SAILPLANE AND GLIDER

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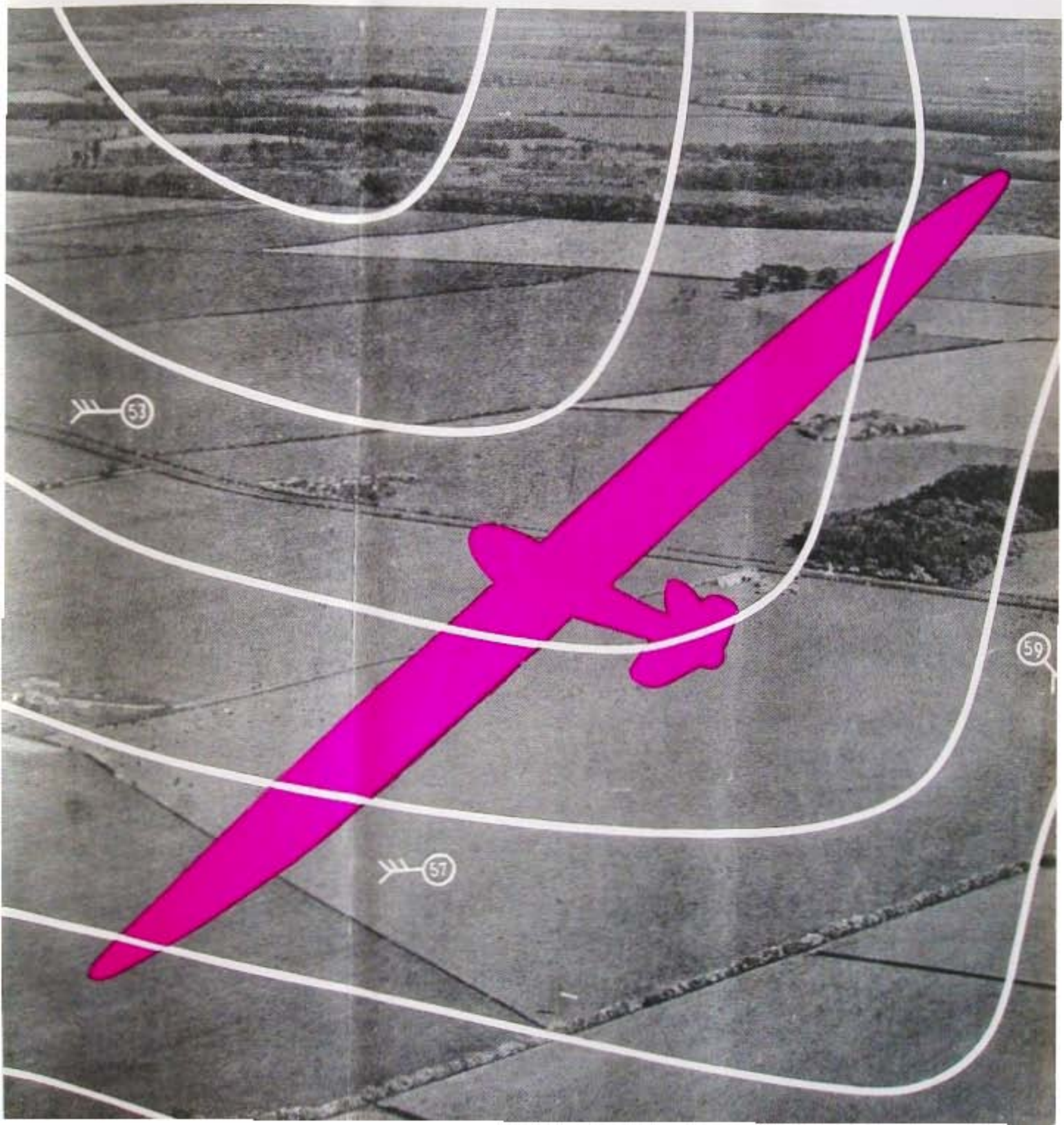
EDITED BY ALAN E. SLATER



THE SAILPLANE *and* GLIDER

Official Organ of The British Gliding Association

Editorial Offices: 13, VICTORIA STREET, LONDON, S.W.1 Telephone: ABBey 2615-6-7

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The Channel Crossing

THERE are signs here and there of a revival of interest in the problem of making a soaring flight across the English Channel. By this is not meant a plain glide across by a sailplane which has been hauled up to an immense height by an aeroplane; that has already been done, in 1931. The start should be from an ordinary launch from ground level. There was once a money prize offered for such a flight, but we believe the offer has now lapsed.

Possible methods of getting across divide themselves into two main groups: gaining height over land sufficient for a glide across the sea; and finding lift over the sea itself.

Height over land can be gained either by soaring over a hill or by using thermal currents. The first method was tried out as long ago as 1932 by Mr. P. Michelson, who took his CLOUDCRAFT PHANTOM sailplane to what he believed to be a suitable slope near Dover and awaited a suitable wind. But he was never able to get anything like a suitable height, and in the end the PHANTOM, which had to be parked in the open, was wrecked by a gang of marauding youths.

As to getting across by using thermal currents, the German soaring pilot, Peter Riedel, who succeeded this year in crossing the Oresund—the straits which separate Denmark from Sweden—at a point where it was 11 miles wide, is convinced that the English Channel, which is only twice the width, could equally well be crossed by the same technique, and he means to have a try if ever opportunity offers.

Riedel flew from Malmo to Copenhagen, and thereby gained a prize of 1,000 crowns offered by a Danish newspaper, although he did not strictly fulfil the conditions, which demanded a launch from the ground. Actually he was towed by an aeroplane to 1,300 feet, but with the intention of doing some ordinary thermal flying; it was only the sight of some circling gulls which put the idea of crossing to Denmark into his head. What made the achievement possible was the fact that there was an east wind blowing which bent the thermal currents over, so that those which rose off the land close to the shore had their tops nearly four miles out to sea. By getting up in one of these, Riedel was easily able to glide the rest of the way over the water, losing not much more than 1,000 feet of height on the way. On reaching the other side he found, curiously enough, that the wind had dropped, so that the Danish thermals rose straight up vertically, and he did not have to fly far inland to make contact with them.

In the opinion of Peter Riedel it should be possible in a really *strong* wind to get thermals leaning over so much that a pilot would be more than six miles out over the English Channel by the time he reached the top of one.

Thermal currents rising off the sea itself should theoretically be possible at times when the sea is warmer than the land, as in winter. But little is known about such currents, and they may not be very strong in any case. The most active form of lift over the sea would be found along a travelling "cold front," and the possibility of using fronts in this way was discussed by Robert Kronfeld during an informal talk on thunderstorm flying which he gave to the London Gliding Club on November 14th.

That storms of the cold front type can travel over sea as well as land is well known. Riedel, when he was flying on the Lufthansa service to South America, sometimes observed them over the ocean. The important thing, Kronfeld said, is for anyone soaring across the sea by means of such a storm to keep well out in front, away from the clouds, so as not to get too low down. He would also recommend a life-belt!

Having crossed the Channel, there is hope of continuing the flight all through the night and well into the next day, according to Kronfeld, since a cold front storm would be less liable to break up over the flat country beyond than over hilly regions. It is this tendency of such storms to become irregular that so often prevents pilots from getting a long distance in them. But a front which can remain unbroken can stretch for as long as 500 or 600 miles.

As to flying at night, Kronfeld said, in reply to a question, that there is enough light in the night sky for a pilot well up in the air to see the storm clouds and thus regulate his position with regard to them. Nevertheless, he recommends a two-seater machine properly equipped for night flying.

So there is the problem. Who will solve it, and how?

From Here and There

Gliding Film.—The two members of the Shell Company's Film Unit who, as mentioned last month, are making a film of gliding at Dunstable, are doing so in a private capacity and not on behalf of the unit.

* * *

The Gliding Parachutist.—B. Pavlov, a Russian engineer, has invented an apparatus called a "paraplane" which he demonstrated before a large crowd at Moscow airport. Jumping from an aeroplane at a height of 10,000 feet, he fell for 10 seconds and then spread out a pair of insect-like wings attached to his back. The wings had a span of over 12 feet, and were made of heavy linen stretched over a duralumin framework. With the wings he glided down to about 2,500 feet, taking 2 minutes 8 seconds over the glide, then discarded them and dropped to 1,200 feet before opening parachute and landing. The wings were brought down by a special automatic parachute. A stabilising device is said to be necessary to insure against spinning before opening the wings, according to the *Observer's* Moscow correspondent.

* * *

An Early Thermal Flight.—The pantomime season is upon us, so the following story from the early history of soaring flight will not come amiss. Writing to *The Observer*, Mr. D. Forbes-Winslow recalls the fire at Covent Garden Theatre during the run of Grimaldi's "Mother Goose" in 1806, and relates: "The goose was a very light and airy affair made of basket-work covered with down and feathers. In this a little bandy-legged actor named Leonard used to waddle up and down the stage in the most natural manner. While the theatre was burning the immense draught of heated air took Mother Goose from her perch in the property room and drew her swiftly through the window, when with extended wings she soared aloft and sailed gracefully away over the heads of the admiring crowd away across Bow Street and Long Acre and on towards Lincoln's Inn Fields. Her subsequent history is not known."

* * *

In Parliament.—On November 11th, in reply to Mr. Harry Day (Lab., Central Southwark), Sir Philip Sassoon, Under-Secretary of State for Air, said that experiments in Great Britain with motorless gliders were proceeding continually by the gliding clubs and the manufacturers, and the results were embodied in new types of gliders, or the modification of existing types. No record was kept by the Air Ministry of the particulars of the experiments, as this would involve elaborate organisation which would not appear to be necessary. Financial assistance up to £5,000 a year was already being given by the Air Ministry to the gliding movement.

Mr. R. H. Turton (Con., Thirsk and Malton) asked whether financial assistance was limited to manufacturers of British-made gliders, or did it apply to the purchase of foreign gliders? Sir Philip Sassoon replied: "The allocation and administration is undertaken by the British Gliding Association."

Japanese Prize Offer.—Two Japanese journals have offered a prize of 10,000 yen (£600) for a soaring flight from Tokyo to Osaka. The distance is 245 miles, and Mount Fujiyama (12,391 feet) lies on a direct line between the two cities.

* * *

Wolf Hirth's Progress.—Wolf Hirth, who had a severe accident at Budapest last May, injuring his spine, writes that he hopes to leave hospital at last at the beginning of this month. He hopes also to visit England next spring. His many friends in this country will look forward to seeing him again, though they may not recognise him unless he shaves off his present six months' growth of beard.

Gliding Certificates

THE following gliding certificates were granted by the Royal Aero Club at the committee meeting held on November 25th:—

"A" Certificates

No.	*Name.*	*Club.*	*Date.*
603	A. A. J. Sanders	Midland	4.10.36
604	T. R. Walker	Midland	18.10.36
605	K. C. Drew	Midland	4.10.36
606	A. Johnson	Midland	4.10.36
607	R. J. Mullaney	Midland	19.9.36
608	J. H. Knechtel	London	1.11.36
609	R. B. Black	London	8.8.36
610	E. H. Taylor	Derby & Lancs.	31.10.36
611	C. M. Ratcliff	London	1.11.36
612	T. G. Nyborg	Midland	1.11.36
613	R. D. Price	London	12.10.36
614	W. F. Taylor	Derby & Lancs.	11.10.36

"B" Certificates

No.	*Name.*	*Club.*	*Date.*
432	L. F. Mott	Midland	19.4.36
609	R. B. Black	London	22.8.36
613	R. D. Price	London	13.10.36

"C" Certificates

No.	*Name.*	*Club.*	*Date.*
590	E. Swale	Derby & Lancs.	1.11.36
552	A. G. Shepard	Derby & Lancs.	1.11.36
376	P. McC. Bond	Yorkshire	4.8.36
613	R. D. Price	London	10.11.36
558	K. M. Chirgwin	Imperial College	21.10.36

To Contributors

Club News and other contributions to THE SAILPLANE may be either sent to the office of the paper at 13, Victoria Street, London, S.W.1; or addressed to the Editor at Dell Farm, Whipsnade, Beds. Large photographs are best sent to the Whipsnade address, so that they reach the Editor in their original packing.

From Berlin to Kiel

A HUNGARIAN PILOT'S GOAL FLIGHT

By LUDWIG ROTTER

[The Hungarian pilot, Ludwig Rotter, who holds the international "Silver C" badge (No. 19), made a remarkable flight of 203 miles from Berlin to Kiel on August 12th last. The following translation is from an account of the flight which has been specially revised and amplified by the author for THE SAILPLANE.—ED. *].*

THE high-performance sailplane NEMERE was sent by the Hungarian Aero Union with a small team to the Olympic soaring demonstrations in Berlin, with the object of helping the international efforts to get soaring flight included among the Olympic Sports. With this intention I took part in the demonstrations at Staaken on August 4th, 1936, and, in spite of the stormy weather, demonstrated the aerobatic qualities of the NEMERE. Afterwards the machine was aero-towed to Rangsdorf to take part in the combined flights by the Olympic sailplane pilots.

On August 9th there was fairly good cumulus development but little wind. The cloud base was between 3,000 and 3,600 feet. At the time a high pressure system was passing away over Berlin, bringing with it a drying up of the air layers.

On August 10th the cloud base rose somewhat higher and an east wind increased to 18 miles an hour. It naturally followed that between noon and 1 p.m. a more powerful cumulus development had got under way. The clouds were somewhat scattered and of little strength. As the weather outlook for the next day appeared fairly favourable, if not first-class, I announced my intention to make a goal flight to the Olympiad at Kiel.

The sailplane "Nemere," designed and built in Hungary. The name is an old Hungarian word for an east wind of föhn type which blows in the Transylvanian Alps.

Dipl.-Ing. Ludwig Rotter sitting in the cockpit of the "Nemere" which he designed himself and in which he made a remarkable flight from Berlin to Kiel. Note the good visibility.

On August 12th the meteorological report at Rangsdorf was unfavourable for a distance flight; nevertheless I packed food, water, shaving tackle,- toothbrush, sleeping shirt and linen for the next few days into my suitcase, which I am always careful to do when making a distance flight into the blue unknown. Some of the German sailplane pilots, who knew the local atmospheric conditions well, asserted that the weather was unsuitable for a distance flight. Actually the sky was completely cloudless during the whole forenoon, and not until 11.30 did the first traces of cumulus begin to form. I then had myself towed up, but the aeroplane pilot had misunderstood me and did not take me out against the wind, but to one side, where there were absolutely no traces of cloud formation. In the weak thermic lift I had to fight hard not to be driven away, and landed again after half an hour.

After 12 o'clock I saw, in the direction from which the wind was blowing, some small cumulus clouds starting again, which I estimated to be already 600 or 700 feet thick, with their base at a height of at least 5,000 feet. The pilot Heinz Schubert took me in tow, starting at 12.26, and flew out eastwards against the wind. Above Schenkendorf, 7½ miles east of the

aerodrome, I cast off at 12.38 at a height of 1,565 feet and climbed at 2 to 3 metres a second to a height of 3,800 feet. There, however, the cloud broke up, and I lost a little height in consequence, though I was able to prevent further loss by circling around in dry thermals. I saw that new clouds were forming in the direction Berlin–Schöneberg, but decided to go across country, and set off at 13.02 hours.

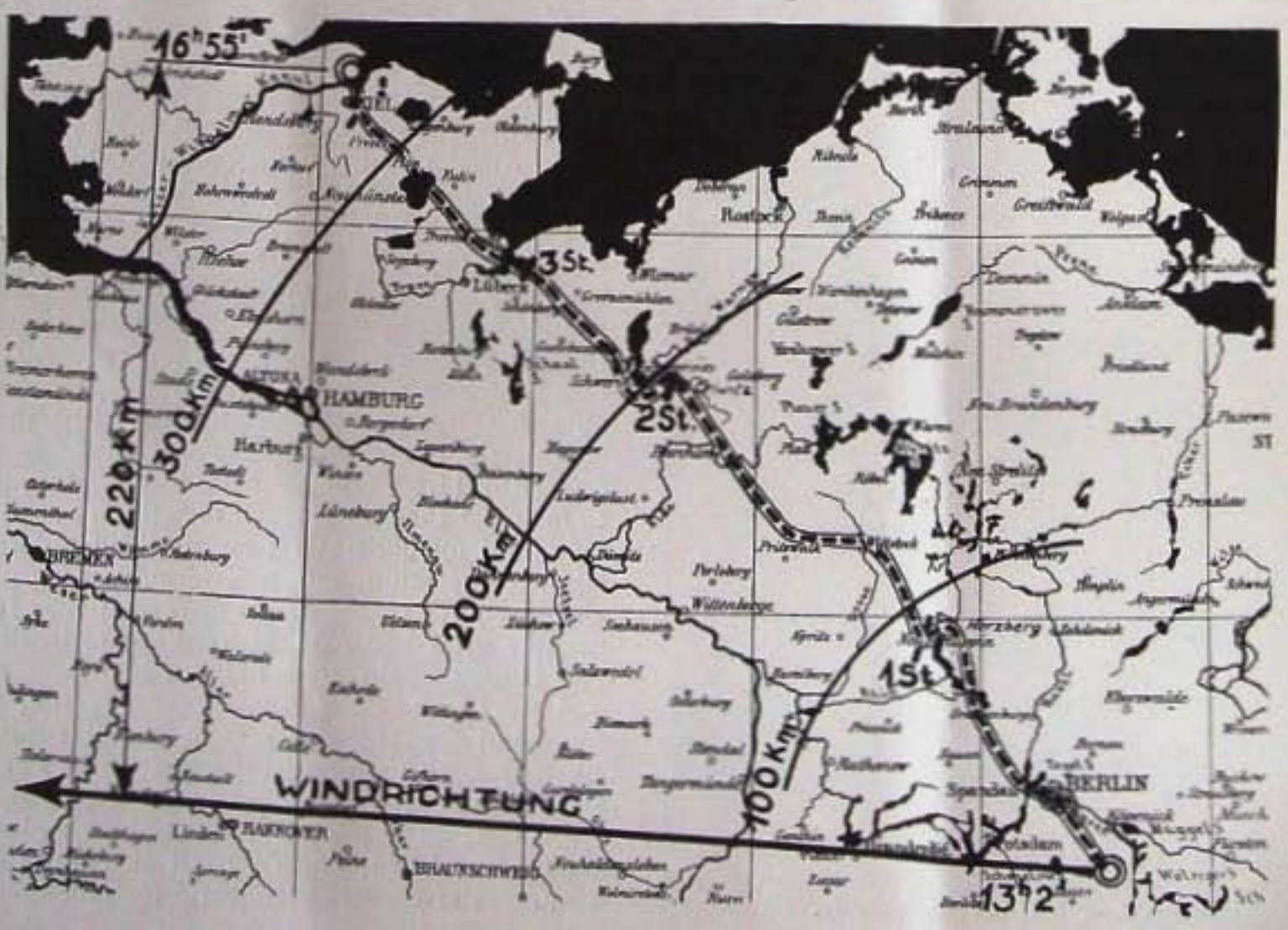
The time remaining for such a long goal flight was very restricted, and I had in addition to reckon with a wind of 16 m.p.h. coming from between east and east-by-south, whereas the most suitable wind direction would have been south-east, so that I had continually to fight against a drift towards the west. The NEMERE has, however, such a high speed, and can be so adjusted to the requirements of fast flight (at 140 km., or 87 miles an hour, the variometer shows only 2 metres per second sinking speed), that I nevertheless thought I could carry out the flight, although I did not know the local meteorological conditions, and my course lay over lakes, swampy and wooded ground, and even led near the Lübeck Bay and the sea, and this region, according to the German sailplane pilots, had not yet been investigated for soaring possibilities. In addition I had to work across the wind direction to the extent of 137 miles. Naturally I attended very much to the game and resolved to increase the speed as much as possible without regard to the height, and only to circle if I got below 3,000 feet or if large cloudless areas had to be crossed. The first did not happen, but the second frequently did, especially in the third hour of the flight.

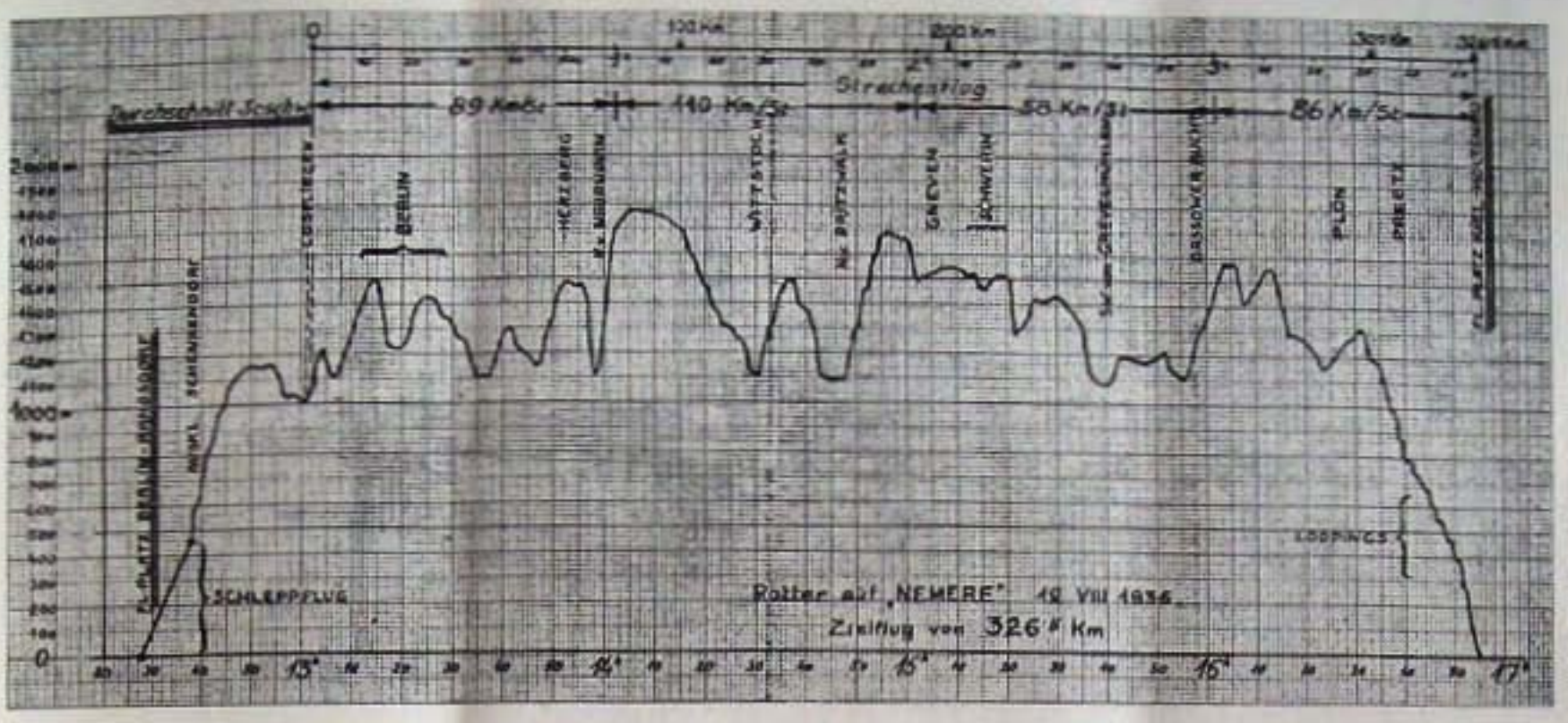
For the flight I used a German Government flying map with a scale of 1 to 1,000,000 (about 16 miles to the inch). I had drawn in the line from Berlin to Kiel and put a mark every 100 kilometres. As I had to reckon with a westerly drift when flying through regions where much circling was necessary, it appeared best for me to keep north of this line.

Bearing all this in mind, I set the ailerons for fast flight and took a northerly course, flying mostly at between 75 and 87 m.p.h. and seldom doing any circling. Only on flying through thermic regions did I pull down the ailerons and reduce the speed to 37 m.p.h.

Thus I reached Herzberg at 13.52 hours, having covered 55 miles in spite of a side wind, and crossed the forests N.W. of Berlin and the dreaded marshes of Rhin-Luch. There, however, I sank rapidly downwards on account of the Ruppin lakes. I had to circle, and in consequence was held up so much that the average speed since the cast-off was only 55 miles an hour. To the north of Neuruppin, however, I found powerful lift beneath a cumulus cloud and, round about 14 hours, climbed at 5.5 metres a second from my height of 3,600 feet up to 5,860 feet. This was the maximum height during the flight, and was 4,295 feet above the casting-off point. But I did not use the thermal chimney to the full; instead, I flew on at high speed to the N.N.W.

I gradually lost height and at 14.14 hours was only 4,860 feet high. To the right the Müritz and Plauer lakes stood out, so I turned west and flew north of Wittstock towards a cloud (the clouds had failed me since leaving Neuruppin) which I reached at about 14.30 at a height of 3,600 feet, picked up 1,300 feet and, again without fully using the chimney, pushed up the speed to 87 m.p.h., as to the north of Pritzwalk some very good clouds and cloud streets could be seen through the somewhat hazy air here. I reached these at a height of 3,300 feet, gained 2,000 feet, and then went along under fairly good cloud streets on a compass course, with the air-speed indicator almost continually showing 140 km. (87 miles) per hour.





At Criwitz the direction on the map was taken up again. With the help of my map and slide rule I worked out that the average speed for the second hour was 110 km. (68 miles) per hour. I intended originally to fly round the Schwerin lake to the north, opposite Wiecheln. But as I did not know the meteorological conditions near the lake, and the air to the north was very hazy, I thought it more advisable, when at 4,990 feet near Gneven at 15.05 hours, to take a south-westerly course and fly round the Schwerin lake to the south.

In the direction of Kiel I now saw very few clouds, so I tried to pick up height under some cumulus clouds that lay near Schwerin. The attempt was without result, and I lost valuable height by circling around. Meanwhile a fighter aeroplane had climbed up towards me, turned over sideways beneath me, and dived again into the depths.

So I flew off from the south side of Schwerin lake at 15.19 hours in the hope that something would turn up to help me. The flight continued at 87 m.p.h. below an almost cloudless sky, though I lingered here and there to try and gain height. Here, however, I was directly in the lee of the lake and the marshy district of Mecklenburg-Schwerin.

At 15.46 I found myself S.W. of Grevesmühlen at 4,540 feet; there I saw through the haze a small cumulus appear over Lübeck Bay in the direction of Travemünde. At 16 hours I reached, without loss of height, the Dassow inlet (E. of Lübeck), and with it the clouds. This was very satisfactory, as only 33 miles had been covered in my third hour, owing to the necessity of circling around after up-currents. I climbed to 5,180 feet and flew on, keeping strictly to the straight line of the course. The air was somewhat hazy, and I saw only traces of cumulus clouds. Consequently I decided, regardless of my height, to increase flying speed still further, as it already appeared well possible to reach Kiel, although I had to cross the region of lakes between Eutin, Plön and Preetz. By this means I succeeded in bringing my average speed for this last section up to 53 m.p.h. I reached the Plön Lake at 16.27 at a height of 3,770 feet, and here I climbed somewhat, but on crossing Preetz at 16.39 had a height of only 2,620 feet.

Here Kiel emerged out of the haze. I did not know the position of its aerodrome, but guessed that it must anyway lie somewhere near the shore so that both land and seaplanes could use it. I kept a look-out for aircraft and saw to the south of Kiel an aeroplane flying in a southerly direction. I assumed that it had taken off from the aerodrome, so it was only logical that the aerodrome must lie at the point of intersection beween its line of flight and the sea shore. The assumption proved correct, and from 6 miles away I could recognise the green sward of the Kiel-Holtenau airport.

I flew off across Kiel harbour at 2,100 feet. As I glided silently over the bay it presented a gorgeous spectacle, decorated with an array of Olympic flags, and with the warships of the different nations, the sailing boats and the boats of the Olympic competitors. I greeted these by throwing a few loops, after carefully stowing away everything on board. On the shore I saw the German naval memorial, and flew over it at reduced speed, with my arm raised in honour of the fallen. After that I flew to the aerodrome, got rid of my height with turns and spins, and landed at 16.55 hours.

The Commanding Officer of the aerodrome, Colonel Otto Krueger, greeted me heartily as I reported to him the termination of my goal flight from the Berlin Olympiad to the Kiel Olympiad. I was introduced to the English Air Marshal Longmore, who wished me luck before his departure by air. My landing was also announced to Herr Erich Kewisch, the president of the Kiel Olympiad, who entertained me to dinner at the Imperial Yacht Club. Congratulations came in from, among others, State Secretary General Milch, Lieut.-General Zander, Air-Sport Leader Mahnke, the "Istus," and the German Aero Club.

The NEMERE was towed back to Rangsdorf by Heinz Schubert with a "Klemm" aeroplane, making an intermediate landing at Perleberg.

The flight from Berlin to Kiel described above was the first cross-country attempt with the NEMERE, and, with a distance of 202.9 miles, represented an increase on my Hungarian national record (170¾ miles), and the longest flight this year in Germany, as far as I know, since the Rhön competitions were won with a distance of only 157 miles.

The "Nemere"

By Dipl.-Ing. LUDWIG ROTTER

THE high-performance sailplane NEMERE was designed by me in an honorary capacity for the Hungarian Aero Union with the Berlin mpiad in mind. I had to carry out this work in evenings and during holidays. The situation of onautical technicians in Hungary has been extra- inarily bad for a long time. We designers are, ost without exception, active in other spheres, and s can only occupy ourselves with aviation in our ure hours. I received the commission for the design he middle of January this year, and the construction carried out at the Royal Hungarian Aircraft Repair rks at Székesfehérvár under the direction of Dipl. Akos Hehs.

he basis of the design was the idea that the speed gliding performance of sailplanes ought to be eased, and the range of speed and of sinking speed ld be extended by making the ailerons adjustable ng flight, both for flying in weak thermic currents for fast flight with good gliding angle. Also the e for the pilot should be specially roomy and fortable, to keep him in good condition during a and difficult flight and to allow him enough room handle maps and navigational apparatus. To ply with these demands the span and weight of the hine had to be increased; the wing loading also to be raised to a value in conformity with modern lane types.

e NEMERE has a span of 20 m. (65.6 ft.), a wing of 23 sq. m. (248 sq. ft.), and an empty weight 40 kg. (750 lbs.). This gives a wing loading of over 19 kg. per sq. m. (3.9 lbs. per sq. ft.), allowing for an additional loading of 100 kg. (220 lbs.). The wing sections were designed by me; they could not be investigated in a wind tunnel nor were any model tests available for the machine as a whole.

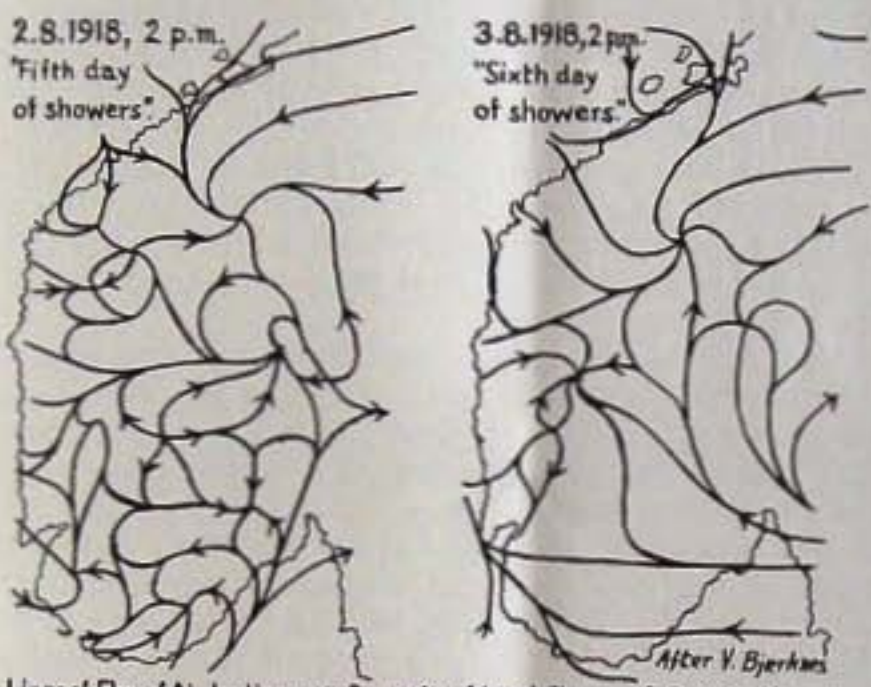
The NEMERE is a full cantilever shoulder-wing design and is calculated throughout for a safety factor of 12. The wings would thus be suitable also for a two-seater fuselage. The rudder is balanced, the elevator is of pendulum type; the elevator and ailerons and their controls all work on ball bearings. The ailerons are differential. The wheels can be cast off by the pilot, who can also work a release at the tail during catapult launch, and a Rotter-type quick-release at the nose. The instrument board has elastic suspension and is built into the cockpit cover, which can be removed by a single handle. The cockpit cover is fitted on from before backwards, thus when opened it is torn away by the air stream; it is built up of wood, so that in an emergency it can be broken open by hand. This type has the advantage of a cover which is designed to open sideways but cannot be got open at all in a steep dive, and which, being usually built up of steel tubing, cannot be forcibly broken open.

The sailplane was first flown on the evening of July 25th, 1936, and on July 27th, before it had been soared even once, was packed up for transport to Berlin. The actual "test flights" took place—when I had time for them—after the Olympiad, with a view to further refinement of the controls. At Rangsdorf several pilots circled in the NEMERE at 43 m.p.h. in under 10 seconds. One evening there, when all the other sailplanes had sunk to earth due to falling off of thermal activity, I was still able to go on soaring at a height of 1,000 feet for over half an hour. And this in a machine which had a loading of nearly 4 lbs. per square foot!

Rotating Thermals

In the article "Do Thermals Rotate?" published in the last issue, some observations of air flow in Norway were mentioned as showing that, when there were cumulo-nimbus clouds about, air converging towards a point tended to take on a cyclonic rotation. By an error, the word "clockwise" was used instead of "anti-clockwise" (five lines from end of last paragraph but one, p. 238).

The diagrams of air flow referred to are reproduced herewith. They were compiled from observations made on two consecutive days, and it will be seen that on the first day there is a marked tendency to cyclonic rotation in converging air, and to anti-cyclonic rotation in diverging air. Further, the air is blowing in from the sea all round the coast—the so-called "sea breeze"—and moreover has veered to the right in most places,



Lines of Flow of Air leading up to Formation of Local Showers & Rain in Norway

a phenomenon which can also be attributed to the earth's rotation. The diagram for the second day, however, should damp the enthusiasm of anyone who would make too facile deductions from the first. It should be remembered also that southern Norway is full of mountains, which would naturally tend to complicate the air flow.

Since writing the original article, I have been told by Mr. E. E. H. Collins, who (as recorded on another page) recently visited the Polish gliding centre at Bezmiechova, that at that place pupils are told always to do right-handed circles in thermals, as it has been found in practice that this gives better results, the explanation being, of course, that all thermals there tend to have an anti-clockwise rotation. It would be interesting to know what evidence there is for this, as it is in any case a difficult thing to prove. Is it nothing more than a mental impression, liable to be biased by preconceived theory? Also, many pilots find it easier to circle one way round than the other, not being ambidexterous. Wolf Hirth, for instance, is said to prefer making left-handed turns (see THE SAILPLANE, January 20th, 1933, p. 6). So a mere mental impression, if that is all it is, is hardly enough to go by.

A. E. S.

Exhibitions

At the *Model Engineer* Exhibition, held in the Royal Horticultural Hall, Westminster, a special prize in the aircraft section was awarded to E. W. Evans, of Leighton Buzzard, for the best exhibit in the section—a large model sailplane of up-to-date design and fine workmanship; it was also awarded a silver medal. Apart from this exhibit, there was no sign of any marked interest in soaring models on the part of British model aircraft enthusiasts.

The annual exhibition of the Royal Photographic Society, which usually contains numerous cloud photographs by specialists in that branch, included hardly any this year. The only cloud photographer to use the most recently adopted scientific nomenclature was a New Zealander. Keast Burke showed two photos of "A Decapitated Thunderstorm": the first depicting it in the early morning before it could be diagnosed, and the second when the "false cirrus" had not only formed but was floating off from the top of the storm. It would be useful to have photographs of the intermediate stage showing how the "false cirrus" (or "anvil") is formed simply by a change in the shape and texture of the rounded cumulus tops. There are still a number of meteorologists who think it arises from new cloud formation in the air above the cumulus mass.

The Royal Institute of British Architects is organising a photographic exhibition of "Airports and Airways," which is to include photos of the club house and hangar of the London Gliding Club and some glider and sailplane photographs. The Exhibition will be at the Institute (66, Portland Place, London) from February 16th to March 24th, 1937; after which it will proceed on a "very extensive provincial tour."

Gliding in Turkey

Some time ago we reported a story that a Turkish experimenter flew across the Bosphorus equipped with "eagle wings," early in the 17th century.

Gliding in Turkey has now, however, got well beyond the legendary stage, for *Flugsport* reported in the middle of October that a pilot named Ferid had put up a Turkish height record in soaring flight, having reached 4,000 metres (13,100 feet), though it is not stated whether this was the height above take-off or above sea level.

Organised gliding in Turkey began about September, 1935, when a centre was established four miles north of Ankara on a ridge 1¼ miles long and 100 feet high, facing the prevailing north-easterly wind. Here two hangars and a workshop were built, and five primaries, a high-performance sailplane and a dual-control two-seater were imported from Russia, together with two Russian instructors. Last spring further branches were started at Istanbul and Smyrna, and others were projected at Adana, Kayseri, and Brussa. Attempts are being made to get all schools to join the movement, and girls as well as boys receive instruction.

A Visit to Poland

[The Polish gliding centre at Bezmiechova, near the rpathian mountains, has been already described in s journal by M. Lutoslawski, but hitherto no one m this country has ever been there. This year, at suggestion of Count Golejewski, who was visiting London Gliding Club, three members of the club nt to take a course of instruction in Poland at this tre, and the enjoyable time they had is described by of them in the following article.]

HE deepening darkness as we crossed the frontier, the strangeness of our new travelling companions, and their vociferous, unintelligible ech, all combined to make us feel a long, long way n England. Finding ourselves in a densely packed way carriage with a conductor of threatening military earance howling unintelligible invective at us, this ing increased. However, the Polish occupants of carriage howled back at him, full bore, producing indescribable uproar. We discovered afterwards they were taking our part against the conductor, wanted us to pay extra fare for travelling on the ng line. This solicitude on our behalf, we found, just typical of the country in which we three don Gliding Club Ridge Rangers were rather uely hoping to spend a gliding holiday. The rest hat night was spent on a station waiting-room table ne unpronounceable), and by 5.30 a.m. the authori- had found a gliding pilot to accompany us to Lesko. shared with us his breakfast chicken, but spoke no glish, so we were still in suspense as to what we ld find at the Gliding Club—probably a couple of gerous DAGLINGS and a putrefying PRÜFLING. At moment, however, came the vision—training hines on every hill . . . thousands of 'em! Gosh! sketches and signs we learned that this was the tary gliding camp, where later we were delightfully rtained as their first English visitors. The num- of both training machines and secondary machines run into hundreds, and the weeding operations ngst aspiring power pilots save thousands of pounds eliminating the more expensive power crashes.

his excitement removed the weariness produced by y-eight hours' continuous travel, and we actually yed the crazy cross-country run from the Wild st Station to Bezmiehova. Five murderous miles which a light tank would have frowned), and our edingly primitive cart brought us within sight of flying school. We saw a glorious white club house mounting seven hundred feet of very presentable ge possessing every possible gliding requisite and power wires. Barefooted boys staggered up the with our luggage. One glance at the hangars and knew that we had reached the Right Place. The newhat lengthy *questionnaire* of admittance was com- cated by the language difficulty, but assisted by demonstrations and words like "cracksa" and "chiminey" (thermal) which speak for themselves, the forms were duly completed. Then the army doctor who, incidentally, must be present whenever gliding is taking place, examined us, and the ceremony was complete. Remembering the difficulty of this first meeting, it is remarkable that in three or four days we could converse easily (in English, of course) with at least four people, and we soon knew everybody well.

One expects gliding folk all over the world to be Good Eggs, but it is difficult to describe the charm and good-fellowship we found in Poland. From the Director and Chief Instructor downwards they did everything possible to help us, and when good conditions were rare no one showed the least resentment at a bunch of foreigners being given all sorts of advantages. No one stays at Bezmiehova for less than a fortnight (almost everyone in well-regulated Poland has a month's holiday), so it is easy to divide the forty or fifty residents into groups, each under one instructor. One is expected to follow his instructions implicitly—not to leave the group even for meals without his permission, and to have very special permission before leaving the club.

One pulls at least five times after flying, and the instructor decides who shall fly. He has signals for faster, slower, farther, nearer, and large ground signals for the superior cloud-hoppers. All this works extremely well without becoming too martial.

The club is fortunate in having one of Poland's network of well-equipped meteorological stations on the premises so that flying weather can be predicted. When this happens the Director orders all pilots to bed at 9 p.m. (so they said; salt may be required!), and all out on the "Start" at 4 a.m. Dunstable people, attend! We actually were carrying machines out at this hour—only twelve, because conditions were not yet good.

A "Komma" sailplane being prepared for a launch from the north slope at Bezmiechova, the Polish gliding centre. This is the most frequently used sailplane at the school; it has a span of 50 feet, is highly loaded and very efficient, and most of the "Silver C" certificates in Poland have been obtained on the type.

An "S-G 3" type sailplane flying in Poland. It is a full-cantilever cabin machine of 60 ft. span.

A covered waggon containing large quantities of parachutes, barographs and sorbo-cushions came out from the incredibly neat and well-equipped stores, and flying was in full swing by 4.30 a.m. When there is a normal possibility of flying one retires at 10 p.m. and flying begins at 6.30 a.m.

In light winds this ridge is possibly inferior to Dunstable's insignificant but clearly defined outline, but in good winds. . .! And the thermals! They make one's pants tickle. We were told that in September they sometimes have regular thermal lift all along the ridge to a height of three thousand feet. The steep northern slope is joined by a patchwork of fields stretching to infinity, and there is an ill-defined field about a mile away for primary landings. Legend has it that a "B" pilot who funked his turns once landed in a straight line five miles away.

The south side has three slopes with short connecting flats and all sailplanes make uphill down-wind landings, usually on the top slope (C). The knowing say that in winds of forty to fifty miles per hour one should choose the sheltered "A" slope, and be careful not to be blown in a semi-stalled condition clean over the top of the ridge.

As a member of a club transport committee I was particularly pleased with their transport arrangements; about ten pairs of horses with trailers attended by peasants, the cost of which I believe to be about ninepence per hour each. The horses are weedy looking, but they seem absolutely tireless.

Should you ever need stimulation, watch an open CHIKA soaring over the tree-tops—amazing sight. Brave men have flown for five hours in these ZÖGLING type machines (box struts everywhere), and, with a "cabin cover" added, twenty-five miles across country.

A tight circle thrown by a learner with a perilously individual view of the forest leaves is a good sight, too. We flew COMMAS, awfully nice machines covered with instruments and always carrying a parachute and a barograph.

SALAMANDERS, bright orange, like their reptile namesakes (the last word in Nacelled ZÖGLING type) are also to be found at thousands of feet. After the five COMMAS there are five or six limousine machines of various types with enormous spans and performances which compare favourably with those found in Germany. As an intermediate machine they use a SCROCA, which has a COMMA fuselage and CHIKA (open) wings, so that it is literally intermediate. One is not then bothered by the COMMA's span, but the handling and feel of the machine is similar and it soars reasonably well.

Training is carried out rather ingeniously in an open machine which is suspended on a ball joint attachment fixed to the upper tail strut above the C.G. If the wind is high this stationary machine controls normally. Otherwise instructors on the wing tip and tail follow the pilot's movements.

One thing is rather interesting; all the real gents' machines are fitted with electric lights for night flying, and apparently they do quite a lot. (Record by Mr. Dyragalla: 22 hours.) As in Germany, theory is taken very seriously and the club walls are papered with maps, charts and graphs.

It is rumoured that next year a water tank or a net is to be used for practising parachute jumps with only the harness attached. By the way, can you beat this for coolness? On a day when the "chimneys" were good an army pilot entered a cloud with a COMMA. Finding his air speed at zero he wanged the "k-nepel" (stick) forwards and executed a very rapid bunt, for which the COMMA is not designed. "Cracksa" wing! In this condition the hero on board carefully removed the instrument board and barograph before departing by parachute, bringing them down safely!

During our stay, Collins and I became members of the Beggar's Club. This consists of pilots who, on a windless day, have flown for ten minutes searching in vain for thermals at a very low altitude over the trees. Its badge is a Polish barograph seal.

On a bad day we were watching the struggle carefully and one pilot did appear occasionally to gain a little. "K-nepel thermic" quoth the instructor.

Now don't imagine we all marched back semi-haloed with "Silver C's." We had our ambitions, but we also had the usual gliding weather. Still, it was a pleasure just to be there. The Casino, or restaurant (rather less than the name implies), was the scene of some very cheery parties, and Box upheld his country's name in the Anglia-Polske contests of American billiards.

'Tis said that Collins could handle a pretty stoup of Vodka with the cheery instructors. They are normally in strict training but occasionally broke out in search of internal "chimineys." They gave us a party which really was "some party" (pronounced American). It even brought the police to the club next day!

The Polish food has the colour variety of a kaleidoscope, and they deal with enormous quantities, all servings being on the scale of the four-egg omelette. We doubled our consumption in four days, but still we lagged behind. Some dishes had to be swallowed quickly with closed eyes, but it was all very good. We soon learnt to like black bread, and when the "anything once" spirit failed we could always fall back on eggs boiled for ten minutes (the club is pretty high up)—stable and unchanging.

We were sorry indeed to leave Poland and, *entre nous*, the intrepid bird-women were partly responsible. They *are* intrepid and very charming, too.

What a pity it is that a school with such an agreeable atmosphere should be so far away. However, continental railways are better than one is led to believe, and we are strongly hoping to meet some of our Polish friends one day in England. To all of them we say: "Thank you very much for our very pleasant holiday!"

BARRY BUCKNELL.

A Lecture by Kronfeld

AN informal lecture to the London Gliding Club by Robert Kronfeld, on November 14th, has been partially reported on another page. There was, however, much else of interest in the lecture, which was chiefly on the subject of "cold front" flying, in view of recent achievements by three of the club's pilots.

Kronfeld was the first sailplane pilot in the world to use a cold front thunderstorm *deliberately* for making a cross-country flight. (This pioneer flight of 1929 was described in an article by Mr. J. S. Fox last month.) Before that, however, one or two pilots had done it by accident. Max Kegel was the first, and later the French pilots Abrial and Fauvel did something similar.

Kegel was a sergeant in the German Air Police who attended the 1926 Rhön meeting. After one of his flights, his commanding officer came up and said he had landed sooner than he need have done, and accused him of lack of keenness. Kegel was incensed at this, and went up again, but before long a thunderstorm approached. All the other pilots hurried earthwards, but Kegel was still smarting under the insult, and decided to be the last to land. But when he tried to, he couldn't get down. The up-current of the storm had arrived, and he was soon swallowed up by clouds, in which he gradually rose to some 4,000 feet. It was 20 minutes before he came out into clear air and did a long glide down to land. He had unintentionally put up a world's distance record.

Storm-flying Technique.

One of the most difficult problems in using a "cold front" storm is to connect with the up-current in front of the storm from the ordinary up-current over a hill. Often the wind dies out as the storm approaches, so that the lift over the hill disappears just when it is most wanted—when the up-current of the storm is about to pass over. The only way to catch the storm lift under these circumstances is to get up to a great height over the hill beforehand; then, when the wind dies out and the hill lift disappears, glide out to meet the storm. This is what Hirth did in 1929; whereas on that occasion Kronfeld was delayed and couldn't start till the cold squall of the storm itself arrived and provided renewed slope-lift. Nevertheless he was able to fly through the storm itself out into the up-current in front of it. His subsequent success was due to the fact that, when the storm later broke in half, he chose the better half and Hirth didn't. But the Germans attributed his success to the fact that he waited till the storm arrived before starting; so for some time afterwards it was their custom to do the same, although Kronfeld told them they were wrong. They actually thought, Kronfeld said in his lecture, that he was trying to put them off the scent so that they should never equal his own performances. We are glad to hear the truth of this tale at last.

A further difficulty is the change of wind direction that a cold front storm so often brings. Kronfeld recommends that, when slope-soaring in a south-westerly wind, one should hang about near some part of the slope which faces north-west when the storm approaches.

He is very insistent that plenty of lift can be got by keeping well in front of the clouds. How far in front depends on the conditions at the time; the greater the fall of temperature, the better the "front." He had found that at the level of the cloud tops—about 10,000 feet—the belt of rising air was so wide that one could soar either near the cloud or four miles out from it. In his 1929 flight, whenever he felt cold from getting up too high, he flew about three miles out from the storm so as to lose height; consequently his barograph recorded a wavy line which the meteorologists afterwards tried hard to invent theories to account for.

When doing a storm flight it is not a good thing to do much theorising; conditions are often very uncomfortable, and in Kronfeld's opinion a pilot will get further by not doing too much thinking. Nevertheless, difficulties crop up, such as that mountains hold back a cold front and therefore tend to break its continuity.

This led to a discussion on blind-flying in clouds. Although there is no one who can fly blind in an aeroplane without instruments, Kronfeld said, there are a few who can do it in a sailplane. This is because there is no slip-stream from the airscrew and so you can feel at once, from the change in the air stream, when you are beginning to side-slip. The moment you feel it, you should correct at once. In spite of this, he advises everyone who would do storm-flying to get a parachute, to take blind-flying instruction and to practise blind-flying as much as possible. Heini Dittmar had recently told Kronfeld that he never did blind-flying in a machine without having first tested it for spinning, to see whether it would break up. The ideal sailplane pilot of the future should be better at blind-flying than an air-line pilot.

A Special Sailplane.

Kronfeld's own high performance machine, which he is too busy to fly at present, but hopes to bring along some day, has a span of 60 feet, a gliding angle of 1 in 30, and a sinking speed of 34 cm. (13½ inches) a second. It is designed for storm-flying, and is specially fast and strong, having a factor of safety of 11 and being calculated for a maximum safe speed of nearly 200 m.p.h. The cost is over £1,000. He did not believe in the small-span high-performance machine, and thought a span of 60 or 70 feet the right one for conditions in this country.

Nowadays competitive distance flying is a race; the fastest machine wins. Kronfeld elaborated the idea of a specially-built machine—perhaps a two-seater—for putting up a world's distance record when, some day, an unusually extensive cold front passes over. A club member asked whether it was worth while to build an expensive machine solely for conditions which only arose perhaps once or twice in a year. Kronfeld replied by quoting the example of Mr. Sopwith's £30,000 yatch, also built for special conditions, and asked why some rich idealist shouldn't spend his money on a specially-built sailplane?

On the subject of meteorology, the lecturer drew on the blackboard the usual diagram of a depression, with warm and cold fronts and the warm sector between, and described typical "warm sector" weather as a blue sky with a south-westerly wind. Then the cold front comes along as a wall of cloud. Asked about secondary cold fronts which follow after the main one, he said that there are nearly always several of these squalls, and one could even consider cumulus clouds which follow 12 hours after the main front to be parts of line squalls. He could not explain the reason for the succession of cold front squalls, and thought possibly it was some sort of wave-like oscillation, such as the air may take on in the lee of hills. (At Rossitten, he said, a second up-current had been found three miles to leeward of the line of sandhills which is used for soaring.)

[EDITORIAL NOTE.—In a recent article in THE SAILPLANE typical warm sector weather was described as cloudy, with the clouds extending right up to the cold front. Although this is certainly our experience, Kronfeld's description is at variance with it. The difference is probably accounted for partly by there being more moisture in warm-sector air in the British Isles than in Central Europe, but chiefly by the fact that here we are close to the centres of most of the depressions that come over, so that the warm front cloudiness rarely has time to clear up before the cold front arrives. A cold front of enormous extent which we encountered in Austria last year was certainly preceded by the clear skies that Kronfeld describes. But at the time of writing (in England) we have been in a "warm sector" for a day and a half, with continuous low cloud and almost continuous rain.—ED.]

News from Germany

The Olympic Games.

A STRENUOUS effort is being made to get soaring flight recognised as an Olympic Sport before the next Olympic Games are due. (If the effort succeeds, it should be borne in mind that they will be held at Tokyo in 1940.) Professor Georgii, president of the International Commission for the Study of Motorless Flight ("Istus"), has written thus to the British Gliding Association:—

"The fourth general meeting of the Istus at Budapest has accepted a resolution regarding the admission of soaring flight within the programme of the Olympic Games. This resolution has been transmitted to His Excellency Count Baillet-Latour, president of the *Comité International Olympique*. This committee has answered that this question would be discussed at next year's meeting. For this reason, the Istus asks the affiliated bodies to address themselves to their national Olympic committees in order to obtain in this way good support for the proposal of the Istus."

During the Olympic Games at Berlin this year, the most was made of the opportunity to bring soaring flight to the notice of everybody concerned. On July 30th, on the occasion of the opening of the new Rangsdorf aerodrome, an aerobatic demonstration was given by German sailplane pilots. This was followed on August 4th by an international gathering at the Staaken aerodrome, to which pilots brought sailplanes from Austria, Hungary, Bulgaria, Italy, and Switzerland; a Jugo-Slav pilot also performed. Poland and Chile wanted to bring machines, but there was a hitch at the last moment. Seven RHÖNBUSSARDS were towed up, flew around in formation, and stunted. The Italians showed off their winch-towing methods with primaries; apparently little else is done in that country. Later, on August 12th, a Hungarian pilot flew to Kiel, as described elsewhere in this issue.

The team of six Italian pilots appear to have become converts to real soaring flight, for they stayed on in Germany in the hope of getting their "Silver C" certificates, of which there is none held in Italy at present.

Oskar Ursinus, "Father of Soaring Flight," who organised the world's first gliding competitions, is here seen at this year's Rhön meeting, the seventeenth of the series.

Three went to the aero-towing school at Darmstadt, but had not yet made any "Silver C" flights when I saw them there at the end of August. The other three went to Sylt, the sandy island in the North Sea, where they all put up five-hour flights. The gliding school at Sylt, by the way, is one of the few in Germany that admits foreigners; the others are Darmstadt and Grunau. Sylt has good slope-soaring over the dunes, but is unsuitable for distance flights.

The Rhön Meeting.

The anual soaring meeting was held later than usual this year, so as not to clash with the Olympic festivities. To this was attributed the fact that the average performances were nothing like so good as last year. The longest distance achieved was barely half that of last year's world's distance records. But something new was achieved in height and duration.

Sixty-one machines were allowed to be entered. They all turned up at the beginning of the meeting—a phenomenon which must be unique in the world's gliding history. The numbers of the various types were: RHÖNSPERBER, 25 (including two specially modified);

The "Sperber Junior," a modified "Rhönsperber," specially built for Hanna Reitsch, who is seen in the centre of the bottom picture standing by the machine.

[Photos by "The Sailplane" and R. G. Robertson.

RHÖNADLER, 20; CONDOR, 6 (five Type I. and one Type II.); RHÖNBUSSARD, 5; MINIMOA, 2; PRASIDENT, 1; "Mü 13," 1.

The first four types have been well known for some time. The PRASIDENT is an old type—originally designed as an improvement on the PROFESSOR. The MINIMOA, Wolf Hirth's design, appeared for the first time last year as a high-wing type; this year it has become a "middle-wing," and in this form was described in the August SAILPLANE. The two specimens entered were both fitted with air brakes, but of different kinds; one had split flaps at the trailing edge, the other lift-spoilers on the upper wing surface. Both performed very creditably.

The two special RHÖNSPERBERS were built for Hanna Reitsch and Ludwig Hofmann respectively. The one flown by Hanna (who was admitted as No. 61 after the rule had been published that only males might compete) was a beautiful creation, decked out in blue and white stripes. It had a slightly larger span and more pointed wings than a conventional SPERBER, but the chief difference was in aerodynamic shape. The streamlining of the nose resembled that of the old FAFNIR, and the angle of the bend in the wings was smoothed out into a curve, necessitating a special type of mounting for the lift-spoilers, which, as they couldn't be hinged on a curve, had to be lifted clear of the wing when raised. The other special RHÖNSPERBER had a fairly normal nose, and the most noticeable external feature was the fairing of the trailing edge of the wing into the fuselage in a wide curve. Both machines appeared to have the same type of hotted-up tail.

But the sensation of the meeting was the "Mü 13," which was named ATALANTE. It was designed, built and flown by Kurt Schmidt, who will be remembered as having set up a world's duration record of 36½ hours three years ago. This machine will have to be described in more detail in a later issue; for the present it can be said that it put up easily the best performance of the meeting; this was seen when it was soaring in company with several others; often these others were being flown by Germany's crack pilots, yet the ATALANTE easily outclimbed the lot. Its chief features are a fuselage of steel tube framework, triangular wings (like the RHÖNADLER), and a fuselage which, except in front, has a rectangular cross-section. It is evident that Kurt Schmidt is no mere pole-squatter, but an expert pilot *and* a first-class designer. In fact, he was the winner of this year's Rhön Competitions.

The order of merit, both for individual pilots and for the teams of the various local groups, was decided on "points," which could be awarded for duration, height, distance, goal flights and group flights. The goal flights were a special feature of this year's meeting; a large number of pilots, if not all, specified a goal before starting out, though they did not always reach it. An interesting feature of the prize distribution was that special prizes were awarded according to two age groups—under and over 20 years. This gives some indication of the average age of the pilots.

Team organisation was, more than ever before, run with a view to removing all worldly cares from the shoulders of the team's pilot, thus leaving him free to concentrate on the flying. Board and lodging arrangements, care of the machine, and the getting of meteorological information were all looked after by the rest of the team.

Rhön Performances.

During the meeting there were 661 launches, the distance flights totalled 18,097 kilometres (11,320 miles), and it is estimated that 72,000 road miles were covered by the various teams' cars. Thus the average distance was about 17 air miles per launch, as against 43 last year; while the road mileage figure compares favourably with an estimate once made by Mr. Slingsby, which was, I believe, that in the British gliding movement 34 gallons of petrol are consumed for every mile flown.

Most of the distance flights this year were towards the south and west—a contrast to previous competitions. Some were goal flights to the gliding schools at Hesselberg and Hornberg; others to various town aerodromes. For instance, on August 23rd Hanna Reitsch flew to Nürnberg (84 miles), three pilots made Würzburg (53 miles); Steinig tried for Munich but only got 127 miles on the way; a group of three started together for Hornberg and two got there; Helm and Riedel, of the Lufthansa, reached Hesselberg (87 miles) while Blech tried for it but landed 12 miles short.

August 25th was a day of duration flying. Kurt Schmidt put up a new local Rhön duration record of 13 hours 45 minutes; others ran him close with 12 hours

17 minutes, 11 hours 51 minutes, and 10 hours 18 minutes.

Schmidt's ATALANTE was only just finished in time for the meeting. Its first cross-country flight was one of 103 miles, and later Schmidt put up the longest flight of the competitions by soaring 252 km. (157 miles) to Trier on the Moselle.

A Berlin paper had offered a prize of RM. 3,000 for a flight to that city, 200 miles to the north-east, but no one got anywhere near winning it.

A most remarkable German height record was put up during the meeting which came within 200 metres of the world's height record set up by Dittmar in South America early in 1934. The pilot was Blech, in real life an aeroplane pilot of the meteorological service at Breslau. He got up to 4,480 metres, or 14,698 feet.

"Father Ursinus."

There have been further changes in the appearance of the Wasserkuppe since last year. The heterogeneous collection of hangars and other oddments, which flanked the left side of the road leading up to headquarters, have been removed. Two large new buildings have appeared on the right side, just before the headquarters building (the "Ursinus Haus"). They are named after Groenhoff, the pioneer pilot who lost his life four years ago, and Stamer, the pioneer gliding instructor, happily still alive and now at Darmstadt. The first is a canteen, the second a dormitory; both are very large as Wasserkuppe buildings go.

Their erection has necessitated the removal of an historic edifice, the "Schlafwagen" of Herr Ursinus—the oldest permanent building on the mountain, put up in 1921. It has been shifted northwards, but is otherwise just the same low wooden hut as before, containing a table, a bed, a bench, and the old wicker chair from a Russian warship, which (i.e., the chair) was put inside before the roof was built and will never be got out again, since it is wider than the door.

Many new-comers to soaring flight nowadays take the existence of gliding clubs in every civilised country for granted, and have no conception of how very recently the art was developed, what a hard struggle it was to get the thing started, and who was the man who set it going in the first. That man was Oskar Ursinus, editor of the journal *Flugsport* (founded in 1909), who called together the first gliding meeting on the Wasserkuppe, in the Rhön Mountains, in 1920. He was then laughed at, but in the next year a soaring flight of 21 minutes was made, and in 1922 several flights of up to more than three hours; whereupon the world sat up and took notice.

The English party having run across this Father of Soaring Flight (recognisable from any distance by his famous slouch hat), we were asked into his Schlafwagen to partake of some Schnapps—a very great privilege. While we were in there, there came a journalist who, the previous day, had dared to suggest, in print, that our hero was *not* the real father of soaring flight at all. He had the presumption to ask for some Schnapps. He was given a dose, but it was administered externally instead of internally. He did not wait for a second helping.

Above: the air brakes of the "Sperber Junior" in the "on" position. Below: the "Sperber Senior," another modified "Rhönsperber," specially built for Ludwig Hofmann. Professor Brunt, chairman of the British Gliding Association, visited this year's Rhön meeting; he is partially seen in the upper picture.

(Photos by R. G. Robertson.

A Collision.

One advantage of attending a Rhön meeting is the opportunity one has of collecting all manner of German gliding gossip which does not get into the papers. Collisions, for instance. There happened to be a slight one during the meeting, witnessed by Mr. Richardson. Two machines met wing to wing, probably while circling (he wasn't looking at them till he heard the noise); one lost part of a wing, and the other, a CONDOR, had one wing bent backwards, with its root crushed, but still held on by the struts. Both pilots got down without hurting themselves: they were too low to use parachutes.

A collision that had happened earlier in the year in Germany was due, I was told, to a machine flying through the area in which another was circling; the circling pilot was looking at his instruments; hence the inevitable result.

Some time ago THE SAILPLANE recorded two collisions at Laucha, near Leipzig. I heard the real explanation of one of them. Two machines were proceeding along a ridge, one behind the other, when the front one turned out from the hill. It couldn't stop turning, probably through being stalled, so hit the machine which had been behind it. Consequently they have made a rule at Laucha that, if you are following another pilot along the ridge, the moment you see him start a turn you must turn too. This will, of course, bring you in front of him. Then, when at the other end you turn, he must turn too, in case you should go on turning till you hit him. The rule is only applicable at Laucha, but my informant (Herr Magersuppe) said that every gliding centre has its own local rules for avoiding collisions; they vary according to the nature of the site.

A. E. S.

(To be continued)

News from the Clubs

London Gliding Club

Sunday, November 1st.—A new private owner is Seth Smith, ho did some elementary training here in the middle of 1934 d then went off to a South Sea island with another member run a plantation. While there they built, and tried to fly, "Flying Flea." He is now back and has bought a TOTTERNHOE m Dart Aircraft, of Dunstable, naming it "Scaup." Our Bird Book" says of the scaup's flight: "Rises heavily, splash- ; flies rapidly. A typical diving duck." Actually it was lightness of the wind that prevented him soaring, and there s no splash either on rising or landing.

However, some pilots just managed to soar, although at the arest Met. stations the wind at ground level was reported as ly 8 m.p.h. at Upper Heyford and 4 m.p.h. at Mildenhall. But re was a veer of about 70° in the first 2,000 feet, so no doubt air was very stable, and the wind up the hill may have been eezed into a shallow layer and thus made to travel faster.

Sunday, November 8th.—A fierce S.W. wind, and a storm of "front" type about mid-day, under which scraps of cloud ld be seen rising rapidly into a ragged line of cloud base. wever, there was no clear air in which to soar; only low rain uds all around, so nobody left the precincts of Dunstable.

Murray took up the FALCON III. repeatedly, one of his pas- gers being a B.B.C. man, who clung desperately to the front the cockpit all the way to Whipsnade and back; only the fact t he had to prepare next week's broadcast induced him to ce the music" at all.

Mrs. Price flew the RHÖNSPERBER for the first time for many nths, and went a mile or more up-wind without losing height, bably getting lift from the "front."

Major H. Petre, our former chairman for two years, turned after a long absence. It was he who, in 1931, was first in country to beat the duration record of 3 hours 12 minutes up by Maneyrol on the South Downs in 1922.

visitor was Dr. Knatz, secretary of the German Chamber Commerce in London, and a flying member of the East glian Aero Club.

An "Outside Broadcast."

Saturday, November 14th.—This was the great day when the B.C. descended upon us and posted their vans at strategic nts about the grounds—one on the hill-top, one below to ch the primary training, and another listening-post in the gar.

The wind, which had been light southerly in the early morn- , actually by some miracle changed to a stiff breeze from S.W. Zero hour was 3 p.m., but before that several machines e already in the air: the grey KITE, Baker's GRUNAU, the is's SCUD, and the RHÖNSPERBER with Nicholson, who had n up since the middle of the morning. Precisely at three ock all these converged on the neighbourhood of the B.B.C. . At the same time Mrs. Price and Major Cordes, who had n strapped into two club GRUNAUS well beforehand, were nched one after another, quickly followed by Stevenson in KADET and Murray in the FALCON III. The last took Woodroffe, of the B.B.C., off the top of the hill and deposited at the bottom; then went off from the bottm on the winch le with Professor Brunt, and deposited him at the top.

We didn't hear the broadcast, but it was said to be good, included something of everything—instruction, advanced ring, clouds, fronts, and all the rest. Numerous cars with eiving sets were lined up along the hill, so that several mbers were able to eavesdrop while helping with launches. is reported that Blattner records of the broadcast are to be sented to the club as a keepsake. Humphries was in the adcasting team.

A lady member of the public was bowled over by the wing the two-seater, landing on the top in the dusk. She was very about it to everybody except her husband, who had been where near at the time.

During the afternoon Seth Smith scooped a "C" on his SCAUP. Another "C" taken during the week was that of Ronald Price, formerly business manager of Cobham's, and then Scott's, Air Display. An *ab initio*, he has made astonishing progress, getting his "A" on October 12th, "B" the next day, and "C" on November 10th. This was while living at Dunstable, but he has now moved to Coventry, and only comes at week-ends.

As our own winch was out of order, Robert Kronfeld kindly let us have his for the occasion; and, in fact, we still have it, on hire, and a very excellent piece of mechanism it is. Kronfeld himself was present, so our chairman got hold of him after dark, gave him a blackboard and chalk, and induced him to give a lecture to the club on "cold fronts." It is reported elsewhere.

Sunday, November 15th.—A rough S.W. wind gradually in- creased and backed to a *very* rough S.S.W. wind. All launches were by winch, except for some ground hops before the wind got unsafe for them. Humphries and Murray took up the FALCON III. alternately, with passengers, and found conditions distinctly unpleasant. A warm front was descending upon us; according to weather maps it arrived at ground level at 7 p.m., to be followed by the cold front at midnight.

Sunday, November 29th.—While a westerly wind blew all day, the thick cloud layer of a warm front gradually descended lower until finally, just before dark, it enveloped the hill-top, forcing Grant, who stuck it out longest, to come down out of it and land. But before that the two FALCONS had had a bit of excite- ment. The little one was chasing the big one along the ridge when a large chunk of cloud appeared and blotted them out, one after the other. The FALCON I. landed on the golf course, pre- ferring it to the alternative of landing on the FALCON III.'s tail.

The Air Ministry reports show that, in the early morning, when the warm front at ground level was beginning to cross north-west Ireland, it was over 2,000 feet up at Chester, and 6,000 feet at Biggin Hill, S.E. of London. At mid-day the front was crossing Wales and Yorkshire, and was at 4,000 feet at Biggin Hill, 6,000 feet at the end of Kent, and down to between 1,000 and 2,000 feet at Mildenhall. This means that the "warm sector" air was moving up a slope of about 1 in 300—hardly enough rising current for anyone to soar in, even if he could see where he was going. By 4 p.m. the rain clouds were on the hill-tops at Dunstable Downs, although the front was not due to arrive at ground level till after 6 p.m.

After tea Herr Gstein showed a marvellous film of skiing in Switzerland.

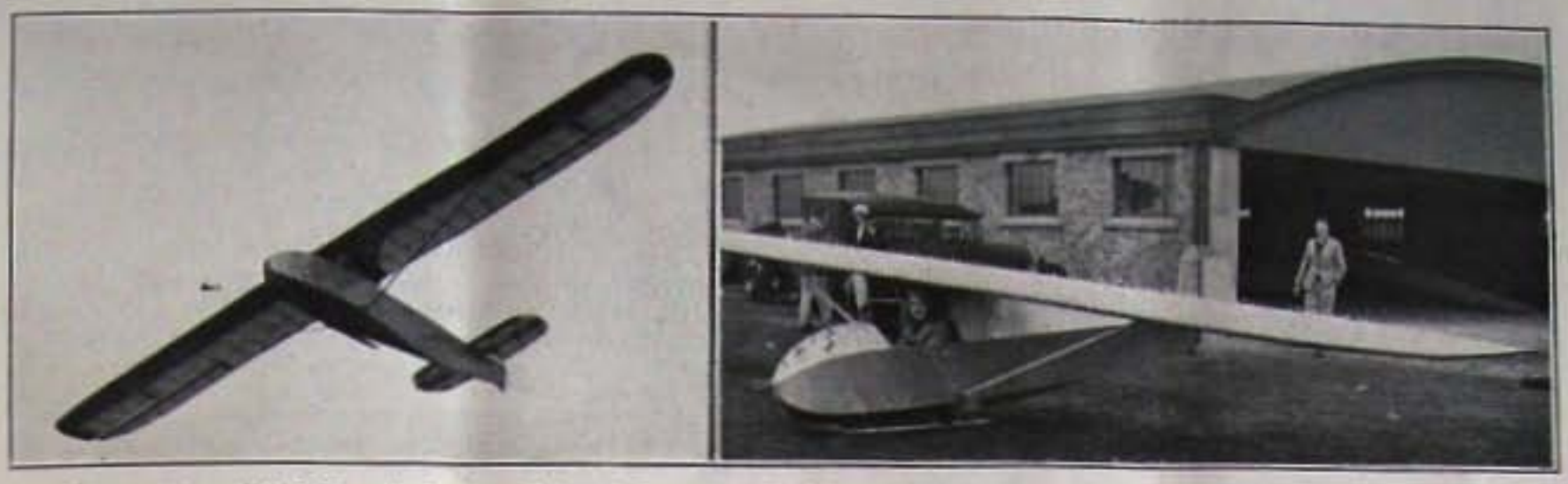
The dance on November 28th went off in great style in the club house. The New Victoria Players were the band, some cabaret turns were given, and the crowds included many local residents, who were surprised to find that people who glide are otherwise quite normal. But we missed the recitation given at last month's party by Box, entitled "Sam, Sam, Pick up Thy Joystick!"

Visitors from other clubs during the month have included members of the Inverness Club, who seem very determined to get things going in their part of Scotland.

A fatality on the road.—A tragic accident on the night of November 15th has deprived the club of two of its most promising members. R. A. C. ("Tony") Evans was giving Miss B. M. Goldney a lift back to London, when his car ran into the back of a stationary lorry at Friar's Wash, on the road to St. Albans. Miss Goldney was killed instantaneously, and Mr. Evans died a few hours later in St. Albans Hospital.

Barbara Goldney was a niece of our resident instructor, H. E. Hervey, and gave him a lot of help in keeping records of the club's flying. She only began learning to glide in the spring of this year, and made extraordinarily rapid progress, getting the "A" on May 31st, "B" on July 25th, and "C" on August 12th—the only "C" certificate obtained by a pupil at the instruc- tion camp. She handled the machines exceedingly well, even in the roughest weather, and had just graduated on to flying the FALCON. The club has lost a member who showed every sign of developing into one of its most skilful pilots. She was 21 years old.

R. A. C. Evans began flying last year as an *ab initio*, though he was now a member of the Brooklands Flying Club and was ready to take his pilot's license there. He obtained the "C" gliding certificate on August 4th this year, and had done a good



The "Nimbus" (type "H 17") a diminutive sailplane built by B. H. T. Olver and M. F. Barnes, of the Midland Gliding Club, to a design by Ullrich Hütter, of Salzburg. Mr. Olver is seen in the cockpit, in front of the Yorkshire Club's new hangar, and on the left the machine is starting for its first soaring flight, which took place over the same club's ground.

[Photos by J. W. Smith.

deal of soaring since. He was aged 19, and was employed as an aircraft engineer by Hawker Aircraft, Ltd., Kingston.

Tony Evans's father, Mr. J. P. T. Evans, of Kensington, has very generously expressed a wish to give the club some permanent memorial to his son, and this will probably take the form of a workshop and additional hangar. We will be able to give more details later.

Summary of Flying.

Date.	Ground-hops.	Winch launches.	Hilltop launches.	Flying Time h.	m.	s.
Oct. 27, Tuesday ...	—	—	1	1	6	0
,, 28, Wednesday ...	10	—	2	3	5	0
,, 30, Friday ...	7	—	—	—	—	—
Nov. 1, Sunday ...	42	54		5	13	55
Nov. 2, Monday ...	10	—	—	—	—	—
,, 4, Wednesday ...	—	—	7	—	7	28
,, 7, Saturday ...	18	—	—	—	—	—
,, 8, Sunday ...	41	—	16	6	6	0
Nov. 9, Monday ...	—	—	2	2	15	0
,, 10, Tuesday ...	—	—	3	—	48	0
,, 13, Friday ...	—	—	4	—	4	15
,, 14, Saturday ...	18	—	21	10	33	55
,, 15, Sunday ...	31	23	—	6	53	16
Nov. 21, Saturday ...	27	—	—	—	—	—
,, 22, Sunday ...	64	—	—	—	—	—
Nov. 25, Wednesday ...	50	—	—	—	—	—
,, 28, Saturday ...	28	—	8	—	7	17
,, 29, Sunday ...	11	—	16	3	33	0

Certificate Flights.

November 1st.—Radcliffe, "A"; Knechtle, "A"; Watts, "B."
November 10th.—Price, "C."
November 14th.—Seth Smith, "C."
November 28th.—Hambling, "A."

Totals.

Week ending	*Launches*	*Flying Time*	*Certificates*
November 1st ...	116	9 hrs. 25 mins.	3
November 8th ...	92	6 hrs. 13½ mins.	–
November 15th ...	102	20 hrs. 34½ mins.	2
November 22nd ...	91	—	–
November 29th ...	113	3 hrs. 40 mins.	1

Midland Gliding Club

Sunday, November 1st.—Light S.W. wind. Only about 1½ hours' flying, during which Hannay was caught some distance from the landing ground when the wind backed south, and had to make a bottom landing. Edwards in the KITE was more fortunate and just scraped home.

Sunday, November 8th.—Rain and a S.S.W. wind limited flying to 28 minutes and a descent to the bottom for Davies.

Club Dance.—One of the brightest events in the recent history of the club was the autumn dance held in Birmingham on November 6th. Bookings were so heavy that a number of people were unfortunate in not being able to obtain tickets. Great credit is due to the organising committee.

Yorkshire Gliding Club

August 24th.—R. Watson, having failed to complete his five hours by only a few minutes during the club's Competition Week, took up FALCON I. and proved that he could do it, with ten minutes to spare.

August 26th.—It just shows the value of living near the spot when a novice, N. H. Logan, can take advantage of a calm day and have a whole machine, a whole instructor (Heath), the whole moor and the whole of the club's ground organisation for a whole afternoon and evening, and finish up with a whole machine and a whole lot of knowledge of the preliminary stages of the art of gliding.

August 29th and 30th.—The month finished magnificently. GRUNAU, FALCON I., KADET, FALCON two-seater and STEDMAN two-seater all helped towards adding another 26 hours to our flying time. Sharpe took up Watson to test a wireless set. It was worked off the same set of control wires as the machine itself, and it proved equally satisfactory.

On Sunday, Bruce stayed up in FALCON I. for 5 hours 14 minutes, during which time he was very surprised to find he had reached a height of 3,900 feet. He looked out towards the west, over the Atlantic, but realising that his friends in Canada might still be asleep, he waved to them and came down. Fourteen passengers, also, had flights during the week-end.

September 5th and 6th.—This month, also, began excellently with a total flying time of over 35 hours for this week-end. E. F. Briscoe, visiting us, increased his flying time considerably, including a flight of 5 hours 11 minutes, a trip to Boltby Reservoirs and his first leg of the "Silver C." Sharpe, also, repeated this performance during the afternoon with 5 hours 16 minutes. The outbreak of Silver C-sickness is reaching alarming proportions.

During Sunday we were visited by Geoffrey Heal and party from the Arthur Brough Repertory Company, playing at Leeds Theatre Royal; all enjoyed passenger flights.

The rest of September was spent in training hops and circuits, except for a flight of 25 minutes by Stedman in GRUNAU on the 27th in a most unfavourable N.N.W. wind.

Unfavourable weather, with rain and gales, continued until the last week-end in October, and flights of 4 or 5 to 16 minutes were performed at intervals.

October 25th.—Wind S.W. to W., 30–40 m.p.h. Under these gusty conditions 5 hours' flying time were put up by Stedman, Hastwell, Wordsworth, Sproule (one loop), Slingsby, Jowett and Sharpe, flying variously on GRUNAUS, KIRBY KITE, FALCON I. and FALCON two-seater.

It is of interest that R. F. Stedman, by the end of September, had completed over 50 hours' flying time since January this year.

Southdown Gliding Club

This old-established club has taken on a new lease of life since the opening of the new club buildings in August last. In the building itself many improvements have been effected. An electric lighting plant has been installed; the workshop has been enlarged and a metal-working section has been furnished, in addition to the two woodwork benches previously installed; while the hangar itself is now housing eight machines. The former hangar (the old barn shown in the photographs published in the September issue) has now become the Transport Shed, and houses four retrieving cars, an auto-towing car and a new motor winch.

An extension of Site No. 3 (the Newtimber Hill site shown in the map published in the September issue) is being secured by the kind co-operation of the Corporation of Brighton, and this will undoubtedly make the club's area of operations one of the finest in the country.

Recent innovations in club organisation include a Saturday afternoon primary instruction group and a Saturday evening workshop practice class. Seven new flying members have joined during the past month, and a rota of flying instructors is now issued for each month in advance.

The club Chairman, Mr. R. F. Dagnall, has made a generous gift of £50 to the club funds, and promised another £50 to be "earned" by club members qualifying for gliding certificates, at the rate of £2 for a "B" Certificate, and £3 for a "C" Certificate.

During the month of November (up to the 22nd) six gliding certificates have been certified as follows:—"A": Dunning and Stevens; "B": Goodwin, Dunning, Hatcher (W.) and Stevens.

The club's original B.A.C. two-seater machine has been rebuilt with a new fuselage and a detachable undercart, and is capable of conversion into a solo soaring practice machine by means of special "cabin" attachments.

A club Christmas Social is to be held in the club buildings on the evening of Sunday, January 3rd.

Enquiries regarding the club should be addressed to the General Secretary, 7A, First Avenue, Hove, 3, Sussex.

Jersey Gliding Club

Club activities take place on Thursdays and Sundays.

More members are being promoted to making flights from the gully; when the wind is N.W. this necessitates making a right-hand turn into wind for landing. On October 30th, which was such a day, Thomas caused excitement by "daisy-cutting" all the way down the slope and then complained of bumping his head on the wing.

On November 2nd, the wind being down the hill, we took the opportunity to make a tour of inspection of our proposed new site at Les Landes, whither we were followed by quite a few disappointed spectators.

We have ordered a FALCON 1. which Messrs. Slingsby, Russell and Brown were offering for sale, as this type will be essential to us when we get to our new site with the winch car.

November 15th.—A fair S.W. breeze. At 11.15 Carter was launched off the top of the hill and soared along the crest for three hours without any difficulty. He came down at 2.15 owing to intense cold. In the meantime Wagstaffe was also launched from the top in the green SCUD, but his extra weight (5 stone) and the lightness of the wind would not allow him to soar; after beating up and down the crest with considerable difficulty he was forced to land.

The wind increased during the afternoon, when flights were made from the gully in the DAGLING and, later, the ZÖGLING. Thomas showed that he is rapidly becoming one of our foremost pilots.

Cornwall Gliding Club

October 4th.—The wind, being S.S.E., produced the best flying conditions for some time. If it had only been a little more south, at the same strength, we might have made our first attempt at soaring. Graham did a "45" and an "S" turn.

October 11th.—With an easterly wind the landing ground is rough, so we put out two ground sheets to mark a smooth channel through the craters. Williams and Graham made the passage all right, but Ratcliffe drifted away and made a violent swerve at the last moment while the rest waited for his wing tip to catch in the heather. But it didn't, and he shot between the sheets and landed beautifully.

October 18th.—The President turned up and, being a power pilot, was given a hop. Everyone had a good day except the member who had seen seven magpies on the way out.

November 1st.—The last flying day of the year failed to produce the longed-for south wind. So hops were short on the west slope.

November 4th.—A General Meeting was held at which the flying season was declared closed, and finance was arranged for building a second primary with a pair of "Avro" wings during the winter.

Norfolk Gliding Club

September.—The club has spent a lot of time straightening the "bends" caused by the unsuccessful first launch off our soaring site at Mundesley. These were finished by Sunday, the 13th, when six members made 18 hops at Skeyton.

October 4th.—Again at Skeyton, but only four strong. The faithful four made 7 hops.

October 11th.—Conditions at last being favourable again, though not for soaring, the site at Mundesley was visited. Our instructor took a launch off the top late in the afternoon, and duly descended to the beach in good order. The rest of the daylight was spent in raising the machine to the level of the launching field again by man-power. This lengthy retrieve is explained by the rough and unprepared nature of the walk—slope over 1 in 1 in places—up which the machine has to be hauled. We need to work a lot on this part of the site, and some sort of winch or capstan would not come amiss.

South African Gliding Association

First South African Gliding Meeting.

Quaggapoort, near Pretoria, was chosen as the venue for the above event, which was held from October 6th to 17th. Those present were accommodated under canvas, the necessary equipment being loaned by the Department of Defence. Weather conditions were almost ideal throughout; there was a soaring wind on every single day, and thermal activity was present on every day but one.

The main object of the meeting was to gather together representatives from the different centres throughout the Union, to enable them to act as instructors to any further clubs that may be formed at a later date. The following towns were represented: Durban, East London, Port Elizabeth, and Cape Town; and at least one person from each of them went away with a "B" certificate.

The main attraction was the flying of Mr. Philip Wills, who brought a KIRBY KITE with him from England, and to whom the South African Gilding Association, who were responsible for the organisation, are extremely grateful.

The other machines present consisted of the Rand Gliding Club's fleet, GRUNAU 9, AVIS and GRUNAU BABY.

Tuesday, October 6th.—A start was made after collecting people and pegging tents, the primary performing some thirty slides and hops.

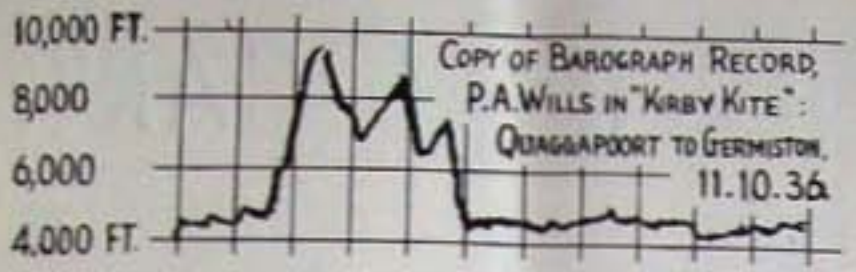
Wednesday, October 7th.—Flying commenced at 6 a.m. and the morning was devoted to ground hopping, after which Miss Evison was launched from the top for her "B."

The brand-new GRUNAU BABY was rigged after lunch, and Pidsley straight away launched from the top in a light wind. Although he had no instruments it was soon apparent that he was making use of something other than hill lift. He reached about 2,000 feet, and cruised all over the valley during a flight that lasted 40 minutes.

Thursday October 8th.—More early morning ground hopping. After breakfast Pidsley decided to connect with the hill lift after a car tow from the bottom. He was not successful the first time, but at the second attempt he got going and stayed up till lunch time. At times he was circling in thermals from which he appeared to reach about 2,000 feet. The flight lasted 3 hours 33 minutes.

Friday, October 9th.—Lots of ground-hopping, during which good progress was registered amongst the *ab initios*. Experiments at car-towing the GRUNAU 9, admittedly more or less cross-wind, were not very successful.

Saturday, October 10th.—Wills arrived with the KIRBY KITE, the finish of which called for general admiration, and made the Rand Club's German-built GRUNAU BABY look distinctly dowdy. Pidsley and Wills were soon in the air, the first occasion on which two sailplanes had been seen flying together in the Union. The two machines were soon circling in the same thermal, Wills above and Pidsley below. They toured the countryside together and came back to Quaggapoort via the military aerodrome at Robert's Heights. Wills was in the air for 1 hour 5 minutes, and Pidsley for two hours.



Sunday, October 11th.—*The* day of the meeting. During the morning Wills flew the KITE for 2 hours 45 minutes and reached 3,000 feet. He reported plenty of thermal activity, so much so that he decided to have lunch and then attempt a goal flight to the Rand Airport, some 33 miles distant.

On being launched again Wills flew up and down the ridge for about 45 minutes, after which he struck a thermal, and what a thermal! He rose to 5,400 feet in under seven minutes to the utter amazement of the quite respectable crowd that had gathered in the meantime. He made straight for the Rand Airport, which he reached after about an hour's flying. The majority of those at the airport, pilots and others, had never seen a sailplane before, and were, to say the least, bewildered when the KITE appeared out of the blue, mildly shot up the control tower, and landed right on the circle. The necessary tow to the hangars was made behind the airport fire engine.

Horrell flew the BABY, as did Pidsley twice, and Beresford, a Rand Gliding Club member who was visiting the meeting for the week-end, became the first South African *ab initio* "C" pilot. He flew AVIS in masterly style for 17 minutes. Ward also attempted his "C" on this machine, but although he flew for nine minutes the certificate was not granted, as he did not fly for the required five consecutive minutes above his starting point.

On the primary, "A" certificates were gained by Miss Dallamore, Hiles, Robertson, and Dixon.

Monday, October 12th.—GRUNAU 9 and AVIS both flew. Louw and Kraft both obtained 45's towards their "B's."

Tuesday, October 13th.—Arrangements for the day included a demonstration to the Civil Air Board and Defence Authorities, followed by a lunch. Great relief was registered by everyone when the wind came round from the north and cumulus clouds began to form. Wills took off first and flew for 1 hour 30 minutes. He afterwards complained that if he hadn't been required to do some talking at lunch time, he could have flown for miles and miles below a cloud street that he could see stretching far beyond Johannesburg. Horrell flew the BABY for a time to keep the KITE company, and the party were much impressed by the sight of the primary being launched from the top with Ivy on board, who made an excellent "B" flight.

The day was somewhat spoiled by a violent thunderstorm during the evening, which caught all the machines in the open, luckily without serious damage in spite of the accompanying gale.

Thursday, October 15th.—GRUNAU 9 was very busy, and nearly fifty hops and short flights were made.

Friday, October 16th.—AVIS and GRUNAU 9 were both flying. Stone and Crocker both got "A's," and Robertson and Kraft "B's." Several 45's were also flown.

Sunday, October 18th.—Although the meeting had officially finished, the Rand Gliding Club sportingly allowed those who were able to remain to do further flying on their machines, and Dixon and Hiles were thus able to go away with "B's."

A word of praise is due to Pidsley who instructed throughout for all he was worth, and to whose energy and ability the success of the meeting was largely due.

The GRUNAU 9 certainly is some primary; the amount of bashings this machine survived during the period almost passes belief, and one shudders to think what would have transpired if all the primary work at such a meeting had been left to the tender mercies of a solitary example of some primaries one has seen in (or out of) action.

The certificates gained included six "A's," five "B's," and one "C." This total, however, looks more impressive when it is realised that the machines had to be manhandled throughout as no mechanical retrieving gear was available, and that Pretoria is a pretty warm spot.

The organisers consider themselves lucky that no serious damage befell any of the machines, but nevertheless Ward, the Rand Club's Ground Engineer, was kept pretty busy fixing up all the little bits and pieces of trouble that seem inseparable from the maintenance of any form of aircraft whatever.

Rand Gliding Club.—Since the last report training has been carried on almost weekly from July up till the meeting described above, and during this period "A" certificates have been earned by Hatfield, Miss Evison, G. D. Kay, Sharpe, Wighton, and Ivy, and "B's" by Pullin, Hatfield, and Tanner. Ward and Beresford attempted their "C's" on September 6th, but without success. The machines in use, GRUNAU 9 and AVIS, have remained intact throughout the period.

November 2nd.—Several thermic flights were carried out from the Air Force Aerodrome at Pretoria. Towed to 1,000 feet by an 80 h.p. "Rearwin" monoplane, P. A. Wills reached 4,800 feet. Then, under the instruction of Wills, W. H. Pidsley rose to 3,000 feet and stayed up for three-quarters of an hour.

Obituary.—The Rand Gliding Club has had the misfortune to lose three of its members, two through aeroplane accidents and one in a gliding accident.

On November 2nd, W. H. Pidsley, after his thermic flights mentioned above, was returning by aeroplane to his home in Grahamstown, when he flew into fog and crashed into a mountain. He received multiple injuries and died two days later in the Settler's Hospital. Mr. Pidsley had been chief instructor to the Rand Gliding Club since its formation in the latter part of 1935, and the success of this club is largely due to his efforts. He made the first observed soaring flight in the Union of 33 minutes in September of that year, and was for some time holder of the South African duration record. Under the guidance of Mr. Wills he quickly grasped the essentials of thermal soaring, and at the time of his death was the only South African pilot who had passed the hill-soaring stage. He obtained the "A" gliding certificate on September 24th, 1932, and "B" and "C" on October 16th, 1932, with the London Gliding Club, and held also a "B" aeroplane license with instructor's endorsement.

J. G. Buchan ("Buck") met his death whilst piloting an aeroplane amongst the Hex River Mountains. He was a member of the Rand Gliding Club and had flown their AVIS sailplane on a number of occasions.

On November 8th, L. Jenkins, a 20-year-old pupil of the Rand Gliding Club, set off on a flight for his "C" certificate at Quaggapoort, and made a perfect five-minute flight. The machine was then apparently banked very steeply to the mountain side, righted, and banked again in the same direction. The wing-tip struck the side of the mountain, and in the crash which followed the pilot was thrown out of the cockpit against a projecting spike of rock. He died the following day in the General Hospital, Pretoria.

Cape Glider Club.—During August the club obtained five "A" certificates in one day.

The construction of the KIRBY KADET is nearing completion, and all gliding meetings have been cancelled so that it can be finished by the time the "south-easters" are expected about the end of October. The dimensions of the case in which the parts for the machine arrived were 25 feet by 2 feet by 8 inches; the cost of the completed outfit landed at the workshop being £51 8s. 5d. The manner in which the parts are finished and the ease with which they assemble is most satisfactory; the makers deserve every credit and should be recommended.

We still have difficulties in obtaining a permanent site, some owners refusing point-blank to consider their ground being used for gliding.

East London Gliding Club.—The club's GRUNAU 9 has arrived *ex* factory, and will be flown when the members return from the meeting at Quaggapoort.

Swakopmund Gliding Club.—Since the last report, the club has gained three more "C" certificates, all the flights being over 30 minutes. One is that of the instructor of the Pioneer Gliding Club of Johannesburg, who paid Swakopmund a visit to study new methods in schooling.

Gliding Certificates.—Up to the end of September the certificates gained by clubs in the association were:—

Rand: 21 "A," 9 "B," 1 "C."
Cape: 8 "A."
Transvaal Pioneer: 2 "A," 1 "B."

[For the above information we are indebted to Mr. H. G. Horrell, hon. secretary of the South African Gliding Association, and to the association's quarterly bulletin *Gliding*; also to Mr. M. Leuner, of the Swakopmund Club. The latter is not, we believe, a member of the association.—ED.]

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