist of a fin and a rudder. Foot pedals activate the rudders; left/right pedal for directional steering and both pedals together for air braking.

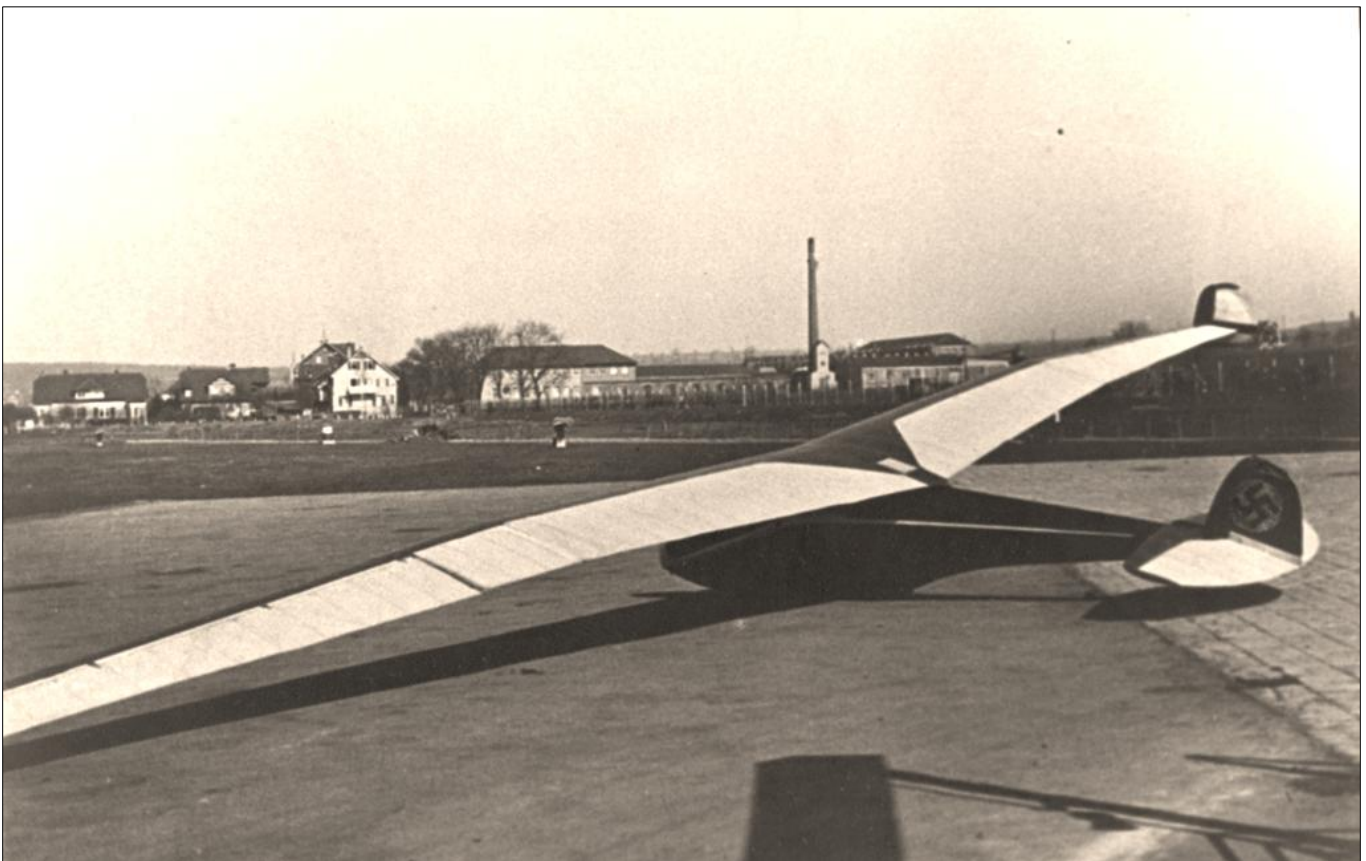
The chief characteristic of the fuselage is that its principal axis is not a horizontal straight line, but that it is curved, following the downwash of the streamlines around the wing. The fuselage is relatively short; (in general it is kept long in order to increase rudder effect.) Cross section is elliptic at front, at the back round to get better keel action. At front two bands from starting hook to rear; at the back two bands on top of each other to absorb the elevator moments. There is no vertical rudder. The upper part of the fuselage front can be taken off completely to facilitate exit with parachute but also to make for easy entrance. The main frames are at an inclined angle to relieve the plywood skin in case of a hard landing; the robust T-keel absorbs much energy in case of a crash. The landing skid has shock absorbers with a 10 cm play and has such a length that the tail of the plane will not touch the ground. This results in weight savings and short take off. To avoid damage, the bottom of the hull is bent upward after the skid; this is done among others by a suspension rod that allows the lower part of the fuselage to be built slimmer. Including all instruments the fuselage only weighs 25.3 kg and it has a relative small surface area.

A model of this novel glider fuselage was tested during spring 1932 in the wind tunnel of the aviation engineering Institute of the TH Stuttgart, whereby it passed all qualitative tests with success.

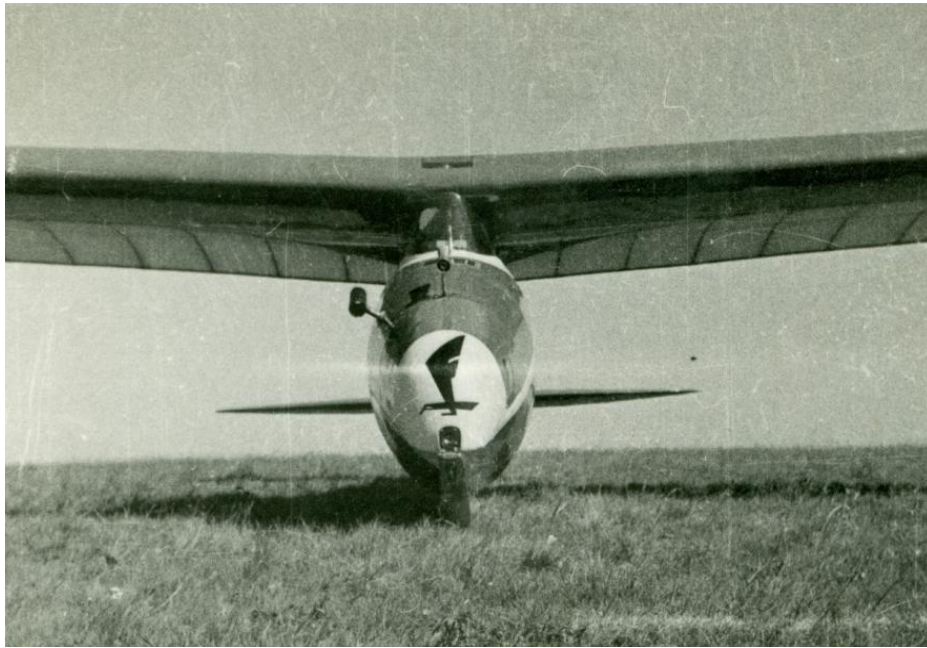
[translation rs; see also: Flugsport 1934, Heft 02 v. 24.01.1934 - Ursinus, Oskar (Herausgeber)]



Fiedler F-1 Fledermaus; detachable front end



Fiedler F-1 Fledermaus, with later conventional tail fin added

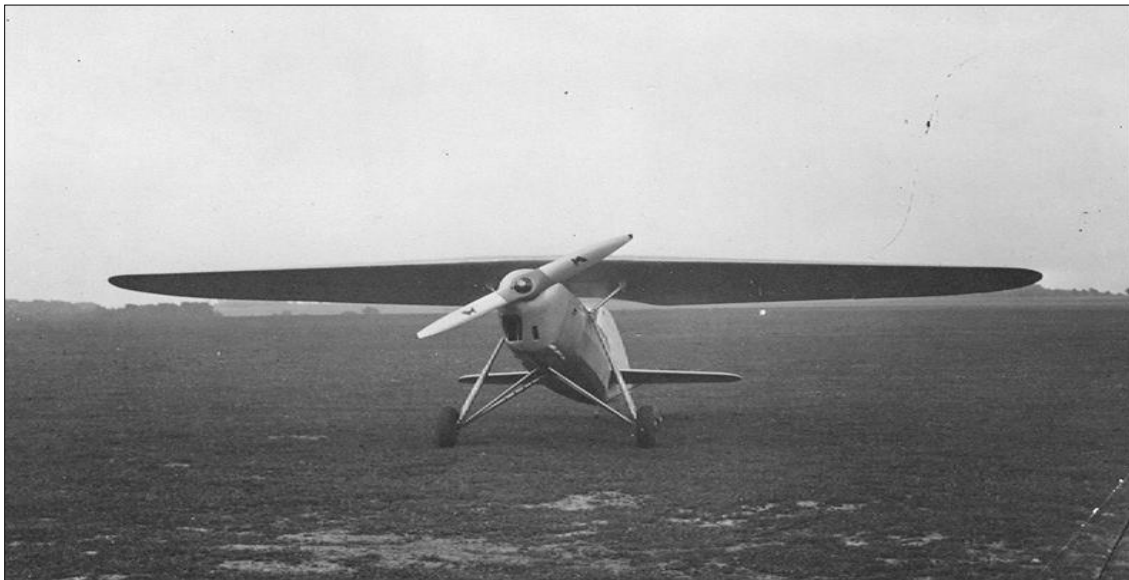


Fiedler F-1; front view

OTHER PROJECTS

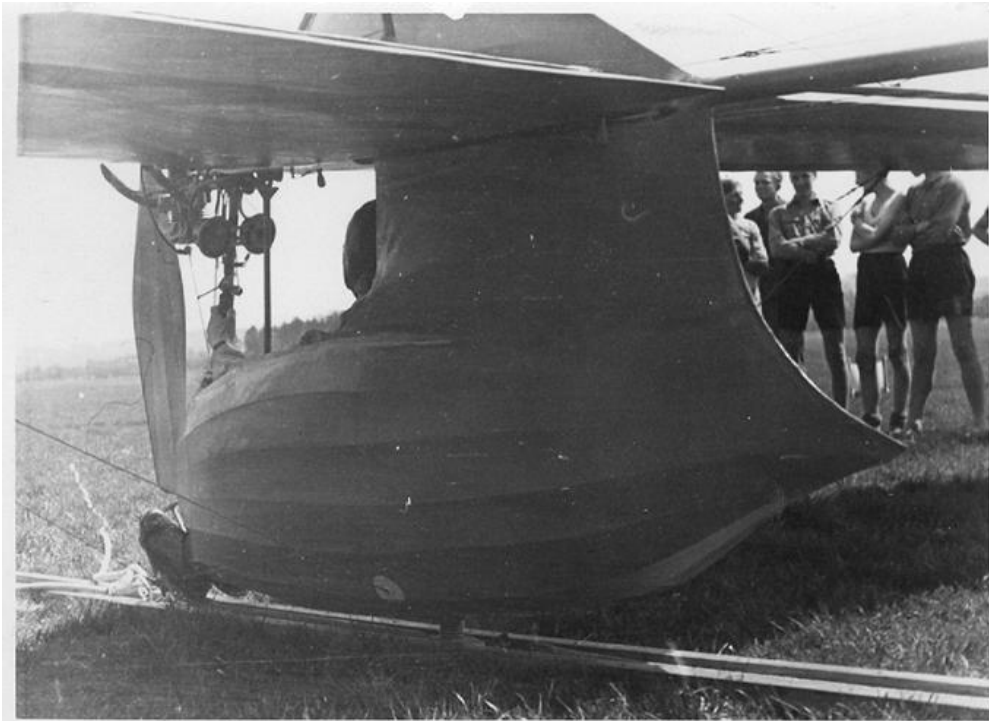
In 1936 Willy Fiedler took a design job in England at the British Aircraft Company in Feltham. Before he left he worked at different projects, such as testing and flying a glider with motor power.

Fiedler also designed a very promising looking single seat trainer, the RM-2 (see below), for the *Ruhrtaler Maschinenfabrik Schwarz & Dyckerhoff GmbH*, a company owned by the father in law of his good friend Erich Bachem.⁶

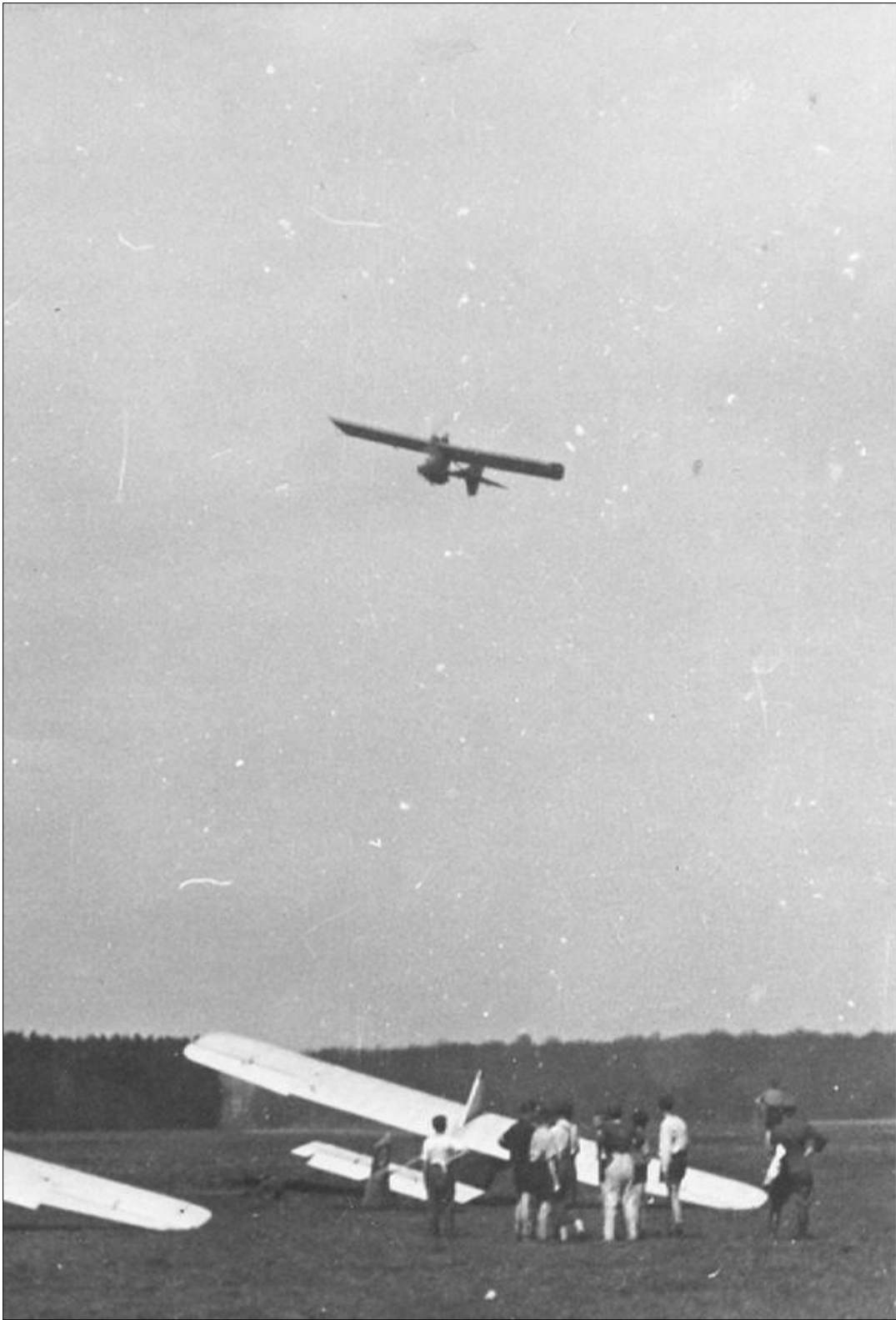


Ruhrthaler RM-2 single seat trainer designed by WF (1935)

⁶ see the entries in German and English Wikipedia: http://de.wikipedia.org/wiki/Erich_Bachem



Glider with Zündapp motor; speed + altitude meters; hanging stick



Motor glider in the air

TECHNISCHE HOCHSCHULE
STUTT GART

erteilt durch diese Urkunde auf Grund der Verordnung vom 22. Januar 1900

dem Studierenden des Maschineningenieurwesens

Herrn **Willy Fiedler**
geboren am *23. Januar 1908* zu *Freudenstadt*

DEN GRAD EINES
DIPLOM-INGENIEURS

nachdem er den Besitz eines vorschriftsmäßigen Reifezeugnisses sowie die vorgeschriebenen
Hochschulstudien nachgewiesen und die ordnungsmäßige Diplom-Prüfung

für das Maschineningenieurfach

und zwar die Vorprüfung an der Technischen Hochschule in *Stuttgart*
im Jahre *1930* mit dem Gesamturteil

Bestanden

die Hauptprüfung im Jahre *1934* mit dem Gesamturteil

gut bestanden

abgelegt hat.

Die Einzelergebnisse der Hauptprüfung sind in dem umstehenden Auszug aus dem
Prüfungsprotokoll zusammengestellt. Für die Vorprüfung ist seinerzeit ein besonderes
Zeugnis ausgefertigt worden.

STUTT GART, den *1. Juni* 193*4*.

DER REKTOR
der Technischen Hochschule:

Göring

DER VORSITZENDE
des Prüfungsamtes:

Leemann



Motor glider landing on skid after first flight by Willy Fielder

THE BRITISH AIRCRAFT COMPANY, FELTHAM GB, 1935/1936




British Aircraft Co design staff

In 1933, the [British Klemm Aeroplane Co Ltd](#) was formed, and produced 28 [BK Swallows](#) and six [BK.1 Eagles](#), in rented premises in the northeast section of the former Whitehead factory. In 1935, it was renamed British Aircraft Manufacturing Co Ltd, and went on to produce 107 Swallow 2s, plus 36 Eagle 2s, one [British Aircraft Cupid](#), three [British Aircraft Double Eagles](#), and two [Cierva C.40s](#), until 1937. In 1934, the [British Aircraft Company](#) was taken over by [Robert Kronfeld](#), and in 1935 he moved its operations from [Maidstone](#) to Hanworth. It was renamed British Aircraft Company (1935) Ltd, later Kronfeld Ltd, and it produced 33 [B.A.C. Drones](#) and one Kronfeld Monoplane before receivership in September 1937. (source: Wiki)

In 1935, Willy Fiedler went to England with his friend and fellow student, the son of Walter Gropius, well known architect at Dessau, Germany. They went from aircraft design company to company looking for a job. The young Gropius said that as his English was superior, he would be the one to go in and try to talk their way into a position of employment. After several tries, Willy became impatient and said, "No, this

time I will try." The company he entered was British Aircraft Corporation, a small firm near London. When he walked out, he told young Gropius, "Okay, we have a job." Willy and his friend remained for exactly one year in England, leaving on the same day of the year as they had arrived. They were thrown a big party at the end (picture below), showing Willy with a number of his co-workers all sitting in a cartoon airplane. While he was there, he designed what was (I believe) a single-engine aircraft that was then flown to South Africa. Somewhere along the way, its undercarriage gave out and it landed nose first. "Hab einen Fehler gemacht. Untergestell war nicht stark genug..." (I made a mistake. The undercarriage was not designed sturdy enough...)

Little would they know that in a few years, Willy would be testing flying bombs aimed directly at Britain. This despite the fact that he had loved being in England, had watched a new King being crowned while there, and had no hostile feelings against the country. [M.W.-S.]

<p>ALL COMMUNICATIONS TO BE ADDRESSED TO THE COMPANY AND NOT TO INDIVIDUALS</p>			<p>TELEPHONE: FELT TELEGRAMS: BRITAIRCO CODES: A.B.C. 67E</p>
<h1 style="text-align: center;">BRITISH AIRCRAFT</h1> <h2 style="text-align: center;">MANUFACTURING CO. LTD</h2>			
<p>DIRECTORS THE RT HON. LORD WILLOUGHBY DE BROKE, M.C. ADMIRAL H. W. GRANT, C.B. CHAIRMAN MAJOR HERBERT MUSKER, O.B.E. AIR COMMODORE R. F. W. FELLOWES, D.S.O. DERMOT J. MOONEY Gen. Sir HANNAH YD. B. G. OBE J. H. L. MUSKER CHARLES BEST D. H. EMBY, MANAGING DIRECTOR</p>	<p>HANWORTH AERODROME VICTORIA ROAD FELTHAM MIDDLESEX - ENGLAND</p>		<p>DESIGNERS & CON- STRUCTORS OF MONOPLANES</p>
<p>9th October, 1936.</p>			
<p><u>TO ALL WHOM IT MAY CONCERN.</u></p>			
<p>This is to certify that Mr. W. Fiedler has been employed by us on our Technical Staff from the 10th October, 1935 to the 10th October, 1936.</p>			
<p>During this time, he has worked on all branches of aircraft design and during the latter half, as my personal Assistant in laying out new types of complete aeroplanes and of detailed mechanisms and structures.</p>			
<p>From every point of view, as a Draughtsman and Designer and as a Mathematician, he has given us every satisfaction and we consider him to be an extremely clever Engineer.</p>			
<p>We are very sorry to lose him and wish him every success in the future, feeling sure that he will justify any trust which is given him.</p>			
<p>For and on behalf of BRITISH AIRCRAFT MANUFACTURING CO. LTD.,</p>			
<p style="text-align: center;"><i>Marcus Langley</i> ASSISTANT DESIGNER.</p>			





Willy Fiedler, Flugbaumeister, 1937

THE STUDY FOR FLUGBAUMEISTER⁷

In Germany the *Deutsche Versuchsanstalt für Luftfahrt DVL*, (Institute for Aviation Research) had the official task of approving the design of new aircraft and setting the standards to which the design of aircraft had to adhere. Within the DVL, the *Institut für Ingenieursnachwuchs* offered graduate courses to ensure a sufficient supply of qualified engineers and pilots to execute this task. The institute supported advanced education at colleges and universities, especially at the aviation faculties. Young participating engineers were called "aeronautical pilots" (*Flugbauführer*). They received a three year graduate course for a position in the higher echelons of aviation services. After passing a second examination they graduated as *Flugbaumeister* ("aeronautical engineer").

1)

⁷ source: STARTEN UND FLIEGEN Das Buch der Luftfahrt und Raumfahrt, Deutsche Verlags-Anstalt, 1962, p.163



Flugbaumeister class of 1937; Fiedler left of Prof. Otto Fuchs [?](in leather coat),
in front of Junkers Ju-52 3m.

Im Namen des Reichs

Ich ernenne

den Flugbauführer

Dipl.-Ing. Willy Fiedler

geboren am 23.1.1908 zu **Freudenstadt**
nach bestandener Staatsprüfung für Flugtechnik
zum

Flugbaumeister

Berlin, den 16. Nov. 1937

Namens des Führers und Reichskanzlers:

Der Reichsminister der Luftfahrt

In Vertretung:

Willy

THE GERHARD FIESELER WERKE, KASSEL

“...Waldau is a suburb of Kassel, lying on the southeastern side of the town. The airfield of Waldau began life as a military exercise area, being leased to the aircraft builder Dietrich, who founded the Dietrich-Gobiet Luftverkehrsgesellschaft (Airline Company) in 1924. They built the first hangar on the northwestern corner and on August 24 1924 the airport was officially opened. At the end of 1925 the company moved out and a new one was formed. Kurt Katzenstein and the stunt flyer Antonius Raab established the Raab-Katzenstein Flugzeugwerke to manufacture sports aircraft, run a flying school, take aerial photographs and organize flying days. They took over the facilities, enlarging and developing them as necessary. Due to the world depression in the 1930s the company, like many others, got into financial difficulty and went bankrupt in 1932. Raab then moved to Krefeld where he started again.

After gaining twenty two victories in aerial combat on the eastern front in World War I, *Gerhard Fieseler* became famous as an acrobatic pilot, culminating in becoming World Acrobatic Champion in 1934.

He bought a shareholding in the Raab-Katzenstein company in 1926, becoming involved in pilot training and also being influential in the design of the aerobatic airplanes that he flew himself. In April 1930 he bought the *Segelflzeugbau Kassel*, which was a small sailplane manufacturing plant based at Irhingshausen. With his talent for judging the flight characteristics of aircraft in the design and prototype phase, *Fieseler* soon established himself as the principle force in the company, renaming it after himself in 1933. The fifth aircraft he produced, the Fi-5, proved to be a success because of its pleasant flying properties. It was produced in series. Also remarkable was the Fi-97, a four-seater tour plane developed for the “Europa Rundflug” in 1934, with good VTOL properties thanks to Fowler flaps and special landing gear.

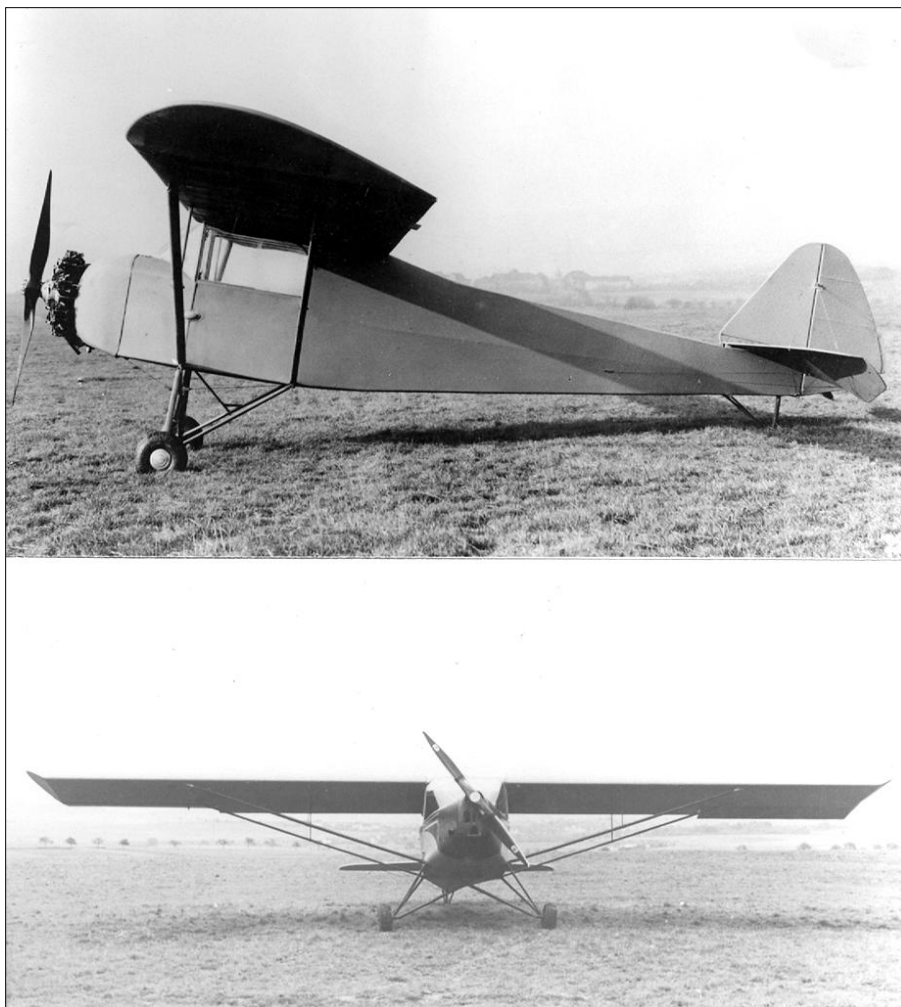
Fieseler expanded his company and his success soon resulted in the Government rewarding him contracts for license production of several aircraft types of Heinkel, Klemm, Arado and Focke-Wulf. Fieseler then took over the production facilities of Raab-Katzenau at Waldau....” He also hired a technical director, *Dipl. Ing. Erich Bachem*, to assist him in running the company.

The first really successful design from the company was the *Fi-156 ‘Storch’*; its production commencing in 1937. License production of the Messerschmitt *Bf-109* fighter began at the end of the same year. At the beginning of war in September 1939, the Bf-109E was being built alongside the Fi-156 Storch, as well as preparations were made for the series production of the *Fi-167*, a biplane with excellent landing characteristics, especially designed for use on aircraft carriers.

[Originally Hitler had approved the construction of two aircraft carriers. By 1940 this was reduced to one, the “Graf Zeppelin”, which had been launched at “Deutsche Werke” in Kiel, in December 1938. It measured 31,400 tons, later increased to 36,000 tons, and had a length of 243 meters at the waterline. It would be equipped by 13 Junkers J-87Cs, 10 Messerschmitt Bf-109Ts and twenty Fi-167s. Fieseler received the production order for the Bf-109T by the end of 1940.

Work on the Graf Zeppelin at Kiel was suspended in the middle of 1940 and resumed in 1942. The ship was 95% complete when work was finally cancelled in 1943. In the face of the advancing Russian army the huge ship was scuttled in 1945. ⁸⁾]

⁸ This section is based on *Francis L. Marschall: “SEA EAGLES; The Messerschmitt 109-T”, 1994, Air Research Publications, Walton on Thames, GB, p.14*



Fieseler F-253 Spatz (1937)

Prototype Fi-156 V-1 (source: www.LuftArchiv.de)





Fieseler Fi-156 Storch without engine at Chino Planes of Fame Museum CA (2011, photos)



Fieseler Fi-156, production version

WILLIE FIEDLER, TEST PILOT AT THE FIESELER AIRCRAFT CO.

Gerhard Fieseler mentions Willy Fiedler as 'a representative of a new breed of test pilot' for the first time in 1936.⁹) G.F. probably refers to the study of 'Flugbaumeister' that his employee had completed at the Deutsche Versuchsanstalt für Luftfahrt in Berlin. The DVL controlled the technical specifications to which both military and civilian aircraft design in Germany had to adhere to, somewhat like the FAA in the USA. Their two (or three?) year graduate course for engineers included an examination for 'Flugbauführer' and a second one for 'Flugbaumeister'. Willie himself was very proud of the title and of having completed the full course.

Willy says that he entered Fieseler's service at a later date than 1936. It is certain however that he tested the prototype of the Fi-156 and found its undercarriage faulty in design: it could not stand up to a rough landing in strong crosswinds. Fieseler himself had been arguing this point with its designer, *Dr. Winter*, who took his leave of the firm after the incident. It did not prevent Dr. Winter from claiming in years to come that he had been the designer of the Storch. We know from Fieseler that this is not true; a major contribution to the design had been made by dipl. Ing. Mewe and his project staff, as well as by Gerhard Fieseler himself.

As is well known, thanks to its remarkable VTOL capabilities, the Storch proved to be a great success. In nine years time more than 9000 were built. The Nazi leaders used it as a show piece; they donated for example one to Mussolini with 'Saffianlederbezug'. The first Fieseler-built Messerschmitt for the aircraft carrier Graf Zeppelin was completed and flown by the end of January 1941. The initial flight of each aircraft as it came out of the factory was made by one of the Fieseler test pilots. As of 1938 the chief test pilot being *Willie Fiedler*. The other pilots were *Biedermann, Gehlhaar, Otto Schwalbe, Lüddemann, Heinz Wallischeck and Gerhard Gleuwitz*.¹⁰



Fieseler Storch in competition with Cierva autogiro (in background)

[original of the WF photo collection; WF has circled the swastika]

Willy Fiedler tells the following anecdote in connection with the above photograph:

"I was in 1939 demonstrating the Storch in one of the Baltic countries (Latvia?)

It really was a contest for an order for STOL aircraft by their national air force.

Our competitor was the British Cierva autogiro company.

I managed to fly my plane against the wind very slowly and even to hover (!) straight above the autogiro.

I won the contest.

On the way back to Kassel I was amazed that I saw no other airplanes over Poland and Germany.

Only after landing I learned that that very day war had been declared." [as told to Monica W-S.]

⁹ *Gerhard Fieseler: "Meine Bahn am Himmel", 1979, C. Bertelsmann Verlag, München*

¹⁰ *Francis L. Marschall: "SEA EAGLES; The Messerschmitt 109-T", 1994, Air Research Publications, Walton GB, p. 26*

A successor to the Fi-156 was developed in 1940-1941: the *Fi-256*.

The new light airplane could fly so low and slow and turn so tight that, by skilful maneuvering, it could stay out of the gun sights of fast fighter aircraft. A limited series only was built (approximately fifteen) because of other Luftwaffe priorities. The Fieseler staff used the plane for its own transport.



The prototype F-256; Willy Fiedler at the controls [source: Luftarchiv.de]

Der Flugbaumeister
Dipl. Ing. Willy Fiedler

ist berechtigt, die Dienstbezeichnung

Flugkapitän

zu führen.

Berlin, den 29. März 1941

Der Reichsminister der Luftfahrt

In Vertretung



Flights with and without passenger; Hanna Reitsch



Willy Fiedler at the beginning of the Second World War

WORK ON THE FIESELER Fi-103, better known as V-1, the flying bomb

The Fi-103 project was started in 1942. It really originated with *Argus*, the makers of the remarkable simple and easy-to-build *pulse motor*, who thought it would be an excellent means of propulsion for a simple unmanned little airplane carrying a bomb.

The overall design was entrusted to *Dipl. Ing. Robert Lusser*, who had been Chief designer at Messerschmitt and Heinkel and who was offered the position of Director of Development at Fieseler.¹¹

From 1942 on *Willy Fiedler* directed the overall testing of the Fi-103 V-1 flying bomb at *Peenemünde*. At this secret center of German arms development the west part of the area was reserved for Luftwaffe experiments, while at the east side since year and day gigantic efforts were under way to develop a huge ballistic supersonic missile, the *A-4*, later to be known as the *V-2*. The name of the originator of that project is of course well known: *Wernher von Braun*. He worked under special approval of the Führer and direct supervision of the S.S. general *Walter Dornberger*. Now, with the little meager flying bomb being flown at the neighboring coast, it was as if a poor nephew had come to live on the same exclusive block. According to the very interesting book of *Jürgen Michels*:¹² *Willy Fiedler directed the first launch of the V-1 on December 23, 1942. The launch was successful and the Fieseler crew celebrated Christmas at home.*

The real work of testing had still to come. It proved to be of a very intensive and at times most discouraging nature: "...The autopilot, designed by *Askania*, was a brilliantly conceived device that could maintain the little aircraft in a stable flying condition. After launch no external guidance was needed. Distance flown was measured by counting the revolutions of a little nose-mounted propeller. When a predetermined count was reached the vehicle would be put in a steep dive to hit the ground. (For a long time the English could not figure out how the range of the bomb was set and they suspected the machine was radio-controlled.)

¹¹ See the English and German entries in Wikipedia: http://de.wikipedia.org/wiki/Robert_Lusser

¹² "Peenemünde und seine Erben in Ost und West", Bernard & Graefe, 1997; ISBN 3-7637-5960-3

The flight testing of the autopilot was done at the flight testing centre at Peenemünde. Unfortunately this took place simultaneously with the testing of the airframe, engine and the catapult. For this reason troubles were very often difficult to isolate; some of them were never cleared up. It was also a disadvantage that the tests were made over the sea, so the missile could not be retrieved and examined for the reasons of failure.

Most of the V-1 missiles were launched by catapult, a few only by carrier plane. At first, when short distances up to 30 km were sufficient for testing, the flights were carried out in a northerly direction. Later, after the distances were extended up to 250 km, the flights went along the coast of Omen.[?] Altogether about 300 tests were made before operational deployment. In these tests the character of the flight-path, the attitude of the missile and the position of its rudder and elevator were taken as indications of the quality of the controlling process and of the behavior of single control components by different methods.

A film was taken of each take-off. From this it was possible to study the flight-path and attitude of the V-1 during the first stage of the flight. In the second stage, still in the range of optical sight, the path was checked by cine-theodolite and once out of the optical sight by radar. Occasionally the last part of the flight was also checked by radio bearing. A few of the test-missiles, about 40, were equipped with transmitters for telemetry."¹³

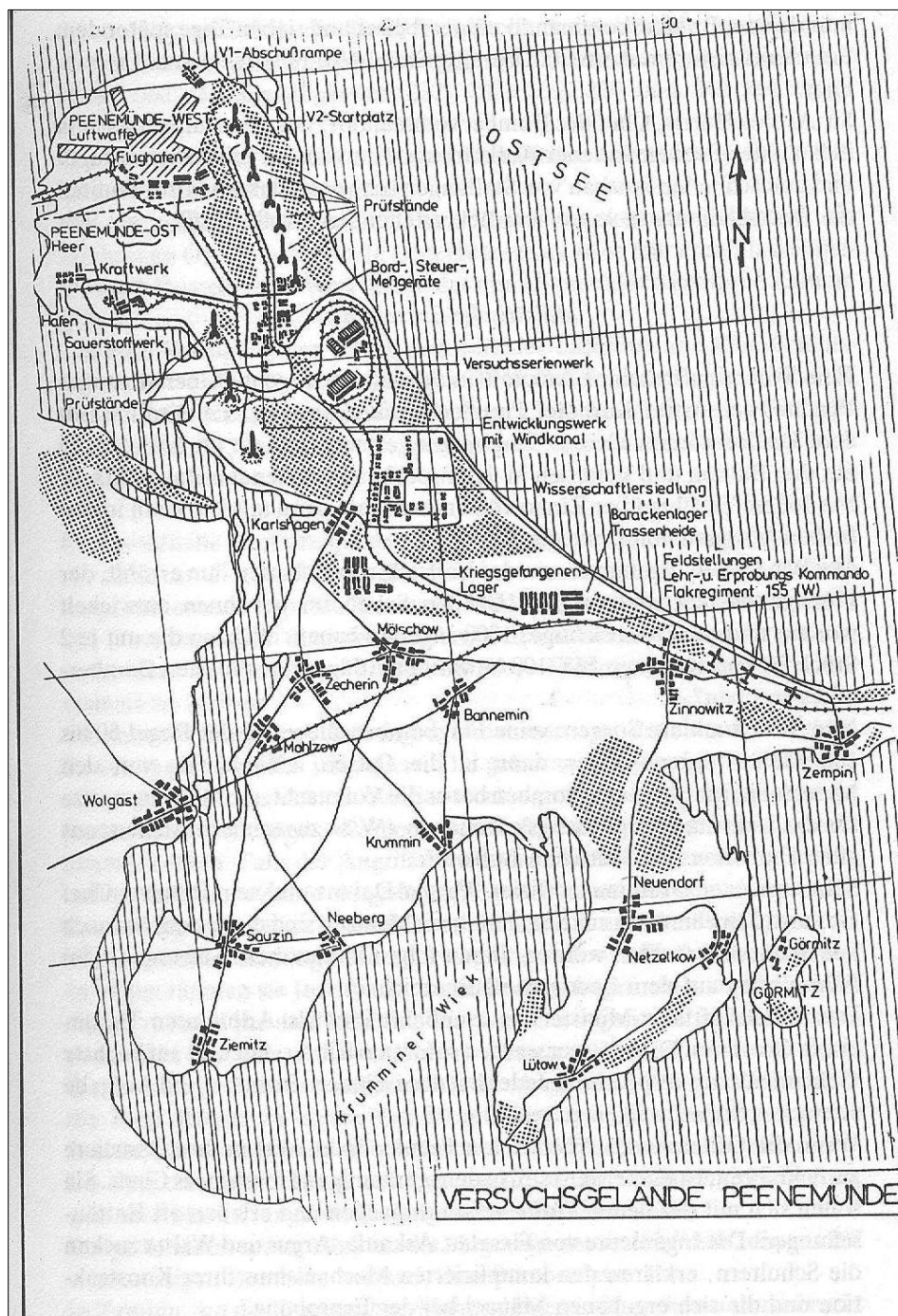


Flying bomb with pulse engine (Planes of Fame Museum Chino CA; photo rs)

"The test procedure was at follows: at first the behavior of the V-1 was studied during short climbing only. The initial results indicated that longitudinal and lateral stability were sufficient. The functions of the autopilot were then gradually extended, necessitating step by step adjustments as more refinements of the system were built in. As an example, the proper adjustment of the compass was most cumbersome. A big problem was the elimination of the strong aberration originating from the airframe, which was built almost entirely *out of sheet steel*. It was impossible to adjust the compass for it, for the engine vibrations during flight made it decrease indefinitely. In order to get only a small but known deviation, those parts of the airframe close to the compass were knocked with wooden hammers, after the airframe had been adjusted to the desired course within a room which contained no iron. The momentary matrix-loosening effect by the knocking allowed most of the magnetic dipoles to take up the direction of the earth's magnetic field. In this way the aberration was

¹³ fragment describing the complexity of testing is from: "History of German Guided Missiles Development". The Advisory Group for Aeronautical Research and Development; NATO, 1957; *H.Temme: The V-1 Auto-Pilot*, p.75ff

decreased to 1 degree and less. It took also a great deal of effort to recognize the cause of crashes which frequently occurred after the transient of the missile from climb to level flight. It was not the auto-pilot that was responsible for these crashes, as it had first been assumed, but a rolling moment of the airframe, caused by a deviation in the angles of attack of both wing halves after they had undergone the severe g-forces of catapult launching. The auto-pilot was not able to compensate for this rolling moment and the machine banked as a result. It took some time to come up with an effective answer.”¹⁴



The Peenemünde peninsula. The V-1's were launched at the northern tip¹⁵

¹⁴ H. Temme: The V-1 Auto-Pilot, p.75ff

¹⁵ map: Wilhelm Helmond: „Die V1 Eine Dokumentation“, Bechtle

Failures like this caused embarrassing situations, for instance when one of the two tested V-1's crashed in view of an official high Defense Staff commission that had to decide on the continuation of its development. On the same day, two examples of that other weapon of destruction, the A-4 rocket, were also launched before the same commission. One of these launchings also failed miserably. The commission decided nevertheless that work on both systems had to be continued. Too much money and effort had already been invested in the A-4 and a relative cheap weapon like the Fi-103 was only too badly needed.¹⁶

The work was executed under great stress. The Fieseler factory was in 1943 (as a result of the devastating bombing attacks by the Allies), spread out over 65 geographic locations. Moreover, the pressure from the RLM (German Air Ministry) was immense. Lusser was forced to deliver the drawings for series production before testing had been completed. Afterwards more than 150 engineering changes had to be made during production, which caused extra delays.

Production was at that time no longer in the hands of the Fieseler company. *Gerhard Fieseler* states that Willy Fiedler always kept his cool. He performed always well under the most difficult circumstances. He took everything in his stride. Only once saw Gerhard Fieseler Willy loose his temper, that was when he talked about the inefficient and wasteful expenditure of resources for the A-4 project. To Willy, who had a frugal nature, this was an outright crime. (Later on, when Hitler personally saw the effectiveness of the V-1 weapon he came to the same conclusion and he very nearly cancelled the A-4/V-2 project.)

In the spring of 1944, when the V-1 became operational, *Willy Fiedler* and *Robert Lusser* had already transferred for some time to a new project: that of the Fi-103 *manned bomb*. It was started at the command of *Generalfeldmarschall Milch* himself and executed in a little factory at *Reichenberg*, near Berlin *Schönefeld*, that Willy Fiedler called his own.

Gerhard Fieseler was kept in the dark; by this time the communication lines between Air Ministry and the directors/owners of the aviation industry had broken down.

THE MUSSOLINI INCIDENT (1943)

[Wikipedia, search: *Mussolini liberation*] Most entries state that *Walter Gerlach* (personal pilot of *General Student*) flew the Storch. Willy Fiedler is not mentioned, although he later claimed to have been the pilot. [M.W.-S.]

Wiki writes:

"The Storch could be found on every front throughout the European and North African theaters of operation in World War II. It will probably always be most famous for its role in *Operation Eiche*, the rescue of deposed Italian dictator *Benito Mussolini* from a boulder-strewn mountain top near the *Gran Sasso*, surrounded by Italian troops. German *commando Otto Skorzeny* dropped with 90 *paratroopers* onto the peak and quickly captured it, but the problem remained of how to get back off. A *Focke Achgelis Fa 223 helicopter* was sent, but it broke down en route. Instead, pilot *Walter Gerlach* flew in a Storch, landed in 30 m (100 ft), took aboard *Mussolini* and *Skorzeny*, and took off again in under 80 m (250 ft), even though the plane was overloaded. The Storch involved in rescuing *Mussolini* bore the radio code letters, or *Stammkennzeichen*, of "SJ + LL" in motion picture coverage of the operation for propaganda purposes."

¹⁶ Wilhelm Hellmold: „Die V1 – Eine Dokumentation“. Bechtle

THE REICHENBERG PROJECT (1944)



Fieseler Fi-103 Reichenberg; manned version of V1, flown by test pilot Willy Fiedler a.o.
(photograph from www)

In her book “*Fliegen, mein Leben*” the well known German acrobatic and test pilot *Hanna Reitsch* describes how she and several others came to the conclusion in 1943 that the course of the war had to be drastically changed by successful attacks on major targets that would cripple the enemy’s war effort.¹⁷⁾ Targets that she envisaged were power plants, major bridges, munition factories, harbor installations, etc. To obtain a high success rate the attacks had to be carried out by *manned* bombs. She tried to interest the High Command for her idea, but *Feldmarschall Milch* of the German Air Ministry (RLM) turned her down. She then happened to meet *Adolf Hitler*, but he also had no ears for the plan. His hope was pinned on more conventional jet bombers, which were in an advanced stage of development. It then turned out, however, that the Luftwaffe had already formed a unit of suicide pilots. Hanna flew tests for them with the Messerschmitt 238 fighter, but the production stagnated. Next she was approached by the SS-general *Otto Skorzeny*, well known for his daring liberation of Mussolini in 1943. Skorzeny had the backing of no one less than *Himmler* and the German Navy which had the intention of attacking major allied war ships kamikaze fashion. According to *Reitsch* different types of suicide planes would be needed: single seat test and trainer planes that could land and were equipped with landing flaps and a central wooden skate. Also two-seaters that would be used for training the suicide pilots and that obviously could be landed by the instructor. There was no need to teach the operational pilots how to land. The one-seat operational bomb model of the *Fi-103* that they intended to use had therefore no provisions for landing.

In 1944 *Milch* gave the go ahead to *Dipl. Ing. W.A. Fiedler* and *Dipl. Ing. R. Lusser* to convert the *Fi-103* into a piloted bomb. W. A. Fiedler’s workshop in Berlin-Schönefeld was called ‘*Segelflug Reichenberg GmbH*’, which gave the manned *Fi-103* its name. It took little time to build the first one-seater *Fi-103* (Reichenberg III). The flight testing was started in September at the airfield Lärz near Rechlin. At the first flight *Willy Fiedler* was at the controls himself. A catapult could not be used for take-off because of the high ‘g-forces’ generated. The Reichenberg was therefore carried underneath the wing of a *Heinkel-111* bomber. It had for this first flight no pulse engine. Fiedler was a most accomplished test (and glider) pilot and he was able to touch down very smoothly after his 6 minute gliding flight,

¹⁷ Hanna Reitsch: “*Fliegen, mein Leben*“, gebundene Ausgabe – 1. Januar 1956

although the final velocity was extremely high. Other pilots also took part in the testing program, among which *Heinz Kensche* and *Hanna Reitsch*, which led to several accidents.¹⁸



Willy Fiedler at the time of the Reichenberg test flights

this picture added 3/9/2015

On March 5, 1945 *Walter Starbati*, Chief Test pilot at *Luftschiffbau Zeppelin GmbH*, lost his life in an accident with the Reichenberg.¹⁹ "Although the wings of the manned flying bomb had been lengthened compared with the original V1, the spars were the same. During the test flight the skin of the wings was ripped away and Starbati crashed in the Nebelsee, close to the airfield of Lärz. Because of all these heavy accidents, the command of the KG 200 squadron of the Luftwaffe recommended to cancel the Reichenberg project."²⁰

Meanwhile, two-sitter *Fi-103* Rs had been constructed so that flight instruction could be given. Most of the Reichenberg machines were probably assembled in Neu Tramm near Dannenberg an der Elbe during 1944/45. According to *Jochen Tarrach* 54 were built. Practically all were captured by the U.S. Army's 5th Armoured Division on April 23 1945. Most of them were carried off by the Americans, to the regret of the British, who reached Neu Tramm in May 1945.

*Wilhelm Hellmold*²¹) finally mentions a navy version of the Reichenberg which would land on sea, shed its wings and then proceed beneath the water surface to hit the target ship below the water line. Tests with this vehicle were carried out in the test tank of the Henschel factory, under the direction of *Herbert Wagner*.

¹⁸ According to *Willy Fiedler* himself, his good friend *Karl Baur* also had a try at the Reichenberg, but no record of this flight can be found in Baur's log books. Baur did fly Lippisch' rocket plane the Me-163. See also *Isolde Baur's* book about her husband: "Karl Baur: A Pilot's Pilot", 2000, ISBN 0-921991-47-9.

¹⁹ By this time *Willy Fiedler* had already left the project. He had joined his ex-colleague *Erich Bachem* at Waldsee in February 1945.

²⁰ See "*Zeppelins Flieger*", *Zeppelin Museum Friedrichshafen*, 2006, ISBN 38030 33160, p 260
also based on: <http://www.cockpitinstrumente.de/Ausr%FCstung/Waffen/V1.htm>

²¹ *Wilhelm Hellmold*: "Die V1, eine Dokumentation", Bechtle

THE BACHEM WERKE, WALDSEE 1942



Bachem Werke, 1943?

Like all industrial work in Germany at the end of the war, the manufacturing of the Natter took place with the aid of forced labor. In fact, the design of this machine and of the V-1, was such that unskilled hands could produce them.

In 1942 *Dipl. Ing. Erich Bachem* left the Fieseler company after having been its Technical Director for nearly ten years and started his own firm in Waldsee, Württemberg. In the fall of 1944 his factory obtained the go-ahead from RLM to develop a vertically starting, manned rocket designed to attack the waves of allied bombing planes that dominated the German skies. The wooden rocket plane would later be called the '*Natter*' (Eng: adder or serpent).

"Bachem pulled strings to get his proposal accepted. The strings that he pulled belonged to Reichsführer *Heinrich Himmler*, head of the Waffen SS. Himmler saw the possibility of establishing a fleet of fighter aircraft beyond the control of Luftwaffe and RLM and signed an order for 150 of Bachem's machines using SS funds. Alarmed, the RLM now approved Bachem's design and placed their own order for 50 of the machines under the designation *Ba-349 Natter*."

With orders from both the Luftwaffe and the SS Führungshauptamt (Planning Office), Bachem set up a factory to design and build his dream at Waldsee in the Schwarzwald (Black Forest) about 25 miles (40 km) from the Bodensee (Lake Constance). Wind-tunnel models, built early in the program, were shipped off for testing and the results returned to the Bachem designers indicated that the design would be satisfactory up to speeds of about 685 mph (1,102 km/h).²² The fully loaded machine would weigh slightly more than 2000kg, operate at *maximum 12000 meters and have an endurance between 1.7 and 3.1 minutes with a combat range between 55 and 80 km.*

"An initial series of 50 Natters were built within three months of the launching of the project, and unpowered gliding trials began in November 1944. The first successful pilotless launch with a Heinkel He-111 bomber was accomplished on December 22, 1944, with a dummy in the cockpit. Next, a He-111 carried a manned Natter to 5500 meters and released it. The (very experienced) Natter pilot managed to control the aircraft. At 980 meters

²² The previous and following quotations are from:

<http://all-aero.com/index.php/component/content/article/59-planes-b-c/1298-bachem-ba349-natter?tmpl=component&print=1&page>

and from the book: "**BACHEM Ba 349 NATTER**" by Robert Forsyth; Osprey Publishing 2018; ISBN 978-1-4728-2009-9

he fired the explosive bolts to throw off the nose cone of the machine. The pilot escape sequence worked as planned. Next, a powered *VTO launch* from a special metal launching tower at *Heuberg* failed on December 18 because of faulty ground equipment design. Four days later the rocket craft made its first successful vertical launch with solid fuel boosters only, because the main Walter motor was not available on time. Ten more successful launches, all unmanned, followed during the next several months.

In February 1945 Erich Bachem was joined by Willy Fiedler as a co-owner of the firm and its Technical Director.

Early in 1945, the Walter engine arrived and the next Natter, carrying a dummy pilot, was launched successfully from the tower with a complete propulsion system on February 25, 1945. The launch proved that the complete flight profile was workable. All went according to plan, including recovery of the pilot dummy and the Walter rocket motor. Unfortunately the next day, February 26, an unmanned test machine exploded during the start.



Bachem Natter, manned rocket for vertical start, 1944
(Planes of Fame Museum, Chino CA, USA)

Although Bachem wanted to conduct more pilot-less tests, he was ordered to begin full-power piloted trials immediately. On March 1, 1945, a volunteer, Oberleutnant *Lothar Sieber*, attempted the first manned, full-power Natter VTO launch. However, during the acceleration, the cockpit canopy detached itself at an altitude of 500 meters, probably because of it having been improperly locked. Siebert was knocked unconscious as the Natter continued to climb to 1500 meters, before nosing down and crashing, with fatal consequences.²³

After Sieber's tragic death seven more unmanned VTO flights were executed from the tower at Heuberg. Some of these were successful. The Waffen SS then insisted on making the Natter operational. Bachem had prepared for this purpose very simple wooden mobile launching platforms. In April 1945 one unmanned Natter with serial number M52 was launched successfully from one of these wooden installations in the field.

The war came thereafter to a chaotic ending with the result that a number of unused Natters ended up in various aviation museums around the world (see photograph). Skilfully crafted wooden war machines, once lethal - now disarmed - straight descendants of the peaceful soaring birds that flew at Rhön.

²³ There are other accounts of the ending of the fateful flight, see http://de.wikipedia.org/wiki/Bachem_Ba_349 and http://en.wikipedia.org/wiki/Bachem_Ba_349

1945: MAN RIDES ROCKET

The German pilot *Lothar Sieber* was the first rocket flyer of the world. He may even have the dubious honor of having flown faster than the speed of sound.²⁴

[The following fragment is an interview made by Ing. H. Steuer with Willy Fiedler in an unknown German periodical found in the personal papers of the latter:]

“.....In the mix-up after the war, it has been forgotten that a vertically launched one-man-rocket with two short stubby wings has carried a twenty-three year old pilot, *Lothar Sieber*, straight into the sky. Fortunately descriptions and pictures of this unique rocket launching have been saved.



**Willy Fiedler instructing Lothar Sieber;
Mock-up in Militär Museum Stetten am kalten Markt,
Baden-Württemberg, Germany
[picture: Wiki Commons]**

The vertically launched “Natter” rocket was intended to combat high flying enemy bombers and was equipped with both fluid rocket motors and solid fuel boosters. In spite of the fact that preparation time had been insufficient; the rocket launch of the “Natter” took place on the Heuberg.

For the first time the questions were faced whether Man could survive the initial accelerations, the disorientation of his senses after the launch and the difficulty of returning to Earth alive by means of parachute. The night before launch the group at the test site of Heuberg are informed that the rocket will be flown by the lean civilian who has been present at the pre-trials during the weeks before. It is *Lothar Sieber*, a young but experienced flyer, who has proven to remain quiet and effective during dangerous flying situations. This is how an eyewitness, test pilot and Flugkapitän *Willy Fiedler*, currently living in the United States, describes the first manned rocket take off:

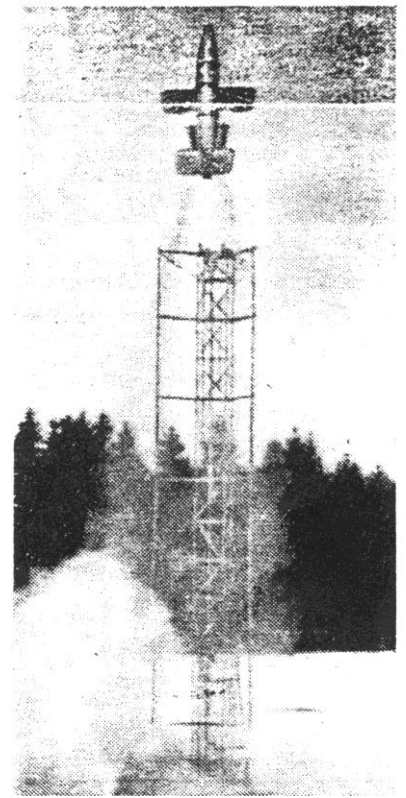
“Although I had been present at many hundreds of dangerous rocket launches in the past, I felt conscious of the special conditions of this first manned rocket start as I greeted *Lt. Lothar Sieber* underneath the high towering starting rig in the snow-covered Senke near Heuberg. While at the launching site technicians perform their last tasks and engineers check each part of the machine the tank truck arrives with the T-fuel and Sieber and I review once more the starting procedures. While smoking one cigarette after the other, he listens attentively to my explications.²⁵ The site is now almost deserted; the tank trucks leave the concrete platform. With her nose pointing to heaven, the Natter stands

straight up in the starting tower, the steel guide rails glistening in the cold winter morning.

Green flare. Platform empty! Sieber takes a last draw from his cigarette and waves for the last time. The technician shifts the heavy Plexiglas canopy over the pilot, jumps from the starting tower, closes the electric switch and runs into the snow-covered valley.

²⁴ see also http://de.wikipedia.org/wiki/Lothar_Sieber

²⁵ note from the authors: it is a bit hard to imagine that the pilot was smoking while the rocket was being fueled.



Via the telephone I give from the command bunker the last instructions.
 "All OK", sounds Siebel's voice from the speaker, "I am going".

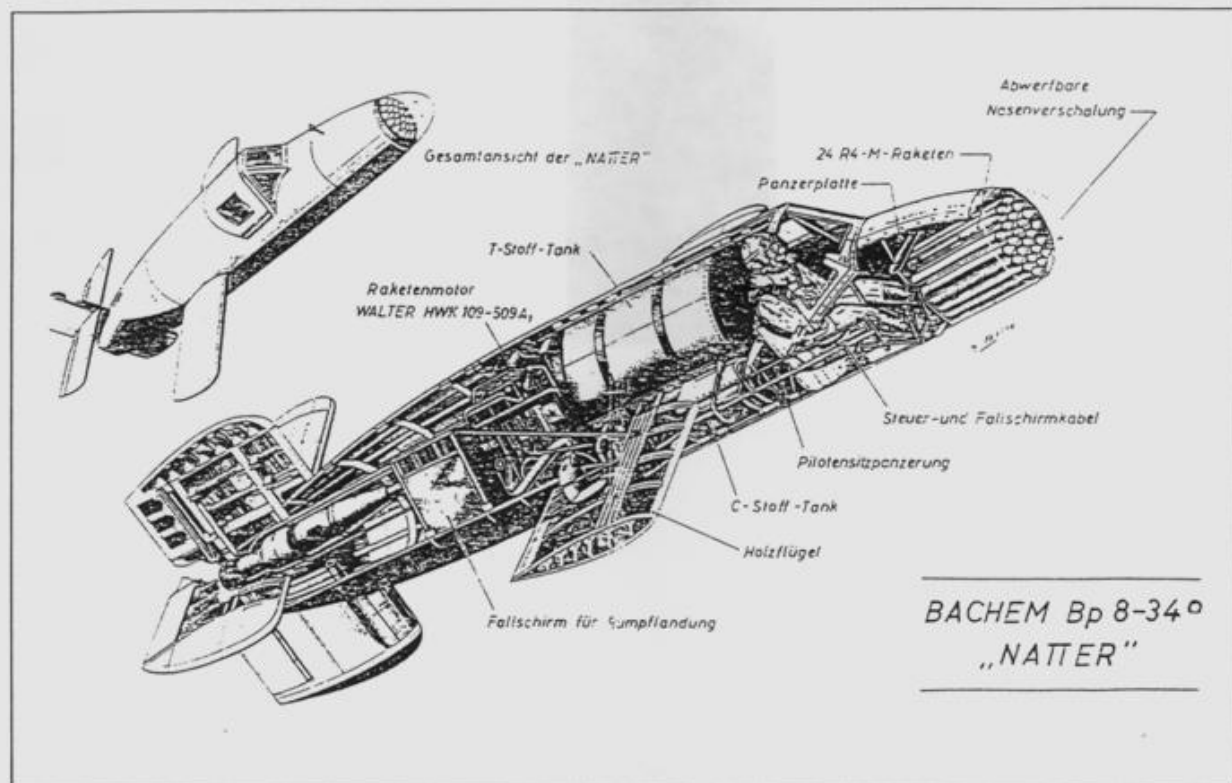
Ten seconds to go. For the lonely man laying on his back in the pilot seat of the Natter it must seem an eternity. In the dampened silence of the Heuberg the red starting flare suddenly explodes. The Walter propulsion unit comes screeching to life and then to full power. A flame emits from the jet stream at the tail and in the steam clouds surrounding the rocket I see the flames of the four solid start rockets. The moment that the machine is torn loose from its clamps in the tower must mean a feeling of release for Siebel. As planned, the manned rocket rises completely straight up into the air.

We stare at its path. Is the pilot conscious, has he survived the starting forces? My hands automatically move to the right as if they handle a joystick that can influence the machine in the air. The trajectory of the projectile begins now to lean backward. The Natter rolls a half turn and speeds upward steeply. This maneuver I have agreed on with Sieber two minutes ago, so all must be well, the launch has been successful. But what is this? A dark spot is flying from the speeding machine. Immediately thereafter the Natter is enveloped by clouds. "The Natter is gone", one of us says. We all stare into the milky clouds. One can still hear the noise of the rocket motor. 30 seconds, 40, 50, then the sound becomes weaker. After 55 seconds I see at a distance of about 10 kilometer a black body smash itself straight into the ground. It is the Natter. Both rocket and pilot are obliterated.

It is possible that Sieber had become disoriented during his flights in the clouds and had traversed them downward instead of upward. Or it could be that Sieber's head had been pressed so violently against the headrest by the wind after the canopy flew off, that he had lost consciousness."

We know from the last letters of Lothar Sieber that with this dangerous mission military ambition was far from him. As a passionate flyer he offered his life for the conquest of space.

[translation rs]



Konstruktionsplan der „Natter“.

Segelflugwettbewerben in der Rhön mit Erich Bachem bekannt. Seine berufliche Laufbahn begann er in der Firma des Schwiegervaters von Erich Bachem, der Ruhrtaler Maschinenfabrik Schwarz und Dyckerhoff in Mülheim a. d. Ruhr. Nach Tätigkeiten bei British Aircraft und bei der Deutschen Versuchsanstalt für Luftfahrt (DVL) in Berlin wurde er 1938 Chefpilot der Mustererprobung bei den Fieseler-Werken in Kassel. Seine Tätigkeit in Waldsee war eher beratender Natur. Schwerpunkt seiner Arbeit war die Entwicklung einer bemannten Version der V 1, der Fi 103, in Peenemünde auf der Insel Usedom. Die Führungsmannschaft des Bachem-Werkes bestand so gut wie ausschließlich aus Leuten der „Akaflieg“ von Stuttgart. Wie kam es gerade zu dieser Betriebsgründung in der schwäbischen Provinz? Ende der 20er Jahre mußte das Waldseer Zweigwerk der *Oberrheinischen Dampfsäge- und Hobelwerke, Offenburg*, wegen wirtschaftlichen Schwierigkeiten schließen. Deshalb war die Stadt Waldsee in den Folgejahren um die Neuansiedlung von Betrieben bemüht. Auch das württembergische Wirtschaftsministerium schaltete sich ein, und es stellte dann den Kontakt zu Erich Bachem her. Die Wohnraumbeschaffung für die Beschäftigten des Bachem-Werks bereitete große Probleme und war bis Kriegsende häufig Anlaß von Konflikten. Die Stadt Waldsee, gedrängt vom württembergischen Wirtschaftsministerium

und vom Rüstungsministerium in Berlin, konnte nur mit großer Mühe der wachsenden Zahl der Mitarbeiter des Bachem-Werkes entsprechende Wohnquartiere beschaffen. Es verwundert, daß in diesen Zeiten nicht alles, was kriegswirtschaftlich notwendig war, einfach beschlagnahmt wurde. Zum Schluß waren im Bachem-Werk ungefähr 300 Personen beschäftigt, einheimische Frauen, Kriegsgefangene und Deportierte aus den besetzten Ländern.

Willy A. Fiedler hatte Glück, er konnte ein Ausgehunghaus in Haisterkirch beziehen. Die Kriegsgefangenen und Deportierten dagegen wurden teilweise in Baracken auf dem Werksgelände untergebracht. Die Behandlung dieser Personen war aber, von Einzelfällen abgesehen, korrekt.

Bis zum Sommer 1944 war das Bachem-Werk nur Zulieferer für die Fieseler-Werke, die Hirth-Betriebe und die Dornier-Werke, außerdem wurden Baugruppen für luftgestützte Torpedos produziert. Erst im Frühjahr 1944 gewannen die Bachem-Werke plötzlich eine rüstungspolitische wie auch technikgeschichtliche Bedeutung.

Die Ausschreibung des Reichsluftfahrtministeriums (RLM)

Ein Blick auf die Situation im Frühjahr 1944. Zur militärischen Lage: Im Osten hatte die Rote Ar-

AFTER THE WAR, UNTIL 1948



Bachem/Fiedler "Lerche", Ultra Light Airplane; a far cry from the Natter

Willy Fiedler and the Bachem Company concentrated in the years immediately after the war on those type of artifacts of straightforward design that were needed most. The airplane shown in the picture doesn't so much figure in that category, but was an irresistible challenge to those who had built in the recent past rocket vehicles out of wood. The pieces of furniture shown on the next page were most certainly in demand by families, probably by their own in the first place. The simple camper promised a way out of the (destroyed) city into the country side, leaving in the middle the questions: 'who has a car?', where is the gasoline?' and 'how are the roads'? The home furniture was built of the raw material that can be found abundantly in the countryside of Fiedler's origin, the Black Forest. It shows the creative mind of a straight thinking engineer who knows how to arrive at the simplest shape for things that will carry the weight, thereby achieving a stylish result in the process.



In 1954, after his emigration to the USA in 1948, the life and career of Willy Fiedler will be thoroughly investigated by US Navy Intelligence in order to examine the suitability for his employment by the Navy. On the next page a fragment is shown out of the report of the investigation, transcribing an interview with the mayor of *Nabern*, Germany, about the circumstances and living conditions of Willy Fiedler and his family in that village immediately after the war. This fragment is included not for its factual exactness, but to give an indication of the circumstances of life immediately after the war. As for facts: Willie Fiedler had no son-in-law working in his shop. And his own beloved son Achmed had died in 1947 of a severe illness, not during the war.

CONFIDENTIAL

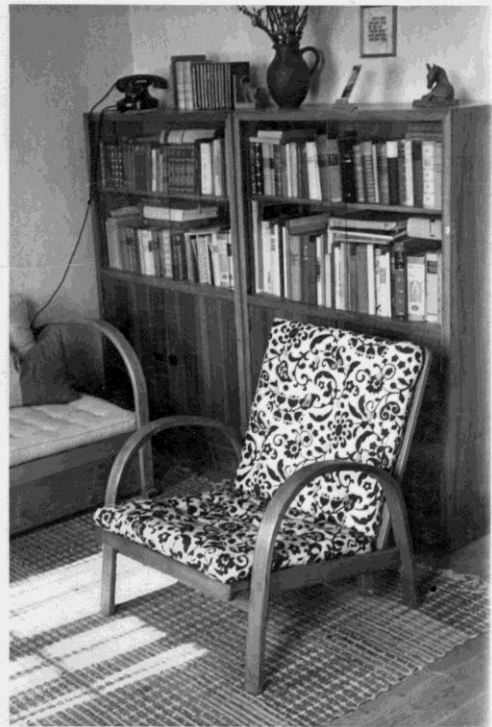
AGENT REPORT (SR 380-320-10)	
1. NAME OF SUBJECT OR TITLE OF INCIDENT	2. DATE SUBMITTED
FIEDLER, Willy Achim	30 August 1954
	3. CONTROL SYMBOL OR FILE NUMBER
	D-231189; I-24863
4. REPORT OF FINDINGS	
<p>On 4 August 1954, Buergermeister Erwin KREHER, born 15 January 1913 in KIRCHHEIM (NU 3586), Germany, and presently residing at Bissengerstrasse 28, NABERN (NU 3580), Germany, was interviewed and stated: Herr Willy FIEDLER came to the city of NABERN in July 1945, shortly after the end of World War II, from the city of FREUNDENSTADT (KV 6858), Germany, to open a small furniture factory. SUBJECT secured a small two story building at Dettingerstrasse 20, where he had space for living quarters on the second floor. FIEDLER had three elderly men working for him as well as his son-in-law. During the period from July 1945 to June 1948, SUBJECT managed to make a living for himself and his wife and the daughter and son-in-law. The other child of SUBJECT, a son, was killed in the last stage of fighting in southern Germany. When the visa arrived for SUBJECT and his family, after being processed for a period of almost two years, SUBJECT closed his shop, paid off his creditors and immigrated to the United States. KREHER stated that this building is isolated from the rest of the small city and has been empty since FIEDLER locked up and moved away. When questioned as to the possibility of finding other persons acquainted with FIEDLER, KREHER stated that the population has changed so much since 1948 that he could not think of one individual he could recommend as having known SUBJECT. SUBJECT's background was not known prior to his arrival in NABERN. KREHER stated that SUBJECT was a hard working, quiet and sincere man, with an apparent devotion to his wife and daughter. SUBJECT apparently was not a member of the NSDAP (Nazi Party) as he was not confined in any internment camp after the end of hostilities. SUBJECT was law-abiding and kept very much to himself while a resident of this city. KREHER stated that he would recommend SUBJECT for a position of trust and confidence on the strength of their acquaintance over the four year period. (F-6)</p>	
5. TYPED NAME AND ORGANIZATION OF SPECIAL AGENT	6. SIGNATURE OF SPECIAL AGENT
WILLIAM B. NEWSOM, S/A 66th CIC Group, Region I	William B. Newsom /s/ William B. Newsom

DA FORM 341
1 APR 52

REPLACES WD AGO FORM 104, 1 JUN 52, WHICH MAY BE USED.

CONFIDENTIAL

AGL (1) 9-53-1003M-34804



Some examples of Willy Fiedler's tasteful furniture (1947)

Next page:

Letter of recommendation to US authorities prior to Willy Fiedler's emigration in 1948. The letter is by *Wolfram Hirth*, famous pioneer of the gliding sport and light aviation in Germany. On the subsequent page part of the German original is shown with the signatures. Finally, a fragment of an application form in which Willy Fiedler describes his professional career up to the end of WWII.

RESTRICTED

I, the undersigned HIRTH Wolfram K. E., born in Stuttgart on 28 Feb. 1900, residing at Stuttgart-Vaihingen, Eidechsenweg 5, diploma engineer, do hereby affirm in lieu of oath:

I have known Mr. FIEDLER since about 1932, when he, as a student of mechanical engineering at the Institute of Technology Stuttgart, entered the academic aviators' group. He began to co-operate in the construction of gliders, which he liked even more than actual flying. It soon became evident that he was a talented designer. He is not only gifted for designing but rather for developing and improving a design up to perfection. Fiedler is very solid and economic in his work and stresses quality. He follows his aim with energy and perseverance. During the war he was a test pilot and engaged in the development of airplanes.

He possesses a sound egotism which is characteristic for ambitious people who take pains to advance in life. In spite of his being self-willed he is amiable to deal with. He sticks to his stand-point and cannot be easily diverted from his opinion. He may be a very good friend to people he is fond of and whom he trusts. Most of his collaborators like Fiedler.

Fiedler lives in a harmonious marriage. His wife stands loyally at his side. His economic conditions are well-ordered. He comes from a well reputed family and possesses some fortune which probably is invested in his plant to a large part.

In politics Fiedler was very reserved during the Third Reich. He was not interested in the party and its aims. As far as I know, he has always been a good patriot and not a National socialist.

Fiedler professes himself to Christianity, but does not attend services, as far as I know. Besides his profession Fiedler is very much interested in photographing.

Nabern, 13 April 1948.

/s/ Wolf Hirth

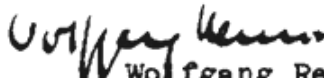
Witnessed:

Siegfried Geisler
Investigator for Mil Govt.

/s/ Paul E. Lemeris
/t/ PAUL E. LEMERIS
CWO, USA
Asst Adjutant

H. Lebkuechner
Investigator for Mil. Govt.

CERTIFIED TRUE TRANSLATION:


Wolfgang Renner
Translator Supervisor

RESTRICTED

Familie und besitzt einiges Vermoegen, das wohl aber zum grossen Teil in seinem jetzigen Betrieb festgelegt sein duerfte.

Politisch war Fiedler waehrend des Nationalsozialismus stets zurueckhaltend. Ihn beruechte die Partei und deren Ziele wenig. Meines Wissens war er stets ein guter, vaterlaendisch gesinnter Deutscher, aber nie ein ueberzeugter Nationalsozialist.

Fiedler ist wohl christlich eingestellt, aber meines Wissens wenig kirchlich gebunden. Neben seinem Beruf hat Fiedler starkes Interesse fuer Photographie.

Wolf Hirth

Wolf Hirth

Nabern, den 13.4.1948

Als Zeugen:

Siegfried Geisler

Siegfried Geisler
Investigator for Mil.Govt.

Paul E. Lemeris

PAUL E. LEMERIS
CWO, USA,
Asst Adjutant.

H. Lebkuechner

H. Lebkuechner
Investigator for Mil.Govt.

RESTRICTED

I. CHRONOLOGICAL RECORD OF FULL TIME EMPLOYMENT AND MILITARY SERVICE

A chronological history of your employment and military service beginning with 1st of January 1931, including for all promotion, or demotions, transfers, periods of unemployment, attendance at military institutions (other than those covered in Section B) or training schools and full-time service with military organizations. (Part time employment is to be recorded in Section F.) Use a separate card for each change in your position or rank or to indicate periods of unemployment or attendance at training schools or transfers from one military or para military organization to another.

D. Chronologische Aufzählung jeglicher Hauptanstellungen und des Militärdienstes

29. Geben Sie in zeitlicher Folge eine Aufzählung Ihrer Beschäftigung und Ihres Militärdienstes seit dem 1. Januar 1931 an, mit Begründungen für alle Beförderungen oder Degradierungen, Versetzungen, Arbeitslosigkeit, Besuch von Bildungsanstalten (außer solchen, die bereits in B angeführt sind) oder Ausbildungsschulen, und Volldienst in militärähnlichen Organisationen (Nebenbeschäftigungen sind in Abschnitt F anzugeben). Benutzen Sie eine gesonderte Zeile für jeden Wechsel in Stellung oder Rang oder zur Angabe von Arbeitslosigkeitszeiträumen oder für den Besuch von Ausbildungsschulen oder für Versetzungen von einer militärischen oder militärähnlichen Organisation zu einer anderen.

From	To	Employer and Address Arbeitsgeber und Anschrift oder Militäranstalt	Name and Title of Immediate Superior or C.O. Name und Titel des Direktors oder vorgesetzter Offz.	Position or Rank Stellung oder Dienstgrad	Duties and Responsibilities Art der Tätigkeit und Verantwortungsbereich	Reasons for change of Status or Cessation of Service Grund für Änderung oder Beendigung des Dienstverhältnisses
1933	1933	RUHR-TALER MASCH.FABR. DIR. SCHWARZ MÜLHEIM - RUHR		STUDENT		
1934	1934	DVL-BERLIN-ADL.	DIPL.ING. FUCHS	KONSTRUKTEUR	ENTWURF	ANSTELLUNG DVL
1935	1935	BRITISH AIRCRAFT CO. LONDON - FELTHAM	MR. HANDASYDE MR. M. LANGLEY	FLUGBAUFÜHRER ASSISTANT	WISS. MITARBEITER U. FLUGLEHRER STRESSING, DESIGNING	AUSLANDSTÄTIGKEIT RÜCKKEHR NACH DEUTSCHLAND
1936	1936	AUSBILDUNGS-LAGER ZEITHAIN - SACHSEN	HPTH. ZÖRNER	MILIT. GRUND- AUSBILDUNG	-	ENTLASSUNG
1938	1938	ERPROBUNG-STELLE RECHLIN	ING. BALLERSTEDT	VERSUCHSFLIEGER	FÜEGEN, AUSHERTEN	WOLLTE NICHT IM STAATSDIENST
1945	1945	FIESELER KASSEL	DIPL.ING. BACHEN " " LUSSER	EINFIEGER, CHEF PILOT, ERPR. LEITER	ERPROBUNG VON FLUG- ZEUGEN U. GERÄTEN	
1945	1945	BACHENWERK-WALDSEE " " BACHEN		CHEFKONSTRUKTEUR	ENTWURF ABWEHRGERÄTE	GRÜNDUNG EIGENER FIRMA

30. Have you deferred from Military Service? — 31. If so, explain circumstances completely. — 32. Have you been a member of the General Staff Corps? — 33. When? — 34. Have you ever been a Nazi Military Officer? — 35. When and in what unit? — 36. Did you serve as part of the Military Government or Wehrkreis administration in any country occupied by Germany including Austria and Sudeten? — 37. If so, give particulars of offices held, duties performed, location and period of service. — 38. Have you any military orders or other military honors? — 39. If so, state what was awarded you, the reasons and occasion for its bestowal.

30. Haben Sie vom Militärdienst zurückgestellt? Ja 31. Falls ja, geben Sie die Umstände an Als Einflieger u. Ingenieur 32. Waren Sie Generalstabs-Offizier? Nein 33. Wann? ENTFALLT 34. Waren Sie NS-Führungs-Offizier? Nein 35. Wann und in welchem Truppenverband? ENTFALLT

36. Haben Sie in der Militärregierung oder Wehrkreisverwaltung irgendeines der

von Deutschland besetzten Länder, einschließlich Oesterreich und Sudetenland, gedient? Nein 37. Falls ja, geben Sie Einzelheiten über Ihre Aemter und Pflichten sowie Ort und Zeitdauer des Dienstes an ENTFALLT

38. Sind Sie berechtigt, militärische Orden oder andere militärische Ehrenauszeichnungen zu tragen? Ja 39. Falls ja, geben Sie an, was Ihnen verliehen wurde, das Datum, den Grund und Anlaß für die Verleihung K-VERDIENSTKREUZ I. EINFLIEGER-TÄTIGKEIT 1944
ERPROBUNGSERFOLGE VI 1944

1948: DEPARTURE FOR USA

END OF PART 1