SAILPLANE AND GLIDER

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Official Organ of the British Gliding Association

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THE SAILPLANE *and* GLIDER

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

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The National Gliding Contests

Awards and Prizes

LORD WAKEFIELD TROPHY for best distance during the year: P. A. Wills, 206 miles.

DE HAVILLAND CUP for best height during the year: P. A. Wills, 10,080 feet.

VOLK TROPHY for best duration during the year: W. B. Murray and J. S. Sproule, 22 hours 13 minutes 35 seconds.

MANIO CUP for best goal flight during the contests: C. Nicholson for cross-wind goal flight from Dunstable to Lympne, 87 miles.

L. DU GARDE PEACH TROPHY for the winners of the inter-club team contests: Cambridge University Gliding Club, No. 16 (KIRBY KITE).

FIRTH-VICKERS TROPHY for the all British machine gaining the greatest aggregate marks during the contests: No. 23 (KING KITE); Entrant, F. Slingsby; Pilot, Squadron-Leader P. M. Watt.

INTER-CLUB CLASS CONTESTS: First prize, £10 10s.; Derbyshire and Lancashire Gliding Club, No. 4 (GRUNAU BABY).

Open Contests

FIRST PRIZE, £10 10s. No. 30 (RHÖNSPERBER); 464 points.

SECOND PRIZE, £5 5s. No. 23 (KING KITE); 459½ points.

BEST DISTANCE (longest cross-country flight) during the contests: No. 30 (RHÖNSPERBER). Entrant, R. P. Cooper; Pilot, C. Nicholson. For cross-country flight from Dunstable to Lowestoft, distance 106 miles.

BEST DURATION (single flight) during contests: No. 18 (KIRBY KITE). Entrant, Imperial College of Science Gliding Club; Pilot, Chirgwin; 6 hours 31½ minutes.

BEST HEIGHT (greatest climb) during the contests: No. 17 (KIRBY KITE). Entrant and pilot, D. F. Greig; 5,130 feet.

DUNSTABLE TO LONG MYND FLIGHT: Not won.

DUNSTABLE TO SYWELL FLIGHT: Not won.

AIR LEAGUE PRIZE for the best all round performance of any club taking part in the contests: £10 10s.; Derbyshire and Lancashire Gliding Club.

CARPMAEL PRIZE for the best all round performance by any pilot taking part in the contests: £10 10s.; C. Nicholson.

Daily Prizes

JULY 9TH–10TH: A special prize of £5 5s., awarded to W. B. Murray and J. S. Sproule for their duration flight of 22 hours 13 minutes 35 seconds in FALCON two-seater.

JULY 10TH: A recording altigraph presented by Short & Mason, Ltd.: Derbyshire and Lancashire Gliding Club, for best aggregate duration on any one machine during the day. No. 4 (GRUNAU BABY); 10 hours 10 minutes out of a possible 11 hours.

JULY 11TH AND 12TH: Prize not won.

JULY 13TH: Two return tickets to Jersey, presented by Jersey Airways, Ltd.: No. 30 (RHÖNSPERBER); Entrant, R. P. Cooper; Pilot, C. Nicholson; for a goal flight to Lympne.

An airspeed indicator presented by Smith's Aircraft Instruments, Ltd.: No. 25 (RHÖNADLER); Entrant and Pilot, J. S. Fox; for the longest cross-country flight of the day, from Dunstable to Norwich, 96 miles.

JULY 14TH: A variometer presented by R. B. Cobb, Esq.: No. 6 (GRUNAU BABY); Entrant, London Gliding Club; Pilots, N. W. Burnett and H. C. Bergel.

A launching rope presented by Messrs. Luke Turner & Co., Ltd.: No. 5 (GRUNAU BABY); Entrant, Miss Ann Edmonds; pilot, Flt.-Lt. R. H. Shaw.

Tied for the greatest number of laps in the Seager Trophy race during the day with six laps each.

JULY 15TH AND 16TH: Prize not won owing to weather conditions.

JULY 17TH: Two return tickets to Paris, presented by Imperial Airways, Ltd.: No. 23 (KING KITE); Entrant, F. Slingsby; Pilot, Squadron-Leader P. M. Watt; for the longest goal flight of the day, from Dunstable to Ramsgate, 92 miles.

A Waterman fountain pen presented by L. G. Sloan, Ltd., for the longest cross-country flight of the day: Won by the same machine and pilot.

Sets of K.L.G. sparking plugs, presented by the K.L.G. Sparking Plug Co., Ltd., to the owners of the six cars completing the greatest distance whilst engaged in retrieving gliders from cross-country flights: It is impossible to ascertain with certainty which cars completed the greatest distance owing to the fact that the same car was not always used for retrieving the same machine The six sets are therefore awarded to the entrants of the six gliders achieving the greatest aggregate cross-country distance, to be divided by them between the owners of the cars which retrieved them. The sets are awarded as follows:—

No. 23 (KING KITE): F. Slingsby.
No. 24 (MINIMOA): P. A. Wills.
No. 25 (RHÖNADLER): J. S. Fox.
No. 26 (RHÖNBUSSARD): R. P. Cooper.
No. 28 (RHÖNBUSSARD): R. Pasold.
No. 30 (RHÖNSPERBER): R. P. Cooper.

SEAGER TROPHY RACE: First, Seager Challenge Cup and replica and cash prize of £25: No. 10 (KIRBY GULL); Entrant, Derbyshire and Lancashire Gliding Club; Pilot, G. O. Smith. 109 laps.

Second, Cash prize of £12 10s.; No. 5 (GRUNAU BABY); Entrant, Miss Ann Edmonds; Pilot, Flt.-Lt. R. H. Shaw. 64 laps.

Third, Cash prize of £7 10s.; No. 2 (CAMBRIDGE II); Entrant and Pilot, E. J. Furlong. 17 laps.

Fourth, Cash prize of £5: No. 31 (TERN); Entrant and Pilot, G. A. Little. 11 laps.

Open Contest: Final Position

No.	*Sailplane*	*Pilots*	*Points*
30	RHÖNSPERBER	C. Nicholson, J. P. Dewsbery	464
23	KING KITE	P. M. Watt	459½
25	RHÖNADLER	J. S. Fox, P. B. N. Davis	413
24	MINIMOA	P. A. Wills	332½
28	RHÖNBUSSARD	R. Pasold, I. Pasold	200½
26	RHONBUSSARD	R. P. Cooper, Mrs. J. Price	176
14	H-17	F. T. Gardiner, J. T. M. Parker	153½
17	KIRBY KITE	D. F. Greig, J. C. Dent, G. H. Stephenson	151½
13	KIRBY KITE	J. W. S. Pringle, J. T. M. Parker, R. C. G. Slazenger	141½
27	RHÖNBUSSARD	S. Humphries, L. C. Withall	117
1	CAMBRIDGE I	G. W. Pirie, M. H. Maufe, C. J. Wingfield	92½
12	KIRBY KITE	J. V. Rushton, G. Edwards, R. F. James	81
2	CAMBRIDGE II	E. J. Furlong, O. H. Furlong	70½
22	KIRBY KITE	J. E. Simpson	68½
21	KIRBY KITE	S. C. O'Grady, R. M. Smart	63
18	KIRBY KITE	K. G. Wilkinson, A. B. Wilkinson, K. M. Chirgwin	55
4	GRUNAU BABY	E. Taylor, J. Parker, J. G. Shepard, G. M. Thompson	53
10	KIRBY GULL	A. Davies, L. R. Robertson, G. O. Smith	49
20	KIRBY KITE	F. J. Davies, R. F. James, B. T. Olver	41½
15	KIRBY KITE	P. Brown, E. Swale	39
29	RHÖNBUSSARD	E. Swale, J. G. Shepard, L. R. Robertson	35½
19	KIRBY KITE	Miss A. Johnson	29
6	GRUNAU BABY	N. W. Burnett, H. C. Bergel, A. Ivanoff	18
8	GRUNAU BABY	G. M. Thompson, S. D. Dickson, R. F. James	8
9	GRUNAU BABY	K. W. Turner	2
3	CONDOR	E. Thomas	–
5	GRUNAU BABY	Miss A. C. Edmonds, R. H. Shaw, J. Saffery	–
31	TERN	G. A. Little, A. H. Reffell	–

Inter-Club Team Contest

No.	*Sailplane*	*Club*	*Points*
16	KIRBY KITE	Cambridge University	282½
10	KIRBY GULL	Derbyshire and Lancashire	150
18	KIRBY KITE	Imperial College	111
21	KIRBY KITE	Newcastle	63
6	GRUNAU BABY	London	59½
9	GRUNAU BABY	Bristol	2

Inter-Club Class Contest

No.	*Sailplane*	*Club*	*Points*
4	GRUNAU BABY	Derbyshire and Lancashire	386
1	CAMBRIDGE I	Cambridge University	247
18	KIRBY KITE	Imperial College	206
6	GRUNAU BABY	London	162½
20	KIRBY KITE	Midland	141½
21	KIRBY KITE	Newcastle	50

The method of allotting points was:—

Duration: from 2 to 5 hours, 1 point per 6 minutes; beyond 5 hours, 1 point per 4 minutes.

Height: from 1,500 to 4,000 feet, 1 point per 100 feet; from 4,000 to 6,000 feet, 1 point per 40 feet; beyond 6,000 feet, 1 point per 20 feet.

Distance: when the best flight of the day was under 50 miles, 3.5 points per mile beyond 15 miles. When the best was over 50 miles, 2 points per mile beyond 20 miles. For goal flights these points were increased by one-third.

Machines of CAMBRIDGE, GRUNAU BABY, and H-17 types were given 10 per cent. extra on points earned.

No points were given for the Seager Trophy race, in which Nos. 5 and 31, among others, took part.

The total distance flown during the meeting was 2,342 miles. The total duration has not yet been worked out.

The meeting started well with the securing of an international record for Britain, that for duration in two-seater sailplanes. The flight is described in a separate article, being strictly outside the competitions. In fact, all the flights on Saturday, July 9th, were in the same case, though a special prize was offered for aggregate duration, to encourage the competitors to get used to the site.

By the greatest luck, there was some west in the wind on every one of the nine days, so that the public on Dunstable Downs always had something to look at. Now that every pilot who enters for a National Contest is capable of cross-country flying, the problem of keeping the public amused is becoming as acute in England as it has been in Germany since 1934. We first felt it last year, which means that we are now only three years behind the Germans, instead of ten years, as when British gliding began.

However, it is just as well that cross-country flying could be done, or there wouldn't have been room for all in the air, even though, for the first time, entries were limited in number.

Sunday, the first real competition day, was no good for thermals. It started with drizzle in the morning, and hardly improved much in the afternoon, so every-

one declared for "duration" except one optimist, N. W. Burnett, who announced "height and distance." The greatest duration was 3 hours 48 minutes, by A. Davies in the Derbyshire and Lancashire Club's GULL, the only machine of its type present, the other three entered having failed for various reasons to turn up.

Monday, July 11th, began by two John Parkers getting into the air. John Parker, of Cambridge, was launched at 10.07 (and, according to official records, hasn't landed yet). John Parker, of Derbyshire, stayed up for 5 hours 7 minutes and passed one test for his "Silver C." In the light wind at first prevailing, there was hardly room for people of other names, and only four were allowed up with the Parkers. Later the area of lift increased. In the afternoon the sky, which had been unpromising, changed completely and broke up into large cumulus clouds. Nicholson, who had been slope-soaring for three hours, suddenly picked up something and went 106 miles to Lowestoft, making the longest flight of the day and of the meeting. The extraordinary thing is that, with one exception, nobody else got more than 33 miles. The exception was Sqn.-Leader Watt, who went 87 miles.

There is, as usual, no space this month to describe all the cross-country flights, so they will have to be put off till next time. There were 16 of them this day with a total distance of 471 miles. The most spectacular departures were those of seven machines who all went off in the same thermal; there were two narrow escapes from collisions. Nicholson was lowest of the seven.

Aero-towing was first used on Monday, though only for four launches. The aero-towing was usually done at the Studham private aerodrome, lent by Mr. Butler; it is two miles away along the Downs.

On Tuesday 16 of the 45 launches were by aero-tow, but conditions were poor, and only four short cross-countries resulted from them, one other being made from slope-soaring. The longest flights were made in a pair of "fronts" which passed over in the afternoon; Cooper went 58 miles in the first and Wills 30 miles in the second. Clouds were mostly low, at about 1,700 feet above the hill, in the morning, and not much higher in the afternoon, though there was then some attempt to form cumulus.

The two inter-club contests were by this time beginning to warm up. In the club's teams' contest for the Du Garde Peach Trophy, Derbyshire and Lancashire had been leading on Monday night with 85 joints won by their GULL. But J. Pringle, by doing his "Silver C" duration flight, raised his club's score to 105 points.

Wednesday was the first really good cross-country day—except for Nicholson, to whom, apparently, every day is equally good, for he did the second longest distance by going cross-wind on a goal flight to Lympne. There was a special prize for getting there, and another one for crossing the Channel, which he didn't attempt.

Scenes from the National Gliding Competitions at Dunstable. From top to bottom: 1—The Control Tent; also the loud-speaker with parabolic reflector for warning people off the landing ground. 2—The official parking place for trailers by the rabbit warren. 3—The refreshment tent waiting for customers, and the two-seater busy giving passenger rides. 4—Scene at Studham aerodrome, whence the aero-towed flights started. 5—Admiring the "King Kite's" new-style cockpit cover. 6—Rigging the "Nyborg" to pass the time. (Puzzle: find Mr. Nyborg.)

Even cross-Channel flights were provided for; the Royal Aero Club notified the Aero Clubs of Germany, Belgium, France, Luxemburg, Holland, and Switzerland, of the possibility, and gave every pilot the following document to carry about, together with a French translation:—

DEAR SIR,

The Glider Pilot who has signed below is taking part in the National Gliding Contests of the British Gliding Association between the dates 9th-17th July, 1938, inclusive.

In the event of his landing elsewhere than in Great Britain, the Royal Aero Club would much appreciate any assistance that it is possible to give him.

In Great Britain gliders have no registration markings, nor are pilots obliged to carry any documents. The pilot may, therefore, not be carrying a pilot's licence, aircraft or registration certificates, passport or customs carnet.

The Royal Aero Club has notified your National Aero Club of the possibility of such a landing. The telephone number of the National Aero Club is given below, and in case of any difficulty, it is requested that they may be communicated with.

Yours faithfully

(Or, in the French version):

Je vous prie d'agréer, Monsieur, l'assurance de nos sentiments les plus distingués.

HAROLD E. PERRIN,
le Secrétaire Général.

To return to England, and Wednesday, July 13th, the longest flight of the day, which was also the longest goal flight yet made in this country, was one of 95 miles to Norwich Aerodrome by Fox; it ranks also as the longest club-to-club flight. Another good goal flight was that of I. Pasold to Ipswich, 74 miles. Altogether, in 28 cross-country flights this day, the record distance of 1,026 miles was covered, thus beating the record of 670 miles in a day, set up at last year's Competitions.

There was another narrow escape from a collision when Murray, taking a passenger on a thermal flight in the two-seater, saw another pilot's wing-tip pass two feet below his fuselage.

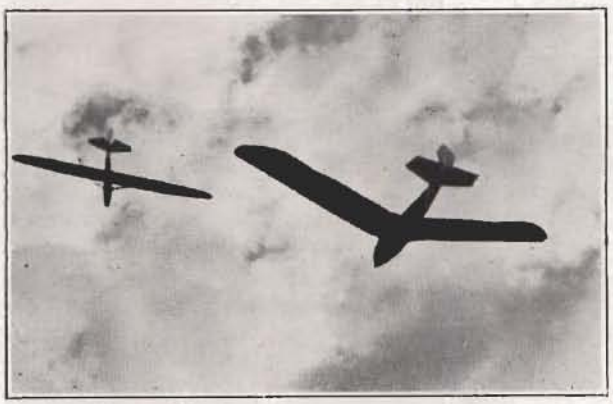
Thursday saw the beginning of the famous Gin Race. The Seager Trophy was offered for the greatest number of laps round a given course performed on the last four days of the competitions. The course was between the control tent (about a quarter of a mile out from the hill) and some point on the hill itself, chosen according to the wind direction. As there was never much more than a just soarable wind on each of the four days, the problem was to find the minimum height from which one could go out to the turning-point and just get back again to the hill. Flt.-Lieut. Shaw, who proved specially skilful at this game, managed six laps in the day, as did also the London Club's GRUNAU. Next day Shaw was the only one to do any laps at all; he made two, but only by catching a thermal each time to gain a little extra height.

There were only three short cross-countries on Thursday. At 3.30 a promising burst of sunshine at the aerodrome was followed by the arrival of Wills by road, and everyone who wasn't rigged at once started rigging; but it was a false alarm.

Friday was worse. From 13 aero-tows in the afternoon, 17 minutes was the longest flight. In fact, until 2 p.m. there was a sort of indefinite cloud base only just above the hill top. So, to create a diversion, someone suggested: "Let's rig the NYBORG."

Saturday was hardly better, though Wills and Furlong managed to reach Luton Aerodrome, which was having its official opening. Furlong landed alongside the 2s. enclosure, got out, tripped over a telephone wire, and fell flat, providing the first laugh of the show. Amy Johnson was then aero-towed over to give an aerobatic display, and the same aeroplane towed Wills back to Dunstable.

Meanwhile the Seager Trophy race got going in style, with an improved slope-soaring wind. It became a neck-and-neck race between G. O. Smith, in the GULL, and R. H. Shaw in Ann Edmonds's GRUNAU BABY. The way the latter would get back half-way down the hill and climb again to the top was amazing. The GULL finished the day four laps ahead, having done 38 since the race began. Then, on Sunday, both machines drew level once more when each had reached 64 laps; but, alas! Shaw did one lap a bit too low, had to land, and found his tail skid broken, so the GULL was left in possession of the field and totted up 99 laps in all.



While putting up the new international duration record for two-seaters, W. B. Murray and J. S. Sproule lost their last packet of sandwiches in the fuselage, and dropped an urgent message asking for more. Here is R. H. Shaw, in a "Grunau," trying to comply with their request, the packet can just be seen dangling below him, but whenever it came nearly within reach of the hungry ones, the drag wires on the "Falcon III's" nose swept it aside.

Sunday was a cross-country day once more, with a goal flight to Ramsgate, 91 miles, by Watt, as the longest. There were 42 flights totalling 737 miles. So the meeting ended in good style after all.

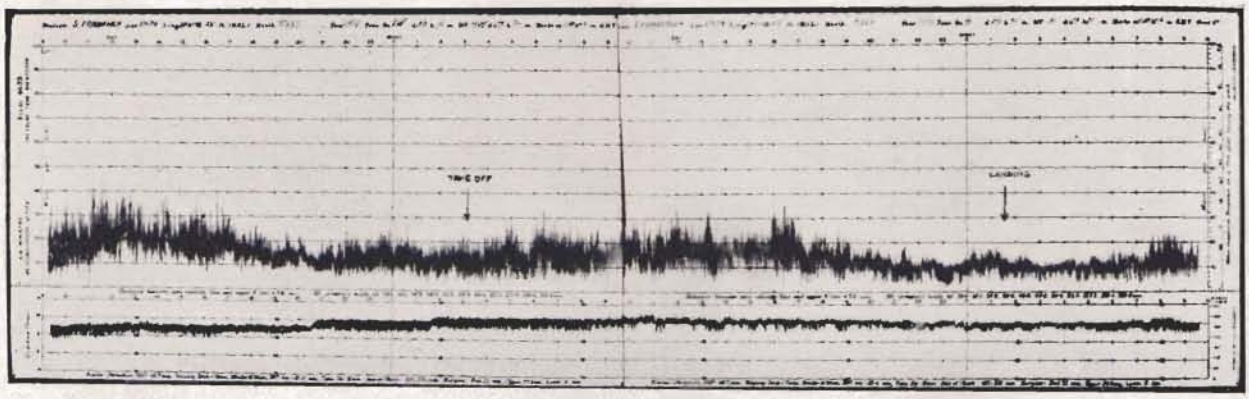
The Gold Badge

The first British holder of the new international Gold Badge for soaring, for which flights of 300 km. distance and 3,000 metres altitude must be made, is Mr. P. A. Wills, who has exceeded both these figures in his MINIMOA sailplane. He has been awarded No. 3 in the international series.

Rest of the News

As the public did not buy last month's double number in hoped-for quantities, we have had to go back to our usual size and hold over much promised news. Both the American and German National Contests have been unusually successful, and in Germany new world's records have been set up.

An International Record



A record of wind velocity and direction taken at South Farnborough before, during and after the time duration record for two-seaters was being set up 40 miles away. It explains many of the pilots' difficulties. The direction tracing, which is below, moves upwards for a veer of wind from west towards north, and downwards when it backs towards south. The lulls between 21 and 23 hours on July 9th are well shown, as well as the tendency to back throughout the last five hours of the flight.

IT is a long time since an international gliding record was set up in this country. The last occasion was in 1922, at Firle Beacon, when the world's single-seater record was raised to 3 hours 21 minutes and the two-seater record to 49 minutes. But two-seater records were not officially recognised until the beginning of last year. The first official two-seater duration record was therefore that of 9 hours 48 minutes put up by W. B. Murray and J. S. Fox in Germany last year. This was raised to 14 hours 3 minutes by Jachtmann, at Sylt Island, on November 26th-27th, and by Erich Meyer to 21 hours 2 minutes at Hornberg on June 29th this year.

Flt-Lieut. Murray had the advice of Mr. Poulter, the meteorologist at South Farnborough, before deciding to attempt a new record. Friday afternoon, July 8th, looked hopeless, but a west wind was promised for early the next morning, lasting for 48 hours. It came, and at 4.9 a.m. on Saturday W. B. Murray and J. S. Sproule, both of the London Gliding Club, were winched into the air over Dunstable Downs.

They watched the countryside wake up, and then went along to Whipsnade to watch that wake up too, but nearly bought it, as they came all the way back below the top of the hill. It was rough going for the first five hours, and Sproule was air-sick when not piloting; then things became more pleasant, and after the National Competitions had woken up too, there were other machines in the air for company. All went well through the morning, with Murray reading a book ("South Wind") when not busy keeping height in the west wind. But in the afternoon a succession of showers came by and spoilt things. Murray had on a flying suit which gathered in all the rain that went down his neck, and when, in the last and thickest rainstorm, he put up his hand to shield his eyes, it ran down his sleeve too.

Not knowing exactly what the previous record was, they dropped a note in the evening saying that they intended to land at ten. This caused a commotion down below; messages were flashed by Morse and shouted by loud-speakers, telling them that 2.13 a.m. on Sunday was the earliest landing time if they wanted to beat the record by the officially required 10 per cent. So they went on into the night.

Luckily there was something of a moon, though behind thin clouds, and a number of cars, having heard the news broadcast, came along and outlined the top of the ridge with their sidelights. A searchlight was directed on to the lower wind sock and some unknown benefactor unscrewed his headlamp and shone it on the wind sock on top. Sproule had been piloting through the twilight, but Murray carried on through the hours of darkness, finally leaving Sproule in fresh condition for making the landing by car headlights when the great moment arrived. He landed beautifully in the middle of the club ground, had a drink and went to bed. It wasn't long before Murray was in bed too. A very fine effort!

"All lit up": The club house at Dunstable at about midnight on July 9—10, during the two-seater duration record flight. The searchlight on the bar roof is trained on the wind-sock. Mrs. Turvey is seen preparing supper for Murray and Sproule.

[Photo by L. Wright.

"Cloud Cuckoo"

GLIDING folk have for some little time now felt a growing concern at the realisation that they were not alone in their quiet enjoyment of Disney. It was indignantly noticed that the Ordinary Public pays its 1s. 6d. without a murmur, and then actually has the nerve to laugh outright at Goofy or Dopey, simply because the O.P. gathers it is the proper thing to do. And why does the O.P. gather that it is the proper thing to do? All on account of a young chap, wearing a Polytechnic Tours badge, who couldn't control a yelp at "Gosh, it's boisted!"

Well, here was a nice state of affairs, and it was clear that something had to be done about it. And, to cut a long story short, something has been done about it. Something which puts your true glider back into his sphere of sublime isolation, and allows him to keep the O.P. once more where it belongs.

For it is no mean something that has been done. It is, in fact, the creation of a new star, in a new firmament by a new creator, which—if we reverse the order, and spill the beans—is to say that Lawrence Wright (or Moult Bunjy if he prefers to remain anonymous) has written, drawn, photographed and orchestrated a a real live Hilly Harmony in two flick rolls (about twenty minutes), all about gliding with a real live hero called Wilbur Sparrow. Moving among the delighted audience after this film's première performance at Dunstable, it was impossible not to conclude that Wilbur had found the hearts of this specialised congregation just as surely as the Three Little Pigs hit the O.P. a luscious lam some years back.

Certainly the whole production of this superlative one-man show bears no trace of the word "amateur." It could be let loose on the O.P. without a qualm if it were at all likely that anyone would have the least idea what it was all about. But therein lies the picture's selfish charm, for it relies for its appeal so much upon all the little twists which make gliding a complete cramp in the gluteal to any but those who understand the word "lifting."

Some of the shots—the hangar of the Unstable Gliding Club after Wilbur had force-landed through it, the peaceful penetration of the magnificent MICKIMOA—are really superb, while the low attempts by the villain (hiss), Harold Hawk, to do Wilbur dirt, if not quite in the best motorless tradition, are an essential part of the story, which hangs together extremely well.

But my job is to boost the box office, not to bring the story to your easy chair. Anyway, I can't hope to do it anything like justice. So to you, Cloudbase Claude, and to you, Groundslide Gregory, I would say that you don't know what you have been through, or what you are going through, unless you have seen "Cloud Cuckoo."

PHIL IRME.

Some "stills" from Lawrence Wright's cartoon film: Wilbur Sparrow takes up gliding; Harold Hawk does a perfect "A" through the power cables; Wilbur reads of great deeds in "The Sailplane"; while Hawk, the villain, joins his bunjy to the aero-tow cable; later, the pilotless aeroplane chases our terrified hero down the sky.

Evening Thermal to 5,000 feet

[Two descriptions by pilots of how an "evening thermal" lifted them a mile high, above the Derbyshire and Lancashire Gliding Club, are followed by two articles discussing the cause of the phenomenon.]

TUESDAY evening, June 14th, at Camphill, is a date I shall always remember. Certain jobs had to be done to get a GRUNAU through its C. of A. for the Comps., and this seemed none too good a night for soaring. The conditions looked "dead," although a 20-mile W.N.W. breeze was blowing. Someone decided to try it, however, and the taper-wing KADET pushed off, did the most amazing 300-foot climbing turn over the N.W. slope, and proceeded to blow "up" vertically into the light clouds forming over the edge. Then Swale took the KITE up and jumped up above the lower levels of misty cloud.

By this time all thoughts of ground work were over and machines were coming out at the double, with a big run on barographs at the same time.

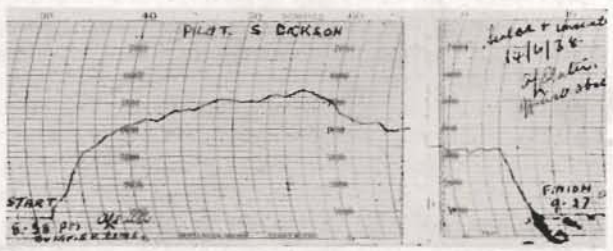
I got away in the club GRUNAU at 8.38 with a 300-foot winch launch and turned north to make the first short beat to the N.W. slope some 400 yards away. By the time we arrived there (say one minute) I was very surprised to see wisps of cloud between me and the hill, and to realise that the altimeter needle really was at 700 feet.

From then on I became fascinated by two facts—first, that the green ball was trying to get out of the top of the tube, and secondly, that it didn't matter where one flew the ball just stayed at the top. Tapped it twice, looked at the altimeter and realised that in four minutes we had climbed 2,100 feet. About now the green ball got "lazy" and hung about half an inch from the top of the tube. The air was amazingly calm; no stick movement was needed at all.

The ground was now covered about six-tenths with thin wispy clouds. In front, to the west, was a stratum of cloud which was dropping away in exactly the way it does in a "power climb." At 3,000 feet on the clock I decided to carry on up to "Silver C" height and then scoot down to let the others have a go.

I tried to work out what reading was necessary for this. Camphill is 1,200, plus launch, say, 350, minus calibration error, minus my errors. What's 1,000 metres in feet? Problem solved by clock reading 4,000. So now we'll go down—don't suppose the barograph is inking anyway! Speed up to 40–45; —— funny! The green ball has stuck—no, it's going "up"; but this is silly, I want to go down. Speed up to 50; that's better, the green's only an inch up—ah, yes, fly *out* further; that's it—green ball stuck "up" again.

Clock says 4,500 now. This is very awkward! Fly back behind the edge—where is it anyway? Below those clouds? Keep the speed at 50–55, green ball very lazy now, almost bouncing on the bottom. Must be getting late. Cross-country? No, too late, it's getting murky down there. Wish I was over the back wall in the down draught—ah! there's someone else in the cart too—Hardy in the short-wing KADET at 4,000! Actually he must be above 4,000 because he's



A photograph of Mr. Dickson's barograph record.

certainly not much below me, and my clock says 4,200 or thereabouts. Must get rid of this height someway.

Try over to Mam Tor—that's better! The red ball kicked once in five minutes. No luck on the return journey; only lost 200 feet. This is serious! Try back over Grindleford round by Tideswell Cross Roads. Very occasional red ball and clock at 3,700, speed still 50–60 with occasional moments of sanity when we pull the stick to see if the machine still can fly at 35. It's not so smooth going now—can't see much ground anywhere now, and these clouds below don't look at all "thin." Here goes! Sixty's the speed and then very rough going through the layer of clouds. Come out at 2,500 and the moors look very dark and forbidding.

About 2 miles to go with nothing nice to land on in between—should make it easily—but the red ball's hitting the top now—very, very rough—there must be the heck of a lot of wind here. Can just get in, I think—must get in—steeplechase two walls and into very small sloping field near hangar—touch a tip down, round she comes—was that the skid? I'm afraid so.

Jerry Smith in CONDOR is just coming in. Never seen anything quite so hectic-looking nor so skilful. John Noble says its blowing 70 on the edge—Hardy's done the best show—only had about 2½ hours' soaring, if that, and goes to 4,000 feet and brings the KADET in (after 20 minutes' struggle at 400 feet over the back wall) without a scratch. Launched 8.38, landed 9.27—the fleet's in port again.

Swale in the KITE was above me when my clock said 4,200 but his barograph didn't ink. Ultra-violet ray photograph of chart has since showed that he got well over 4,000 nett. Hardy hadn't got a clock, worse luck, but he was at shouting distance when my clock showed 4,200.

How did it all happen? Perhaps a wind freshening from 25 to 70 in less than an hour at evening thermal time (after two scorching days) scooped over the reverse sides of the several valleys to the west of Camphill and thrust the waiting "thermal" air up over a large area in front and above itself. Certain it is that over an area of seven miles north and south and six to seven miles east and west, lift was of the order of 150 feet per minute and rarely less at 3,000 to 4,500 feet, and conditions dead smooth. Below 2,500 feet flying was just plain hectic! And below 1,000 feet verging on dangerous. The ground crew could hear machines at 3,000 feet "whistling," and prayed audibly as each machine came in to land.

S. D. DICKSON.

A Climb to 5,300 feet

JUNE 14th was a warm day with bright sunshine. Wind 15 to 20 m.p.h., W.N.W. At 4 p.m. a very long front passed over with wind backing to S.W. and increasing some 10 m.p.h. After the front the wind returned to W.N.W. at about 5 p.m., maintaining the increased strength. From 5 p.m. to 6.30 thin wispy clouds were forming in lanes across the line of the wind direction, following the ridges separating the valleys at a height of some 500 ft., rising later to about 1,500 ft. From Camphill the rear ridge of Froggatt, 5 miles to the east, Camphill ridge itself and the line of hills to the westward 10 miles away. From this point, later observations from the air seemed to indicate that the clouds were continuous to the west coast. All the valley areas were clear up to darkness falling.

That was the observed sequence of the atmospheric conditions, with the addition that the ground temperature was steadily falling.

At 7 p.m. the taper-wing KADET was launched. The general assumption was that the cloud on the hill would blanket out the hill lift and there would be a very low ceiling with rough conditions. This frequently happens. It was rough going up the winch rope, the machine entered the hill lift, which was very rough, but at about 800 ft. the lift became stronger and smoothed out, and the KADET, heading out into the valley, was well away.

I was next off in the KITE. As with the KADET, the launch was very rough, but at 600 ft. the roughness disappeared; the variometer showed 10 ft. per sec. rise. I allowed the machine to drift over the ground, headed dead into wind, kept the speed at a steady 35 m.p.h., and with no ground speed either forward or backward, proceeded to climb steadily in phenomenally smooth air. So smooth was it that it was possible to relax completely. At 3,000 ft. the reading on the variometer slowly dropped to 3 ft. per sec. and remained constant at this until 5,300 ft. showed on the clock. I was still in the same position in relation to the ground. At this height the green ball slowly sank on to its seating but the red ball did not come up.

I decided that the time had come to explore and to try and find how far the lift did extend, and turned partly down wind. Stoney Middleton, 3 miles away, was soon reached. No sink. From there I made across to Miller's Dale, 5 miles, heading west for Chapel-en-le-Frith, 7 miles. Here I encountered slight sink and this continued all the way across the hills to Castleton, but only at the rate of some 6 ins. per sec. with an airspeed of 45 m.p.h. Arrived over Castleton with 4,000 ft.

The problem to be faced now was how to get down, and the cement works smoke showed that the wind was increasing. There appeared to be no compensating downdraughts anywhere in the area. However, by putting the speed up to 50 and gentle side-slipping 1,500 ft. was reached. At this height I paid a visit to the landing ground and, turning over the back wall pointing to the edge, with 50 on the clock I shot up to 2,000 ft. Out again to lose height, and over Bradwell village found downdraught for the first time. Descending to 800 ft. I dashed for home and there the fun started. The wind at ground level had increased to about 50 m.p.h.; the KITE was literally tossed about like a cork on the sea, and before it was all over with the machine safely on the deck that 800 ft. had taken some 10 minutes to get rid of with the clock frequently showing over 60 m.p.h.

We shall be happier at Camphill when we can really say just what is happening on these occasions, as we believe it is unique to the site. If we could only predict when it was going to happen Camphill would be the happy hunting ground for pilots who only require height for "Silver C." It is so much cheaper than aero-towing, providing only that you get down all right!

G. SWALE.

Facts and Theory

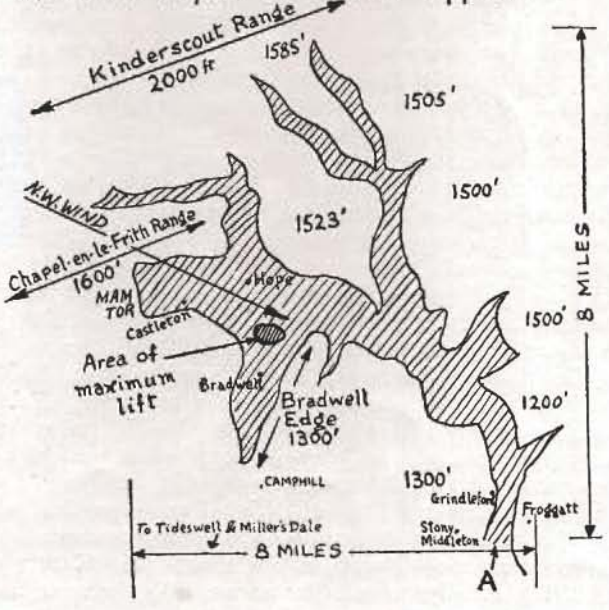
FURTHER in the matter of the celebrated "evening thermal" at Camphill, present observations seem to show the following effects to be coincident with, the cause of, or the result of, the said development:—

The effect occurs with a W. or N.W. wind, more so in a N.W. than a W., and if in a W. wind there is a swing towards N.W. during the effect.

It only occurs after a warm, sunny day *with clouds* usually of cumulus type, not very high (2,000–4,500 ft.).

It occurs after the sky has cleared, i.e., usually after 7 p.m. Summer Time, and in conditions of good visibility. Its development is accompanied by general haze up to 2,000 ft., and by the appearance of a lenticular *cum* line-squall type of roll cloud in the distant west. This roll is grey-blue in colour and has no light and shade effect as in a "front," but this may be due to the sinking sun being behind the cloud. This cloud breaks up about four miles before reaching Camphill, and only wispy fragments cross the valley at about 1,500–2,000 ft.

Sketch shewing general shape of Castleton-Hope-Bradwell valleys at an effective depth of 600 ft approx:



The air is warm and smooth before and during the "thermal," but when the "sink" arrives (as it always does) the air is cold and turbulent.

The stronger the wind the more powerful and lasting is the evening thermal.

The "thickness" of the thermal effect from edge of hill to limit of lift is two to three times that of the best normal hill-lift.

The lift in and below the wispy bits of clouds, when they do arrive, is slight, and the clouds, as they approach or pass the machine, can be seen to be dissolving.

The barometric pressure falls just as the thermal begins, and increases as it passes.

THEORY.—W. or N.W. winds blowing across the Castleton, Hope, Bradwell, Hathersage valley form a ceiling which imprisons heated air over many square miles. (This valley is closed at the west end, and one of the few escape-roads for heated air, if any, is via Bradwell Dale.) This confining effect is strengthened by the presence of clouds during the day.

When the cumulus clouds disperse and the sky has cleared, a roll of cold air comes into the valley over the Kinderscout and Chapel-en-le-Frith line of hills, and in the manner of a front pushes the warm air out of the valley.

A confirmation of these ideas has occurred several times lately; once when several machines were taken up to 5,000 ft. or more [as described above] at which height they could tour around the district without losing height up to a distance of 4–5 miles from Bradwell, in several directions; and more particularly during another evening of the same week when the maximum heights were below 2,000 ft., but the curious phenomenon was noticed of the cold air coming down into the Castleton, Hope, Bradwell valleys in the form of a light mist creeping over the ground from the west. This seemed to have the effect of forcing up the heated air from the valley to a height at which it condensed to a layer of cloud (about 1,500 ft. over the hill) above which one could fly but could not gain any more height, the lift between hill top level and cloud level being of the order of 10–15 ft. per second.

The 5,000 ft. lift occurred with a strengthening N.W. wind (as pilots found on subsequent and expensive landings), and we assume we were experiencing a combination of the foregoing and the wave effect described last year.*

C. A. KAYE.

* *The Sailplane and Glider*, August, 1937, p. 179.

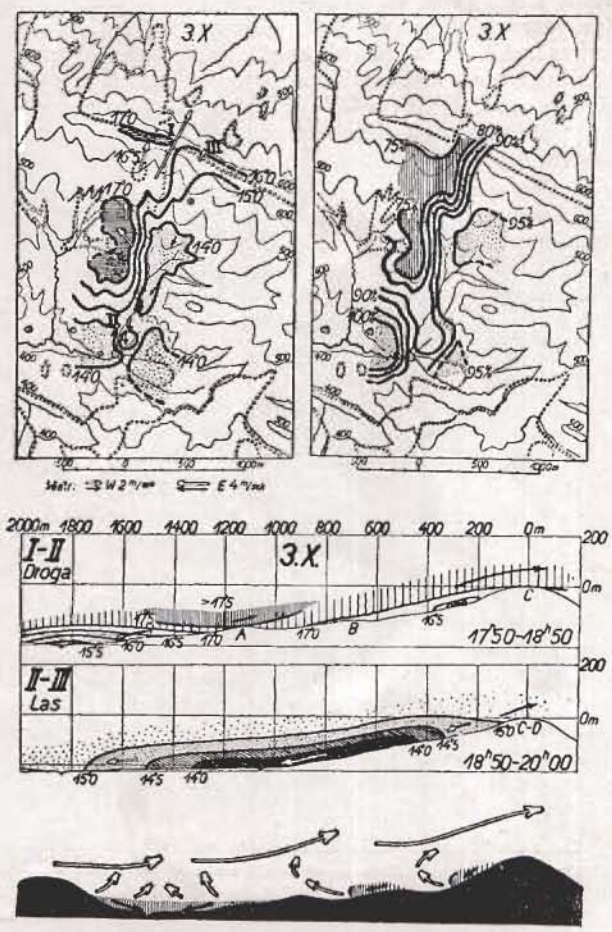
Research in Poland

On September 20th and 21st, 1934, several flights were made in "evening thermals" at Bezmiechova, the Polish gliding centre in the Carpathians. The longest were from 17.02 to 22.37 on the 20th and 17.55 to 22.50 on the 21st, sunset being about 17.40. In consequence, Dr. Adam Kochanski and Tadeusz Wasiljew arranged for regular observations of temperature and humidity to be made in the region from the crest of the ridge, whence launches were made to the valley over which the thermal effect was found. Their researches are described in French in the "Istus" publication *Mitteilungsblatt No. 4* (August, 1935) and in German in *Der Segelflieger* (October, 1935).

From the former the accompanying diagrams are reproduced. The upper two show a map of the site, with contour lines drawn thin and wooded areas bounded by lines of small circles. White arrows show the direction of the comparatively warm wind in which the sailplanes flew (it was light in strength), and black arrows the flow of cold air—cooled by ground which had been radiating its heat away into the sky—downhill by gravity. Thick lines denote, in the left-hand diagram, lines of equal temperature, and, in the right-hand, lines of equal relative humidity (showing 100 per cent. in the lowest-lying parts, where fog probably existed).

The next diagrams show vertical sections along two routes: one (from I to II on map) crossing open ground, and the other (II to III) traversing woods. Above the ground surface, lines of equal temperature are shown. It will be seen that much of the cold air over open ground has run down to the bottom of the valley, whereas in the woods it is being delayed on its journey. This disposed of the theory, at first thought to account for the flights, that thermal lift was being created by imprisoned daytime-heated air in the woods breaking away.

The lowest diagram gives the resulting theory of what was actually happening: "drops" of cold air were flowing down the hill and pushing up warm air before them out of the valley.



The Yorkshire Club's Advanced Course

"WE, the visitors to the Yorkshire Gliding Club Special Week, have had such an extraordinarily happy time that we feel the least we can do is to record our appreciation. It was a pleasure to be shot into the air on every possible occasion, and to be able to take full advantage of everything that weather conditions offered. The good nature of the officials and the magnificent food have made this holiday one we shall always remember."

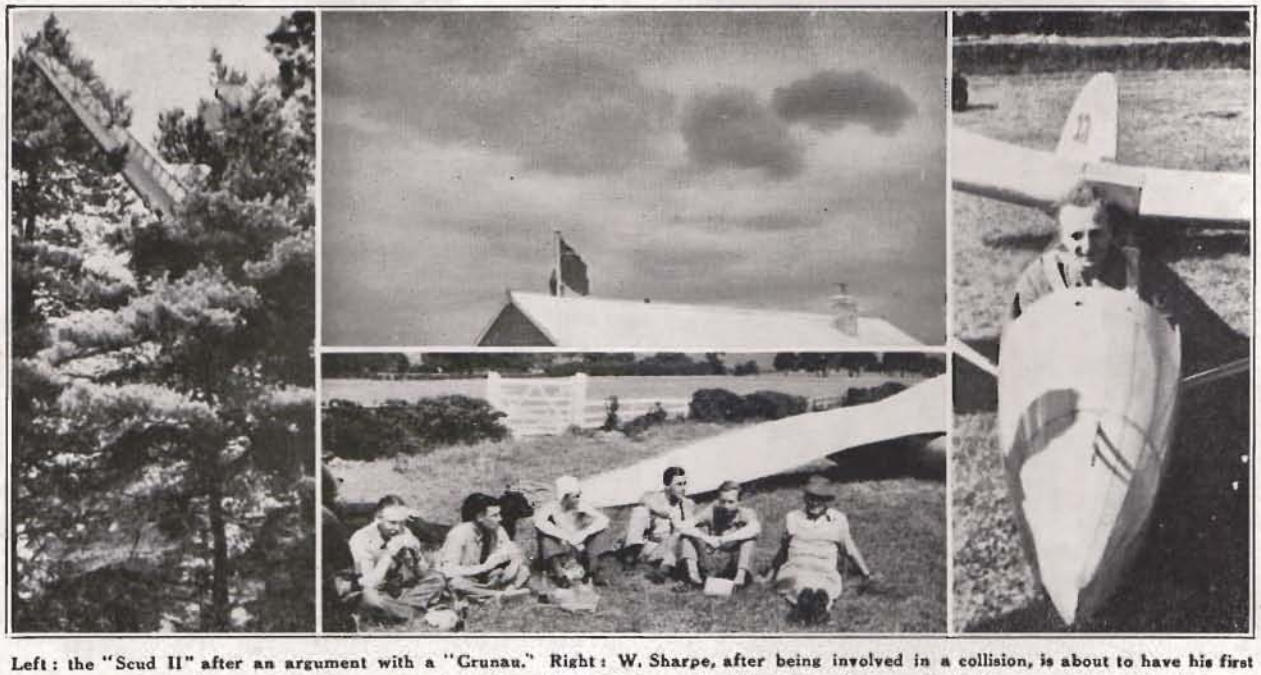
This letter expresses, and compresses, nine days' extended enjoyment in three sentences; more need hardly be said, such is the Yorkshire Gliding Club's reputation for hospitality. It was signed by W. R. Horsfield, A. E. Slater, O. H. Furlong, and J. S. Sproule, of the London Club, J. E. Simpson, of the Cambridge Club, and W. W. Liddell, of Ulster. Of these, Horsfield brought his SCUD II, Simpson his KIRBY KITE, and Liddell took delivery of his new GULL from Slingsby's. Another private owner was A. O. Pick, of the Yorkshire Club, with a GRUNAU, and other Yorkshire members of the course were W. C. Sharpe, I. A. Forbes, A. J. Dene-Drummond, J. C. Neilan, and H. Bailey (chief test pilot of Blackburn Aircraft), making twelve altogether for the first course in advanced soaring ever held in this country.

Was the experiment a success? To answer this one must know what is expected of an advanced course. Wolf Hirth, who started the Hornberg gliding school five years ago specially for the holding of such courses, writes in his latest book that, of those who have recently obtained the "C" certificate, "only a section will be able to get the "Silver C" during the first course. Most will need two, many three courses of two to three weeks' duration before attaining this goal. . . . The total flying time put in by a pupil in four weeks' courses is on the average eight to twelve hours, though confident pilots have often reached 20 to 24 hours in this period."

Judged by these standards, the Yorkshire Club may be reckoned to have succeeded in its declared object of "providing high-performance flying facilities comparable with the best amenities obtainable abroad"—considering the weather. Actually there were thermals of a sort on most days, but they were sparse, and the five "Silver C" pilots on the course could rarely stay up long in them. Nevertheless, if none of the others got any "legs" towards the "Silver C," they crawled a good way in the right direction.

The total flying time put in by course members, between 80 and 90 hours, compares well with Hirth's estimate, even allowing for the fact that that "confident pilot," A. O. Pick, accounted for 36 hours of it, and that two more pilots, R. C. Pick and W. T. ("Toby") Fisher, joined for the last week-end. Since several of the better pilots were allowed Slingsby's KING KITE, there were actually eight machines between twelve people most of the time, for the Yorkshire Club made a rule that course members should have first call on its GRUNAU, KITE, and GULL; ordinary club members could only fly these machines when they were disengaged. As to cross-country work, course members were given barographs, parachutes, and maps for the asking, but it was understood that they were not to go away unless they got well up towards cloud base and there seemed a reasonable prospect of getting somewhere.

As it turned out, there were four days of aero-towing and winching at Welburn Aerodrome in light south-



Left: the "Scud II" after an argument with a "Grunau." Right: W. Sharpe, after being involved in a collision, is about to have his first aero-tow next day. Above, centre: the overcast sky under which O. Furlong flew 23 miles to Saltburn; he is far away in line with the top of the flagpole. Below, L. to R.: H. Bailey, O. H. Furlong, J. S. Sproule, K. Lingford (aero-tow pilot), J. E. Simpson and W. W. Liddell, at Welburn.

Mr. Angus O. Pick, of Leeming Bar, in his "Grunau Baby" in which he set up a new British duration record of 13 hours 27 minutes on July 31st.

easterly winds, four of slope-soaring at Sutton Bank in strong south-westerlies, and one dud day which was just wet.

The course started on Sunday afternoon, July 24th, with 13 aero-tows at Welburn. Thermals were not good, and Neilan did best with one hour in KING KITE. Monday was a similar day. Horsfield had the first winch launches of his career (and the first one was pretty hectic); but—" 'Vantage number one," as Kipling would have said, for he couldn't have done *that* till next year if he had stayed at home.

One of the original reasons for choosing Sutton Bank as a soaring site was what looked like a magnificent south slope; yet it is rarely used nowadays, for the Yorkshire Club prefers its pilots, in southerly winds, to make for the northern end of the big west-facing horseshoe, where they say the lift is far better, although the slope there only faces south-west. This sounded so incredible that, on Tuesday, I refused to try it in a GRUNAU until I had seen it done—and not merely by Mr. Pick, who knows every inch of the local up-currents so well that he is invariably on top of everything else, where not even GULLS can reach him. But, sure enough, it worked, and one only loses 200 feet during the mile-long up-wind journey home, the last part of which should, by rights, be in a down-draught.

On this day Pick, after flying for 2 hours 15 minutes, landed at Welburn, was aero-towed back, and continued to soar for another 8 hours 5 minutes.

Wednesday was another day at Welburn. Thermals were weak at mid-day, and by 4 p.m., with an overcast sky of thick alto-stratus, things looked quite impossible.

However, Furlong was towed up in the GULL and, to the astonishment of all, drifted away to the north without losing any height. Actually he rose slowly to cloud base at 4,000 feet, climbed in the cloud to 4,600 and then, coming out of its side, couldn't see his cloud at all, so ill-defined was it. So the rest was a long glide down to the coast at Saltburn-on-Sea, and a landing from 400 feet at no forward speed, the ground wind being twice as strong as at Welburn.

Thursday was another slope-soaring day, though the wind was too fierce even for the Yorkshire Club till the afternoon. Pick repeated yesterday's performance with flights of 1¼ and 5 hours.

On Saturday a south wind provided pure hill lift to 1,000 feet at the north end of the Bowl. R. C. Pick got into cloud and went eight miles to Bilsdale.

British Duration Record

Sunday, July 31st, was an eventful day. A. O. Pick, after consuming just a cup of tea, was launched at 8.26 a.m. with nothing but four bars of chocolate on board, three of which remained uneaten when he landed at 9.53 in the evening, having beaten by 20 minutes the British duration record of 13 hours 7 minutes set up by J. C. Neilan at Sutton Bank three years and 15 days earlier.

He hadn't been in the air more than a few hours when he witnessed, from above, the first collision to happen in the history of British gliding. W. C. ("Billy") Sharpe was flying the club GRUNAU at a lower level than W. R. Horsfield in SCUD II when they turned towards each other. But they must have been in different vertical currents, for they both arrived at the same spot at the same level. SCUD II touched the GRUNAU's wing-tip and then charged into its fuselage just in front of the tail. Horsfield, as his nose dropped away, gave up hope—then found his elevator and ailerons were still working, though not the rudder, as his feet were dangling in the open air. Rather than land on them, he made for a wood and stalled gently on to the tree tops, from which point of vantage he asked the club officials to note that he was doing five hours for the "Silver C" and hadn't landed yet. But after an hour he got fed up and risked his neck once more by climbing down the tree. The SCUD was lowered by fire escape later. Billy Sharpe was also uninjured, but couldn't remember why; Pick, who had been the only witness of the collision, said that the GRUNAU had fluttered down like a piece of paper; and no wonder, for its tail was nearly off.

Pick continued to soar, at first from 500 to 1,000 feet up, then, with the help of thermals, to 2,000 feet. But for the last two hours of the flight, when a veering wind confined him to the edge of the club ground, he sank gradually from 200 to only 50 feet. No-one else could have kept up at all, and watchers stood fascinated by his technique. The whole time he was just on stalling point; every little gust was used, and every two m.p.h. extra on the turn was converted back into height the moment the turn was over. At last, when it was nearly dark, came the landing, and a hearty meal—his first that day!

At Welburn, next day, the machines were joined by the MINIMOA, which had been soared the day before by Wills, Bergel, and Simpson. Wills, from an aero-tow at 12.25, took it 76 miles to Lancaster—the longest flight ever made from the Yorkshire Club. He was five hours on the way, so sparse were the thermals. The only other cross-country this day was by Dene-Drummond, 25 miles to Ripon.

Space is unfortunately lacking for an account of the lectures by Flt.-Lieut. R. H. Shaw on navigation and meteorology, but he gave a lot of good advice, especially on the need to study a map before attempting a long distance flight.

So ended the First Advance Course, and one felt one had got a step nearer that desirable state when, as an acknowledged expert, one is allowed to land one's club's best machine in any position and still go on flying it after it has been repaired.

A. E. S.

Correspondence

Useful Gadgets

SIR,

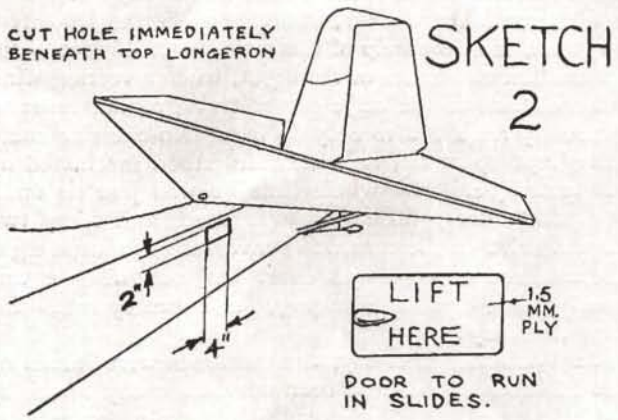
In answer to the plea for ideas of use to the gliding community:

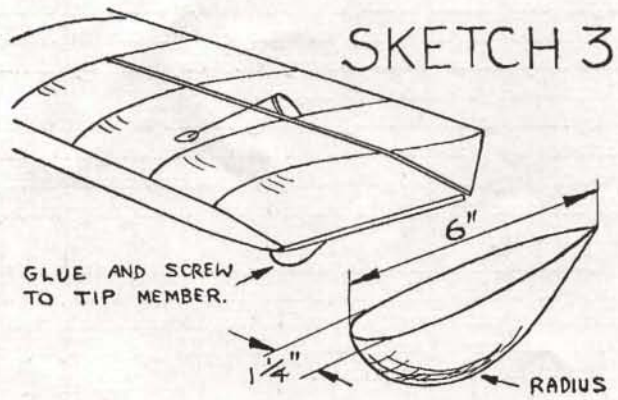
Weak links are to be desired on aero-tows, and the old light-cable method is a nuisance when the cable is broken. Sketch 1 shows the type used by our most progressive club. The copper wire takes only a minute's work to replace.

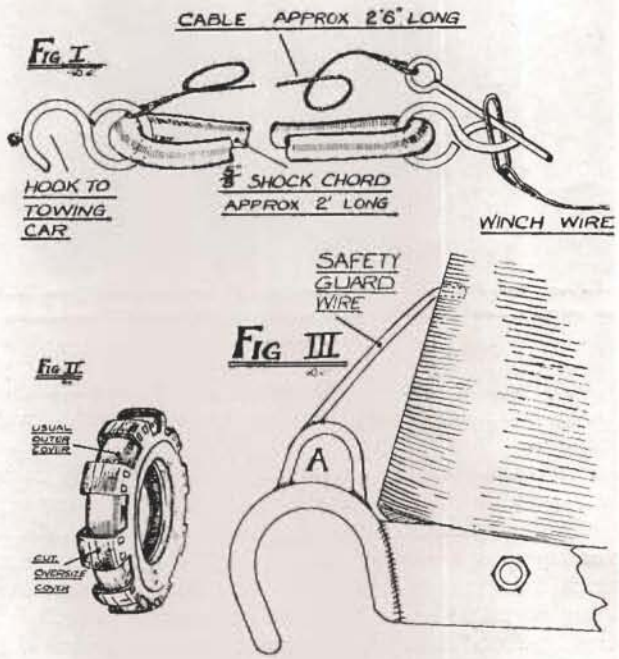
The hand holes, as in sketch 2, have been found tactfully discouraging at Dunstable to people who will lift on the leading edges of tailplanes.

The wing-tip "blobs" shown in sketch 3 prevent the wing tips of primaries from digging in *too* deeply on the more exciting ground-hops!

J. S. SPROULE.







SIR,

I enclose sketches of some gadgets in use at the London Gliding Club which are likely to be of interest to other clubs.

We all know the tale of the chopped winch cable and the trouble which it causes on a good flying day, but what is even more aggravating is when the cable or link is broken by an over-enthusiastic retrieving car driver. A "fool-proof" release (fig. 1) to avoid this has been tried out successfully at Dunstable. Should the winch cable snatch on the drum, or the slack be taken up too suddenly by the retrieving car, the shock cord will stretch out to the length of the safety cable, which will then pull the pin out of the winch cable link and release it.

Fig. 2 shows how old covers are cut and slipped over the usual ones to prevent the towing car rear wheels from churning, as referred to in the June correspondence.

How many times have sailplanes decided that they would like a little flip, without a pilot, just for a change? Two pieces of thick wire, welded on to the normal launching hook, will soon stop this trouble. The retrieving car hook is put through A, and should a gust lift the machine it cannot go higher than the length of the towing rope or chain, which incidentally should be kept specially short for this purpose. The safety guard wire is to prevent any possibility of the launching ring hooking itself over the towing loop.

D. CAMPBELL.

[It looks as if the pin in Fig. 1 would be held too tightly to come out; probably the drawing is not to scale.—ED.]

Variometer Speed-Calibration

SIR,

Mr. Fox, in his letter in the July issue of THE SAILPLANE AND GLIDER, describes a method of variometer

speed-calibration. However, the method involves drawing a large number of curves, all different, and on each of which only one point (the maximum) is of interest.

I suggest that a very much simpler way of obtaining the desired figures is by drawing a polar diagram (see for example Wood, "Technical Aerodynamics," page 192, figure 172) showing horizontal speeds against sinking speeds in still air, both to the same scale. The speed with respect to the ground corresponding to flight at the best gliding angle with respect to the ground can be found at once by measuring the length of the tangent to the curve from a point on the sinking speed-axis corresponding to the down-draught. The air speed at which one must fly is then of course indicated by the length of a line joining the pole to the point on the curve at which the said tangent meets it. The gliding angle with respect to the ground is the angle made by the said tangent to the horizontal speed-axis, and can be measured on the diagram.

By drawing tangents instead from suitable points on the horizontal speed-axis, the air speeds at which one must fly to obtain the best gliding angles with respect to the ground corresponding to upwind and downwind flying in winds of different velocities can be found with similar ease, as well as the corresponding gliding angles. It is mentioned in Latimer-Needham, "Sailplanes" (cheap edition), page 188, that the air speed should be decreased slightly in a following wind, and the method described enables the correct air speed at which to fly in any particular following wind to be quickly ascertained. When the Channel is crossed, it will presumably be in a following wind, and it would seem to be important for the pilot to fly at the air speed giving him the very best gliding angle relative to the ground, or rather sea, and this air speed will not be the air speed giving the best gliding angle in still air. The same applies when a pilot wishes to make as much ground as possible against the wind, except that the air speed must now be increased.

The problem posed by Mr. Fox in the last paragraph of his letter could be quickly solved if one could refer to the polar diagram mentioned above. It is merely a matter of drawing a tangent to the curve from a point representing 1 foot per second down-draught (measured along the sinking speed-axis) and 35 m.p.h. wind speed (measured along the horizontal speed axis). The performance regarded by Mr. Fox as his best performance in a 1 foot per second down-draught is his best performance for a dash between thermals; but unless there is no horizontal wind it is not the best performance with respect to the ground.

PHILIP G. TOVEY.

Various Indicators

SIR,

Your correspondent, E. Lavington, in discussing air-speed indicators, is apparently looking for an instrument that will give direct readings at any altitude.

An A.S.I., whether it is a pressure-plate or a pitot-static diaphragm instrument, depends on the fact that the pitot pressure exceeds the static pressure by an amount ($\frac{1}{2}\rho V^2$) called the dynamic head, where ρ is the air density and V the air speed.

Thus, true speed (V) will only be indicated at the height (generally sea-level) at which the instrument has been calibrated. At any greater height, where the density is less than (ρ) the indicated air speed will be less than true speed.

There are instruments, e.g., the cup anemometer, which are independent of air density, but their unreliability at low speeds and their high drag render them unsuitable.

Surely any pressure-plate A.S.I. is of doubtful value to sailplane pilots, who require very accurate reading over a small range.

RHOVEESQUARED.

SIR,

To keep the ball rolling in the semi-technical field, here are a few observations on Mr. Lavington's letter.

The snag with the "streamer" or "weathercock" type of drift indicator is that while it should, in theory, indicate the true flight path, actually it exaggerates frightfully if anywhere near the fuselage. But perhaps that is a virtue. The ordinary bubble level would seem to be equally good in a machine with a reasonable keel-surface, and it is less liable to damage.

Incidentally, *why* does the bank needle of the Turn and Bank Indicator have to work the opposite way to the bubble level, thereby making confusion worse confounded?

It is true that air speed indicators, not only of the diaphragm type, are affected by altitude, but so is the machine, to a corresponding degree, so that its behaviour at any given reading is unaltered.

The lag of A.S.I.'s is partly due, in some types, to the pinhole through which the air has to pass to get to the diaphragm chamber. This damps out minor variations, and no doubt reduces wear on the mechanism. Another factor may be that one is apt to expect the air-speed to follow the movements of the stick, forgetting the inertia of the machine.

W. E. HICK.

Coming Events

METEOROLOGY LECTURES.—The next lecture in the series being given by Mr. Fox in London is on August 31st. Inquiries to G. H. King, London Gliding Club.

INSTRUCTION COURSES.—August 13th to 21st at Midland Gliding Club; September 9th to 18th at London Gliding Club. The Yorkshire Gliding Club's August course is fully booked up.

BRADWELL EDGE MEETING.—The Derbyshire and Lancashire Gliding Club propose to hold a meeting, to which visiting pilots are invited to bring their machines, during the period corresponding to last year's National Contest: that is, about August 27th to September 3rd.

DUNSTABLE CROSS-COUNTRY PARTY.—The London Gliding Club invites members of all Gliding Clubs to participate in a friendly cross-country party at Dunstable from September 3rd to 11th inclusive. Aero-towing will be provided at cost on both week-ends if required. All participants are hon. members of the club between these dates, except that they are not permitted to hire London Gliding Club aircraft unless they are flying members of the club. The meeting will be an impromptu affair, but it is hoped to offer a small prize.

Gliding Certificates

The following gliding certificates, for which qualifying flights were made on the dates shown, were granted by the Royal Aero Club on June 28th and July 27th :—

"A" Certificates

No.	*Name.*	*Club.*	*Date.*
943	Baron D. R. C. B. de Sarigny	Norfolk and Norwich...	2.4.38
944	A. McL. Mackinnon ...	Yorkshire	24.4.38
945	A. L. Womersley ...	Yorkshire	24.4.38
946	K. R. Ball	Yorkshire	24.4.38
947	T. K. Milne	Yorkshire	24.4.38
948	G. C. C. Bartlett ...	Yorkshire	24.4.38
949	T. Waddington	Yorkshire	24.4.38
950	O. P. Wingfield... ...	Cambridge Univ. ...	21.5.38
951	R. R. Somerset	Derby and Lancs. ...	21.5.38
952	Miss E. R. Rowlands ...	Derby and Lancs. ...	21.5.38
953	R. Williams	Inverness	17.4.37
954	R. F. McCartney ...	Ulster	24.4.38
955	Miss E. D. Fawcett ...	Derby and Lancs. ...	22.5.38
956	J. J. O'Hea	Southdown	22.5.38
957	I. MacLeod	Inverness	22.5.38
958	C. L. Moon	Yorkshire	24.4.38
959	R. W. Dinsmore ...	Ulster	5.6.38
960	S. Kownacki	Cambridge Univ. ...	29.5.38
961	P. C. Young	Yorkshire	4.6.38
962	D. Gibson	Yorkshire	24.4.38
963	G. W. Prior	Yorkshire	24.4.38
964	D. Nolan-Neylan ...	Yorkshire	24.4.38
965	L. A. McSherry	Yorkshire	24.4.38
966	G. C. Varley	Cambridge Univ. ...	29.5.38
967	R. S. Steel	London	9.6.38
968	B. Priestman	London	10.5.38
969	H. J. P. Olsen	London	10.6.38
970	J. S. Armstrong... ...	Derby and Lancs. ...	12.6.38
971	R. E. Peterson	Newcastle	13.3.38
972	Miss W. F. Hudd ...	Norfolk and Norwich...	29.5.38
973	E. M. Withy	Norfolk and Norwich...	4.6.38
974	J. W. W. Hurndall ...	London	5.6.38
975	C. B. Anderson... ...	London	8.6.38
976	H. L. Greenshields ...	London	8.5.38
977	N. R. Fortescue-Mortimer	London	8.6.38
978	C. C. M. Logan ...	London	8.6.38
979	R. J. Roake	London	11.6.38
980	J. A. Simpson	Derby and Lancs. ...	12.6.38
981	F. P. Sutton	Yorkshire	25.5.38
982	D. M. Waite	Derby and Lancs. ...	9.4.38
983	J. W. Esmonde... ...	London	16.4.38
984	A. A. Fletcher	London	11.4.38
985	W. H. Coleman ...	Yorkshire	12.6.38
986	H. Budden	Yorkshire	11.6.38
987	A. S. Peter	Yorkshire	11.6.38
988	K. T. Green	Yorkshire	12.6.38
989	N. C. Harding	Yorkshire	12.6.38
990	L. F. East	Yorkshire	12.6.38
991	D. R. Hoar	Yorkshire	10.6.38
992	D. G. Longden... ...	Dorset	3.7.38
993	J. L. Longden	Dorset	3.7.38
994	G. B. Brook	Derby and Lancs. ...	5.7.38
995	J. T. Robson	Yorkshire	3.7.38
996	J. Maw	Yorkshire	25.5.38
997	H. Paris...	Hull	17.7.38
998	W. E. Walker	Hull	17.7.38
999	E. H. D. Spence ...	London	29.8.37
1000	W. Beedham	Hull	17.7.38
1001	S. J. D. Acland... ...	Dorset	10.7.38
1002	A. Smith...	Derby and Lancs. ...	5.7.38
1003	A. C. Reid	Ulster	22.6.38

[The granting of the first four-figure numbers is a notable event. As a matter of history, No. 100 was earned by C. Graham Lawson, of the Southdown Skysailing Club, on December 28th, 1930. Squadron-Leader E. H. D. Spence, of the secretarial staff of the Royal Aero Club, is a welcome addition to the list; he has modestly allotted himself No. 999.—Ed.]

"B" Certificates

No.	*Name.*	*Club.*	*Date*
911	C. L. Faulkner	Derby and Lancs. ...	22.5.38
894	M. Swallow	Derby and Lancs. ...	22.5.38
953	R. Williams	Inverness	22.5.38
957	I. MacLeod	Inverness	29.5.38
958	C. L. Moon	Yorkshire	8.5.38
916	W. E. Wilbur	London	25.5.38
961	P. C. Young	Yorkshire	4.6.38
966	G. C. Varley	Cambridge Univ. ...	12.6.38
914	E. H. J. Moos	London	25.5.38
702	B. R. Winstone	London	28.5.38
812	J. A. C. Pearce	London	9.6.38
934	J. A. Piddington... ...	Yorkshire	12.6.38
972	Miss W. F. Hudd ...	Norfolk and Norwich...	6.6.38
973	E. M. Withy	Norfolk and Norwich...	6.6.38
936	G. J. Harris	London	15.6.38
952	Miss E. R. Rowlands...	Derby and Lancs. ...	26.6.38
974	J. W. W. Hurndall ...	London	11.6.38
976	H. L. Greenshields ...	London	10.5.38
977	N. R. Fortescue-Mortimer	London	16.6.38
978	C. C. M. Logan ...	London	10.6.38
980	J. A. Simpson	Derby and Lancs. ...	26.6.38
981	F. P. Sutton	Yorkshire	22.6.38
777	G. H. Lee	London	26.6.38
956	J. J. O'Hea	Southdown	26.6.38
891	R. Riley	London	11.6.38
826	V. M. Waugh	London	26.6.38
964	D. Nolan-Neylan ...	Yorkshire	12.6.38
991	D. R. Hoar	Yorkshire	10.6.38
990	L. F. East	Yorkshire	12.6.38
989	N. C. Harding	Yorkshire	12.6.38
988	K. T. Green	Yorkshire	12.6.38
987	A. S. Peter	Yorkshire	11.6.38
986	H. Budden	Yorkshire	11.6.38
985	W. H. Coleman... ...	Yorkshire	12.6.38
929	W. S. Moore	Ulster	22.6.38
910	E. Steward-Anderson ...	Norfolk and Norwich...	19.6.38
921	H. H. Hipperson ...	Norfolk and Norwich...	25.6.38
970	J. S. Armstrong ...	Derby and Lancs. ...	26.6.38
923	L. J. Huggett	Southdown	18.6.38
999	E. H. D. Spence ...	London	15.5.38
959	R. W. Dinsmore ...	Ulster	5.7.38
1003	A. C. Reid	Ulster	2.7.38
996	J. Maw	Yorkshire	10.7.38

"C" Certificates

No.	*Name.*	*Club.*	*Date.*
720	R. S. A. Beauchamp ...	Cambridge Univ. ...	12.4.38
853	A. R. Lucas	Newcastle	18.4.38
958	C. L. Moon	Yorkshire	8.5.38
902	D. Swale	Derby and Lancs. ...	10.6.38
905	G. T. Slater	Derby and Lancs. ...	8.6.38
726	P. G. Tovey	London	29.5.38
961	P. C. Young	Yorkshire	5.6.38
859	R. S. Woolass	Derby and Lancs. ...	8.6.38
687	E. W. Sugden	Derby and Lancs. ...	8.6.38
917	K. S. Morton	London	5.6.38
642	C. H. Naylor	London	24.5.38
862	R. M. Dixon	London	24.5.38
751	J. F. Cuss	Derby and Lancs. ...	8.6.38
934	J. A. Piddington ...	Yorkshire	14.6.38
444	G. O. Manning... ...	London	19.6.38
427	W. R. Watson	Yorkshire	5.8.35
964	D. Nolan-Neylan ...	Yorkshire	14.6.38
841	E. Lavington	London	26.6.38
807	W. R. Horsfield ...	London	8.6.38
985	W. H. Coleman ...	Yorkshire	14.6.38
929	W. S. Moore	Ulster	2.7.38
894	M. Swallow	Derby and Lancs. ...	30.6.38
970	J. S. Armstrong ...	Derby and Lancs. ...	30.6.38
952	Miss E. R. Rowlands...	Derby and Lancs. ...	30.6.38
980	J. A. Simpson	Derby and Lancs. ...	30.6.38
644	Miss E. Fox-Strangways	Derby and Lancs. ...	6.7.38
999	E. H. D. Spence ...	London	26.6.38
959	R. W. Dinsmore ...	Ulster	15.7.38
676	C. H. Wigg	Midland	17.7.38
1003	A. C. Reid	Ulster	15.7.38

News from the Clubs

Gliding and Soaring Club of Tasmania

Since the inauguration of our club in April, 1937, we have all been constant readers of your excellent magazine, and much information of great assistance to a new club has been gained therefrom.

The club is the only gliding organisation in this State, and is registered as a company, complying with the Civil Aviation Department's regulations in this respect. It is, therefore, recognised as the ruling body on gliding in the State, and receives the Federal Government subsidy.

We possess two single seater primaries, one an open modified ZÖGLING, and the other a RHÖN RANGER type nacelled. In addition we have a two-seater secondary machine, designed and built in Australia. The two-seater is of very rugged construction, built with the object of instilling air sense and confidence to *ab initios*. The machines are launched by car tow, using wire for the primaries and rope for the two-seater. Average altitude gained with this method is 800 feet.

Activities are at present carried out on the club's private aerodrome, situated 16 miles from the centre of the capital city; no soaring of any description has been attempted to date, the present machines not being suitable.

In consideration of the modern trend regarding winch launching, the club is keen to develop this method, and any details, plans or information concerning successful winches, now in use in England, would be greatly appreciated.

The membership of the club for its first year of existence is 52. The senior and most active members are Hornsby, D'Alton, Walton, Wedd, Mackey, Raphael, Goddard, and R. Wedd.

Shortly after the inauguration the club was successful in inducing the present State Government to provide a £250 scholarship for technical and high school students. The scholarship allows for 12 lads to be trained to "A" gliding licence standard, and on completion the best six are to be transferred to the Royal Australian Aero Club, Tasmanian Section, where they will be trained to "A" power pilots' licences. The Gliding and Soaring Club received £100 for our part in the scheme, and the Aero Club £150.

In conclusion, the members of this, the southernmost gliding club in the world, wish you personally, and your magazine every success.

HOWARD J. WALTON, *Hon. Secretary.*

Soaring in Scotland

A soaring site has at last been established in Scotland. It is situated in the Lomond Hills, just north-east of Loch Leven, in the middle of that part of the country which lies between the Firths of Forth and Tay. Bishop Hill, 1,492 feet, faces west; East Lomond, 1,471 feet, faces N.N.E.; and West Lomond, 1,712 feet, which joins the other two, faces north-west and north.

The site was found and soared over by Mr. A. A. J. Thorburn, of Kirkcaldy, who obtained his "C" certificate at the Yorkshire Club's camp last year and afterwards bought himself a FALCON I. He then started the Fife Gliding Club, and at Easter this year invited J. L. Wordsworth, from the Yorkshire Club, to come and give demonstrations in the FALCON, which he did, soaring for 35 and 65 minutes over East Lomond.

Early in June an amalgamation was arranged between the Fife Club and the Scottish Gliding Union. The name "Scottish Gliding Union" is to be retained for the resulting organisation, since the Union was already a Registered Company. It has now taken over, on a lease, ground on Bishop Hill and on the adjoining Feal Farm. The latter is to be used as a primary training ground. Feal Farm, 900 feet above sea level, is providing club room accommodation and catering, and has sleeping accommodation at present for six.

Bishop Hill has proved itself a fine soaring site for westerly winds. Thorburn, launched on June 5th without an altimeter, reached a height estimated by him as 2,500 feet above the launch, or 4,000 above sea level. On June 19th he soared for 55 minutes, and on July 3rd, with an altimeter on board, climbed 1,800 feet in a 33-minute flight. Davie, of the Cambridge Club, had his first flight in his own H–17 at the site on July 15th; he soared for 15 minutes and landed at the bottom, not being sure of the correct landing place at the top. He has left his machine there and intends to return and fly it again during August. Other visitors in August are W. B. Murray and Ann Edmonds, with Miss Edmonds' GRUNAU.

As to elementary instruction, a few ground-hops have been done, and at the end of July one member got a "B"; but the club does not expect to get going properly with this till the end of August. The Scottish Union's equipment has been transferred to the new site from Fintry.

We have just received from Mr. Thorburn the following description of a flight made by him on July 31st:—

"On Sunday last I got up to 2,900 ft., or, since the hill is 1,450 ft. high, my altitude would be 4,350 ft. above sea level. Not bad for the old FALCON! I flew around the site for 2½ hours When first launched I got to 1,000 feet above the hill, where I soared for some time at cloud level. Then, for a spell of about 20 minutes, I got lift in which I circled, carrying me up past the lower clouds, until I was floating at maximum height just below a high cloud layer, and looking down on the fleecy clouds about 1,800 feet below. For periods of minutes the site was cut off from my view. This was an experience which I hardly expected to have in a FALCON I. The lift must have been thermal, for soon I lost height and just managed to keep to 1,400 ft. above start."

Newcastle Gliding Club

Yet another addition to our collection of gliders in trees: the Newcastle Club's "Grunau" after a "landing" at Hepburn Moor on May 29th. It could not be repaired in time to be entered for the National Competitions, so four club members spent that period with it at Sutton Bank, where two of them did 5-hour flights towards their "Silver C."

Beacon Hill Gliding and Aero Club

After being idle since last October this club is again active. We re-commenced activities on Sunday, June 12th. Two of our members, A. D. King and G. J. Harris, attended the May instructional course at Dunstable, and gained an "A" and a "B," and are now giving the other members the benefit of the valuable experience gained during that course. At present we are making up to 60 launches a day and in three Sundays four *ab initios* (including one lady member) are up to the hopping stage and the rest are carrying on from where they left off last year. Our bungy hasn't improved by lying about all these months and will soon have to be renewed. Our DICKSON primary has had various minor alterations during the winter, which have proved worth while, as we have to unrig it after each day's flying.

Oxford University and City Gliding Club

On the 19th of June started the first camp of the Oxford Club. Robert Kronfeld took charge of flying activities on the two club sites at Farmoor, Botley and Beacon Hill in the Chilterns. Winch instruction was given daily at the club ground from 10 a.m. to 10 p.m., and an average of 30 to 40 starts per day resulted.

Three expeditions to the Hill soaring site proved successful, and two C's were obtained in the NACELLED DAGLING by M. P. Fellowes and S. Brotherton-Ratcliffe.

The Oxford Club's ground at Farmoor, showing, above, the meadow where winch-launching is done, and the club hangar, trailer and primary machine; also a visiting "Kirby Kite." Below is the winch, supplied by Grice & Young, of Dunstable.

The distance between Farmoor and Beacon Hill is only about 15 miles. It was possible to do soaring on the Hill site during the morning and return to the Farmoor site in the evening in time for beginning instruction.

The camp, which was originally intended to last one week, proved so successful that a second and third week had to be added.

At the date of writing A's were obtained by:—Michael P. Fellowes (Balliol), Lionel Dorrien-Smith (University), George Brotherton-Ratcliffe (Balliol), Joan Burchardt (O.H.S.), R. L. Beaumont (Corpus Christi), Kenneth G. Robinson (University).

B's.—Michael P. Fellowes (Balliol), Lionel Dorrien-Smith (University), George Brotherton-Ratcliffe (Balliol), Joan Burchardt (O.H.S.), Kenneth G. Robinson (University), C. S. Danby (St. John's).

C's:—Michael P. Fellowes (Balliol), Lionel Dorrien-Smith (University).

London Gliding Club

Saturday, July 2nd.—A light, just soarable wind, from W.N.W. to N.W., with enormous cumulus clouds about. Nicholson, in RHÖNSPERBER, managed to make contact from hill lift and rose to 4,100 feet. Simpson, in his KITE, got a thermal straight off the winch, and subsequently encountered Nicholson high over Dunstable. He had seen a gull at 3,000 feet on the way up, and outclimbed it.

Earlier in the week Stonhill, one of our aero-towing pilots, got his "B" and "C," the latter with a 50 minutes' flight.

Sunday, July 3rd.—Some slope lift at times, though only in the Bowl in the morning. However, there were thermals under a mostly overcast sky consisting of cumuliform clouds. The GULL and MINIMOA both got well up, but there was no lasting agreement among onlookers as to their relative performance.

National Competitions.—It was a delight to have so many visitors from other clubs, and something of a surprise to find that many of them had never been here before. Incidentally, those of us who are expected to make proper landings had some satisfaction in seeing that landing on the club ground can sometimes be as awkward, for those who are not used to it, as for some of our own super-experienced pilots.

On the first competition day, someone who alleged that he was a club member turned up and demanded ground-hopping. He said he didn't know there was a meeting on, and asked how long it would last, and how many similar meetings were going to be held in the next few weeks.

The competitions themselves are described elsewhere.

Reigate Site.—It is still uncertain whether the south-wind site at Reigate can be made a permanent centre, as this could not be done without a satisfactory lease. The Whitsun meeting showed that the landing ground is good enough for pilots of moderate ability, but to make it safe for really advanced pilots the fence between the two fields should be removed. Another small gathering was held at the site during the last week-end in July, but winds were too light for much soaring.

In the account of the Whitsun meeting published last month it was not stated how many machines were present. There were ten: RHÖNADLER, GULL (Hiscox), 3 RHÖNBUSSARDS (London Club, Pasolds and Cooper-Price), 2 GRUNAUS (London Club and Ann Edmonds), MINIMOA (for one day), CAMBRIDGE II and grey KITE.

Yorkshire Gliding Club

July.—The earlier part of the month, which includes the last few days of June, was blessed with plenty of good hill-soaring days—south-west winds—but thermal activity was not particularly good. On June 29th and 30th a total of fifteen hours' soaring was done, and with thermal lift up to 2,200 feet. Raphael did an out-and-return flight to Kepwick. Thenceforward, up to and including the first week and in July, about 25 hours was done; Billy Sharpe was promoted to the GRUNAU and two new members, Bainbridge and Woodman, commenced training. The STEDMAN two-seater, which up to the time of writing has done 22½ hours passenger flying (103 winch launches) since she came back to the Bank on June 5th, had a very busy week, piloted by Stedman and J. C. Neilan.

Mid-week flying on the 9th and 10th produced over 20 hours, out of which Burningham, of Newcastle Club, did his five-hours' duration for "Silver C." Other visitors from Newcastle were Taylor, Massey (who incidentally did *his* five hours), and Coates; they had a GRUNAU with which a good deal of flying was done, but unfortunately no cross-country weather favoured them. Inglesby, of the London Club, who visited at the week-end (July 13th-15th), made a flight of five hours' duration in the KADET. The hill-lift was extremely weak and he was struggling about fifty feet above the "edge" all the time. He concluded with an excellent landing on the top. Altogether, a very good show.

The following week-end, with light W.N.W. winds, and on several preceding days, training, hill-soaring and thermal-soaring were all possible together, and various members, including Dr. Mains, of Creetown, and Mr. W. Higson, both of whom joined us for the duration of their holidays, gained certificates—the two mentioned each securing all three.

Certificates this month are as follows:—

"A" Certificates.—Dr. Mains, W. Higson, A. Kendrew, W. Leakey.

"B" Certificates.—Dr. Mains, W. Higson, W. Leakey.

"C" Certificates.—Dr. Mains, W. Higson, W. Leakey, J. C. Maw, J. Sutton.

Advanced Course.—On the 23rd, the first contingent of members of the advanced course arrived, "Pop" Furlong and Lingford having made a neck and neck job of it by road from London, according to accounts. Our thanks are due to Lingford for the hard work he did for us in aero-towing at Welburn, and to McMurdo, who also took care of the aeroplane for us. The advanced course, which ran concurrently with Competition week, is to be commented upon separately, therefore these notes need go no further than to say that the course was a success, and that all members gained valuable experience in aero-towing and thermal flying. R. H. Shaw gave lectures and promoted discussions on meteorology, map-reading, navigation and kindred subjects, and his work in this and other directions is greatly appreciated. A. O. Pick has, of course, made our forecast of a few months ago come true, by breaking the British duration record. He has been in very serious training for this, and next month we hope to give a note of his total flying time this year, and especially the average duration of his flights. How such a substantial-looking bloke can go so long with little or no food passes comprehension!

We were especially pleased to welcome Sproule and Simpson, who visited us for a week, also Philip Wills (who, with his MINIMOA, made a fine cross-country flight to Lancaster in difficult conditions) and H. C. Bergel. Miss Ann Edmonds and Murray also looked in for a short time. Amongst visitors who were also members of the advanced were Doc. Slater, and W. R. Horsfield with SCUD II. Unfortunately, the said SCUD II returned without a nose, due to a collision in the air with our GRUNAU, flown by Billy Sharpe. The GRUNAU, put completely out of control, fluttered down in an inverted position and the SCUD landed under partial control on a tree top. Happily, neither of the pilots was injured, and although GRUNAU is pretty badly smashed, the damage *is* repairable.

Cross-country flights this month include one by R. C. Pick to York (aero-towed back) and one to Welburn by A. O. Pick. Other cross-countries were made during the advanced course and will be described separately. Worthy of mention is the fact that on the 31st we made 57 winch launches and had a total of 26 hours' soaring. After the advanced course, the machines required at Sutton Bank were returned from Welburn by aero-tow—the KITE by Doc. Slater and the FALCON III by Heath (who was chief instructor for the course), with Hinchliffe as passenger.

Tailpieces: (Warranted authentic; originals may be seen at our showrooms):—

(Overheard) "And what are you packing into the GULL?"

"De-rigging tools. Never be without 'em; had to use 'em twice this week myself."

"Oh, yes, of course, we heard you knocking, on each occasion!"

A northern paper recently reported that our Durham branch has taken delivery of a "MARCELLED" DAGLING. Slingsby rules the "waves!"

Derbyshire and Lancashire Gliding Club

July.—Owing to the Camp and National Competitions both taking place this month, our notes are rather disorganised, and we shall review the club's general flying activities in more detail next month.

On Friday, July 1st, Shepard, in the club G.B., was launched under the edge of an approaching thunderstorm, but apparently the correct moment had not been judged for this type of flying. All he discovered was that his machine absorbed a quantity of static electricity, which gave the pilot the impression that his control column had been transformed into red hot coals, and as this was followed by blinding hail, the flight ended as quickly as possible.

The following day a true west wind provided some grand soaring, which towards evening improved until the air was as smooth as glass. Under these conditions there was an interesting duel for height between the new KIRBY GULL and the RHÖNBUSSARD, which lasted for over an hour. The apparent difference in sinking speed was nil, and for beat after beat they were within a few feet of one another in these exceptionally smooth conditions.

On July 17th C. Verity was one of the few who was not at Dunstable, and he took the TUTOR up to over 3,000 feet while others enjoyed some excellent soaring.

The first gliding demonstration at Abbotsholme School, in south Derbyshire, where the Editor designed and made model gliders ever so many years ago, and yearned to fly a real one over the school grounds—an ambition which was not realised until July 23rd this year. The photo shows S. D. Dickson, who brought the Derbyshire and Lancashire Club's "Kadet," being bunjied across the river Dove. There were 14 boys on each launching rope.

The Camp.

Certain stout hearts ran a training camp in the worst weather possible, even for Camphill. Their reply to a request for a light-hearted commentary fit for publication is:—

"Sweet may be the uses of advertisement, but when our next publicity wallahs attract camp entries from Australia, South Africa, Canada, and Scotland, we shall insist that the said wallahs attend the camp to pacify the victims. There are certain canons of good conduct in primary training practice, such as:

"(*a*) Thou shalt not train before 6.30 a.m.;
"(*b*) Thou shalt not train in winds above 25 m.p.h.;
"(*c*) Thou shalt not train in rain;
"(*d*) Thou shalt not train in cloud;

but when the wind blows every day at 25 m.p.h., and over, and the clouds never lift above 400 feet, and the rain rains every day—what the H——I!

"Body and soul failed at (*a*) after the first week; Slater coped with (*b*) by launching uphill in a down-draught; the members and machines didn't take much notice of (*c*), and the tougher of the tough guys ignored (*d*)—so what? The answer is:—

"9 'C's.' Ball, Jarvis, our Rita, Simpson, Armstrong, Moody, Swallow, Pears, Miss Fox-Strangways.

"5 'B's.' Moody, Pears, Miss Rowlands, Simpson, Armstrong.

"5 'A's.' Moody, Pears, Smith, Stead, and Brookes.

"Lowson, who already had a 'C,' flew about on sundry machines, and put in some very graceful hours on our new G.B., until a certain member soared it where the lift wasn't, and picked the wrong field at the bottom.

"De-luxe 'A,' 'B,' and 'C' (*avec* spin and recovery) were taken by Moody in one day, and an irrevocable 'C' was registered by Pears in 42½ minutes' semi-cloud flying at 400 feet. Much joy also occasioned by Moody who, on the one fine day, after listening to notable harangues during the previous wet days on 'How I catch my thermals,' etc., etc., just went and did it up to 2,800 feet in FALCON I, and then came back and did it again.

"Cast iron 'A's' were taken by Smith, Stead, and Brookes, and a very refined 'C' in no lift at all by Miss Fox-Strangways

"Our congratulations to those who certificated; our sincere sympathies to those who were baulked by the weather.. You all deserve 'Silver C's' anyhow!"

To this we must add the club's appreciation of the whole-hearted efforts of L. Slater, chief instructor, and B. Thomas as winch driver during the first week of the camp, and to Cyril Kaye and Benton, who took similar responsibilities during the second week. These four proved themselves to be supermen under really trying weather conditions, and no praise of ours can be too high. The other instructors, most of whom gave up valuable time in order to assist, are also warmly thanked.

Summary of Flying During July.—Flying time at Camphill, 63 hours. Flying time at National Competitions, 79 hours 50 minutes.

Certificates: 7 "A," 3 "B," 9 "C"; 1 "Silver C" (E. Tayler, complete in 2 days); 1 part "Silver C" (J. Parker, duration).

Other Gliding Clubs

Harrogate.—According to a newspaper report, the Harrogate Aircraft Club, one of the earliest gliding clubs in England, is to be resuscitated. The secretary is E. W. T. Addyman, The White House, Starbeck.

Chester.—A correspondent of the *Cheshire Observer* wants a gliding club to be formed there, but calls himself "Icarus" and doesn't give his address.

Harting.—An application has been made by Admiral Sir H. Meade-Featherstonehaugh, on behalf of the Portsmouth and South Hants Gliding Club, to the Country Planning Committee for the use of land near Beacon Hill (where a gliding meeting was held in 1930). It is wished to erect a hangar there.

Maryport.—Messrs. I. Elliott and Burns have found a good site at Crosscanonby, and want to start a gliding club. The local paper states that the Workington and West Cumberland Gliding and Flying Club "appears to have sunk into inactivity of late months."

Dartmouth.—A primary glider has been built by cadets at Dartmouth Royal Naval College, under the leadership of Commander P. D. Oliver, who intends to be launched in it from Kingswear golf course, 300 feet above the Dart estuary.

British Gliding Association

"Silver C" Certificate

1. Tests:

(*a*) DURATION. A flight of not less than 5 hours.

(*b*) DISTANCE. A flight of not less than 50 kilometres (31.07 miles).

(*c*) HEIGHT. A flight of not less than 1,000 metres (3,281 ft.) above starting point.

2. Barographs:

(*a*) A sealed barograph must be carried on all qualifying flights.

(*b*) The sealed barograph must be opened and signed by an Official Observer. The make and number of the barograph and the nature of the test in question is to be given on the chart.

3. General Requirements:

(*a*) The Duration Test must be a separate flight. The pilot must land within 1,000 yards of his point of departure.

(*b*) The Distance and Height Tests may be made separately or in a single flight.

4. Supporting Documents Required for Each Test:

(*a*) DURATION

(1) Certificate of start, giving place, date and time, signed by an Official Observer and a witness.

(2) Certificate of landing, as above, stating that the pilot returned to within 1,000 yards of his starting point.

(3) Barograph chart.

(*b*) DISTANCE

(1) Certificate of start, giving place, date and time, signed by an Official Observer and a witness.

In the case of aero-towed launches a certificate signed by the pilot giving the actual point of release over the ground.

(2) Certificate of landing, giving place, date and time, signed by two local witnesses.

NOTE.—The certificate of landing should give as accurate particulars as possible of the actual landing point. If possible, the spot should be pin-pointed on a map forwarded to the B.G.A. The map will be returned after checking.

(3) Barograph chart.

(*c*) HEIGHT

(1) Certificate of start, giving place, date and time, method of launch and height of release, signed by an Official Observer and a witness, or by the pilot in the case of aero-towed launches.

(2) Certificate of landing, signed either by an Official Observer and witness, or by two local witnesses.

(3) Barograph chart.

(4) Certificate, signed by a competent authority recognised by the B.G.A., stating the height attained (in metres) above the point of release.

NOTE

(1) In the case of winch or aero-towed launches, the height attained is reckoned from the height of release from the winch or aero-tow cable.

(2) A list of competent certifying authorities recognised by the B.G.A. will be supplied on request.

(3) Only the I.C.A.N. scale of calibration is recognised by the B.G.A.

(4) The particulars which will be required by the height certifying authorities are:—

1. Height of point of start, above sea-level (obtained from map).
2. Place, date and time of launch.
3. Method of launch.
4. In the case of winch launches, height of release above winch. In the case of aero-tows, height of release above starting point.
5. A recent calibration chart of the barograph used. The actual barograph should also be forwarded to the certifying authority wherever possible.

5. Application to B.G.A.:

For each test, the supporting documents must be sent to the Secretary.

All supporting documents are retained by the B.G.A.

A fee of 5/- must also be forwarded to cover cost of Certificate and buttonhole Badge.

Gold Badge

As from January 1st, 1938, holders of the "Silver C" will be entitled to receive the Gold Badge of the ISTUS (International Commission for the Study of Motorless Flight) on the completion of the following additional tests:—

(*a*) DISTANCE. A flight of over 300 kilometres (186.42 miles).

(*b*) HEIGHT. A flight of not less than 3,000 metres (9,843 ft.) above the starting point.

Supporting documents as for the corresponding tests for the "Silver C" are required in each case, and must be sent to the Secretary.

Gliding Subsidy Scheme

The following circular letter has been sent to British gliding clubs not at present in receipt of Subsidy:—

1.—The Air Ministry has informed the B.G.A. that pending the consideration of similar proposals in relation to the Gliding Movement as those already announced for the Light Aeroplane Clubs ("Civil Air Guard" scheme), the Gliding Subsidy will continue to be paid to September 30th, 1938, at the rate previously agreed, viz., £5,000 per year. The only alteration to the conditions previously required for Subsidy is that the Trustees may, at their discretion, reduce the five years' "security of tenure" clause to one year.

2.—The conditions of Subsidy are therefore at present as follows:—

(*a*) Security of tenure, i.e. ownership or a lease of not less than one year, of a suitable and approved site.

(*b*) Each organisation applying for Subsidy is required to form itself into a Limited Liability Company or Friendly Society.

(*c*) Flying equipment must be maintained under the supervision of a licensed Ground Engineer (whole or part time).

(*d*) The Chief Instructor of the club must be approved by the central body.

3.—In amplification of the above it should be noted:—

(*a*) Aircraft must possess a B.G.A. Certificate of Airworthiness.

(*b*) Subsidised aircraft must be available for the use of all members of the club qualified to fly the type and not be reserved for "syndicates" or individual members of the club.

(*c*) The requirement about a licensed Ground Engineer is in the process of being superseded by a new requirement that the club Ground Engineer should, as from 1.1.39, or earlier, possess a Glider Ground Engineer's Certificate of Competency, issued by the Air Registration Board.

(*d*) The Chief Instructor should at least possess a "C" certificate, or have experience in power-flying instruction.

4.—Subject to the fulfilment of the above conditions, the Trustees will consider claims, when supported by the documents detailed below, for:—

(*a*) Purchase of gliders,

(*b*) Erection of hangars,

(*c*) Major equipment, i.e. winches, etc.,

up to a maximum of 70% of the total cost.

The Trustees, when allotting grants, take into consideration the number of Royal Aero Club Gliding Certificates gained by clubs; 1 point is allowed for an "A," 2 for a "B," and 4 for a "C."

5.—The supporting documents required for claims are:—

(*a*) Invoice showing total amount of expenditure, or copy certified by an Accountant.

(*b*) Receipt for payment by the club of not less than 30% of the total amount, or copy certified by an Accountant.

(*c*) Certificate of acceptance by the Ground Engineer, that the equipment supplied has been received in a satisfactory condition.

(*d*) In the case of a first application, suitable proof of the fulfilment of the requirements shown under Para. 2 above.

6.—When a club has already paid accounts in full, certified copies of invoices and receipts may be furnished and claims made for a refund to the club not exceeding 70%. The amount which will be allowed is subject to the discretion of the Trustees.

7.—If you should be in a position to apply for Subsidy, under the above conditions, it is requested that your application should reach the B.G.A. not later than September 15th, 1938.

8. Should you require to have your aircraft inspected, with a view to obtaining or renewing a B.G.A. Certificate of Airworthiness, you should apply for an inspection as soon as possible, stating the number and type of gliders that require inspection.

The fees payable for inspections are :—

For each original C. of A. subsequent to first of type	£2 2 0
For each renewal	£1 1 0

Expenses are chargeable if long distances have to be covered by the Inspector, or extra visits made.

9.—There is no need for a club to be affiliated to the B.G.A. in order to claim Subsidy, provided it satisfies the Subsidy conditions. It should, however, be noted that the Subsidy is administered by the Subsidy Trustees on the advice of the Council and Subsidy Committee of the B.G.A. All affiliated clubs are represented on the B.G.A. Council.

H. E. PERRIN, *Secretary*,
119, Piccadilly, W.1.

Owing to a clerical error, the advertisement of DART AIRCRAFT LTD., on page 204 of this issue, was omitted from the July issue of "The Sailplane & Glider," and the publisher apologises for any misunderstanding or inconvenience which may have occurred through its omission.

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