August 12th, 1932 Vol. 3 No. 14

THE SAILPLANE & GLIDER

Official Organ of the
British Gliding Association

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THE SAILPLANE & GLIDER

(*Founded in September, 1930, by* THURSTAN JAMES)

The only Journal in the World devoted solely to Motorless Flight.

OFFICIAL ORGAN OF THE BRITISH GLIDING ASSOCIATION.

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NATIONAL AND INTERNATIONAL CONTESTS

THE last day of July saw the end of the 13th Annual Competition at the Wasserkuppe, while a week earlier the National Soaring Contest at Elmira, N.Y., was terminated. In another two weeks a Competition will be held in this country at Moorside, Askam, near Barrow-in-Furness, when we hope to see some good performances put up by British pilots.

The present issue of THE SAILPLANE is a Competition Number. We are indebted to Dr. Salter for an account of the Wasserkuppe meeting, while on page 163 Captain Needham deals with certain technical aspects of the Competition. Martin Schempp has been good enough to send us details of the U.S. contest.

It is to be hoped that those who intend taking part in the Furness Competitions will benefit by the experience gained in the other countries and will do their utmost to emulate the excellent results which have been obtained. There is no doubt that the present year has seen steady progress in the British Gliding Movement. The latest news from the London Club, in particular, is definitely stimulating, and, although the other clubs have been slow in sending in their news regularly to THE SAILPLANE (an oversight which, we hope, they will take immediate steps to remedy), we believe that, in their case also there has been definite progress. The Furness Contest will show how far this is true.

We cannot write from first-hand observation of the Elmira Meeting, but from Mr. Schempp's account the results appear to have been most satisfactory. Two new American records—one for distance and one for altitude—were set up, and, apart from minor damage to four machines, the meeting ended without mishap. In the latter respect our German friends were less fortunate, for, in addition to two serious accidents, one of which involved the death of that well-known pilot, Herr Groenhoff, more than half the machines entered in the competition met with mishap in one way or another. The more superstitious put this down to the fact that it was the 13th Competition, but, while a certain amount of bad luck entered into it, Captain Needham gives it as his opinion that many of the crashes were avoidable. Be this as it may, their misfortunes only served to bring into relief the wonderful team spirit which permeates the whole German Gliding Movement, a spirit which may well be emulated by those in this country. We have no hesitation in saying that, in our opinion, the lack of this self-same spirit is the most serious drawback from which the British Gliding Movement is suffering to-day. That progress has been made in spite of it is a testimony to our national characteristic to push ahead in spite of all obstacles, but we repeat what we have often stated before in these columns that no *real* progress will be seen until the whole Movement presents a united front.

But to return to the Wasserkuppe. It was a wonderful thing to watch the machines being launched one after the other and to see the air literally full of sailplanes, some soaring up and down the ridge, others going farther afield on "thermals" to seek the lift afforded by more distant hills. A most imposing sight was witnessed on the last day of the meeting. Early in the morning Professor Georgii announced that a thunderstorm "front" was expected late in the afternoon. The day was perfect, for, apart from scattered cumulus, there was no sign of threatening weather. Late in the afternoon, however, dark clouds and distant lightning were seen to the north-west. Immediately all available machines were lined up in readiness for the take-off while Professor Georgii stood by ready to give the word "Go." Slowly the storm crept nearer and, as the first drops of rain commenced to fall, Kronfeld was catapulted in his WIEN. Unfortunately, the "front" proved to be too feeble for a distance flight, and when it was seen that Kronfeld could not get any appreciable lift, further launches were cancelled and the machines taken back to the hangars. But the sight of those machines lined up in the gathering storm was a memorable one.

At the close of the "Sailing Flight Conference" which was held at Gersfeld on August 1st and 2nd immediately after the competition, Professor Georgii, in his summing-up, made two rather startling statements. The first was to the effect that it should be the policy of clubs to go on building their own machines, and the second that, as far as soaring and long-distance flights were concerned, the

limit had now been reached. The first statement is open to controversy. If, for financial reasons, constructing its own machines is the only way in which a club can obtain aircraft, then by all means let it go ahead and do it. Pioneers in the early days were known to construct their own bicycles, but no cyclist to-day would think of spending his time in this way. Apart from the fact that people should spend their time in the air rather than in the workshop, nothing short of a first-class firm of aircraft constructors can be relied upon to produce really satisfactory high-performance machines. As the Movement grows we should look forward to more firms specialising in this type of aircraft construction and giving us the benefit of the brains of their highly specialised technical staff and designers.

Professor Georgii's second statement was rather surprising, coming as it did from Germany. If it is true, we in this country have no need to be discouraged, for we have a long way to go to reach the stage attained by German pilots. He is a bold man, however, who states that the limit in anything has been reached. More than ten years ago, an eminent authority stated that 250 m.p.h. was the limiting speed for power-driven aircraft, yet to-day we have attained nearer to 500 m.p.h. We prefer to believe that sailing flight is yet in its infancy. This form of flying depends on an intimate knowledge of the atmosphere, its structure, and its movements, and while the past ten years have seen considerable advance in this knowledge, no practical meteorologist would go so far as to say that the limit of knowledge has been reached or that the end of the use to which it can be put is in sight. Motorless flying is going to help us, as it has already helped, to increase our knowledge, and the more knowledge is gained the more practical use will be made of it in attaining new developments in sailing flight.

Gliders Come Under the Air Navigation Order.

An Air Navigation (Amendment) Order, 1932, issued recently, amends the definition of "aircraft" to include "gliders." A glider is defined as "an aircraft heavier than air, not fixed to the ground and having no means of mechanical propulsion, but having means of directional control."

Amendments to Schedule IV to the principal Order, relating to rules as to lights and rules for air traffic, bring gliders specifically within the Order. The following are the main provisions of the amended Order as affecting motorless aircraft:—

"SECTION III.—GENERAL RULES FOR AIR TRAFFIC.

* * *

"Para. 21.—Subject to the provisions of para. 43 of this Schedule, flying machines shall always give way to gliders and to balloons, fixed or free, and to airships, and airships shall give way to gliders and balloons, whether fixed or free.

* * *

"SECTION V.—SPECIAL RULES FOR AIR TRAFFIC ON AND IN THE VICINITY OF AERODROMES OPEN TO PUBLIC USE.

* * *

"Para. 28.—An aircraft overtaking another shall keep out of the way of the overtaken aircraft by altering its own course to the right, and must not pass by diving.

"Every aircraft coming up with another aircraft from any direction more than 110 degrees from ahead of the latter, i.e., in such a position with reference to the aircraft which it is overtaking that at night it would be unable to see either of that aircraft's side-lights, shall be deemed to be an overtaking aircraft, and no subsequent alteration of the bearing between the two aircraft shall make the overtaking aircraft a crossing aircraft within the meaning of these rules, or relieve it of the duty of keeping clear of the overtaken aircraft until it is finally past and clear.

"As by day the overtaking aircraft cannot always know with certainty whether it is forward or abaft the direction mentioned above from the other aircraft, it should, if in doubt, assume that it is an overtaking aircraft and keep out of the way.

* * *

"Para. 36.—If a flying machine or glider starting from, or about to land at, an aerodrome makes a circuit or partial circuit, the turning must be made clear of the landing area and must be left-handed (anti-clockwise), so that during the circuit the landing area shall always be on its left.

"Para. 37.—Subject to the provisions of any special regulations in force with respect to any particular aerodrome, a flying machine or glider shall not fly over the landing area of an aerodrome at a lower height than 6,000 feet, except when departing therefrom or landing thereat.

"Para. 38.—Every flying machine and glider flying outside the landing area of an aerodrome at a distance of less than three miles from the nearest point of that area shall, unless it is flying at a greater height than 6,000 feet, keep the landing area on its left.

"Para. 39.—Acrobatic landings are prohibited at aerodromes. Flying machines and gliders are prohibited from engaging in aerial acrobatics in the vicinity of these aerodromes at a distance of less than 3 miles from the nearest point of the perimeter of the aerodrome, unless they are flying at a greater height than 6,000 feet.

* * *

"Para. 41.—Every flying machine and glider when taking off from or alighting on an aerodrome shall do so up-wind, except when the natural conditions of the aerodrome do not permit, or in the event of there being no wind. In the latter case, every flying machine and glider, when taking off or landing, shall do so in the direction indicated by an appropriate signal, or if there is a landing (T), in the direction indicated by that T.

"Para. 42.—In the case of two flying machines or two gliders approaching an aerodrome for the purpose of landing, the flying machine or glider, as the case may be, flying at the greater height shall be responsible for avoiding the flying machine or glider at the lower height, and shall as regards landing observe the rules of para. 28 of this Schedule for passing.

"Para. 43.—Aircraft about to land on an aerodrome shall be given free way.

* * *

"Para. 45 (ii), sub-para. (3).—At aerodromes to which this paragraph applies, a flying machine or glider when landing shall do so in conformity with paragraph 41 of this Schedule, in the left part of the zone reserved for that purpose, but leaving clear on its left any other flying machine or glider which has already landed, and a flying machine or glider when taking off shall do so in conformity with paragraph 41 of this Schedule, in the left part of the zone reserved for that purpose, but leaving clear on its left any other flying machines or gliders which are at rest on the ground.

"SECTION IA.—RULES AS TO LIGHTS AND DAY MARKINGS.

* * *

"Para. 8.—In all cases in which flying machines are required by this Section of the Schedule to display lights, a glider shall display a white light visible, so far as practicable, in all directions."

The provisions of this Order come into operation on September 1st, 1932.

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1932 B.G.A. OPEN GLIDING AND SOARING COMPETITIONS



View of Moorside, near Barrow-in-Furness, looking N. to N.E. The knoll is 1,050 feet above sea-level.

As announced in the last issue of THE SAILPLANE, the British Gliding Association has now decided, in conjunction with the Furness Club, to stage a Competition from August 25th to September 4th.

The site on which the Competition will be held is at Moorside, Askam, near Barrow-in-Furness.

There will be three major contests—Distance, Duration, and Altitude—in each of the six classes running through the Competition, on primary training machines, secondary type gliders, sailplanes and two-seat machines. All the contests are under the Rules and Regulations of the F.A.I. (Federation Internationale Aeronautique), who will recognise all records which may be made during the Competition.

Special prizes in the form of trophies, viz., the Lord Wakefield Trophy, the Manio Cup, the Volk Cup, and the de Havilland Cup, will be offered for the principal events, in addition to which there will be special prizes for women and other special prizes for the machines making the highest aggregate flying time in each class.

A camp is being formed, and a Committee is looking after the " side-shows " for the evenings.

The programme will start at 7 a.m. daily and flying will probably cease about 6 to 7 p.m.

We give below the Rules and Regulations for the Competition.

RULES AND REGULATIONS.

1. The Competition shall be called " The 1932 B.G.A. Open Gliding and Soaring Competition (under the Rules and Regulations of the F.A.I. and the Royal Aero Club, and the Open Competition Rules of the British Gliding Association, Ltd.)."

2. The Competition is organised by the Contest Committee of the British Gliding Association, Ltd.

3. The Committee's office is at 19, Berkeley Street, London, W.1.

4. The Competition will take place from August 27th to September 4th, 1932, at Barrow-in-Furness.

5. There will be two major contests—Distance and Durations—in each class, and the types of gliders shall be specified as Primaries, Secondaries, Sailplanes, and Two-seaters.

6. Prizes shall take the form of trophies or prizes in kind, and there shall be certain money prizes.

7. Machines, not pilots, shall be entered for the Competition and the trophies, prizes in kind, or money prizes shall be handed to the entrant.

8. Not more than one prize may be won on any one flight.

9. Entries, which may be received from any club, individual or group, are to be made in writing, on the proper form issued by the Contest Committee, which shall state, *inter alia*, the name and address of the entrant and the pilot's registered number. Entry forms may be obtained from the Secretary, 19, Berkeley Street, W.1. Any entry which is not accompanied by the necessary fee, or which does not comply with the particulars required, or which is received too late, shall be null and void.

10. Entry fee shall be 10s. for all events in any one class, or 5s. per event in any one class.

11. Entries shall close on August 20th, 1932.

12. All foreign entries shall conform to the regulations as set out herein.

13. In all events, an entry may be refused or permission for an aircraft to start may be refused if the pilot, or the aircraft, does not satisfy the following conditions:—

Aircraft.

(a) All aircraft shall be subjected to a technical inspection by a member, or members, of the B.G.A. Technical Committee, or person appointed for that purpose by the Technical Committee, both as to the aerodynamical and constructional qualities of the machines.

(b) All aircraft must possess a current B.G.A. Certificate of Airworthiness which has actually been issued before the machine arrives at the site of the Competition.

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(c) A B.G.A. daily report sheet must be completed after assembly of the machine and handed to a member of the Technical Committee, or person appointed for that purpose by the Technical Committee, who will satisfy himself that the machine is ready for flight.

Pilots.

(a) All pilots must be in possession of a Glider Pilot's Certificate.

(b) Pilots who have qualified for their " C " certificate, whether over or under the age of 16, shall not be eligible to compete in contests limited to " A " or " B " pilots.

(c) Pilots must be duly registered in accordance with Rule 16 hereof.

(d) Pilots entered for Class 6 must possess either a Club Instructor's Licence (£1 1s.) or a Commercial Licence to carry passengers for hire or reward (£3 3s.).

14. Aircraft shall be classed as follows:—

(a) **Primary Training Machines.**—Machines with a span of 40 feet or under, pilot completely exposed.

(b) **Secondary Machines.**—Machines with a span of 40 feet or under; aspect ratio not greater than 10; pilots in fuselage, nacelle or partly streamlined.

(c) **Sailplanes.**—Machines with a span greater than 40 feet; aspect ratio greater than 10.

15. Each aircraft shall be given a number. This number shall be that of the entry and shall be painted on the rudder. The display of a machine's number in a conspicuous manner indicates that the machine is required to land at once.

16. No person shall be eligible to enter a glider for, or pilot a glider in, any contest unless the name of such person is duly entered upon the Competitors' Register of the B.G.A., which register shall be open for inspection at the office of the B.G.A. at all reasonable times. The B.G.A. may refuse to enter the name of any person in the Competitors' Register without assigning any reason.

17. The fee for registration of a person shall be 10s. except in the case of a member of the B.G.A., where there shall be no registration fee, or in the case of a member of a club directly affiliated to the B.G.A. the fee shall be 2s. 6d. Each entrant in the register shall be given a number, and a certificate of registration, which shall hold good only till the 31st day of December next ensuing. (In the case of the present Competition, the entry in the register shall hold good till December 31st, 1933.)

18. No handicapping system of any sort shall be operated.

19. Any competitor considering himself aggrieved by any matter connected with the Competition, or by the conduct of the promoters or officials, may make formal protest as provided by the Open Competition Rules of the British Gliding Association, Ltd.

20. The Contest Committee may, on any complaint being made to it, or on its own responsibility, take cognisance of, and deal with, any breach or offence against these rules and regulations, or the Open Competition Rules of the British Gliding Association, Ltd., by the disqualification or suspension of any person or in such manner as it may think fit, subject only to an appeal to the Stewards of the B.G.A., as provided in the Open Competition Rules of the British Gliding Association, Ltd.



View of front breast of Furness site, looking S.W.

21. Official observers appointed by the B.G.A. shall observe and time all flights, but the starting signal shall be given by the pilot.

22. Pilots may compete for any event in any order during the Competition, provided due notice is given to the observer prior to commencing the flight.

23. On each day of the meeting an easily recognised signal shall be given declaring the Competition open or closed.

24. All machines shall be launched by the usual hand-launched shock-cord method.

25. Only flights followed by normal landings shall be recognised.

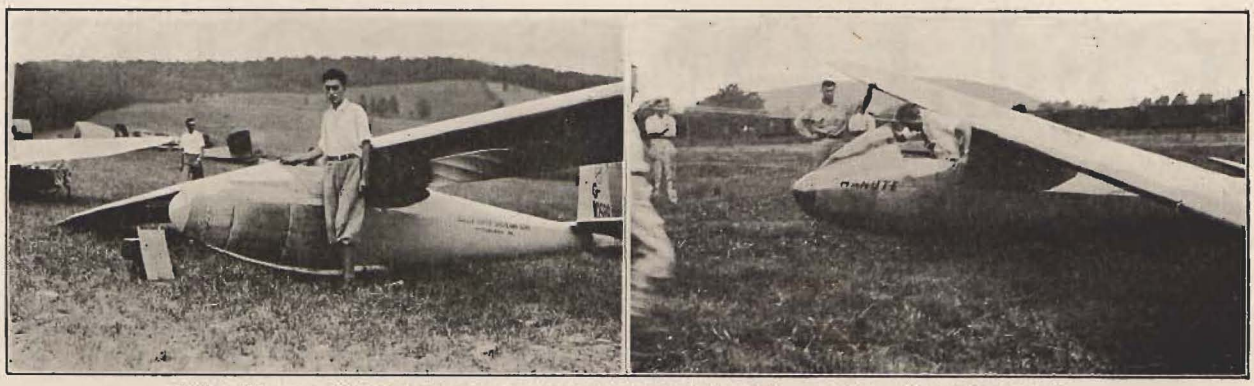
26. Two gliders meeting each other end on, and thereby running the risk of a collision, must always steer to the right. They must, in addition to this, pass at a distance of at least 50 feet taken between their nearest adjacent points. Any glider overtaking another glider is responsible for keeping clear, and must not approach within 50 feet of the overtaken glider, and must pass directly underneath or over such overtaken aircraft. The distance shall be taken between the nearest adjacent points of the respective gliders. In no case must the overtaking glider turn in across the bows of the other glider after passing it, so as to foul it in any way.

When any gliders are approaching one another in cross directions, then the glider that sees another glider on its right-hand forward quadrant* must give way, and the other glider must keep on its course at the same level till both are well clear.

27. The transport of aircraft to and from the site of the Competition will be entirely a matter for the entrants. The B.G.A. will not be responsible for any damage to the aircraft from any cause whatsoever.

28. The Contest Committee reserves the right at any time, and from time to time, to amend, alter, rescind, or add to these Rules and Regulations, and every person competing under these Rules and Regulations agrees to be bound thereby.

*From 0 degrees (i.e., straight ahead) to 90 degrees on the right hand constitutes the right-hand forward quadrant.



Left: Martin Schempp with the " Schloss Mainberg." Right: the " Chanute."

THE NATIONAL SOARING CONTEST AT ELMIRA, N.Y.

By MARTIN SCHEMPP.

The National Soaring Contest was held at Elmira, N.Y., from July 11th to the 24th.

Eighteen planes were entered in the contest, of which seven were sailplanes, two two-seaters and nine utility gliders. The large number of sailplanes entered this year shows a big step ahead. The outstanding performances were the SCHLOSS MAINBERG sailplane flown by Martin Schempp, of the Haller-Hirth Sailplane Corporation, and the CHANUTE flown by Mr. Jack O'Meara, from New York. An interesting light wind soaring plane was entered by a group of students of the Stevens Institute of Technology at Hoboken, N.J., who designed and built their sailplane, working on it for two years. Thanks to a very good organisation, careful flight tests for both pilots and planes, and to good luck and the skill of the pilots, not a single accident happened during the meet, although four planes were more or less damaged. Approximately forty pilots were flying in the meet. The meet, held under F.A.I. rules and regulations, was purely a sporting affair with no money prizes, but a number of valuable trophies. Approximately 200 hours were flown, with 165 starts.

The meet was put on a scientific base by the valuable service of a group of meteorologists of the Massachusetts Institute of Technology, headed by Dr. Lange, the former assistant of Prof. Georgii in Germany. The record flights made were only possible with his excellent advice.

The following are the main results:—

Best Endurance of 8½ hours.—Mr. Jack O'Meara, New York City, in CHANUTE.

Best Altitude of 5,400 feet.—Martin Schempp in SCHLOSS MAINBERG.

Best Distance of 68 miles.—Martin Schempp in SCHLOSS MAINBERG.

Mr. Jack O'Meara also flew 68 miles on a following day and reached an altitude of 5,000 feet, thereby setting two new American records.

Martin Schempp, who is still a German citizen, is not able to set any official American records. However, with his distance and altitude flight, and also with an endurance flight of 6 hours, he fulfilled the requirements for a German " D " certificate.

An outstanding flight in a Franklin utility glider was made by the young 18-year-old pilot, Robert Eaton. He travelled a distance of 33 miles, doing a splendid job in thermal soaring. The attempts of many other young pilots also show some progress in American soaring.

The hills around Elmira being only 800 feet high (1,600 feet above sea-level) make it quite difficult to get to the clouds, much more difficult than at the Wasserkuppe, which is close on 3,000 feet above sea-level. Aeroplane-tow start was not allowed in the contest, which I consider a mistake, for with aeroplane-tow start on several days perhaps much better results in long-distance flying would have been achieved.

What is needed here is a strong national organisation to supervise the different groups which are building sailplanes, to hand out good information, to arrange contests in different parts of the country, and to start soaring schools. The National Glider Association, through lack of funds, has disappeared entirely, and just now the Movement is carried on by private groups. Anyway, this last meet showed that we are getting ahead gradually.

THE 1932 RHÖN COMPETITIONS

By DR. A. E. SLATER.

Wasserkuppe, July 30th.
(By Sailplane Mail.)

No; on second thoughts this will not be sent by sailplane mail.

It sounds thrilling enough. " First Regular Sailplane Mail," says the notice: " Daily at 6 p.m. a sailplane will, weather permitting, convey the post from the Wasserkuppe to Gersfeld. Surcharge only 10 pfennigs." And for this inclusive sum you not only get your letter stamped with a special postmark, bearing the words " Rhön-Segelflug-Wettbewerb, 1932—Mit Segelflug befördert," and the representation of a sailplane, but you can also watch a FALKE being aero-towed away with your letter on board and then, with many spectacular twists and turns, gilding the rest of the way down while you strain your eyes to see that your letter, postmark and all, does not fall out by the way.

But you may have to wait till next morning to see all this happen; in fact, the First Regular [*sic*] Sailplane Mail has become a standing joke here. The other day, though, it really did fly at the published time; not only that, but there was such a good wind blowing that the pilot, brushing aside the offer of a tow, declared that he would jolly well soar it the whole distance. But he had not got half-way down the valley when he was forced to land on the " Zuckerfeld," whereupon the mail, so the story goes, was brought back to the top again and ignominiously conveyed by aeroplane instead.

Unlucky Thirteen.

This is the 13th annual Rhön meeting, and to that the superstitious are attributing the fact that it is the unluckiest the Rhön has ever known. Not only have there been two fatalities, but more than half of the machines which turned up have received either major or minor damage in the course of the meeting.

The following account of the first week's doings, before my arrival, has been collected from various sources; I am especially indebted for this and other information to Mr. P. S. Foss, who got his " C " here last year, knows nearly everybody, is well up in all the gossip, and has found a little village at the foot of the mountains where he can live in style for next to nothing per day.

Of 82 machines entered for the meeting, 65 had turned up by Monday, July 18th, the first day. Among the entries were eight PROFESSORS (including the CUMULUS, which recently furnished the Caterpillar Club with its first sailplane member—it has now a new side to its cockpit, and, it is to be hoped, a stronger safety-belt), six GRUNAU BABIES and six KASSEL 25's. The KASSEL 28, which was listed in the firm's catalogue last year, has not yet appeared in actuality. But here was a KASSEL 20, run by a team of ladies known as " Martha Mendel's Damengruppe " (the " g " is not a misprint for " t "). Frl. Mendel herself was the pilot, while her team of trousered Amazons (or should one say Valkyries?) did all the hauling, launching and retrieving, no male help being asked or required.

Foreign Representatives.

Of the foreigners, an Italian BONOMI B.S.8 failed to turn up, but there were two Polish machines which impressed



A German artist's impressions of the Wasserkuppe. The third sketch typifies the spirit in which the German pilots met their reverses.

everybody, including the Germans, by their fine workmanship and finish. In the air, too, when many machines were soaring together, their performance was in no way inferior to that of most of their neighbours. They were constructed by a Polish aircraft firm, the wing-section, also Polish, being a rather high-speed one, as the machines are used much for aero-towing (one of them has done over 2,000 km.); in fact, the team brought their own towing aeroplane with them. But they dare not attempt independent long-distance flights in their own country, as the transport facilities are so bad.

The Polish Gliding Movement, one of the team said, has existed for two years, and has been built up without outside help. They have one large central club, which provides machines, advice, etc., to a number of subsidiary clubs in other parts. [It is hoped to publish, in a later issue, a full account of the Gliding Movement in Poland. —Ed.]

There were no other foreign machines, but representatives of many nations were present, including M. Abrial from France, Mlle. Lippens and M. Massaux from Belgium, and others from the U.S.A., Greece, Holland, Czecho-Slovakia, and the Argentine.

New Developments.

Of departures from the conventional, one tailless machine of Storch type did nothing but a few test flights, and the new Darmstadt D.28, of only 40 feet span, designed for thermic soaring, was not ready; but the Thermikus, of Württemberg, which, instead of ailerons, has warping wings worked by movement of the back struts, did a spot of flying in the first week, and appeared to be satisfactory in its aerial behaviour. Its wings taper all the way, and have the enormous span of 72 feet. Before the space between the skid and fuselage had been quite covered in, Mr. Foss distinctly saw a row of twelve tennis balls occupying the gap. Gliders of ten years ago had footballs let into them to take the landing shocks. What will it be in another ten years? Marbles?

Another innovation in lateral control was seen in the Askania, a lovely machine, surely the work of an artist, with blue lines here and there to emphasise its form, and its coat-of-arms making a brilliant splash of colour on the nose. This machine has adjustable ailerons; that is, their position (with the stick central) can be kept either flush with the wings, or raised to a higher level by turning a small handle in the cockpit. The pilot explained that they were kept in the low position for slow flying, such as in "thermals" or light soaring winds, and raised for aero-towing or for making an awkward landing in a restricted space.

The Meeting Begins.

On the first day of the meeting nothing much happened, but next day the run of ill-luck began. A pilot named Rüdiger, who was new to the Rhön competitions, was trying, it is said, to avoid being drawn into a cloud because another machine was already there; but he dived at so great a speed that the wings came partly loose at their roots and got twisted, finally breaking off altogether before the machine (the Grunau Senator, a new type) had reached the ground.

The 20th brought only light winds; the machines were given aero-towed starts, and Kronfeld travelled farthest with a flight of ten miles.

On the 21st the meteorologists obliged with a small "front," timed for arrival at 2 p.m. Peter Riedel took them at their word and went up an hour beforehand to obtain a (literally) flying start. Consequently he got away before the others and went about fifteen miles, Hirth and Groenhoff doing rather more, and Mayer, in the Pommernland (the newest Aachen) and Kensche in the Windhund (Berlin's latest) rather less. Meanwhile, the "front" had left the air behind it quite calm.

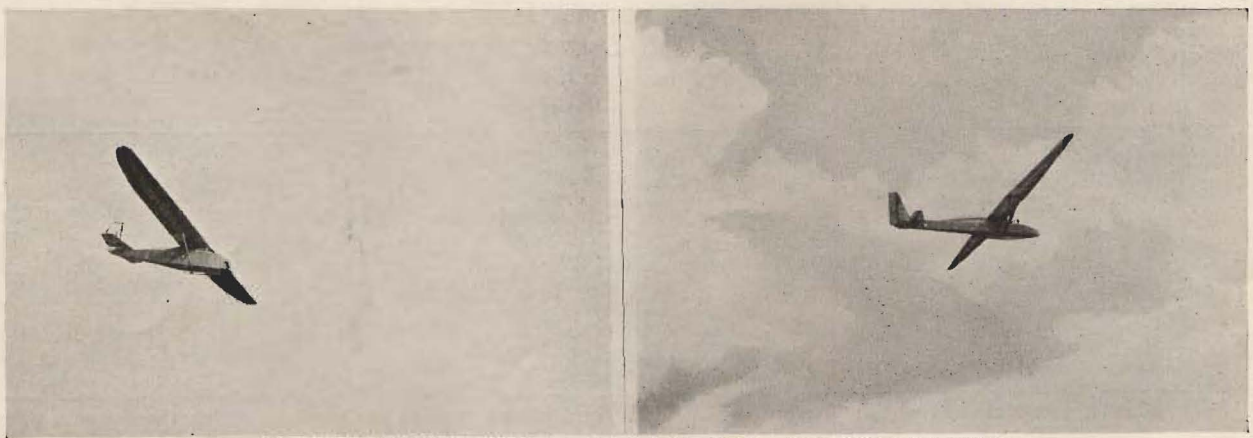


The "Aachen" and the "Condor" (below) soaring on the South Slope.

A New "Ace"?

Peter Riedel is undoubtedly a man to watch. He has been the R.R.G.'s instructor for its aero-towing courses, but has recently taken up sailplaning in real earnest, and has rapidly mastered the art of thermic soaring. On one calm day this spring, after an aero-towed start, he flew by means of thermic currents from the Wasserkuppe to Plauen, about 100 miles, using the Cumulus, which sinks at well over 3 feet per second. In cross-country work, after the three "aces" (now, unhappily, reduced to two), he and Mayer, of Aachen, probably stand next in order of skill, though several others are not far behind. Otto Fuchs was not flying this time; last year he broke his leg by landing among rocks. Many of the loose boulders have now been removed and the rest whitewashed. Perhaps it is as well, for Rhön pilots as a class are not over-careful about where they land; perhaps they are too air-minded to be able to treat any other element with respect.

Riedel's machine, called Rhönadler (not to be confused with its two-seater namesake of three years ago), is a beautiful creation by Schleicher of Poppenhausen. The wings have a span of 59 feet, a slight dihedral and a taper from root to tip. Its performance is well above that of such a machine as the Professor, and it is to be put into production and sold in Germany for 1,700 marks. A representative of Messrs. Nobel, of Hamburg, who market cold-water glue and other substances for aircraft manufacture,



Left: the "Grunau Baby." Right: the D.E. Offermann (M.S.II).



Riedel starting on a cross-country flight in the "Rhönadler."

tells me that the firm intends to take a RHÖNADLER on tour for advertising purposes, and hopes to visit England with it some time this year.

A Two-seater for Research.

On Friday, the 22nd, there were two exciting incidents. The R.R.G.'s new two-seater research sailplane, OBS, was being given a test flight, piloted by Groenhoff. It is an amazing machine, with three pairs of ailerons, each with a different function, and goodness knows what other complications besides. The passenger's part of the cabin is virtually a navigator's chart-room, since it is furnished with a table on which he can spread his maps.

But the OBS is very large and very heavy, and the little "Flamingo" which was towing it failed to get off the ground and charged into the low pine trees at the end of the aerodrome, turning up on its nose, but not hurting the pilot. Meanwhile, Groenhoff had got well into the air; so he had to cast off hurriedly and turn back to the aerodrome, which he just managed to reach before landing.

The Demise of the "Austria."

On the same day, Kronfeld was aero-towed in his gigantic AUSTRIA to a height of about 1,500 feet, where he cast loose and soared away towards the Kreuzberg with the aid of cloud currents. When about half-way there (i.e., four or five miles away), he disappeared into a cloud.

Now, blind flying by instruments, according to Kronfeld, is one thing when you keep going in a straight line, and quite another thing when you have to keep turning round and round in circles. Apparently the AUSTRIA started cutting capers which were unsuited to its size and dignity, so off came the ends of the wings in protest. The thrilled spectators saw the machine come diving vertically out of the cloud and then do a sort of loop, when out dropped a little black speck that quickly grew into a parachute, and the doomed AUSTRIA spun down and smashed itself to bits below.

The immediate lesson to be learned from this was that there was no lack of lift in the air, as there had been earlier on, so eight more machines were soon towed up and each did over an hour's soaring.

Kronfeld has now only one of his three entries fit to fly, for his new two-seater, though its parts have been on view in one of the sheds, is not yet quite finished.

Fatal Accident to Groenhoff.

Next day, Saturday, the 23rd, was a sad one for the Gliding Movement.

In the afternoon a thunderstorm approached from between north and east. There is no suitable slope for this direction, so the starters were divided into two parties, some going off from the north slope led by Peter Riedel, others from the south led by Groenhoff. When the latter started off he found he could not keep his height, and so landed. The FAFNIR was brought back to the top and started again rather hurriedly, this time towards the steeper west slope. There are practically no witnesses of this second launch, apart from the starting team, but it is known that the start was a bad one, and the FAFNIR was bumped rather severely. It then flew for perhaps a mile, but during the flight, probably because he found the machine getting out of control, Groenhoff came out of it at a height which was insufficient for his parachute to open. The FAFNIR descended among some trees; one wing was broken badly, but the cockpit was almost undamaged. The general opinion seems to be that the rudder came loose and interfered with the working of the elevators; further, that had it not been for Kronfeld's feat of the day before, it would never have occurred to Groenhoff to take to his parachute at all.

The Gliding and Soaring Movement, whatever its future may be, will never forget its early pioneers, and Groenhoff was a pioneer not only for the wonderful flights that he made, but in showing the spirit in which such flights should be done. To the R.R.G. he was the perfect test pilot, and there is no immediate prospect of anyone being found to replace him. It is good to learn that his last days were enjoyed to the full, for those who knew him well say that, on his return to the Rhön for the competitions, he seemed at last to have recovered from his recent breakdown, and to have become his former cheerful self again.

It was decided that the right thing to do in the circumstances was to carry on with the competitions, and, though nothing was done on Sunday, on Monday morning activities were again in full swing.

(To be continued.)

SOME TECHNICAL ASPECTS OF THE 1932 RHÖN COMPETITIONS

By CAPTAIN C. H. LATIMER NEEDHAM (Chairman of Technical Committee, British Gliding Association).

A total of 82 machines was entered for this year's competition, of which 69 arrived to take part. These included a number of new types, but in most cases they followed very closely what has now come to be regarded as the standard type and, in fact, the lack of innovations was a most noticeable feature. It may also be mentioned that the standard of general performance and that of pilotage showed little improvement over that obtaining two years ago.

Accidents.

The meeting was marred by some serious accidents, with fatal results in two cases, apart from which the number of crashes was high; in fact, only about thirty sailplanes survived the competition, a state of affairs that would have been disastrous had it not been for the wonderful team spirit displayed by the various clubs, whereby the members are always prepared to work day and night in order to get their machine into the air again. It seems a great pity that so many good machines should be smashed, especially since in several cases the crashes appeared to be avoidable.

It may be well to give the true facts of the most serious accidents, so as to dispel certain incorrect rumours that have been spread about (even in the Press), and in order that the Gliding Movement in this country may benefit from the experiences of others.

The machines involved in the accidents were the well-known FAFNIR, LUFTIKUS, AUSTRIA, and a Grunau SENATOR. On Tuesday, July 19th, Rüdiger, the pilot of the SENATOR, lost control whilst flying in a cloud over the Westhang, and emerged in a spin. He appeared unable to right the machine, and when near the ground the wings were seen to twist up, as though the front strut joints had pulled out, after which the wings came apart and Rüdiger crashed to his death. It is suggested that a parcel of food may have caught in, and jammed, the controls, but this is not known.

On Friday, the 22nd, Kronfeld was making one of the first soaring flights in his giant AUSTRIA, after a towed start, and he also found himself enveloped in cloud, from which he descended in a steep dive. It will be remembered that it was possible to actuate the ailerons as camber



The " Obs," the new R.R.G. two-seat research machine.

flaps, and it appears that the flaps were still depressed during the rapid descent, which thus caused overloading, followed by the breaking away of the outer portion of both wings.

Kronfeld jumped with his parachute and had the peculiar experience of watching his machine continue in flight and finally crash. The jump was followed by some minutes full of excitement, in which the AUSTRIA continued in circling flight. Owing to the tail-heavy condition after being relieved of the pilot's weight, the AUSTRIA performed a series of climbs, stalls and dives, so that at times it was above Kronfeld and at other times below. In the final dive it was completely wrecked.

The following day Groenhoff attempted a flight under very unfavourable conditions. He was launched downwind by a powerful crew, but on account of the great weight of the FAFNIR he succeeded only with difficulty in getting off. During the last bounce the fuselage hit some rocks which smashed the bottom hinge of the rudder and damaged the underside of the fuselage. The damaged rudder partially jammed the elevators, but nevertheless Groenhoff managed to continue in flight for a distance of about half a mile, when the rear of the fuselage severed, and caused the machine to dive. One wing-tip struck a tree, whereupon the machine span round and side-slipped to the ground, coming to rest among some trees and supported on one wing. The FAFNIR was not badly damaged and may be rebuilt.

Groenhoff either jumped or was thrown out during the final spin round, and, although the parachute opened, it was too late to save his life. It is generally believed that Groenhoff did not leave the machine voluntarily, and it is said that he was in the habit of flying without being strapped in, but at the same time it is difficult to account for the cockpit cover coming away unless he purposely released it to allow himself to be thrown clear.

The condition of the sailplane after the accident makes it appear very probable that the pilot would have escaped if he had been strapped in.

Two days later, the LUFTIKUS got into a spin, from which the pilot was unable to regain control, and was completely smashed. The pilot fortunately suffered nothing worse than facial injuries.

It is of interest to note that the wearing of parachutes is not at present compulsory, except for aero-towed flights, but next year all pilots will have to carry parachutes.

New Sailplane Types.

Dealing with the new types of sailplanes, there were two which proved consistently to have remarkable performances. These are of especial importance to British clubs, since they are relatively cheap, of the " school " class, and are particularly suitable for light-wind soaring.

These are the new RHÖNADLER (not the better-known two-seater), built by Schleicher of Poppenhausen, and a modified ALEXANDER DER KLEINE, produced at Rossitten, and it is difficult to say which is the better machine. For all-round performance, the RHÖNADLER appears better, but for soaring in very light winds the ALEXANDER proved definitely superior to all others.

The RHÖNADLER has a span of 57½ feet, the wings having a straight taper from a 5½-ft. chord at the centre to roughly 6 inches at the tips, giving an area of 180 square feet, with an aspect ratio of over 18.

The wing incidence is worked out towards the tips, which together with the very small tip chord renders the glider difficult to stall, whilst the aileron control is very effective. The RHÖNADLER is reputed to be much superior to the PROFESSOR, and, from observation, this certainly appeared to be the case.

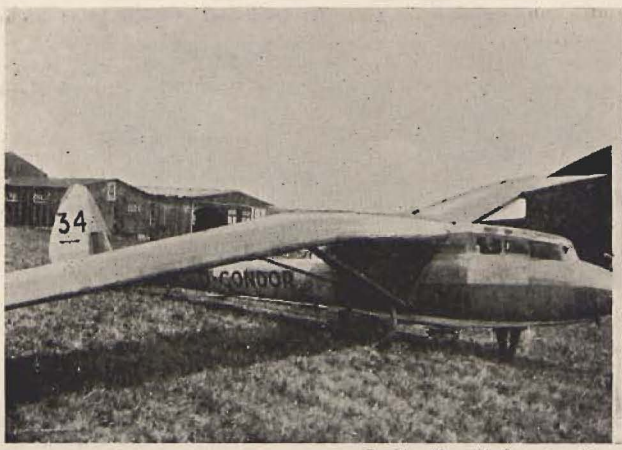
The useful speed range is said to be from 15 to 55 m.p.h., and the machine retains a good angle of glide at the higher value. The price in Germany is 1,500 R.M., or roughly £110 at the present rate of exchange.

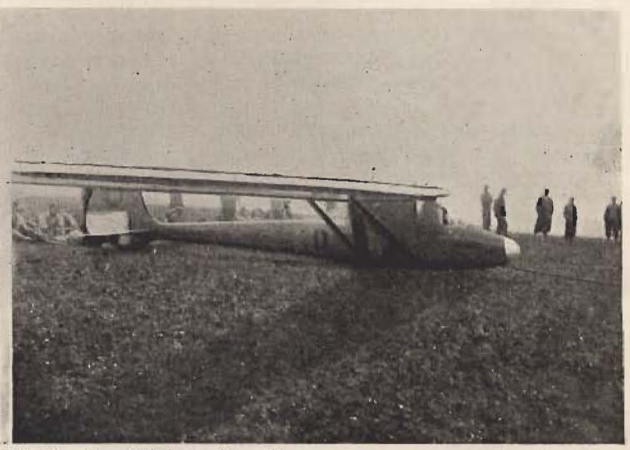
The ALEXANDER DER KLEINE in its usual form has a span of 45 feet, with 170 square feet of area, but in the modified and improved form these figures are increased to 51 and 200. The wing shape is more or less elliptical in plan without very pronounced taper. The wing is full cantilever, while the fuselage is of the PROFESSOR type, but considerably smaller, the total length being only 19 feet.

On days when little wind was present these two machines soared to greater heights and for longer periods than all others, and at times they were able to remain aloft when the better-known sailplanes were forced down. The ALEXANDER made a duration flight of 12 hours on the last day of the competition, and thus gained the record for the Wasserkuppe. Some distance flights were also carried out with these machines, but as they were flown by pilots in the junior category it is difficult to compare their performances with those of the expert pilots.

Other machines of interest included the CONDOR, OBS and THERMIKUS. The CONDOR is based on the FAFNIR, but is strutted instead of cantilever. The struts have allowed a greater angle of dihedral to be employed on the centre portion of the wing, and also a lighter wing construction. Two spans are used instead of the FAFNIR's three, and a different wing section. The CONDOR did not appear to have a very striking performance, but again this glider

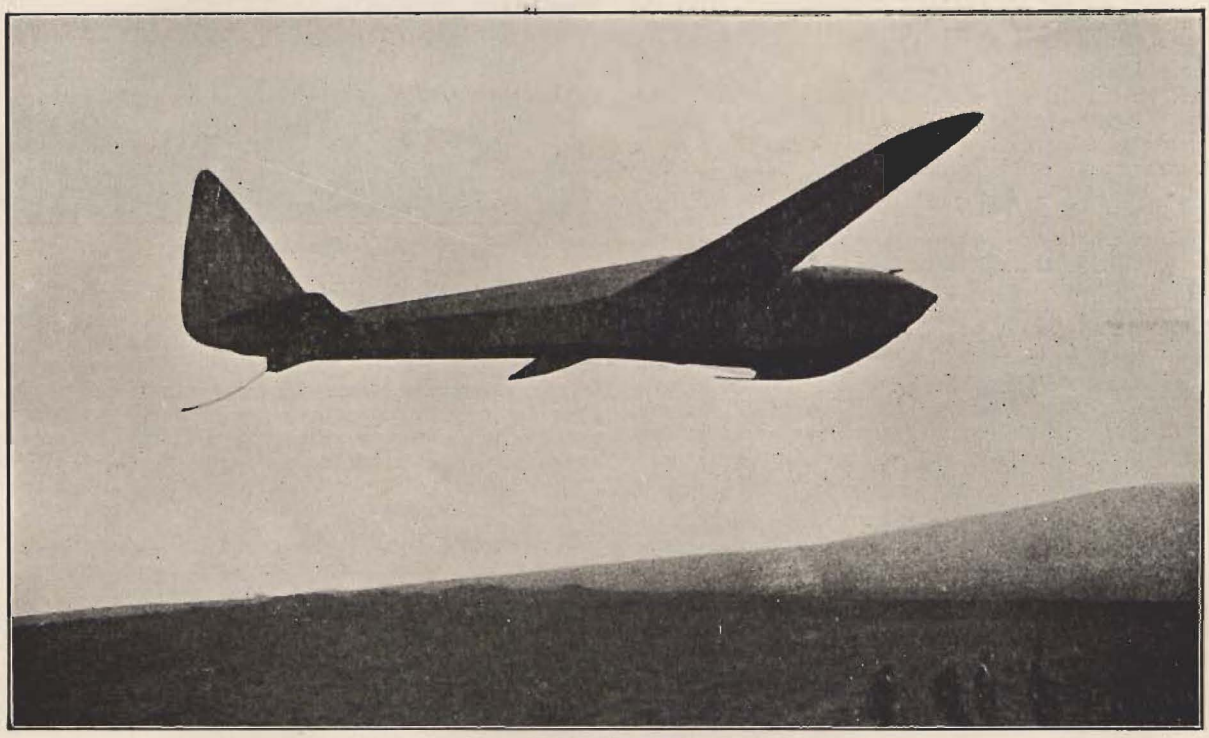
(*Continued on page* 166.)





Left: the " Condor." Right: the " Thermikus."

FLYING OFFICER E. L. MOLE DESCRIBES HIS FLYING EXPERIENCES ON THE "TERN" SAILPLANE



The "Tern."

[Flying-Officer Mole already holds the British duration record of 6 hrs. 10 min., which he secured a year ago at Ditchling on a PROFESSOR sailplane. The British distance and previous altitude records were both obtained with a TERN sailplane at Ingleby Greenhow, one of the sites used in Flying-Officer Mole's recent attempts.—ED.]

I have just returned from an interesting sojourn in Yorkshire, where it has been my good fortune to spend a fortnight with a TERN sailplane kindly placed at my disposal by its designer, Mr. L. S. Norway, of Airspeed, Ltd., York.

The object of my visit to the North was to confirm officially the existing British endurance record, and to raise this to a more reasonable figure, if possible above the world's record of 21 hrs. 36 min. I am convinced that, although endurance in itself is of little technical value, the fact of obtaining a world's record would be of great value to the Gliding Movement in this country.

It was also hoped, should suitable weather conditions be obtained, to attempt distance and height flights. Unfortunately, owing to the disappointing weather and a mishap to the TERN, further attempts have now been postponed until September.

The first flight was made at Ingleby Greenhow one Sunday evening at 6.30 p.m. This site is the most imposing that it has been my good fortune to visit. It consists of a wide horseshoe with a plateau top 1,200 feet above the plain below, and miles of perfect heather landing ground.

A 20-m.p.h. northerly wind blew straight into the bowl, and conditions seemed ideal. The TERN was equipped with emergency landing flares for use at night, Very pistol and cartridges, food, water and a barograph. The launch was made with the help of a party of hikers rounded up from the moors, and the TERN climbed quickly to a height of 800 feet above the launching-point.

Owing to the strength of the wind at this height, I was forced to maintain a speed of 45 m.p.h. to avoid going backwards, and I then remained stationary over the bowl. After about an hour, a line of heavy black storm-clouds approached, which caused the TERN to climb rapidly until it was skimming the base of the clouds. I was forced to put down the nose until a speed of 55 m.p.h. was reached, to avoid being completely enveloped. Conditions were vilely bumpy and rain fell heavily. I had the unpleasant sensation of being irresistibly sucked into the clouds.

Five separate storms of this nature were experienced, and in each case the TERN rose to the clouds, although I tried to avoid this owing to the severe bumps. The barograph chart shows clearly five separate peaks, recording a maximum height of 1,450 feet above the start. This exceeds the present official British record of 780 feet, also held by the TERN.

The final storm, which occurred as darkness fell, was so violent that the ground party were unable to place in position the flares which were to mark the edge of the hill. The clouds came lower, rain fell heavily, and it grew so dark that I was forced to land after a flight of 3 hrs. 45 min. Within a few minutes the clouds came right down on the hill, and the ground party and myself spent a miserable night sheltering from driving rain under the wings of the TERN.

The second attempt was made a few days later in a light westerly wind at Sutton Bank. This site is less imposing than Ingleby, being but 900 feet above the plain, and it does not possess the unlimited landing ground so convenient at Ingleby. However, landing conditions are reasonable if care is exercised, and the locality is much more accessible and civilised than Ingleby, which is reached after about fifteen miles' journey on rough moorland track. An hotel and some houses are situated near the top and a main road runs up the hill. For this reason I consider Sutton Bank the better site for normal purposes.

The TERN was launched by an assorted team of road workers, farmers, casual motorists and hikers. It flew steadily at about 500 feet, once reaching 800 feet. The flight, unfortunately, ended after four hours through failure of the wind. During the last twenty minutes I was forced to fly below the level of the hill-top, and finally had to land to avoid being forced down to the uninviting fields below. The observer's anemometer recorded a wind speed of just under 5 m.p.h. during this period, which must be about the minimum wind speed at which the TERN will soar at this site.

The final attempt was made under ideal conditions; the wind, which was strong and steady, actually continued without a lull for two days. Unfortunately, during the launch a stump of wood concealed in the heather damaged

the fuselage and thus put an end to further attempts for some weeks.

The TERN sailplane is most delightful to fly. It seemed unnecessary to move the controls to any extent, mere pressure on these causing the machine to respond smoothly and sweetly. No other sailplane that I have tried possessed quite the ease and certainty of control, which was a most pleasing revelation. The most outstanding characteristic, however, proved to be the absolute rigidity of the whole machine. I noticed this immediately after the first launch, and even the worst bumps under storm-clouds failed to produce any heart-rending groans or wing flapping. This certainly increases a pilot's confidence in the machine. The TERN can be removed from the trailer and rigged easily in ten minutes by two people, and the only criticism I have to offer is the difficulty found in launching in a light wind. At one time a crew of seventeen people made three unsuccessful attempts to launch it, although it must be admitted that the launching-rope left much to be desired.

During these attempts the greatest help was received from the officers and meteorological staff at Catterick Aerodrome. The weather forecasts proved uncannily accurate, rain ceasing or wind veering sometimes within thirty minutes of the time foretold. The value of these meteorological reports cannot be overestimated to the gliding enthusiast.

Through the courtesy of Mr. Norway, the TERN will again be at my disposal in September, when I sincerely hope that better luck will be experienced.

(*Continued from page* 164.)

was flown by a junior pilot. The speed is less than that of the FAFNIR, which is a handicap for distance flights.

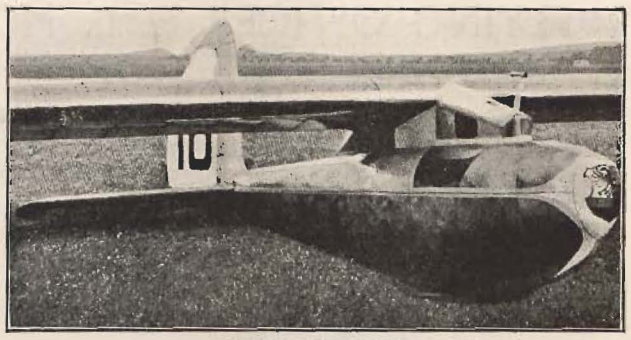
The OBS is a large, heavy two-seater built by Schleicher for the R.R.G., and is intended for observation purposes. It has a span of 83 feet and a wing area of 380 square feet. Both occupants are entirely enclosed in a cabin provided with large windows. The pilot's seat is in front, and between him and the observer is a table or platform for scientific work. Welded steel tubular construction, with bracing wires, is freely used, while the wing is supported by steel " N " struts. Camber flaps and air brakes are fitted to the main planes.

Only one flight has so far been made, and this ended prematurely owing to the towing machine, a " Flamingo," stalling shortly after the take-off and crashing into a wood.

The chief feature of interest on the THERMIKUS is provided by the employment of wing warping in place of ailerons, this being obtained by raising or depressing the rear spar. Like the OBS, the THERMIKUS wing is also supported by a pair of " N " struts, and the rear spars are actuated by movement of the rear struts. Rotation of the control wheel is transmitted by chains and sprockets to a horizontal shaft just above the point at which the rear struts attach. A screw thread on the shaft causes sideways movement in a short vertical lever which is pivoted at its centre and attached to the two rear struts at the base, so that one strut is pushed out and the other drawn in.

It is too early yet to say whether the design is a success, but it certainly leads the way for a return to the old system of wing warping.

The new machine of the Darmstadt Academic Group was not completed in time to take part in the contests. This should prove of considerable interest, since it represents an attempt to retain high efficiency with a small machine, and at the same time to provide excellent manœuvrability which is to-day considered essential for thermal soaring flights. Few particulars are yet available, but the span is given as 38 feet, the wing area 114 square feet, with an empty weight in the neighbourhood of 132 lb.



" The Askania."

General Observations.

The formula based on a calculated sinking speed for determining whether any machine falls in the sailplane category has now been dropped and in its place a minimum aspect ratio of 10 was substituted for this year's competition. Next year, however, the determining factor will be the span and there will be two classes, those between 12 and 16 metres span and those over 16 metres, besides which there will be some open events for machines of both classes.

The advantages of small machines are now being recognised, besides which it is found that sailplanes of small span and good manœuvrability are most suitable for thermal work and light-wind soaring, whilst those of large span and high aspect ratio, with their extra weight and speed, are best for distance flights where a good gliding angle is imperative. Thus the smaller gliders are to be encouraged.

Besides the usual method of auto-towing, in which the car moves forward with the glider, the stationary winch method is largely used. A large drum may be fixed to one of the driving wheels of the car, which is properly jacked up for the purpose, or a drum may be mounted behind the driver's seat and worked by a separate drive fitted with a special gear and clutch. Lengths of cable up to 5,000 feet are used, and it is thus possible to launch from ground that is entirely unsuitable for a moving car.

The GRUNAU BABY did not show up very well against the bigger machines, but it is said to be very controllable and very suitable as a training machine. Curiously enough the HOLS DER TEUFEL does not seem to have too good a name in Germany, the reason given being that pilots who learn on this type kill themselves when they change over to another machine. It is not wise for pilots who have learnt on such a slow machine to change over directly to a machine like the PRÜFLING or PROFESSOR, but they should accustom themselves first to some intermediate type of fairly low wing loading.

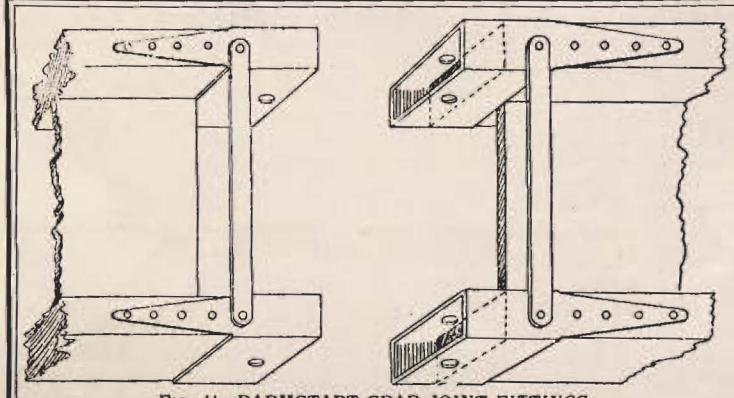


FIG. 44—DARMSTADT SPAR JOINT FITTINGS

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NEWS FROM THE CLUBS

DORSET GLIDING CLUB.

On Wednesday evening, July 27th, the primary training machine was flown at Maiden Newton, good flights being made by Messrs. Ouvis and Rolfe, both " A " pilots, while good practice towards his " A " stage was got in by Mr. R. D. Buck.

Over the week-end, July 30th to August 2nd, gliding operations were resumed at White Horse Hill. On the Saturday a moderate S.W. wind was blowing, and DORSLING, the Club's secondary machine, was flown. Notable flights were 5 min. 20 sec. by Haslam, who by soaring for this period at a height greater than the starting-point qualified for his " C " pilot's licence, the first in Dorset; and a soaring flight of 9 min. 45 sec. by Secker. The machine was landed on the hill-top again after each of these flights; Secker's landing was, however, cross-wind and excessive drift damaged the landing gear.

DORSLING was again ready for the air by about 5 p.m. on Monday, being now equipped with a skid for landing purposes, instead of wheels as hitherto. Test flights were made and good landings effected on the hill-top.

On Tuesday, August 2nd, the wind was light but favourable in direction, and further flights were made, the best being another soaring flight by Haslam of 5 min. 30 sec.

On Wednesday, August 4th, the DAGLING primary machine was again flown at Maiden Newton, when Mr. R. D. Buck was successful in qualifying for his " A " licence with an excellent flight of 35 sec. duration. Mr. Buck joined the Club as a beginner less than two months ago, and his steady and consistent progress during this short time is a credit both to him and to the Club Instructor, and shows how easily and quickly a beginner can learn to participate in this thrilling sport.

Gliding meetings will be held at Maiden Newton until further notice as follows: Saturdays, 2 p.m.; Sundays, 12 noon onwards; and Wednesdays, 6 p.m.

LONDON GLIDING CLUB.

July 23rd and 24th.

On Saturday, no wind. HOLS, KASSEL 20 and R.F.D.II descending repeatedly from the hill. Major Travers tried the KASSEL.

On Sunday, rain. Some launching by hand and by car of the R.F.D.II and a trial ground-hop of Mr. Wilkinson's machine.

July 30th to August 1st.

On Saturday five complete rounds of launching the R.F.D.II by car; expeditious, educational and stimulating.

On Sunday, beginners on the low ridges; HOLS, KASSEL 20, DOPPELSITZER, and R.F.D.II on the hill. A rather gusty breeze from the S.W. gave a limited area of lift, but all four machines soared.

In HOLS, Hiscox soared at a good height, holding the machine remarkably steady. In the DOPPELSITZER, Major Petre soared solo; for the first time in history his controls moved visibly. Carrying passengers, the machine just failed to find a sufficiently wide and intense area of lift.

Four of the KASSEL team put up two half-hour flights and two ten-minute flights; she was also flown down twice. One of the team strayed into the R.F.D.II and gambolled around with the KASSEL over his head, both pilots being brought down by thirst.

The strong point of this particular R.F.D. is her quickness on the rudder, caused possibly by the abnormally large side-area of the fabric nacelle, which, of course, projects far ahead of the centre of pressure. Being adequately handled, the machine was able to smell out every possible source of lift, like a terrier darting from one rat-hole to another. One mistake would have brought the machine down.

On an average, the KASSEL, with a very ordinary pilot, was running at about 30 to 150 feet above the ridge; the R.F.D. varied from about minus 20 to plus 50. Incidentally, the best height of the day reached by KASSEL was 230 feet. (N.B.—A good aneroid saves a lot of exaggeration.)

Now that the precedent of soaring the R.F.D.II has been so definitely established, a good-sized batch of " C " certificates ought to go through without delay. A number of such people and of would-be " B " pilots, flew her down at a wide range of rates.

Monday was a mixture of varying winds, calms, deluges, spouting cumulus clouds, small lift and large down-draughts.

Hiscox grabbed a short period of gentle steady lift and toured peacefully round in HOLS, reaching out almost as far as the club-house. The death of the puff of wind brought him down. The subsequent reverse puff pulled KASSEL to earth like a brick. In the R.F.D.II Barnard obtained his " B "; other pilots also flew her down.

It was utterly tantalising to see every sign of gigantic lift in the masses of cloud. Somehow, some day, we will reach them . . . and/or bust.

After tea, rain and calm, so we concentrated entirely on drilling beginners, some of them reaching the stage of car-launches in R.F.D.II. Before Otto goes home to Switzerland, we have simply *got* to bring him up to Jungfrau standard.

Do you want a three-week camp in September? If so, make loud agreeable noises and *push* for it as hard as you can. It rests entirely with you. Somehow or another we *must* learn to soar properly, instead of creeping along ridges and making a deuce of a cackle about nothing very much.

Wednesday, August 3rd.

Good soaring wind. By extreme ingenuity Collins was launched from the hill-top in the KASSEL 20, after auto-towing down below had failed to lift him into the up-currents. When he had landed at the launching-point

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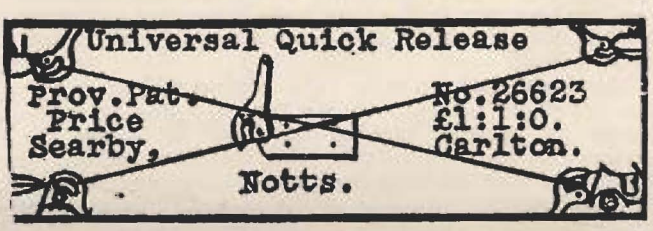
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three-quarters of an hour later, Boy Scouts hauled up and launched the HOLS DER TEUFEL with Hiscox. This flight lasted 1 hr. 40 min., the KASSEL being up at the same time for one hour (Collins again). The wind eventually died down, and less fortunate pilots could only fly down.

Saturday, August 6th.

Gigantic soaring conditions. Blazing sunshine, dandelion fluff whirling past the machines at all heights (presumably denoting violent convection currents over the plain), wind averaging about 25 m.p.h. clear of the ground. At about tea-time a series of low, ragged rolls of cloud shot over, whereupon the wind became distinctly turbulent and full of lift, and freshened up to about 35 m.p.h., sufficient to blow KASSEL gently backwards while she was hovering, nose to wind and motionless, at a healthy speed. These clouds were said to resemble incipient line-squalls, but in any case were not drastic enough to enable any machine to set off across country with the remotest hope of adequate results. KASSEL was heaved up repeatedly to a ceiling of 440 feet above the ridge (=700 feet above the plain). Unfortunately neither PROFESSOR was in use.

POPPENHAUSEN DOPPELSITZER: Buxton made four soaring flights with a passenger, landing on the top each time. A height of 240 feet above the ridge was noted. A swallow, either through pique or clumsy aviation, cracked his beak loudly against the nacelle without breaking his neck. Grimston soared her for a quarter of an hour, solo.

R.F.D.II. There was some heart-burning among pre-"C" pilots whose skill was authoritatively considered to be less than their ambition, and who therefore were kept to the ground after Buxton had given the machine a trial soar. Hedges was turned loose for his "C," and stayed up for 9¼ min. But as his height at times was well below the launching-point, he had to be given a second chance. He then made sure of it, staying up for over 17 min., KASSEL meanwhile soaring on odd excrescences well out of his way. In the evening the wind abated and other pilots descended unemotionally.

HOLS. The wind was uncomfortably in excess of her economic cruising speed. After one trial she was wisely given a rest.

KASSEL 20. The KASSEL team had a day out. Between 2 p.m. and 9 p.m. the machine was in the air for 5¾ hours. The ridge was used from just beyond its end at the Rifle Volunteer to a point beyond the village of Dagnall: total distance, straight line, three and a half miles. Only the inbred altruism of each pilot (a variable quantity) caused the ending of each flight. Twice she was launched in the strong wind by a tug from one man entirely unaided. Dr. Slater obtained his "C" with a flight of 10 min. 50 sec. The possibilities of team-ownership become increasingly obvious, provided that all members are safe pilots.

Sunday, August 7th.

A stinging hot day with a faint westerly breeze early, dying out to a flat calm. Beginners were given low flights in R.F.D.I. R.F.D.II worked until night-fall, once nearly hitting an absent-minded sparrowhawk. Payne obtained a steady "A," and Otto Frischknecht went delightfully through with his three "B" flights. The two-seater sailed round with passengers, Grimston making a charming tight turn, finishing up with a side-slip, both according to R.A.F. training manual. HOLS and Miss Lippens's PROFESSOR descended without incident.

While the faint breeze still held, Dewsbery and Collins in KASSEL delayed their descents by shaving the short hairs off the hill-side. Buxton then suggested a more scientific amusement, a search for thermals over a long field of ripe wheat under the hill-side. Two such flights were made, and lift was definitely and visibly obtained: the machine each time received one large heave, and only some form of lift all over the field could account for the length of each flight.

These calm days are never to be despised so long as they are treated purposefully. At the least they give an opportunity for accurate spot-landings, and for testing the accuracy of one's turns by carrying them out so close to the ground that the pilot can detect slipping and skidding by watching the behaviour of the ground. Such things make for better pilotage as distinct from heroics.

THE "SAILPLANE" FUND

THE PRESIDENT'S APPEAL.

I appeal to all who have the interests of the Gliding Movement at heart to come forward at this time and support the Fund for the British Gliding Association.

The Association has been in existence for two and a half years. During this period it has demonstrated its value to the Movement, particularly in securing for the various clubs throughout the country the assistance which they require to enable them to carry out their activities in safety and without unnecessary restrictions and irksome regulations.

Funds are needed urgently for three paramount reasons:

1. **To enable the Association to carry on its work for the Movement as a whole.**
2. **The establishment of a central technical, scientific research centre and instructional school.**
3. **Ability to provide loans to clubs so that they may start with the essential equipment.**

Any subscription, for whatever sum, will be gratefully received, for I know that those who give at all will be giving generously.

I hope that all subscribers to "The Sailplane" will bring this appeal to the notice of their friends, whether the latter are members of the Association or not.

F. C. SHELMERDINE, President,
British Gliding Association.

* * *

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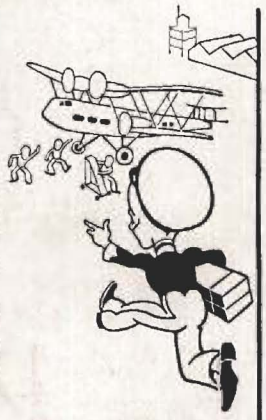
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