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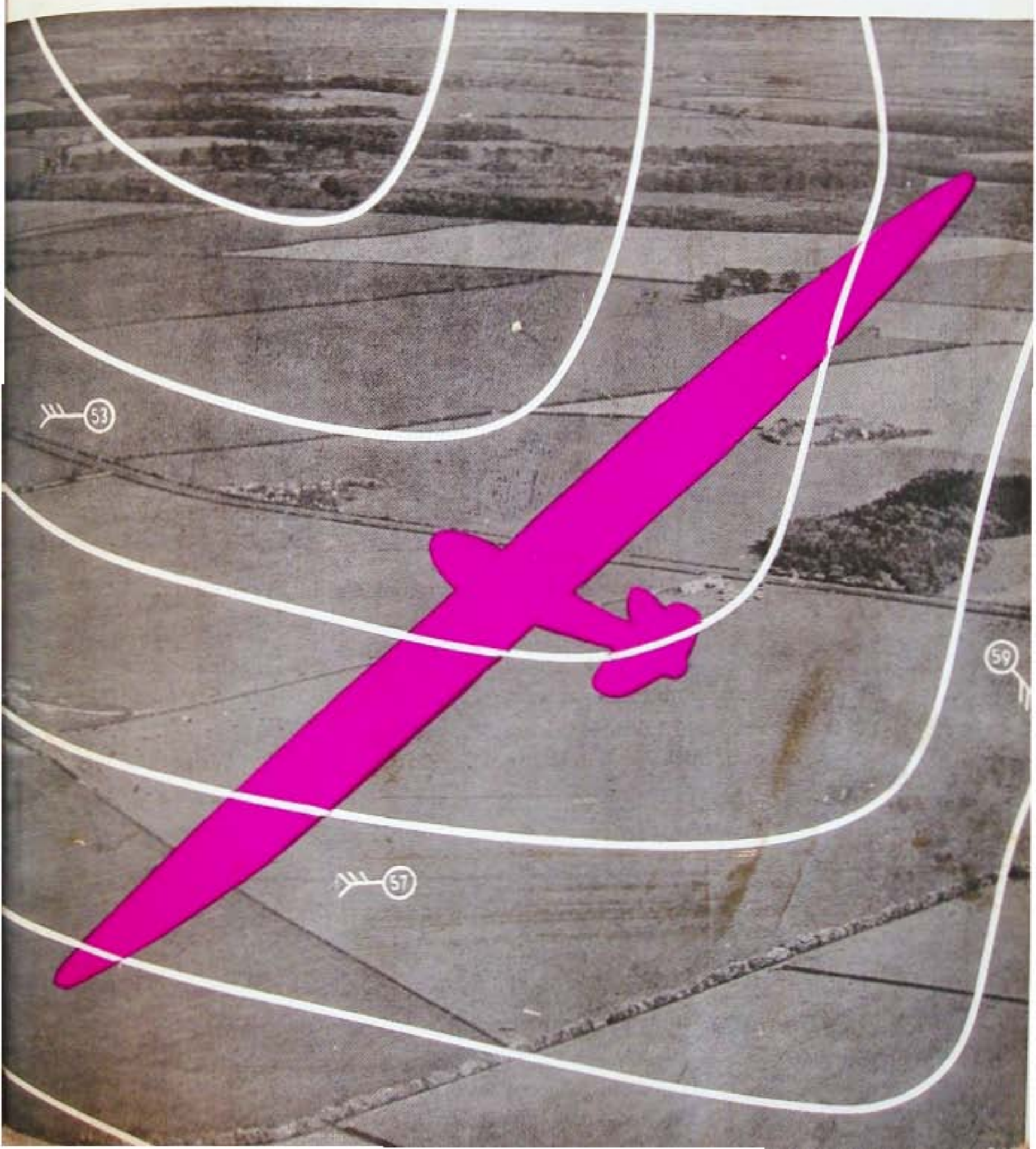

THE SAILPLANE *and* GLIDER

Official Organ of The British Gliding Association

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Vol. 8 No. 11 NOVEMBER, 1937 Published Monthly—Price 1/-

Training in Sail

IT is occasionally possible to persuade a member of the general public to understand why people ever want to fly without engines, and on such occasions the method of persuasion which stands the best chance of success is found to be that of comparing sailplanes with sailing ships. But the comparison is often used for other purposes. It is said that a training in motorless flight is as good a preparation for powered flight as training in a windjammer is for a life in the mechanically-propelled vessels of the mercantile marine or the navy. And the reason given is that this is the finest way of getting to know the element—the air or the sea as the case may be—in which the flying or the seafaring will later be done.

But is this the real object of the would-be seafarer's training in sail? Recently, Richard Hughes, reviewing a new book about windjammers called *The Tall Ships Pass*, put forward quite a different view of the purpose and advantage of such training. His argument is interesting. The Mercantile Marine, he claims, is in a way an anachronism in our present civilisation. An industrial company, he points out, does not call on its workpeople to "put the dear old factory first"; but the seaman—whether deck hand or officer—puts the ship first as a matter of course: if he did not, it would cease to be possible to work a ship at all.

Oddly enough, says Richard Hughes, this even seems to be the reason why certain men go to sea: "I suppose virtue (I use the word in its Roman rather than in its Victorian sense) is a natural instinct with some men: they really cannot be happy unless they give it an outlet." But, he goes on, an aptitude for virtue, in this sense, is not enough; like an aptitude for mechanics it needs to be trained, for it is useless without experience and constant practice. And it is particularly in a sailing vessel that this *virtue* can be best trained. Each separate action required in the everyday working of a sailing ship partakes in some degree of the nature of an emergency; even changing a jib in a stiff breeze requires not only skill and a reasonable expenditure of effort, but must be done with the whole heart.

This is an unusual view, and if it is correct the conventional argument for training in sailplanes goes by the board. But is not even this other view just as applicable? When gliding was first intensively introduced into Britain nearly nine years ago, great play was made with the experience of the Germans—at that time the only nation with a well-developed gliding movement—who had found the movement most useful for developing *Kameradschaft*. To get some gliding, you did not just pay your money and wait for things to happen: it was necessary for all to do a lot of hard work in order that each may fly, and the business could not, in fact, be measured by the usual financial standards at all, any more than the running of a ship can be so measured.

Whether the analogy with seamanship holds or not, the view will still be held that training without engines is a good preparation for flying with them. For whereas this view used to be a mere theory with no facts or proved experience to go upon, a good collection of facts has been gradually accumulating. Particularly striking are the reports of aeroplane pilots getting into difficulties through not knowing the whereabouts or realising the strength of down-currents. The classic case of the flight over Mount Everest, whereby a machine lost half a mile of height in a few seconds in the lee of the mountain, was discussed in THE SAILPLANE five years ago, and there is even more to be said on the subject if we ever have time. Since then we have amassed quite a collection of similar cases, the latest of which was the deplorable accident during the King's Cup race this year, when two pilots flew into such a violent down-current at the Scarborough turning-point that they were thrown out of the machine.

In contrast to this there is the experience of the winner of that race, Mr. Charles Gardner. In a detailed account in *Flight* showing with what care he left nothing undone which might help him to win, this pilot actually reveals that he knows how to make use of up-currents. Describing the lap from Leicester to Cardiff, he writes: "I decided it was not worth going above 1,200 ft., but went slightly off my course to starboard to take advantage of the rising air over the edge of the Malvern Hills, bordering the Severn; a debatable policy, but I believe it pays when there is a long range of hills and a strong wind."

There is only one snag about using Mr. Gardner for the purpose of our argument: we have no evidence that he was ever "trained in sail"!

From Here and There

A Record?—Recently, according to *Flugsport*, 37 "C" certificate flights were made in one afternoon at the Grunau Gliding School in Silesia.

* * *

Hanna Hops Helicopter.—Flight-Captain Hanna Reitsch, leading woman sailplane pilot, put up a different kind of record on October 25th when she flew a Focke helicopter 65 miles from Stendahl to Berlin.

* * *

Pilsudski's Daughter.—Jadwiga Pilsudski, daughter of the late Marshal Pilsudski, former "Dictator" of Poland, has become a pupil at the Falkenberg Gliding School.

* * *

Interesting the Air Force.—The Yorkshire Gliding Club is reported to have accepted invitations to visit R.A.F. aerodromes at Catterick and Dishforth. It is intended to take two-seater and single-seater sailplanes, which will be aero-towed with Air Force pilots first as passengers and then as pilots.

* * *

S.S.A. Finance.—According to a statement in *Soaring* for October, the Soaring Society of America has been operating during the year 1937 on a budget of $14,000, made up as follows:—Prize money in conducting National Soaring Contest, $6,000; Magazine *Soaring*, $5,000; General Manager's Salary and Office Maintenance, $3,000.

* * *

Hermann Seele.—Readers of our issue of last January will remember the story of the pilot who climbed 5,000 metres but could not claim a world's record owing to his barograph being lost when the sailplane broke up in a cloud. Herr Seele, the pilot on that occasion, was unfortunately killed in an aeroplane accident, due to a collision, on September 1st.

* * *

Sailplanes in Italy.—At the International Aeronautical Exhibition at Milan, from October 2nd to 17th, an ASIAGO G.P.2 sailplane was exhibited by the Experimental Institute for Soaring Flight attached to the Milan Technical High School. In size and general appearance it resembles a GRUNAU BABY, but most of the metal fittings are of Italian dural, and poplar plywood is used in places where strength is not required. It has a safety factor of 9, and air brakes on the upper wing surface. At the same exhibition models of several German sailplane types and a full-size KRANICH two-seater were shown. Another Italian sailplane, not exhibited but said to resemble a RHÖNSPERBER, and to be an experimental type only, has the following wing sections: NACA 0015, Göttingen 535, NACA 23012. At the Italian national soaring meeting in Asiago this year, weather conditions were poor, and the best performances were 50 km. distance, 1,200 m. height, and 6 hours' duration. (From *Flugsport*.)

Japanese Gliding Competitions.—These took place between July 30th and August 6th, with 33 machines and 375 pilots participating, according to *Flugsport*. The Japanese for "Walk—Run—Release!" is "Maje—Haschiré—Hañasé!"

* * *

Lectures to Schools.—Miss Naomi Heron-Maxwell is just starting on a lecture tour to schools all over the British Isles. The subject is "Gliding and Soaring," and it will be illustrated with films and lantern slides. Many dates have already been booked, and schools wishing for the lecture should apply early to: 6, Palace Gardens Terrace, London, W.8.

* * *

A Quotation.—"People, of course, join flying clubs from a variety of motives—and it's no good pretending that the chief of those motives is the pure and exalted passion for airmanship which certain propagandists imagine as burning like a white flame in so many earth-bound breasts."—*Wessex Airways* (official organ of the Bristol and Wessex Aeroplane Club).

* * *

Activity in Turkey.—The civil flying association known as "Turk Kusū" (Turkish bird), which is composed of young men and women, is now visiting many parts of the country to give gliding and parachute exhibitions. According to *The Times* Istanbul correspondent, this movement to promote interest in flying in Turkey is due to the Prime Minister, General Onōnū, having urged the need of a large air force.

* * *

Crash in Morocco.—A press report from Rabat, Morocco, on October 8th, stated that a glider pilot named Nello de Conzino had died in hospital there after a crash. He was said to hold the gliding endurance record for Morocco, and to have been trying to break the record for North Africa. (The only North African record we know of was set up by Barbot early in 1923. He soared near Biskra for 8¼ hours, putting up what was then a world's duration record.)

* * *

Lost in the Mountains.—M. Michel Martin, aged 25, took off in a sailplane from Geneva on October 27th and disappeared in the Jura range to the west of the Faucille Pass. Three days later he was found in an exhausted condition near Fort de l'Ecluse. According to *The Times* Geneva correspondent the machine had been "caught in a whirlwind" and the pilot had "fallen" on a fir tree and thence on to rocks, breaking his nose and one leg in two places. He made himself a splint with branches and crawled down towards the valley, and was eventually found by some hunters. He had spent three nights in the open and two and a half days without water and with only one piece of bread, and had lived chiefly on berries and snails. The pilot is now in hospital in Geneva, and it is expected that he will recover and that his leg will be saved.

Reminiscences of the International Contest at the Wasserkuppe last summer. Left: in the absence of soaring winds a "yodelling party" is held at the launching point, this being the Swiss equivalent for "whistling for the wind." Right: "Fräulein Dolmetsch," who is in the news on this page, entertains the British team by translating "Gummihund," the comic paper which was produced during the contest.

Airways Exhibition.—The R.I.B.A. Airways and Airports Exhibition, which includes a section on gliding, will be at Hull (Municipal Museum) from November 30th to December 30th.

* * *

Conquest of the Air.—The film with this title, which was begun over two years ago by Alexander Korda and then put aside, is now reported to have been finished. Some of the shots showing replicas of historical gliders were made on Dunstable Downs in July, 1935, full-size models of the Lilienthal, Wright, and Caley machines having been made by the firm of Zander & Weyl in Dunstable. They were illustrated in THE SAILPLANE for August, 1935 (p. 135), and October, 1935 (p. 173).

* * *

A Lecture to Attend.—A lecture on "Development of Sailplanes," by Sqn. Ldr. G. M. Buxton, will be given to the Royal Aeronautical Society on Thursday, December 16th, at 6.30 p.m., at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1. Non-members can only be admitted by ticket. Those interested and desirous of attending the lecture should send their names and addresses, with stamped addressed envelope, to the Secretary of the British Gliding Association, 119, Piccadilly, London, W.1, when a ticket will be sent.

* * *

Collision in Germany.—On September 13th there was a collision between two RHÖNBUSSARDS flying over the Hornberg Gliding School, near Stuttgart, and we regret to learn that Dr. Walter Schempp, brother of Martin Schempp, of the Göppingen sailplane works, lost his life as a result. The pilot of the other machine was injured, but not seriously; she was the lady who acted as interpreter at the International Contest in July, where she was known to the British team as "Fräulein Dolmetsch." We understand that visibility was poor at the time, and that one of the machines, at least, was painted grey.

Midland Club's Appeal

ON September 29th the Midland Gliding Club launched an appeal in the Press for £2,000 "to establish in the Midland counties a permanent centre for the instruction and practice of the art of soaring flight similar to the great centres abroad." Large advertising space was taken on the front page of the *Birmingham Post and Birmingham Mail*, and articles on the club and gliding generally were published in the same issues. The claim is made that the club had, from April 19th, 1936, till that date, trained more "C" pilots than any other British club, the number gained being 49, or nearly half the entire flying membership.

The appeal is for contributions towards a £2,000 Building Fund to complete the soaring centre on Long Mynd, by the erection of a club house, mess room, workshop, dormitories, and an addition to the present hangar, making a complete and self-contained unit. The Government will then, it is stated, contribute a further £2,000 from the gliding subsidy. Hitherto the lack of reasonable accommodation at the site has been severely felt, especially in the winter months, since it is 60 miles from Birmingham, from which, and neighbouring towns, most of the members are recruited.

Already, before the appeal was issued publicly, £295 18s. had been subscribed, including £100 from Mr. C. E. Hardwick; £50 from Sir Charles Hyde; £20 each from E. E. Moore, Charles R. Horrell, "An Admirer," and Mrs. M. Franks; £10 10s. each from Mrs. H. H. Russell, Mrs. A. Scribbans and Douglas A. Hannay; £5 5s. each from Major C. A. Bill, Dr. C. M. Walter and Mrs. E. E. Moore; £5 from "Hard Up"; £3 3s. from S. M. Slater; £2 2s. each from Cecil Armitage, Mrs. R. Antrobus and Miss M. K. Astbury; and £1 1s. each from C. C. H. Moriarty, C. J. Byng, Sir J. P. Hewett and W. T. Olver.

The appeal is issued on behalf of the Committee by C. Espin Hardwick (President), Douglas A. Hannay (Chairman of Committee) and F. Leslie Felton (Hon. Treasurer), to whom cheques, made payable to the Midland Gliding Club, should be sent at 131, Edmund Street, Birmingham.

Russian Cross-Country Flights

[Mention of a world's distance record by a Russian pilot has already been made in THE SAILPLANE. *Actually he broke the record three times in one month, and at the same time a distance record for two-seaters was set up by another Russian pilot. The following accounts of their flights by the pilots themselves are reproduced from the Russian aviation journal "Samolet." We are indebted to Mr. A. Ivanoff for the translation.]*

THREE DISTANCE RECORDS

I MADE three flights on May 5th, 12th and 27th respectively. On the first and second of these, conditions were much the same in each case.

The First Flight: 335 Miles.

On the first flight I was towed up at 9.30 a.m., got into some good lift at 300 m. (1,000 ft.) and cast off. With normal cast-off I follow the aeroplane with a rate of climb of about 2½ m. per sec., but during the present flight there was at first negligible climb, which then increased to 1½ m. per sec. For a while I had to do a flat glide [at low speed?]. Over Moscow, in the aerodrome district, the rate of climb did not exceed 0.5 m. per sec.

By 8 o'clock [10 o'clock?] the cloud conditions improved somewhat. The clouds were appearing and dissolving immediately afterwards. Having attained a height of 1,300 m. (4,300 ft.), where the wind speed was from 5 to 8 m. per sec. (11 to 18 m.p.h.), I determined the wind direction by the clouds, which were ranged exactly down wind. Low height and poor lift—not above 2 m. per second—compelled me, an hour after the start, to fly off in the direction of Serpoukhov, and then to Tula, which I reached after two hours. Here the cloud base was at 1,700 m. (5,600 ft.).

A hundred kilometres beyond Tula, cloud streets, directed towards the south, came to an end. Some of them pointed S. to S.E. and some S. to S.W. I took up a course at 135° (S.E.) and kept that direction until the landing. On the right hand side there was clear sky, but on the left and in front there were plenty of clouds. The clouds ended 70 km. before Voronezh. It was just after 18 hrs., i.e. 45 to 48 minutes before the landing.

Towards the end of the flight, having got accustomed to the machine, I attained a height of 2,000 m. (6,560 ft.). At about 1,800 m. (5,900 ft.) I was gliding under cloudless sky. Here I was flying along the River Don. At some places I succeeded in getting a height of 1,200 m., but later, for about 70 minutes, I was gaining and losing 100 to 200 metres at a time, and eventually landed soon after 18 hrs.

The temperature was low, 8° C. (46.4° F.) at the take-off and 11° (51.8° F.) after landing.

During the first and second flights I did not have to watch the character of the country, as the clouds were everywhere, over fields as well as over woods. It looked as though the clouds had independent lift, and under such clouds, on earlier occasions, I had succeeded in flying for distances up to 40 km. (25 miles).

The Second Flight: 374 Miles.

During the second flight conditions were a bit better, except for lower wind speed, which made it difficult to determine the wind direction.

I took off at 11.3, an hour after Ilchenko (the two-seater pilot). I lost a lot of time wandering around Moscow, which was a mistake. The clouds were very high, and the rate of climb up to 5½ m. per sec., which allowed one to reach great heights.

I cast off at 700–800 m. (about 2,500 ft.). The temperature during this second flight was 10–11° C. (51° F.). Most of the flight was over wooded country, but the rate of climb was much the same as during the previous flight over wetter country. The clouds were normal and stable [reliable?], and the height up to 2,000 m. (6,560 ft.). The clouds ceased shortly after 18 hrs., when I landed.

The Third Flight: 405 Miles.

On the third flight I took off at 10.11 and cast off at 822 m. (2.756 ft.). Cloud base was at 1,300–1,350 m. (about 4,350 ft.). Conditions were similar to those during the first flight. Cloud base gradually got higher and wind direction was 145 to 150 deg. (S.E. by S.). Towards the end of the flight the cloud base rose to 2,100 m. (6,900 ft.). I entered the clouds very seldom, and only if there was a clear patch of 30 to 40 km. to be crossed.

V. RASTORGUYEV.

A TWO-SEATER DISTANCE RECORD

282 Miles with a Passenger.

On May 27th good conditions for distance flights under clouds were expected. Four high-efficiency machines were taken out—two G–7, one ROTFRONT 6, and one two-seater KIM–3.

With Emerik as passenger I was towed up to the clouds at 9.57, casting off at 800 m. (2,600 ft.), and immediately started to circle. Having reached 1,000 m. (3,280 ft.), I flew towards the central aerodrome, above which I could see a cloud growing. I was soon joined by Rastorguyev flying the G–7. After we had been flying together under this cloud, he went off to the south where one could see laminated clouds. I remained where I was, waiting for clouds to form on my own course.

Knowing the wind direction at ground level and at my own height, I flew along a course of 150° (S.E. by S.). Near Moscow, in the neighbourhood of the Lenin Mountains [formerly the Sparrow Hills?], a small cloud started to form, and, flying towards it, I immediately found lift. Circling tightly, I started to climb at the rate of 2 to 5½ m. per sec., rising from 1,000 to 1,600 m. (5,250 ft.), after which I resumed my original course.

Just before Kolomna I found a big gap in the clouds, in which I sank to 750 m. (2,460 ft.). In front small laminated clouds were forming. Not risking to go forward, I returned to my old cloud and with great difficulty attained a height of 1,300 m. (4,300 ft.), taking about an hour to do so.

The only clouds in front were becoming bigger, changing to strato-cumulus and getting higher. Before the River Oka I met practically unbroken stratified clouds, and was flying at 1,200–1,300 m. (about 4,100 ft.) without losing height. I left Lake Ozery on my right, and flew across the Oka. The height varied, and was recovered at each cloud. The poor lift and the great distance between the clouds made the flight rather precarious.

Flying from cloud to cloud, I kept moving along. The weight of the machine was over half a [metric] ton (i.e. over 1,102 lbs.). The speed was from 90 to 110 km. (56 to 68 miles) per hour, and sometimes up to 130 (81). The air was smooth. The country below—lakes, woods, rivers, railways, roads—all looked very small. The country was very variegated. I was then flying at 1,400–1,600 m. (about 5,000 ft.). On the right I espied the town of Ryazhsk, towards which I turned. Further on the left I could see Ryazan. After Ryazhsk I started to bear right towards more active cumulus. When, later, we checked the course, we found I had been flying in a practically straight line, except when flying along the right bank of Moscow River.

The clouds started to become more widely spaced, but their height remained at 1,800–2,000 m. (about 6,200 ft.). I started bearing left, and left Michourinsk on my right, later taking a course of 135° (S.E.). Far in front, on the left, I saw the town of Tambov. I turned towards it and flew beneath clear sky. At times the machine was flying at constant height, at times was gliding at 90 km. (56 miles) an hour steadily losing height; I felt that I could not reach Tambov and turned towards a railway. In front I could see the Sabourovo station surrounded by fruit gardens. I selected a landing field with crops, between the railway stations of Sabourovo and Selezni, there being no other fields suitable for the two-seater. After passing low over the village, I landed at 17.38 hrs.

At the greatest height the temperature was 0.5° C. (32.9° F.). The flight was comfortable, as the machine had a celluloid cockpit-cover. I spent half my time getting height under clouds. The conditions could be described as worse than average from the point of view of the rate of climb and the state of the clouds. The wind was 3–4 m. per sec. (7–9 m.p.h.).

V. Ilchenko.

Notes.—There is some doubt about the correct figures for the distances of these flights. Those given above are the distances according to *Samolet*, which gives 539, 602 and 652 km. respectively for the single-seater flights, and 470 km. for the two-seater. Some time ago, however, Mr. H. Adcock heard some gliding news broadcast in English from Moscow, wrote to the Moscow Radio Centre, and got a courteous letter in reply giving particulars of these flights and enclosing a cutting about them from the *Moscow Daily News*.

The figures from this source are somewhat different. The single-seater flights are given as 529.623 km. (329 miles), 602.226 km., and 625.256 km. (388½ miles), and the two-seater as 407.660 km. (253 miles). It is also stated that Rastorguyev, on his final record flight of May 27th, flew at heights varying from 400 to 2,100 metres (1,300 to 6,900 ft.), and was in the air 8 hours 18 minutes. His landing place was the Sickle and Hammer State Farm, Stalingrad Province, but we cannot mark it on the accompanying map as our atlas doesn't give it.

After their flights of May 27th, the two record-breakers were towed back to Moscow by aeroplane on May 30th. The same aeroplane towed both, and the "air train" left Tambov at 7 a.m. Twenty minutes later they flew into heavy rain, which continued almost all the way to Moscow, the clouds being so low as to force them down to 50–70 metres (200 ft.). There was a strong headwind against them, and the air was very rough; the journey took them over 3½ hours.

As regards the times given, it should be noted that clocks in Russia are now permanently at "Summer Time": an hour fast.

Where to See "Plane Sailing"

Nov.	18	3	days	Public Hall, Carlisle.
,,	25	3	,,	Winter Gardens, Eastbourne.
,,	29	6	,,	Savoy, Grimsby.
,,	29	6	,,	Odeon, Lancaster.
Dec.	2	3	,,	Hillcrest, Leeds.
,,	6	3	,,	World News, Praed Street, W.2.
,,	6	3	,,	Scala, Ilfracombe.
,,	13	6	,,	Regal, Dewsbury.
,,	13	3	,,	Scala, Withington, Manchester.
,,	13	7	,,	Pavilion, Hackney, E.
,,	20	6	,,	Victoria, Cambridge.
,,	20	6	,,	Hippodrome, Bedminster, Bristol.
,,	27	6	,,	Regal, Barrow-in-Furness.
,,	30	3	,,	Savoy, Hull.

Great Heights at Long Mynd

AS soon as the National Competitions in Derbyshire were over, some of the participating pilots took their machines over to the Midland Gliding Club's site at Long Mynd, Salop, near the Welsh border, where a camp was being held during the second week in September.

On Wednesday, September 8th, some remarkable flights were made. During the morning J. E. Simpson, in the Cambridge University Club's KIRBY KITE, climbed 7,100 feet above the start, and R. S. Rattray, in his CAMBRIDGE II, 6,500 feet, leaving the cumulus clouds a mile below.

In the afternoon this extraordinary region of lift had vanished, or the pilots could no longer connect with it. But conditions had become suitable for cross-country flying, and the first two flights of any considerable distance were made from the site in a south-easterly direction.

Captain Rattray, again in the CAMBRIDGE II, flew 55 miles to the Tower at Broadway in Worcestershire, at the foot of the Cotswolds. He states that he started about 3 p.m. Evidently the cumulus clouds of the morning had mostly or entirely vanished, for he made the flight, after leaving the Mynd, in pure thermals, most of which rose from towns to which he deliberately flew. A good one came off a town about four miles before the Malvern Hills, for which he was making at the time in order to use the hill-lift there. Another thermal was found over a town which was probably Evesham. The thermals took him to heights of up to 4,000 feet during the flight.

The other cross-country pilot was Mr. Eustace Thomas, flying his CONDOR, which he landed 58 miles away at Ilmington, near Shipston-on-Stour. Landing conditions there were somewhat awkward and the CONDOR was damaged. In one of the thermals which he used, Mr. Thomas noticed that the CONDOR appeared to stall at one particular point in each circle, and he suggests that this might have been due to the thermal rotating, and his circles being to one side of the centre. The flight fulfilled the height and distance qualifications for the "Silver C," but he still has the five hours' duration to do.

We must now return to the events of the morning, since the extraordinarily high climbs already mentioned were made in conditions which have never before been found by soaring pilots in this country. The pilots' own descriptions follow:—

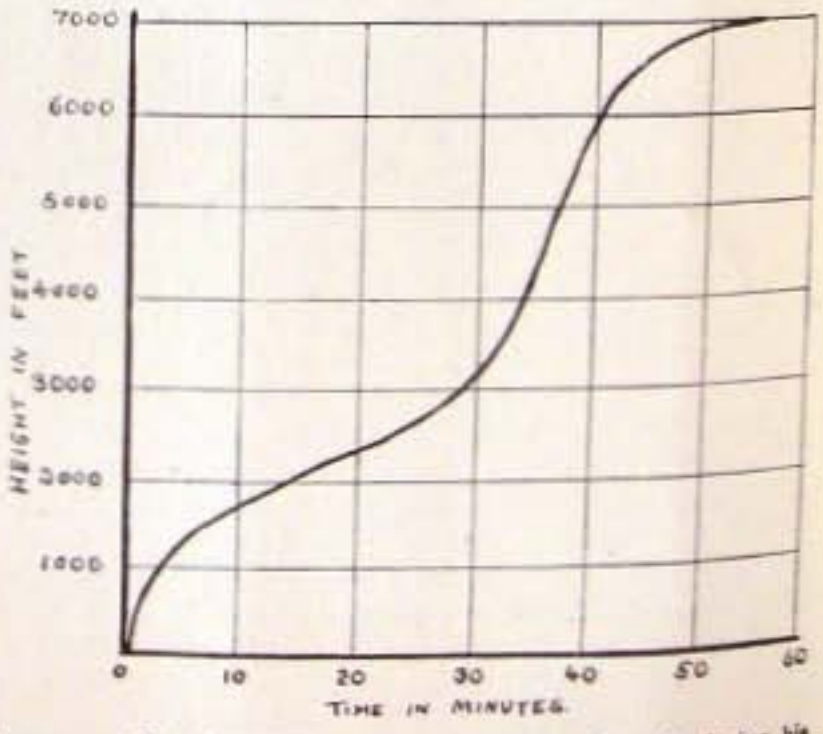
I.

I was bungy-launched at 10.20 a.m. into a 15 m.p.h. west-north-west wind and beat along the south part of the slope, rising at about three feet per second. Several times after reaching 1,000 feet I got surges at about five feet per second and circled, but lost the lift after four or five circles and returned to the hill, losing no height.

I reached cloud base at 2,000 feet, flew up-wind inside a cloud and continued to rise after coming out on the other side. I turned back above this cloud to the south end of the slope and then up-wind again in clear sky at 3,000 feet with a large cumulus three or four miles ahead steadily sinking below me. The wind was becoming much more northerly and stronger, perhaps 25 m.p.h.

At 5,000 feet the lift was stronger—five feet per second—but was still absolutely smooth. About this height I suddenly noticed the White CAMBRIDGE at the same level, half a mile away. We were by that time well above the clouds and did not seem to feel the influence of the up-currents which formed them. I was still flying along what I could still see of the hill, just as if slope-soaring. The lift seemed to be best over a point about a mile out over the valley from the club house.

The lift slowly decreased until at 7,100 feet the ceiling was reached; however, I was able to hold this height over a fairly large area. There were rows of cumulus clouds 5,000 feet below me, stretching to the horizon in all directions with the earth only visible through gaps fairly close below. It was a very wonderful sight, but, feeling rather cold and completely bewildered, I



A copy of Mr. J. E. Simpson's barograph record made during his ascent to 7,100 feet on September 8th.

decided to come down as Pringle was waiting to fly the machine. I let the KITE find her own way down for the first 4,000 feet, while I tried to warm my hands and feet. When I got near to a cloud I amused myself by diving on it and gliding up and down its hills and valleys with my shadow close beneath surrounded by a complete rainbow.

When lower down I did some fast circles in a down-draught, and landed on the Mynd 1 hour 14 minutes after the launch.

We have now to find out why this happened, and whether we can expect it to happen again. It felt like grotesquely exaggerated hill-lift.

During the previous afternoon we had been observing with interest numbers of lenticular clouds in the neighbourhood of the Mynd. There was a very fine one away to the N.E., which was in three parts, presumably the three successive crests of some enormous waves of air. Also a large flat high cloud appeared above a point a mile or two west of the club house and was visible for about an hour. Perhaps the conditions which caused these clouds to form were still holding when Captain Rattray and I were launched, and in some way we were able to get up to the area of lift which had been forming the cloud on the previous day.

J. E. SIMPSON.

II.

On Wednesday, September 8th, I was bungy-launched at Long Mynd about 10 a.m. Wind W. by N., about 25 m.p.h. Hill lift to about 800 feet. Cumulus cloud base about 1,500 feet above hill, which is itself about 1,200 feet, this giving cloud base about 2,700 feet above sea level.

I thermalled up to cloud base and went through the clouds which were thin and gave no trouble. Above 1,500 feet was a perfectly clear blue, cloudless sky.

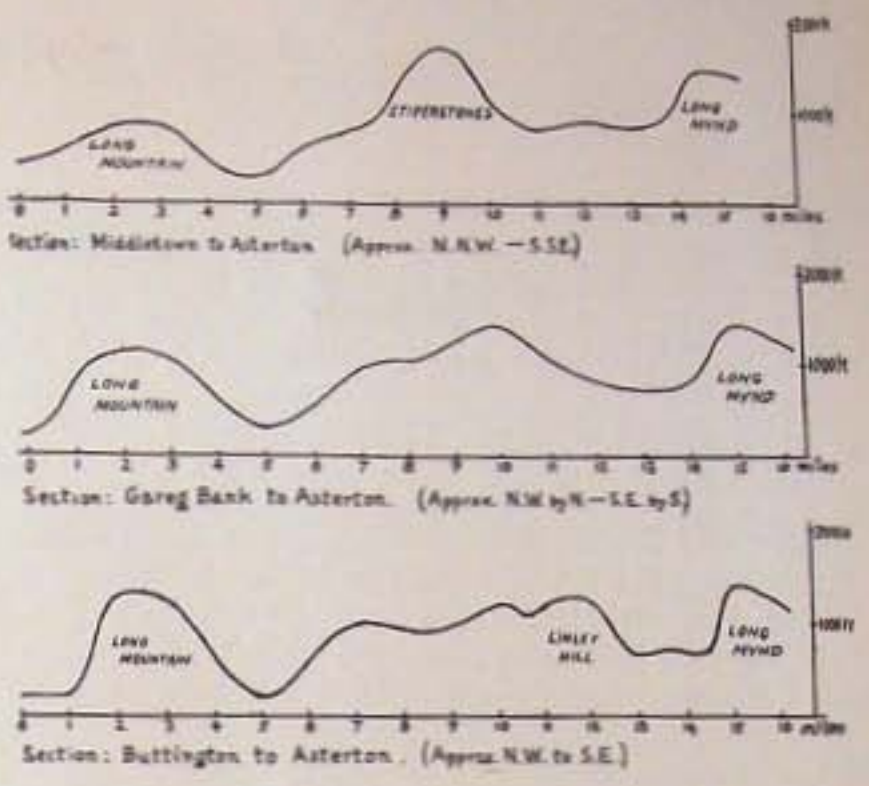
I stopped circling and put the nose into wind. The variometer began to show steady rise of about four to six feet a second. The lift was perfectly steady and I flew hands off at times. The machine rose steadily until at 6,700 feet I decided to "go off." The clouds were now 5,000 feet below and obliterating the sight of the earth to the S.E., which was my direction for cross-country. It was a wonderful sight.

Almost immediately after leaving Long Mynd I began to encounter a steady down-current and after about five miles had lost 3,000 feet, and was still steadily going down. I decided to return, and did so.

R. S. RATTRAY.

As Mr. Simpson says: "We now have to find out why this happened." In order to get a better idea of the ground over which the air approached, he has drawn the curves in the diagram reproduced on this page. They show the lie of the land for about 16 miles up-wind from the soaring site—and as "up-wind" meant different things at different heights, three slightly different directions have been taken. It should be realised that, in order to show the hills more clearly, the vertical scale has been made about 10½ times the horizontal scale, so that the actual steepness of the slopes is exaggerated.

For ordinary "hill lift" to extend ten times the height of the hill above its base is against all experience. Three times is the generally accepted figure, though the



precise amount varies according to the stability, or otherwise, of the atmosphere, being commonly less in winter (stability) and more in summer (instability). But the lift on September 8th cannot have been due to instability, as the cumulus clouds did not grow above 2,000 feet.

Our own suggestion is that the lift, on this occasion, though it may have been reinforced by the Long Mynd, was not directly caused by it, but was probably due to a wave motion in the atmosphere of the kind that gives rise to lenticular clouds. Mr. Simpson evidently suspects this too. Soaring has actually been done in such waves; in fact, during this year the most amazing heights have been achieved at the Grunau Gliding School in Silesia, by sailplanes flying in an atmospheric wave in the lee of the Giant Mountains during föhn winds. Among them are heights of 5,716 m. (18,753 ft.) by P. Steinig on May 21st, and 6,800 m. (22,310 ft.) by Dr. J. Küttner on September 14th. (These are heights above sea level; the ground over which the flights were made is 1,150 feet up.) Details of these flights will be given as soon as possible in THE SAILPLANE.

A striking feature of Mr. Simpson's diagram on this page is the almost regular wave-like form of the ground over which the approaching wind blew. Actually, the "wave length" of these hills is comparable to the length of the air waves in which the world's record heights in Silesia were attained. This gives food for thought.

The Lost "Falcon."—On page 228 of the last issue we published what purported to be a view of Mr. P. Brown circling his FALCON I under clouds. Unknown to us before sending the paper to press, Mr. Brown and his FALCON were nowhere to be seen, although the latter was distinct enough on the original photo. Apparently the blockmaker's "artist" had mistaken the machine for a blemish on the negative, and removed it. Its position in the picture was 0.95 in. from the left edge and 0.85 in. from the top edge; its wing span occupied 0.05 in., and it was pointing towards the sun. So now you can draw it in.

Two Swiss Sailplanes

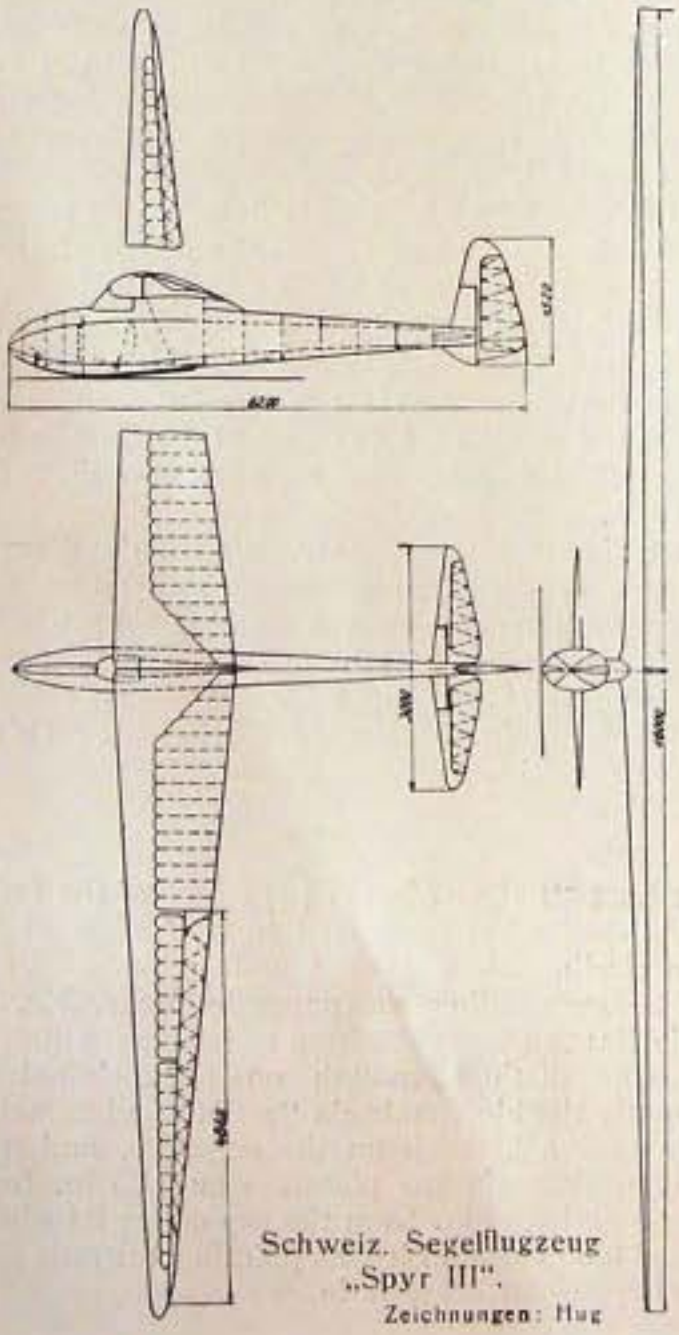
THOSE who visited the International Competitions in Germany last July were favourably impressed with the sailplanes of SPYR III type entered by the Swiss team. Herr Sandmeier, the pilot of one of them, took fourth place in the contest for total points earned.

Although the machine looks rather like a small-sized RHÖNADLER, it is originally an older type, the SPYR III being a development of the original SPYR of 1929, in which Willi Farner carried out the first Swiss distance flights from the Jungfraujoch in 1932.

The designer, Herr Hug, intended the machine to have good performance combined with light weight and good manœuvrability. A special feature is the main spar, the height of which fills the whole gap between the upper and lower wing surface; thus each wing rib has to be in two parts, in front and behind the spar. This was an entirely original feature in 1929, though since then it has been copied in other designs. It is a box spar, and in front of it the wing surface is of plywood and thus resists torsion. The wing section is Göttingen 535 in the inner part, and 533 in the outer part.

The control stick, of light metal, has the axis of the aileron control placed high. The ailerons are actuated by cables, "T" levers and push-rods. All connections between parts of the machine are of light metal (Anticorodal and Electron), and locking screws of chrome-nickel steel.

Above, the "Spyr III" flown by Hans Sandmeier, and below, the "Moswey II" flown by Heiner Müller, at the International Contest last July. (Apparently an attempt has been made in the above reproduction to fit the "Spyr" wing with a Handley Page slot, but in the original photo the leading edge is a straight line.)



Schweiz. Segelflugzeug „Spyr III".
Zeichnungen: Hug

The type holds the Swiss records for distance, height and duration. Its small sinking speed makes it specially suitable for thermal soaring. It is, however, rather sensitive on the elevator, but a heavier and more stable type, SPYR IIIA, is now being developed.

The span is 16 m. (52.5 feet), area 13.6 sq. m. (146 sq. ft.), loaded weight 185 kg. (408 lbs.), wing loading 13.7 kgs. per sq. m. (2.8 lbs. per sq. ft.), and sinking speed 0.55 m./s (1 ft. 10 ins.) per second.

Another machine entered by the Swiss team was the MOSWEY II, which has gull-wings. It appears to have been produced about a year ago, and is designed for robustness and simplicity of construction.

A special feature is that the rudder pedals are adjustable during flight, the adjustment being worked from the instrument board. The object of this is to prevent the pilot's legs going to sleep (*einschlafen*) during a long flight, allowing him to keep them alternately stretched and doubled up (within limits) whilst still able to work the rudder. Control cables are hidden under the floor and under the seat to protect them against dirt and loose objects "flying around" the cockpit.

The machine has good stability in all conditions. It can be flown and turned on the rudder only. Little control movement is needed even in the roughest weather.

The safety factors are 12 for stick back (*Abfangen*), 8 for flying upside-down, and 2.5 for terminal dive. The span is 13.8 m. (45.3 ft.), length 5.9 m. (19.4 ft.), area 12.3 sq. m. (132 sq. ft.), aspect ratio 15.6, empty weight 125 kg. (276 lbs.), wind loading about 16.5 kg. per sq. m. (3.4 lbs. per sq. ft.), gliding angle 1 in 25, and sinking speed 0.68 m. (2 ft. 3 ins.) per sec.

British "Silver C" Certificates

THIS year the number of British "Silver C" pilots has already been more than doubled. The requirements for obtaining this international badge and certificate were set out last month on page 243, including the evidence needed to satisfy the authorities that the pilot had soared for a distance of 50 km., a duration of 5 hours, and climbed 1,000 metres. Here is the complete British list to date :—

No.	Name.	Awarded.
26	G. E. Collins	17.5.34
45	P. A. Wills...	20.9.34
75	R. G. Robertson	20.7.35
85	S. Humphries	19.8.35
174	J. C. Neilan...	2.11.35
177	C. Nicholson	17.11.35
208	Miss N. Heron-Maxwell ...	17.5.36
241	P. M. Watt...	9.7.36
244	H. C. Bergel	25.7.36
291	A. L. Slater...	18.9.36
298	G. O. Smith	16.10.36
338	J. S. Fox	1937
542	R. S. Rattray	"
543	P. B. N. Davis	"
544	R. Haslinger	"
545	G. H. Stephenson	"
560	D. G. O. Hiscox	"
561	K. G. Wilkinson	"
562	J. E. Simpson	"
563	J. V. Rushton	"
564	G. A. Little...	"
565	K. Lingford...	"
566	J. S. Sproule	"
567	K. W. Turner	"
568	E. J. Furlong	"
585	S. C. O'Grady	"
—	E. E. H. Collins	"
—	J. L. Wordsworth	"

S. C. O'Grady, the first member of the Newcastle Club to obtain the "Silver C," is here seen in the club's "Kirby Kite."

It will be noticed that there are 28 names on the list. Yet if anyone should ask: "How many British 'Silver C's' are there?" the answer is not twenty-eight. The question must be more precise :—

"How many 'Silver C' certificates have been awarded in Britain?" Twenty-five.

"How many British pilots have the 'Silver C' certificate?" Twenty-seven.

Those who have been awarded it abroad are: Miss Heron-Maxwell, who did all three tests in Germany; Mr. E. E. H. Collins, who did all three in Poland; and Mr. J. L. Wordsworth, who did the duration flight at Sutton Bank and the other two tests in Poland.

Herr Rudolf Haslinger, who performed the duration and height tests in Germany, flew the distance in England this year; he is the first foreign pilot to do so. His flight of 48 miles from the Yorkshire Gliding Club, to which he belongs, to Hull, where he is at present living, is described by him on page 261 of this issue. We learn from a Press cutting that Herr Haslinger started gliding in 1929, obtaining his "A" and "B" that year, and "C" in 1930.

Seven of the new "Silver C" pilots completed their tests during the recent National Competitions at Bradwell Edge. This is less than the number of which we were informed just after the end of the Competitions, and whose names were given in the September issue. Some of those were, we understand, found not to have attained the necessary height, when the height of the winch launch had been taken into account, and one or two still have the duration to do.

To all those whose names are newly added to the list we offer congratulations.

Some new "Silver C" pilots: left K. W. Turner (standing) and J. E. Simpson: centre, K. Lingford: right, G. H. Stephenson. All did their flights in "Kirby Kites."

50 Miles Round the Country

SATURDAY, September 4th, the last day of the Derbyshire Competitions, was one of the most inviting mornings which Dunstable had seen for many weeks.

Some of us well remember a similar occasion in 1935 when there was a meeting at Sutton Bank, and there was also a wind blowing into the Bowl at Dunstable. There was a tension round the club house that day and a hush over the hill top when Collins got into the ADLER and was launched. But there wasn't a thermal in the sky, and our hopes of seeing him away on a goal flight were ended three hours later when we helped him de-rig the ADLER in the rain.

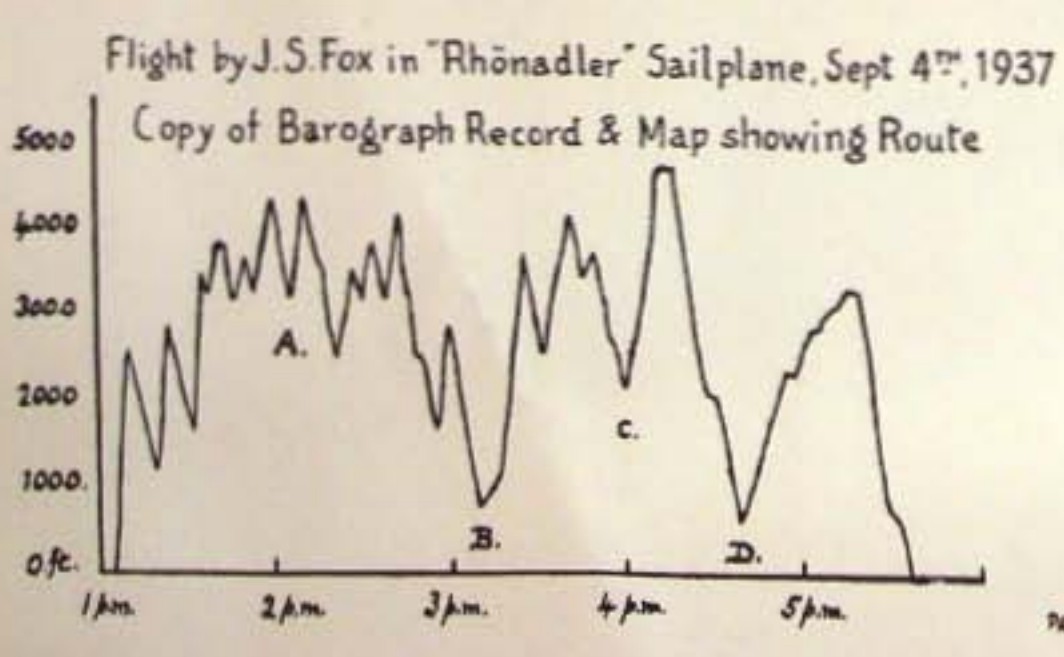
Hardly a soul turned up on September 4th; everyone seemed to be away, including the instructor. At last someone turned up who could drive the winch, and I got launched just after 1 o'clock. By this time the best of the sky seemed to have gone by, and a really serious attempt at a 115-mile goal flight to the Derby Club, 90° off wind direction and at a probable ground speed of only 20 m.p.h., seemed out of the question.

Finding a thermal immediately on reaching the hill I was soon up to 2,600 ft. and wandering round the north side of Luton. I then returned to the "cement" thermal over Dunstable (no variometer needed; you just sniff your way round), and went up in it to nearly 3,000 ft. The day seemed a good one, but all thoughts of the coast or Derbyshire were put out of my head by a poor little 9-horse car that badly needed decarbonising, so some nice looking bits of cloud up north of the club decoyed me away, and temporarily decided the issue.

I worked my way slowly, half into wind, from one thermal to the next until I had covered ten miles of country and was away to the north of Leighton Buzzard. Then Derby began to beckon, but it was too late in the day, and the sky looked much more promising directly up-wind over the Chilterns than it did away towards Derby, so I turned sharp left and a great up-wind battle from Leighton Buzzard towards R.A.F. Halton under the Chilterns began.

I worked from thermal to thermal, and progress seemed painfully slow. No sooner had I made half a sluggish mile when along would come another darned thermal, and I had to lose most of my ground again while circling in it. After doing this for nearly an hour I became certain that the wind at 3,000 to 4,000 ft. was much stronger than it was lower down, so I gleefully went right through one at 2,600 ft. and began circling in another one at 1,700 ft. Perhaps I risked too much, but it worked! My last aerial view of Halton had been from 4,500 ft. under a cloud street in June in the club's two-seater, but this time I arrived, at about 3.15 p.m., with only 800 ft. to spare. I did not want to land if I could help it, so I cruised up along the main Aylesbury road, and sure enough I found a thermal. It was a ticklish little one at first, but at 1,200 ft. it had grown up a bit and was taking me up at 3 ft. a second. I lost a lot of valuable ground while circling in it, but it took me up again to 3,800 ft., which certainly wasn't to be grumbled at. From this point Aylesbury looked an interesting spot about six or seven miles away due west; so off we went *via* two scruffy little bits of cloud to Aylesbury. There I found the best thermal of the day which soon dumped me up inside the base of a cloud at 4,800 ft. I blew ferociously down the turn-and-bank indicator tube (pump wasn't working), and flew out of the cloud base on a course due south. I continued in a southerly direction, and putting the ADLER through her paces up to 100 km. per hour on the clock I left Wendover on my left and made off to Princes Risborough. I flew all round Princes Risborough, and temporarily stopped play at a local cricket match down below.

I have often explored the whole of the Chilterns on foot, but it had always been an ambition of mine to explore them one day by sailplane too. Now I was well over 2,000 ft. above them and I could see the whole range spread out, from Watlington to Dunstable, although Dunstable was almost indistinguishable away in the distance. I was over twenty miles dead up-wind from Luton, where I had been at 1.15, and I had covered a good deal of country. There seemed to be no object in battling along against the wind any longer as it was well past 4 o'clock and I could not hope for good thermic activity to last much longer, so round I turned, down wind at last, to try and see if I could make Halton aerodrome again for a happy landing.



My ground speed now seemed to be quite phenomenal. I whistled along to Wendover, explored it but found no lift there, and rattled along over to Halton which I seemed to reach in no time. My approach, being from the west, was unobserved against the sun, and a crowd at the Depôt were suddenly surprised to hear a voice from the blue just up above them.

At Halton there is a S.W.-facing "Bowl" like the Dunstable one over which there seemed to be still just enough lift left to hill-soar. After doing about one figure-of-eight over it I began to circle, with the variometer at 0 ft. to +3 inches per second rise; that seemed all right, so I circled again, and again, and again. And here I learnt a lesson of what *can* be done in weak evening thermals if one only burns one's boats. Nearly three-quarters of an hour later, after what must have been about the 150th circle, I had drifted well past Tring reservoirs on my way to Ivinghoe Beacon, and I was 3,400 ft. up. Here I had plenty of height to enjoy myself with, which I did!

The rest was easy, and one could just sit back and exult in that blissful "Go anywhere, do anything" feeling. By this time the people at the London Gliding Club were fully expecting a trunk call from Derbyshire, as I was last seen going away in that direction, and they were as disappointed as they were surprised when I landed at last to enjoy a very overdue cup of tea!

The barograph time calibration of this flight shows it to be just over 4½ hours, but this may be a slight over-estimation. At any rate the ground covered during that time was just on 50 miles, with a total up-wind distance covered of 20 miles.

J. S. Fox.

Sutton Bank to Hull

August 15th, 1937

THERE was everything in the air, from an open DAGLING to several KIRBY KITES, when I started at 1.44 p.m.—just as the bell rang for lunch. The blue sky was partly overcast with strato-cumuli, and the wind was N.W., 15 to 20 miles per hour. I knew from experience gained in Germany during nine years' gliding that it was cross-country weather—the chance I had been waiting for since 1935, when I made my height and duration flights on the Hornberg.

For one and a half hours I went up and down. There was good hill lift which blew one up to about 500 to 600 ft., where one came in the range of the cloud lift. Lingford and I went north to do some exploring on the more northern slopes. He was about one mile ahead of me when I saw him going up and up, and finally disappearing behind a thick cloud. As I lost sight of him completely I thought he had gone across country. Noticing that, I was ashamed of myself, as for some time I had a height of 1,600 ft. when I did not even think of going away. My present height was about 800 ft. I now decided to try my luck at the next opportunity.

When I was back again at our "home" slope I was down to 300 ft. Two hundred yards away I saw Leach circling in the KADET. His circles were very wide, and it just looked to me as if he was going through the centre of a lift, and out again. I used this lift and soon left Leach below. I went up to 1,100 ft., when the lift faded and I started sinking again.

Having already decided beforehand to take the chance if it should come, I now set off across country with a height of 1,100 ft. and a variometer showing falling, though I was always told not to try to leave the site below 3,000 ft. I did not care. I had found so many clouds up to now I should wonder if I should not find any on my way down-wind. And I did. With a 2 ft. per sec. rise I started circling and went up to 2,600 ft., where the lift slowly faded.

As the sky was overcast at this moment, and I could not see any cloud shadows (a compass was not fitted in my KITE), I set off, therefore, in the wrong direction. This I noticed a few minutes later, as I was not gaining any ground, which caused me to take the opposite way. I was steadily losing height. All nice-looking clouds I approached disappointed me. I did not dare to look at my altimeter as it showed already negative height—I was below my starting point; 250 ft. beneath me was a big road, a river bend, and a very comfortable-looking mansion. I had not decided yet where to land (if I landed beside the road my machine could easily be picked up by the retrieving party; if beside the mansion I hoped for a good meal), when my variometer went back to zero.

This released me from any decision. By turning right and left I looked for the centre of the lift. Having found it I fought my way up again with about 2 ft. per sec. rise. The KIRBY KITE, which had been kindly lent to me by Mr. F. N. Slingsby, behaved in a grand manner. I had not flown such a nice machine for a long time. When, after about 20 minutes I was up again to 2,600 ft., I saw the Humber and the River Trent. Now I knew where I was, and I also knew that I had reached the necessary 50 kilometres for the "Silver C." I did not bother for any more height but set off again in the direction of Hull with about 45 to 50 on my air-speed indicator. Near Leconfield I picked up a young thunderstorm cloud under which I circled a bit. Then I passed over Beverley and reached the outskirts of Hull at a height of about 800 ft.

Here I decided to land as I did not want to land direct in Hull among a Sunday afternoon crowd. There were three fields I could land in. One looked yellow like a cornfield; in another one were sheep and cows. I preferred, therefore, to take the third field, the smallest. I slipped, made a sharp turn near the ground and landed with a cross wind. The KITE came to rest at 4.30 p.m. after a flight of 48 miles—5 yards from big trees, and 10 yards from a drain. How I came down without breaking the skid at least I cannot imagine even now. Anyway, lucked helped me.

As Lingford had not gone across country (as I thought he had) he was kind enough to retrieve the KITE and me to the Bank again.

R. HASLINGER.

A Devonshire Party

THE morning of Saturday, September 25th, saw a massed descent upon Haldon aerodrome by five high-performance sailplanes—or rather a massed ascent, for the place lies nearly 800 feet up from Teignmouth, where the party—pilots, wives and helpers (the third category including the second)—spent the week-end as guests of Mr. Whitney Straight. The descending part came later, after machines had been towed into the air by Captain Phillips in his "Avro," for unfortunately the atmosphere remained perfectly stable throughout the two days. The ideal of a strong and unstable south-west wind, with cloud streets stretching to the opposite corner of England, remained an ideal.

From Dunstable had come the HJORDIS with Mr. and Mrs. Wills, and the RHÖNSPERBER with C. Nicholson and Dr. and Mrs. Dewsbery; also the Editor. The other three sailplanes were brought by road all the way from Yorkshire, Mr. and Mrs. Slingsby coming with a FALCON III two-seater, Flight-Lieut. and Mrs. Watt and Mr. Hinchcliffe with a KING KITE, and K. Lingford with his own KIRBY KITE.

On Saturday moist air coming in from the sea produced low clouds only 500 feet above the aerodrome, and one aero-tow into these was enough for each of the five machines. Watt, after appearing out of the cloud, looped back into it. Lingford, after being towed through cloud for some distance, suddenly came out below to find himself nearly on top of the aeroplane; not being able to see at once whether he was within gliding distance of the aerodrome, he decided to hang on for a bit. He let the aeroplane get ahead once more, then dived to lessen the jerk when the cable became taut; when it did so he was forced into a steep zoom up again. Watchers below, who didn't know what all this was about, got quite excited.

Sunday was a fine, clear day, but no less stable. The crowds rolled up, and so did everyone in the district connected with gliding, including Miss Connie Leatheart, Miss Fox-Strangways (who is building an H–17), J. C. Dent, Tom Fox, and several members of the Devon and Cornwall Gliding Clubs.

It took a little time, and much prop-swinging, to get the aeroplane started after its night out, and then the day's flying began with Nicholson and Watt being towed in turn to within gliding distance of Exeter Airport, 12 miles away. Nicholson cast off in the RHÖNSPERBER at 4,000 feet over the head of the estuary, then made an unsuccessful search for thermals over the town before proceeding to the airport 4 miles to the east. Here he got a slight bump at 100 ft. just before landing—the only evidence of a thermal, if any. It had taken him half an hour to get down.

Watt, in the KING KITE, had the strange experience of overtaking a "Moth" as the two of them were simultaneously gliding in to the airport.

The object of this diversion was to interest the good people of Exeter, but, owing to a general haze, it is feared that a fine display of sailplane aerobatics over their heads was completely lost on them.

The two machines were towed back to Haldon aerodrome, from which tows were made for the rest of the day. Cast-off height was 2,000 ft. or more, and the breeze, again blowing in off the sea, was very nearly

Sailplanes on a week-end visit to Haldon. Above, the "Hjordis" being towed up over the aerodrome buildings; centre, P. M. Watt about to enter the "King Kite"; below, the five visiting sailplanes at the starting point: "Hjordis," "King Kite," "Rhönsperber," "Falcon III" and "Kirby Kite."

enough for hill-soaring over the Teignmouth side. At any rate, it delayed the descents so much that often three machines were up together. Late in the afternoon some scraps of sea mist began to come over at a few hundred feet, and much hide-and-seek looping in and out of it was done to the delight of the crowds.

Altogether, on this day, the KIRBY KITE flew 6 times (once with Dent), the RHÖNSPERBER 5, HJORDIS 4, and KING KITE 3, while FALCON III went up 10 times with passengers, the piloting being shared between Slingsby and Watt.

Thanks must be given to Mr. Parkhouse, who manages the aerodrome and was its original creator; he gave hospitality to the gliding party while they were up there, and worked hard to make the show a success. Also, of course, to Mr. Whitney Straight, who incidentally gave two of us a lift back to London in one of his corporation's aeroplanes.

Mr. Straight's motive in staging the exhibition was to get some idea whether it would be practicable to run a gliding centre at Haldon, with aero-towing facilities, in connection with the power-flying training schools at Exeter and Plymouth. One important question is, of course, whether conditions for thermal or cloud soaring are likely to be as good there as in other parts of England. One stable week-end is hardly enough to go by, although even on the Sunday some

good cumulus were to be seen further inland, above the high points of Dartmoor.

However, this is not the first occasion on which sailplanes have been seen at Haldon. Earlier in the year, during "Empire Day" week-end in May, Mr. Nicholson visited Haldon with his RHÖNSPERBER at Mr. Straight's invitation, with Captain Phillips to tow him. On the Saturday there were no up-currents, but on the Sunday there was a northerly wind with cumulus, and he was able to keep the air for 1¾ hours. On that occasion he was towed to the north, where he had seen a promising-looking cumulus, but it proved to be dead, so he sped down wind and got a good one over the coast.

Evidently soaring conditions can be good in Devonshire, given a suitable state of the atmosphere. A permanent gliding centre at a place so near the sea would give opportunities for new discoveries in soaring meteorology, and sooner or later there would come the chance of setting up a new British distance record.

Thermic Activity Inside Clouds

By J. S. Fox

IN the July issue of THE SAILPLANE an article was published dealing with the height of cloud base in thermals. In it an attempt was made to show that if one measured the relative humidity of the air at ground level before it started on its upward journey, one should be able to tell fairly accurately at what height the water vapour in that air would start condensing into cloud. It was calculated from the fact that the air as it rises cools at a constant rate of 5.6° Fahrenheit for each 1,000 ft. ascent, as long as no condensation of water takes place. This rate of 5.6° is known as the DRY-ADIABATIC LAPSE RATE.

In the July article we only had room to consider what the air was doing while still in its dry state below cloud base. What happens to it beyond that point, i.e. up inside the cloud itself, is a much more interesting study because it varies very considerably under different conditions of altitude and temperature.

So far very little research has been made regarding the actual lapse rates to be found inside clouds—here lies another opportunity for sailplane pilots to make themselves useful—and a great many of the figures at present available are still largely based on theoretical calculations. However, such information as is at present known is all incorporated in the Air Ministry's "Tephigram" charts, and it was from these that I was able to calculate the amount of the LATENT HEAT OF CONDENSATION which would be given out in clouds at different temperatures and at different altitudes, and thus to deduce the corresponding "Wet-adiabatic Lapse Rates" to be found inside each particular cloud.

I worked out the lapse rate for the lower region only of each cloud (actually from cloud base up as far as a further 100 millibar fall of barometric pressure). I took one ground temperature at a time (e.g. 60°), and calculated for cloud base forming at different altitudes on that particular 60° day. I then repeated these calculations for days with other ground temperatures:

	Ground temperatures.					
	40°	50°	60°	70°	80°	90°
Cloud base at 1,380 ft.	3.5	3.1	3.0	2.7	2.4	2.3
,, ,, 2,820 ,,	3.6	3.2	3.1	2.8	2.6	2.4
,, ,, 4,330 ,,	3.7	3.4	3.2	3.0	2.8	2.6

The first thing we notice from this table is that *more heat is liberated by condensation on a hot day* than *on a cold day* for the same height of cloud base, e.g. for cloud base at 4,330 ft. there is only a cooling of 2.6° on a 90° day, whereas there as a cooling of 3.7° on a 40° day.

The other interesting fact which this table brings to light is that *the lower the cloud base happens to be, the greater will be the amount of latent heat of condensation liberated.* As can be seen, there is only a cooling of 3.0° per 1,000 ft. if cloud base is down at 1,380 ft.; whereas there is a cooling of 3.2° per 1,000 ft. if condensation does not start until 4,330 feet have been reached.

A combination of *both* the above conditions together, i.e. condensation starting very low down on a very hot day, can therefore cause the liberation of such a quantity of latent heat that the rising air in the cloud cools incredibly slowly, and thus a lapse rate of only about 2° cooling per 1,000 ft. might be quite a possibility in the lower part of such a cloud.

When one considers that the dry-adiabatic lapse rate (cooling rate of dry rising air) is 5.6° per 1,000 ft., and yet dry air still rises very fast sometimes, it becomes obvious that if the moist air rising inside a cloud has a cooling rate of only 2° or 3° per 1,000 ft. it is bound to start rising at a tremendous pace. Huge towering thunder clouds have been seen to grow up about 20,000 ft. in a matter of only 10 minutes or so (=33 ft. per second average) on very hot days when there is a lot of water vapour in the air ready to be condensed, and these low lapse rate figures show very clearly the reason why this takes place.

With regard to all this humidity business, it can certainly be said that it is one of the most important factors controlling the possibilities of good soaring weather. Every good thermal day I have recently encountered has been a day of low relative humidity. High humidities, anyway, soon produce an overcast sky, and effectively prevent the ground from being heated by the sun.

The accurate measurement of humidities takes a little time and trouble, and I must confess, more patience than I regularly possess; so I will conclude by divulging a secret which I have found to be both reliable and of tremendous value in deciding whether to leap out of bed on a sunny west-wind morning, or whether to roll over again and go to sleep.

I keep on my dressing table on old-fashioned weather-house (price 1s. 6d.). When I see that my lady-friend is outside I get up hurriedly and dress; but when I see that it is only the old-gentleman-with-the-umbrella who is out I am invariably late for breakfast, no matter how sunny and tempting the morning may seem to be.

Review

Blackwood's Magazine

SAILFLYING has at last found a niche in *Blackwood's*. It could not have found a more suitable dwelling-place, for *Blackwood's* is above all the magazine for those who take the adventurous view of life, and for what purpose do people go soaring except in search of adventure?

In two consecutive issues there are stories of glider adventures: the one, fiction; the other, fact.

The *October* number contains a fine tale of an air circus—one that is losing money, not only through persistent bad weather, but from the indifference of the public, which has seen all there is to see in the way of thrills in past years, and refuses to roll up any longer unless something even more thrilling and more risky than usual can be put on the programme.

It is in order to pander to this craving for novelties that Peter Mason, proprietor of Mason's Great Air Circus, gets a glider girl to join the show. In case anyone might think that real persons are introduced into the story, perhaps we had better say that this girl had flown the Atlantic (though not in a glider), so the cap doesn't fit—at least, not yet. And in case there should be any further misunderstanding on the point, our heroine *both* does parachute drops *and* finishes by marrying a member of the circus. So still the cap doesn't fit—not yet.

It is a well-written story, with plenty of incident; the author is "Nevile Shute," whose account of the building and subsequent flying of the airship "R 100" in *Blackwood's* some years ago was also reviewed in THE SAILPLANE. As to "Nevile Shute's" identity, it is, of course, a pen name, and the only possible clue we can give is that these happen to be the first two names of Mr. N. S. Norway, designer of "Airspeed" machines and of the TERN sailplane.

The November *Blackwood's* begins with an article by our own Captain R. S. Rattray—also, by the way, a previous contributor to the magazine. "When the Wind is in the West" is his title this time, and he starts off with an introduction explaining soaring flight to the ignorant. "What I wish particularly to emphasise," he writes of aeroplanes, etc., "is that these wonderful machines that now fly in the air or rush over land and sea must needs have awaited this twentieth century, at least to come to the fulness of their maturity. They are the results of thousands of links in the long chain of man's mechanical genius. The performances of the modern sailplane or glider owe almost nothing to such mechanical considerations." He goes on to describe some of his own recent flights across country.

In the same issue is another true aerial story, by one who recently flew an aeroplane for the Government side in the Spanish civil war.

The price of the magazine is 2s. 6d.

Correspondence

Beyond the "Silver C"

SIR,

In THE SAILPLANE of April, 1936, appeared a letter from "Yorkshiradler" in which he made a rather over-optimistic estimate of the number of British "Silver C" pilots in existence at the end of 1937, and some suggestions for a higher award to give these people something to work for. While it is to be regretted that the figures will not be as high as he had hoped, I nevertheless feel that the time is ripe for raising this matter again.

I should like to see the introduction of an award, the qualifications for which would require years rather than months of work. Deliberately putting it beyond the aggregate performances to date of any one British pilot, I would suggest two flights of one hundred miles, one goal flight of fifty miles, and an altitude of ten thousand feet above the point of release.

These performances are by no means unreasonable to expect in this country, but I think it would take several years for more than a very few pilots to qualify.

K. LINGFORD.

["Yorkshiradler's" estimate was about 30 British "Silver C's" by the end of 1936, and about 100 by the end of 1937.—ED.]

Storks in Thermals

The following is an extract from a letter to Mr. J. S. Fox from an English farmer stationed at Chakari, Southern Rhodesia:—

Have you ever had an opportunity of watching storks in vast numbers using what you call "thermals"? We get tremendous numbers of them here. In spite of this country being practically flat, with no kopjes or valleys, and very little wind except when the storms work up, there are obviously thermals going up at very short distances apart. Disturb a flock of storks on the ground and they never flap for more than a hundred yards before they start to soar, and always in a spiral. The spirals vary in diameter, of course, but as a rule they are about 50 to 100 yards across. The rate of rising varies, but is faster than it appears. The noise of their wings is often like that of a "Rushing Mighty Wind": more especially is this so when a flock decides to come down, and the noise is audible while the individuals are still small specks in the sky. Not that they make a spectacular rush downwards like a hawk, but just a steady descent. They seem to soar, like you, just for the fun of the thing, for one will frequently see them rise and soar almost out of sight for an hour or so and then come back to the feeding grounds, which are usually my fields! They are, however, a great help with plagues of caterpillars and locusts, and are protected by law.

And Mr. A. Ivanoff, who is on a high-speed business visit to Baghdad, writes from there:—

This place is perfectly ideal for gliding. Hawks and such like circle at 50 ft. apparently as they please from early morning till nightfall. Thermals are everywhere and at full strength. I spent some time 200 miles north of Baghdad in the desert. It was flat enough for car towing, and with a KADET you could do thermal flights to a time table.

News from the Clubs

Auckland Gliding Club, New Zealand

Although to date we have been little heard of, a tremendous amount of enthusiasm and hard work has been put in by members. After a good start two years ago we were able to purchase a primary Zöglingi and a secondary Waco machine, in which some excellent flying was done. However, our good luck was not to hold, and in February of last year a sudden gale completely wiped out our hangar and both machines, not leaving enough to even build them up again. Needless to say, financially and otherwise the loss was calamitous. Since then we have been hard put to it and now have a Dickson primary which was partly made by our ground engineer, Mr. F. Adamson, and finished off by club members—and another Waco.

We have now reached a stage where members are making short soaring flights in strong winds, in the Waco! At the present time this machine is in the workshop having a nacelle fitted. We are all keen to learn more about this fascinating sport and would welcome any letters which you could prevail upon any of the men in the glider world to write to us. At the present time an air speed indicator, variometer and altimeter would be very useful, and if you would be good enough to locate someone who has them for sale we would be most obliged. Also we would be pleased to hear from anyone who has a Grunau Baby or similar machine for sale.

We hope to be able to report further progress in the future and look forward to hearing more news from "Home." We are regular subscribers to The Sailplane and have derived no end of knowledge and satisfaction from reading it.

H. W. Lamond,
Hon. Secretary and Treasurer,
147, Arthur Street, Onehunga, S.E.5, Auckland, N.Z.

London Gliding Club

One Thousand Hours, 10,000 Launches.—These record figures were reached during October, the counting being from January 1st. Helen of Troy may have been the cause of 1,000 launches, but our instructor, Mr. Hervey, has been responsible for ten times as many already this year. The figure was reached on October 9th, the total up to October 3rd being 9,991.

The 1,000 hours were reached on October 24th, the total time for that day bringing the year's flying time up to 1,000 hours 42 mins. Last year precise records of flying were only kept for seven months from May 30th, and the flying time during that period was 535] hours.

Visitors.—On the 17th we were visited by designer-manufacturers Baynes and Slingsby, by Commr. Perrin of the Royal Aero Club and B.G.A., by Mr. Kubala of Austria, who has been associated with Kronfeld for many years, and by our generous but anonymous Irishman who comes once every year when the motor show is on. Cornell, one of the club's most active members in its earlier days, turned up again after an absence of three years.

Machines.—A new member has bought a Kestrel but hasn't learnt to fly it yet. Roy Scott has finished his home-built H-17. Another H-17 has been ordered from Zander and Scott by a group of four prospective private owners: Rattray, Safery, Miss Johnson and Miss Thring. Cooper, Baker and Mrs. Price are getting a Rhönsussard from Germany. So is the club, and the two Bussards are reported to have already reached England but got stuck in the Customs. Miss Edmonds has ordered a Grunau Baby for herself. Hedges is—or rather, Messrs. H. M. Hedges are—doing up the Blue Wren for a South African purchaser.

One day about the end of September a pilot brought along a "Carden-Baynes Auxiliary Sailplane" to do a test flight. With the engine running, he was bungy-launched off the flat towards the south-east. He then turned in towards the hill, flew along below the top in the down-current, and stalled on turning back to land. The pilot stepped out of what resulted, which was then put away discreetly out of sight.

Saturday, October 2nd.—Some excellent aero-towing was seen when Hervey's elastic-driven model aeroplane (home made) repeatedly towed Sproule's balsa-wood semi-tailless glider (also home made) to about 20 ft. on the end of a cotton "cable," which released itself automatically from the glider hook as soon as the "engine" revolutions began to fall off. Sometimes *both* machines landed right way up.

A row of soarable clouds drifting to the south-east after crossing the London Club ground. J. E. Simpson may be seen silhouetted against one of them; he had caught a thermal from a winch launch, and spent the next hour hopping from cloud to cloud, finally landing where he started. (October 10th.)

Sunday, October 10th.—Simpson distinguished himself this day as being the only pilot to get up in a thermal from a winch launch. There was a light wind from N.N.W. to N.W., and no hill lift that anybody could keep up in. He was launched about 12.30, got lift at once at 2 to 3 ft. per sec., and rose to the cloud base at 2,300 ft. Once up there, he proceeded from one cloud to another as they drifted over the club ground, until after an hour he landed. The maximum lift was 4 ft. per sec. Many of his circles were done in 10 to 12 seconds.

Wills got thermal lift for about 2 minutes after a launch at about 1.10, the Hjordts gaining a little height. The grey Kite was able to hold its height for a few minutes over the power cables. And that was about all the actual soaring.

October 16th and 17th.—Light but just soarable winds, and thermals, in which Nicholson got up to 1,400 ft. on Saturday in the Speeder.

A new arrival, the Kestrel, was soared to great effect by Murray. Having no variometer, his tactics were to follow Fox, who was in the Rhönadler, like Mary's little lamb. The pair got up nicely in thermal lift and went off to Ivinghoe and back, the Kestrel keeping no more than 200 feet lower than the Rhönadler all the way. Actually this Kestrel has just been bought from the Dunstable Sailplane Co. by a new member who has not yet learned to fly it.

On Sunday there were vast crowds, especially at the bottom of the hill where the winch launches were starting from. There was great excitement when the Falcon I, apparently misjudging its height, skimmed over this crowd at minimum speed with about two feet to spare, even though they had all ducked to avoid it. A bang at the top of the hill then distracted their attention; a primary had stalled horribly after a launch and landed wing first.

Summary of Flying.

Date.	Ground-hops.	Winch launches.	Hilltop launches.	Flying Time h.	m.	s.
Sept. 28, Tuesday ...	—	4	—	1	5	0
,, 29, Wednesday ...	17	—	—	—	—	—
Oct. 2, Saturday ...	36	—	—	—	—	—
,, 3, Sunday ...	38	24	37	4	14	0
Oct. 9, Saturday ...	44	5	—	—	11	0
,, 10, Sunday ...	47	32	41	4	36	0
Oct. 13, Wednesday ...	—	1	5	—	31	0
,, 15, Friday ...	—	3	5	1	20	0
,, 16, Saturday ...	34	23	29	19	31	0
,, 17, Sunday ...	38	70	62	16	43	0
Oct. 24, Sunday ...	22	40	36	32	38	0
Oct. 30, Saturday ...	32	15	—	1	29	0
,, 31, Sunday ...	114	19	—	—	51	0

Certificate Flights.

October 3rd.—Lavington, "A"; Amlot, "A"; Huxley, "A"; Terry, "A"; Harrison, "B"; Reynolds, "B"; Prickman, "C."

October 10th.—Seldon, "A."

October 17th.—Stuart, "B"; Davies, "C"; Harrison, "C."

October 24th.—Peake, "B"; King, "C"; Pinchen, "C"; DeWolf, "C"; Waghorn, "C"; White, "C."

Totals.

Week ending:	*Launches.*	*Flying time.*	*Certificates.*
October 3rd ...	156	5 hrs. 29 mins.	7
October 10th ...	160	4 hrs. 47 mins.	1
October 17th ...	270	38 hrs. 5 mins.	3
October 24th ...	98	32 hrs. 38 mins.	6
October 31st ...	180	2 hrs. 20 mins.	–

Midland Gliding Club

Week-end, September 17th and 18th.—Although there were no soaring conditions, an energetic Publicity and Social Committee had arranged an original type of motor treasure hunt, which terminated at the Mynd, where a general demonstration of club activities was to be given. About 30 cars arrived on the Sunday afternoon and the occupants were ushered into the hangar where a buffet tea awaited them. In the meanwhile various machines were winch-launched to provide some sort of spectacle, but unfortunately conditions were very stable and uninteresting. The northerly wind persisted in spite of a tendency to veer, and proceedings fizzled out after a few of the braver spirits had thrown the KITE around in an endeavour to provide some thrills.

Congratulations to the Publicity Committee for their good work, but we should feel happier if we could say as much for the remaining members of the club. At events of this nature it is reasonable to expect a goodly backing from members, whatever the prospects of soaring may be, but somehow things misfired on this occasion. We were grateful for the assistance of Captain Rattray and Mr. Eustace Thomas, who had been staying at the Mynd since the Autumn Camp, waiting to do something big in the cross-country line.

September 24th and 25th.—Two events clashed during this week-end and rather spoilt both. A special visit to Prestatyn had been arranged and it was expected that three machines from the Midland, and two from the Lancashire and Derbyshire Clubs would be present. At very short notice this event was cancelled owing to the sudden decision of the B.B.C. to give an eye-witness account of flying at the Mynd on the Saturday, and all was confusion. Eventually the GOLDEN WREN and the White GRUNAU BABY went to Prestatyn with their respective owners, whilst others concentrated on the requirements of the B.B.C.

As there was a light southerly wind blowing on the Saturday afternoon we had to explain to the B.B.C. officials that soaring was not possible unless someone was lucky enough to catch a thermal off the winch. This mystery had to be explained in detail, whilst Edwards, Rushton, Meeke, and Barnes winched the KITE successively through untroubled air.

In the normal way, there is no object in winching the two-seater, but we felt that the commentator, Mr. Fraser, ought to get off the ground somehow, so Gerry Edwards strapped in his passenger and the winch signals were given. The cable snapped and had to be hurriedly tied. It failed again, so the attempt was abandoned.

It says much for the enthusiastic word-pictures of Mr. Hardwick and other members, plus the grasp of essentials shown by Mr. Fraser, that an interesting eye-witness account was broadcast in the evening.

At Prestatyn the wind direction was mainly S.E. and there was little to do but enjoy the truly magnificent hospitality of Captain and Mrs. Davies. Smith and Slater sponsored the Derbyshire contingent, whilst Wynne and Everall busied themselves with the White GRUNAU. Rushton, Gerry Edwards, and Barnes were there to give a hand and accept any invitations to fly. Carl Beck just made observations.

On Sunday morning the GOLDEN WREN was perched on a pinnacle and Gerry Smith climbed in hopefully. A light S.S.W. wind supported some optimism, but failed to keep the WREN over a broken beat for more than three minutes, after which she swung seawards down-wind and manœuvred into a field below. And that was the flying for the day, but we did have a good time talking about the possibilities of the site and making plans for the next visit. There were many lavish meals and much going and coming at the Davies's home, so that we cannot be too grateful for a week-end which relied solely on the entertainment they provided.

Ulster Gliding Club

October was rather a poor month for soaring, with only 17¼ hours' time for 74 launches. Some useful training, however, was put in during the period, and we should soon have another batch of *ab initios* ready for tickets.

Our best day was Sunday, the 9th, when, with four machines and a N.N.W. breeze, we got in about 10 hours. Having to erect machines each day is a big handicap now that the evenings are so short. Siderfin did 1¼ hours in the new KADET, Liddell did 3 hours, and the two-seater plodded away at dual in its usual sedate manner.

We were glad to have with us on the 23rd and 24th John Wordsworth and Rudolf Haslinger from Sutton Bank.

They were lucky enough to get a fairly stiff breeze from the north on the Saturday, and had their first experience of a soar over Magilligan. Conditions were not too pleasant, with periodic rain squalls and low cloud at times. Siderfin created a panic by disappearing into a cloud for ten minutes or so in the KADET. His only instrument was an altimeter, and he doesn't think he'll try it again just yet awhile. His blind flying was naturally involuntary, but he kept his head and got back to the ridge with 1,000 feet in hand. His maximum height was 3,200 ft., which indicated a climb of some 1,600 ft. in cloud. Is this a record for a KADET?

Inverness and District Gliding Club

From the middle of August to early September, winch training went on very successfully. Novices made good progress and five "A" and three "B" certificate flights were made. We were, in fact, beginning to become ambitious.

Saturday, September 11th, however, will be marked in the club record as the opposite of a red letter day. We finished the afternoon with two hospital cases (both doing well), and a smashed fuselage and starboard wing. Strenuous efforts are being made to get repairs completed in time for a little more autumn training.

Beacon Hill Gliding and Aero Club

The club's DICKSON is now finished and is being flown at Dry Street, Langdon Hills. During the four fine Sundays since September 5th we have made about 120 launches. All the members are beginners, having had no flying experience whatsoever, and some are already hopping 200 to 300 yards. We are using a shock cord, with a car for stretching, as this saves the hard work entailed by hand launching.

Our club is essentially a members' club and is run by the members. We now charge an entrance fee of 10s. 6d. and the annual subscription is 10s. 6d.

Yorkshire Gliding Club

September 12th.—Leach (H.) qualified for his "B" in Hols. W. Sharpe took "A" and "B" in Hols. He astounded, amused, horrified, transfixed, and stunned the gathering by doing *two* full circuits off his first launch to the top of the winch in windless conditions. A spot landing competition was won by Heath flying Grunau.

September 15th.—Wind south-west, 15 m.p.h. Henry Leach was rewarded for his hard and conscientious training in recent days by qualifying for his "C" in a flight of 35 minutes. We hear that this man has got a Professor to show us one of these days. Here's wishing him strong launches and happy landings! W. Sharpe also qualified for his "C" with a flight of 30 minutes.

September 19th.—Wind north. Renwick qualified for his "A" and "B" in the Nacelled Daglisc. John Neilan arrived at the club during the morning and we were very pleased to see him again.

September 24th.—Wind south-west, 10 m.p.h. Smart, of Newcastle Club, soared his Kirby Kite for two hours.

September 25th.—Practically windless condition. Smart, in the Newcastle Kite, soared in weak thermals, off the winch, for seven minutes. He found quite a useful thermal over the fox farm. Visitors might make a note of this, but it is not guaranteed!

September 28th.—Wind north-west, 10 m.p.h. Renwick took his "C" with a 27 minute flight in the Kadet. Our Falcon I was damaged in a heavy landing, the rear spar of one wing being torn.

During the last week-end Lingford, with his Kirby Kite, accompanied Mr. and Mrs. Slingsby, and joined a party at Haldon Airdrome, near Teignmouth, South Devon, where they were the guests of Mr. Parkhouse, of Teignmouth, and Mr. Whitney Straight. We members of the Yorkshire Club, included in the party, would like to express our appreciation of the arrangements made for our entertainment and comfort.

Sunday, October 3rd.—N.W. wind, not soarable till the afternoon, when flights were made mostly off the long cable, launching from the second field.

Monday, October 4th.—The only flight of the day was by Thorburn, who turned up from Kirkaldy, Scotland, and put in half an hour in the Kadet.

Saturday, October 9th.—Circuits and other training in little or no wind. Miss Amy Johnson joined the club along with Mr. Gardner; both of them had flown at Dunstable, the former having her "C" and the latter his "B." Miss Johnson circuited the Kadet, Grunau and Kirby Kite.

Goal Flight to York.

Sunday, October 10th.—West wind veering to north, 5 m.p.h., increasing. Watts, a new member, took his "A" and "B."

About mid-day soaring became possible; Lingford and Pick soared for over 2 hours. Conditions then became quite good and Gardner was sent off for his "C," passing the test with a steady flight of 15 mins. Hincheliffe then attempted to follow his example but failed on his first attempt, thereby realising that it is not possible to soar over the club house; however, he succeeded on his second attempt with 13 minutes.

Drummond in the Grunau found a thermal which took him to 1,400 ft. Lingford, making use of thermal activity and cloud lift, reached 3,600 ft. and was able to carry out his declared "Goal Flight" to York aerodrome.

The lift faded out altogether about 4 o'clock, but the total flying time for the day was 7 hrs. 47 mins. from about 30 launches, including training, which was very gratifying for October.

Week Ending October 17th.—Soaring took place on five days running, from Wednesday to Sunday, there being good S.W. and W. winds.

On Wednesday four pilots put up a total of 4½ hours, including 2½ hours by Lingford in his own Kirby Kite.

On Thursday six pilots put up over 4 hours, Lingford doing 3½.

Two pilots flew on Friday, Lingford doing 2½ hours and reaching 2,500 feet, and Fisher 1 hour.

Saturday saw flying by 7 pilots, Pick being longest with 1½ hours.

On Sunday conditions were somewhat rough, but Barker flew his Scud III for 5 hours 10 mins., thereby completing the duration for his "Silver C." Pick kept him company for 4 hours, which was quite long enough for him, although some say that he is strongly fancied for a duration record. His recent flights certainly lead one to think that he may be in training for such an effort! Lingford also made two flights of more than 2 hours, and there is no doubt that he will have the maximum number of hours for the month. Priest, Haslinger, Shaw, Hastwell, Drummond, Renwick, Brooke, Hartness, Thorburn (all the way from Scotland again), Micklethwaite, Watson, Cox, W. C. Sharpe, Jowett, Wordsworth and Heath all made soaring flights, apart from passenger flights in Falcon III-S piloted by Norman Sharpe who also gave dual instruction. Wordsworth was passed to fly the two-seater. Lingford performed a number of loops and other aerobatics; Haslinger did several loops and two Immelmann turns.

Twenty-four hours' flying for the day.

Sunday, October 24th.—Wind N.W., backing S.W., 25 m.p.h.; conditions somewhat turbulent at times. Soaring flights were made by 21 different pilots, including dual instruction and passenger flights by Sharpe, Neilan, Stedman and Slingsby.

The number of hours flown is felt to be very satisfactory for the month of October; practically all regular flying members have been able to do a reasonable amount of soaring. Training has not been neglected, and we have a number of promising candidates for certificates coming along.

A. O. Pick soaring the "Falcon I" and Mr. Heath the "Falcon III," under a sunset sky at Sutton Bank."

(Photo by H. Hastwell.

Annual Report.

From the Secretary's report for the year ending July 31st, 1937, which has been sent to The Sailplane, the following extracts are taken:—

The facilities available at Sutton Bank for instruction and soaring are second to none in the country, and readers of the weekly aeronautical Press will have noticed that for a number of periods during the past club year our flying time has been in excess of that shown by most light aeroplane clubs.

The number of new members who joined this year is the highest on record, but it must be remembered that we have now facilities which enable us to cope with almost double our present membership. When we get them we shall be able to operate more economically and offer still better facilities to our members.

Outstanding flights during the year have been made by K. Lingford, who flew from Sutton Bank to Gardham (Beverley), a distance of 37 miles, and flights of over five hours' duration by the following pilots: F. J. R. Heath, A. O. Pick, L. A. Alderson, W. R. Watson, N. Bruce, E. F. Briscoe, N. H. Sharpe, M. H.

Maufe, and K. Lingford. In addition, cross-country flights have been made to Welburn (12 miles) by L. H. Barker in his SCUD III, K. Lingford in his KIRBY KITE, and F. N. Slingsby in his FALCON III with a passenger. L. H. Barker has also flown to Boroughbridge in windless conditions.

Generally speaking, there has been a big improvement in the standard of flying during the year. During the 12 months 27 "A," 23 "B," and 18 "C" certificates have been qualified for by club members.

Our club fleet of machines has been enlarged by the addition of two KIRBY KADETS. A nacelled DAGLING has replaced one of our HOLS DER TEUFELS, and we have replaced our old GRUNAU BABY, bought second-hand in 1935, with a new one. A new FALCON I has also been put into commission. Due to the generosity of our President (Major J. E. D. Shaw), the Yorkshire Club has been able to offer aero-towing facilities at any time by appointment, and thus to pioneer regular club aero-towing facilities in this country.

The provision of a resident steward and stewardess in addition to the resident ground engineer and winch driver has simplified mid-week flying considerably. The question of the employment of a whole-time Resident Secretary-Manager will have to be left until the flying membership of the club has increased very considerably.

The loan raised for the erection of a hangar has been partly repaid and now stands at £320.

There is now a certain body of opinion, for which the visit to the International Contests in Germany appears to be partly responsible, that the subsidy should also be used for "improving the breed" and to develop gliding for gliding's sake by assisting in the provision of aircraft of the highest efficiency, aero-towing instruction, and possibly even a subsidised training school unconnected with a club organisation. Opinions will differ as to whether it is desirable to follow the example of other countries and subsidise purely high-efficiency flying, which has hitherto been a matter for individual and largely amateur sporting enterprise. On one point, however, the clubs are likely to be unanimous, and that is, that it would be absolutely unjustifiable to extend the use of subsidy in this way unless sufficient funds were available to enable the present rate of progress in club training and flying amenities to be maintained.

Dorset Gliding Club

Saturday, June 26th.—At Maiden Newton. Descents from the top in the Nacelled DAGLING were carried out, until it was stalled badly on a turn and completely wrecked.

Saturday, July 3rd.—At Kimmeridge. The SCAUP (TOTTERNHOE type) was brought from the barn up to the site and rigged in an increasing S.S.W. wind. Before launching, a clearing in the bracken had to be made, so that, when all was set, there really was a lot of wind. Laver was launched just as a large roll of black, low cloud came over from the sea, and then it was seen that there was a gale blowing and that even with the nose right down the gallant SCAUP was hardly able to hold its own. However, Laver made a beat to Smedmore Hill and hung there for a time, but was gradually forced back behind the hill. He worked along again, and after fifteen minutes decided to call it a day. The handling was extremely difficult, as we have a very fine curl-over when the wind is high. He overshot rather, and sooner than hit the far fence he lifted and turned slightly off-wind. The curl-over did the rest by lifting him a little more and then sitting him down so smartly that the fuselage longerons fractured between wings and tail. Night and a mass of low cloud kindly drew a veil over the closing scenes.

August 1st to August 8th.—At Kimmeridge. Seven members attended the camp for varying periods from a week-end to the full week, but there was either no wind or an east wind. It was exceptionally bad luck because at the Whitsun camp exactly the same thing happened. However, one great redeeming feature was the bathing, and on the last day some ground-hopping was possible.

Sunday, August 29th.—At Kimmeridge. A magnificent day as usual, but no wind until the afternoon thermal draught set in from the sea, and Penrose was able to indulge in half an hour's fascinating hill-scraping in his PEGASUS.

Sunday, September 5th.—At Kimmeridge. Again a calm, and the thermal wind had to be waited for, when PEGASUS managed 1¼ hours before being sunk. Laver, who took off after Penrose had landed, sank gradually to the bottom in the BLUE PRÜFLING, fighting every foot of the way.

Sunday, September 12th.—At Kimmeridge. Yesterday the main Purbeck range was explored carefully on foot and the result is that now we have permission for launching at a very good spot on the north face. The wind being north, all the launching gear and the PRÜFLING were towed over from the Kimmeridge site to the new site by Laver and Lansdown. When all was set, the wind backed with lightning rapidity, and everything and everybody was returned to the Kimmeridge site, the PRÜFLING re-rigged and Laver took off just as a pleasant little rainstorm commenced. He stayed up for an hour and came to earth again very wet and shivering.

Sunday, September 26th.—At Kimmeridge. Wind S.E. It was considered unwise to launch over the Encombe face as the land below is "holy ground" and the wind was not very strong. The PRÜFLING was given long hops on the top.

We are sorry to report the departure of our chairman, Mr. M. Worrsom, who for the last two years has given us keen support, though debarred from actually flying through ill-health. He has moved to the Lake District, so our loss may be the Furness Club's gain.

Sunday, October 3rd.—At Kimmeridge. A light northerly wind, so the new north site was made for. As it is a long job towing first a launching car and then a machine from one place to another, and also that the members attending all had to come distances varying from 30 to 50 miles and, in two cases, 100 miles, it was fairly late before everything was set. Then the bottom had to have a last inspection from the top, because one can't just land anywhere, and also no Dorset Club member had ever flown off the range before.

However, Lansdown took off and managed to get as far as the Roman Camp without much loss of height. But he went rather a long way from the hill on the turn and finding he couldn't make a complete return journey described a wide sweep round to lose height before landing in the field beyond the one he was aiming for. The pilot had two disappointments. He still hasn't got his "C," and he was ever so sorry to have to confess to the gentleman who rushed over from a nearby house and very kindly offered the use of a telephone, that he had only come down from the hill top by a roundabout route.

It should be recorded that the SCAUP is nearly on its wings again, and that the DAGLING is on the way to recovery, but will not grow a nacelle for a little while yet, because repairs assume mountainous proportions when the membership is only a dozen, and very scattered at that. The club has a motto, however, which somebody invented during the Easter Camp when the wind played us foul, and which has served us well all the season: *Fugiemus cras.*

Cotswold Gliding Club

The club has now moved out to a new hill site recently acquired at Wantage, by kind permission of Mr. F. T. Gurney. The site appears quite promising and "A" and "B" flights should be easily obtainable. Gliding now takes place either at Minster Lovell, near Witney, or Pewit Farm, Wantage, Berks.

September 12th.—Car launching was tried out for the first time and proved to be very successful. Some of the more advanced members were sent off the hill-top for the first time.

September 19th.—The wind fortunately veered at times to N.E., which is the most useful direction for the site and gives the longest possible straight flights. Peake, one of the more advanced members, was sent off for his "A"; and in view of the very strong and gusty wind he put up a good show and easily obtained the necessary duration. This is the first "A" to be obtained by a club member, but several are now up to "A" standard.

September 26th.—Beginners were given numerous hops and slides on the flat, which, however, was brought to an abrupt ending when one stalled very badly and "hit the deck" with an "'orrible thud" (as an onlooker was heard to remark). The secretary will be pleased to hear from anyone who happens to have a pair of DICKSON wings for sale, cheap.

AN APOLOGY

In the last issue of the "Sailplane" appeared a whole-page advertisement of the Ford Motor Co., Ltd., but unfortunately the wrong layout was inserted in error. The mistake was the more regrettable in view of the fact that the Ford Motor Co., Ltd., have recently announced a new model of the vehicle that was given in the illustration.

This is the Ford "Eight" and succeeds the famous "Popular" Ford, of which nearly 200,000 were sold in a few years. Priced at £117 10s. for the saloon, and at £127 10s. for the exceptionally well-equipped Saloon-de-Luxe, it is outstanding value in the popular £6 tax class, while running and upkeep costs are also remarkably low.

With a wheelbase of 7 ft. 6 ins., it is unusually spacious and comfortable. The lines are entirely new and attractive, and features include enclosed luggage accommodation, body-conformity seating, tubular frame front seats, and a well-less floor.

New, fully-compensated braking, powerful but light in action, is a feature of the re-designed chassis. The well-known 8 h.p. engine has been refined in detail, and has four-point suspension, and the car, although larger than the Popular Ford, has the exceptional power and performance which gave the latter so strong an appeal.

It is hoped that this statement will help to correct any misunderstanding that may have arisen in the minds of our readers and any inconvenience caused to the Ford Motor Co., Ltd., by the mistake in last month's "Sailplane."—Ed.

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