# SAILPLANE AND GLIDER

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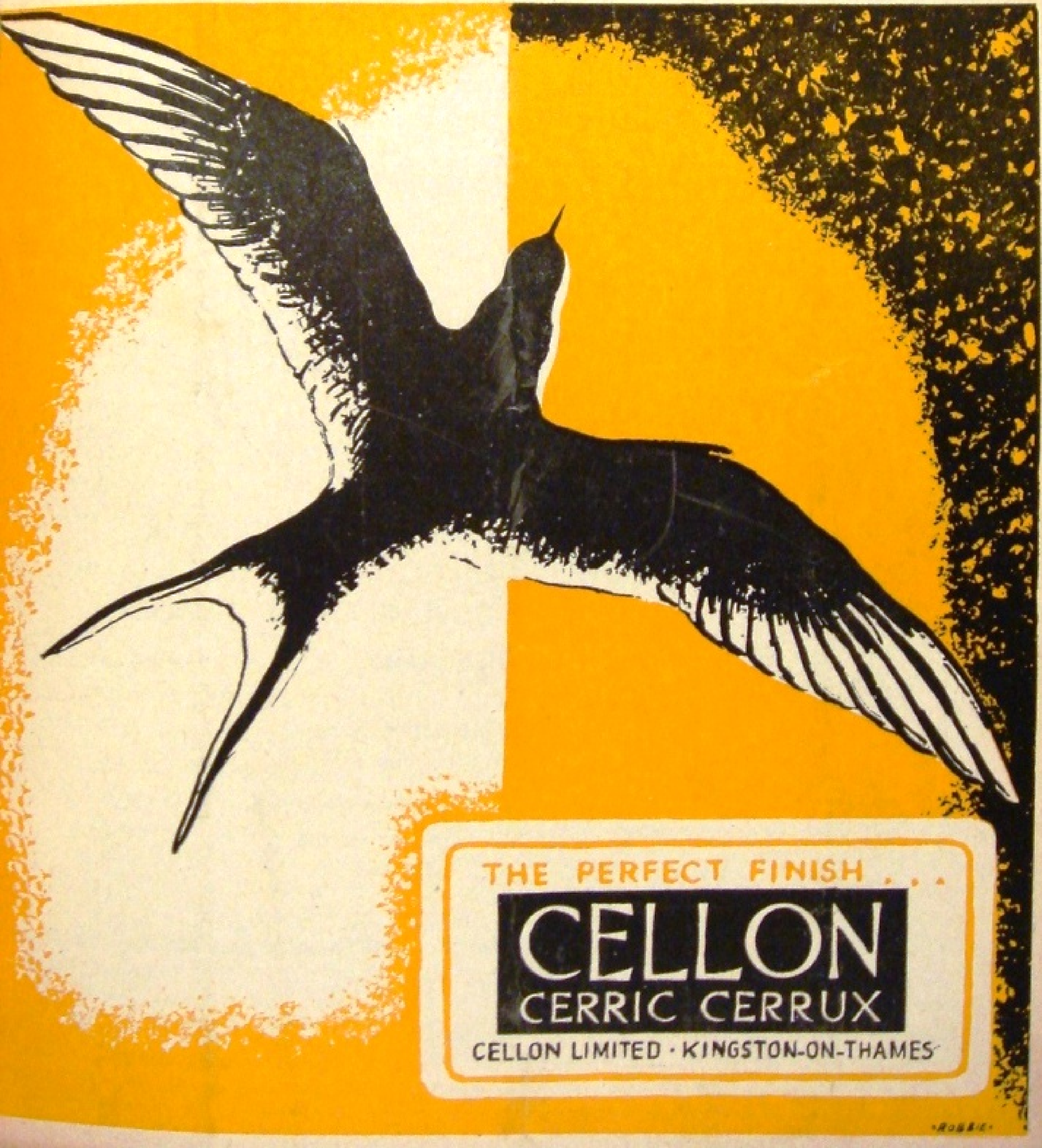
*The First Journal devoted to Soaring and Gliding*



SAILPLANE
and GLIDER
*The First Journal devoted to Soaring and Gliding*

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# CIVILIAN OR SERVICE ?

A SUBJECT which is being hotly debated now in places where post-war flying—power and Glider—is being discussed, is whether it is better to have Service or Civilian Instructors. Certain plans which it is said are now being canvassed envisage A.T.C. Gliding being carried on by R.A.F. Officers, and, when there are enough R.A.F. Officers proficicnt as two-seater glider instructors, and machines, even Soaring. Proficiency in Gliding being attained under the plan in question, the A.T.C. cadets are to go on to take their " A " Flying Certificates at Civilian Flying Schools at a flat fee to be paid in lieu of a subsidy to the Flying Clubs. In this case the instructors are to be civilians.

This is a first-class idea. The success of the Empire Air Scheme and the high standard of aircrews it turned out has been due not least to the fact that civilian instructors were used.

The reasons for the superiority of the civilian over the Service instructor appear to be two.

## JOB v. EVENT

First it is a " job " to the instructor, by which he earns his living. It is also a profession calling forth all his attention and skill. Even to the best of Service instructors it is usually an event in his Service career, with which, because of his friends' D.S.O.'s and D.F.C.'s he is " browned off." Consequently he does not always give his pupils that keen psychological study and attention which makes a confident student.

From the pupil's point of view the relation between him and his instructor has much more chance of being " human " where the instructor is a civilian than it has where the instructor is senior in rank to the pupil. What should be advice is apt to become a command. Anything which can lead to the closer and friendliest relations between master and pupil should be encouraged, and anything which might spoil this desiderata should be removed.

For this reason, therefore, we hope that as soon as possible even A.T.C. Gliding instruction should be in the hands of qualified Civilian Instructors, even though they may be held on R.A.F. establishments. If not at the Elementary Schools than surely at the Central Soaring Schools or whatever may be the name of the advanced seminaries where the art is carried, like the pilots and their sailplanes, to higher levels.

## OUR LAURELS INDEED

The revelations of Mrs. Platt of the high standard of sailplaning in the Argentine must make us re-cast our ideas about our relative importance in the world of motorless flight. They have made it more important still that the regulations for the " C " and " Silver C " Certificates in this country, should be overhauled, as we believe is being done.

Clearly the requirements here are not so stringent as those of the Argentine. How many British " Silver C " holders, for example, can do aerobatics on the scale described in the issue by Mrs. Platt ? How many British Sailplane pilots could keep position in simple turns even where one power aircraft is towing three gliders ? Yet this seems to be a commonplace in the Argentine, judging by what we have heard and read. There will be further descriptions we hope, next month, of new flying evolutions in the Argentine.

*British Soaring Contests—3*

# THERMALS AT HUISH

**By A. E. SLATER**

EARLY in 1933 the British Gliding Association acquired a financial windfall, and decided to spend it in running a month's meeting during the summer, in conjunction with a Gliding School. The "School" consisted of a pair of "B.A.C. VII" two-seaters borrowed from the Southdown and Rugby Clubs, and one paid Instructor; its object was to angle for a Government Subsidy on the ground that vast numbers of British Youth were clamouring for gliding instruction. However, Youth failed to turn up in any quantity, and the instruction, good as it was, benefited chiefly those who were already there for the Competitions.

The site chosen was a south-facing ridge of the Downs to the south of Marlborough, about 400 feet high in its steeper parts. But as the wind blew from W.N.W. during the opening week-end, three sailplanes were taken across the valley to Pewsey Hill and soared there on June 18. The stoutest performance was put up by J. Laver on the Dorset Club's "Dorsling," a modification of the Pruefling secondary type; he stayed up for over four hours in almost continuous rain.

BRITISH NATIONAL CONTESTS 1933.

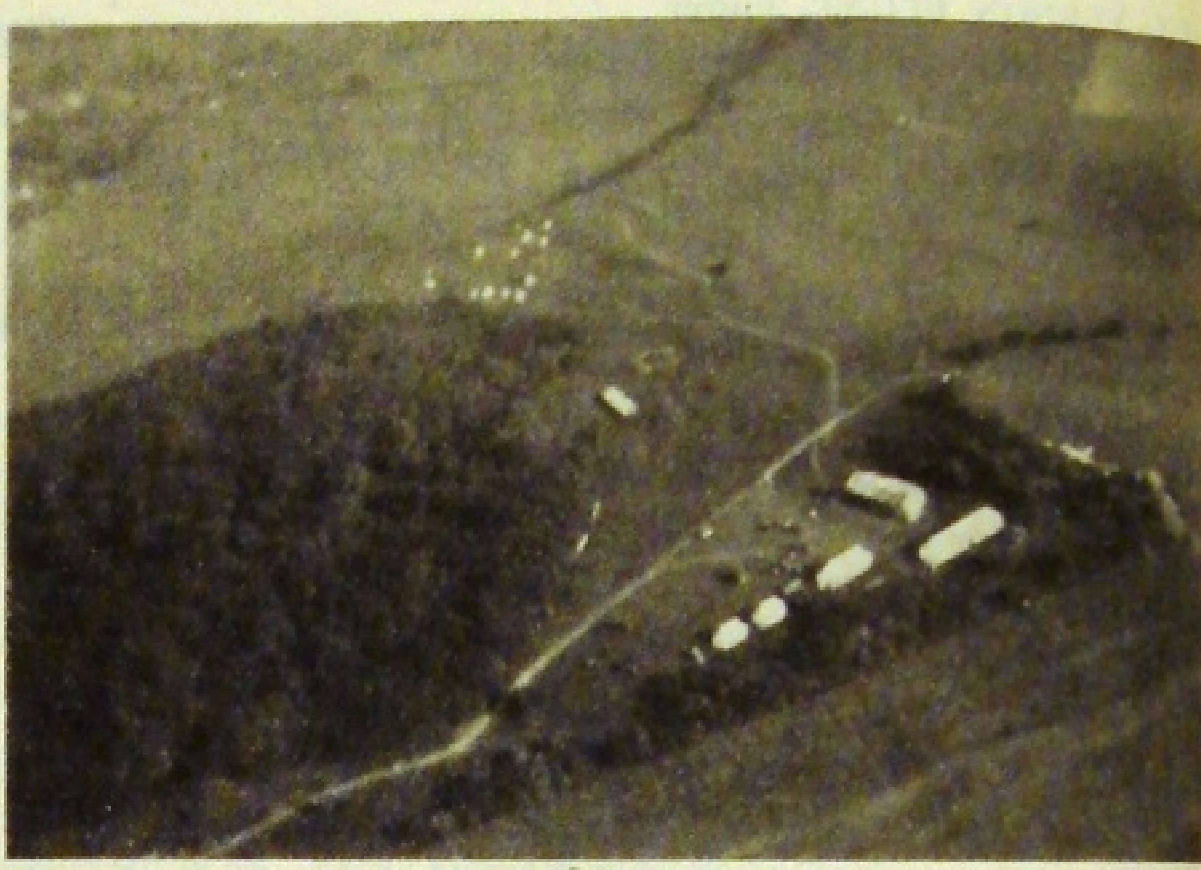
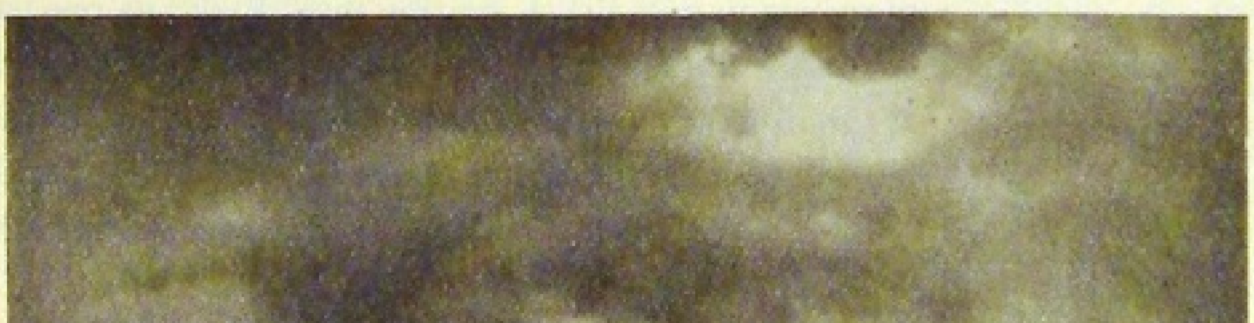


Photo taken from a Sailplane 700 ft. up, showing Headquarters of Huish Gliding Meeting, Vale of Pewsey, 1933. Photographed in the same machine (B.A.C. VII two-seater) at the site from which Eric Collins made the first British Thermal flights.

## COLLINS WAS FIRST BRITISH SOARER

The sensation of the meeting, unforeseen by those who chose the site, was that for the first time a British sailplane pilot managed to climb in thermal currents. He was G. E. Collins, instructor to the "school," an *ab initio* pilot who had made great strides in the previous year, and at the Furness meeting had taken the "Kassel 20" twice as high as anybody else, through an almost instinctive knowledge of where to find the best lift. His machine at Huish was the poorly-steamlined B.A.C., with a pair of wheels hanging below and a passenger in the back seat. It was auto-launched from a track along the hill-top and usually got up 600 feet, taking 2½ minutes to come down again. But at the beginning of July he was prolonging the flights to over 6 minutes, by circling whenever lift was shown on the variometer (a novel and simple design by D. Dent). Then on July 3, with his wife as passenger, he climbed in a thermal to 950 feet, set off down wind, found two more thermals, and landed six miles away at All Cannings. Next day he climbed 2,150 feet above the hill-top. Later, J. P. Dewsbury



1933. "Dorsling" (J. Laver) of the Dorset Gliding Club, soaring for 4 hours, June 18th.

also managed some thermal soaring in the other B.A.C.

It is noteworthy that these thermal flights were the only events of the meeting recorded in the National Daily Press; the "gliding school" was ignored. Evidently the way to attract the public to motorless flying is to put up a good performance oneself, rather than to try to get credit for inducing someone else to fly at other people's expense. This has been borne out by subsequent history.

Other sailplanes at the meeting were the "Tern," in which A. H. Reffell put up a thermal flight of 5½ minutes; the "Dagnall" sailplane, which did no soaring; and, later, Hiscox's "Hors der Teufel" and Slingsby's "Falcon." F. G. Enser brought a diminutive "research sailplane" for test flights, and there were nacelled "Primaries" from the Preston, Portsmouth and North Kent Clubs.

### THE "DORSLING"

On July 8th soaring was at last possible on the south slope, and of three machines up together, the "Dorsling" put up the cleverest performance in the hands of Laver. Cleverness was needed, for the whole ridge, eight miles long, is irregular in shape and a south-west wind was producing awkward turbulence in places.

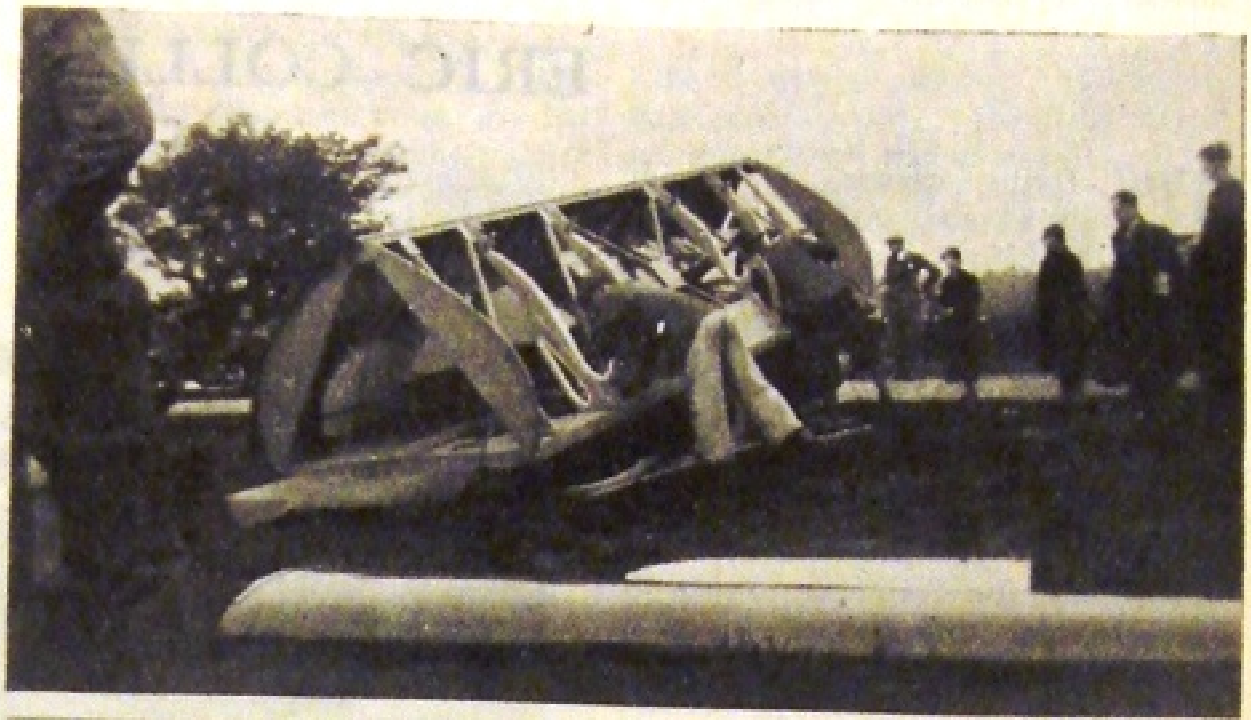
Little more opportunity occurred for soaring on the south slope, though on July 15 Hiscox made his "Hols de Teufel" climb 900 feet in slope lift. On the final day, July 16, the Pewsey site was used once again by the "Hols," "Dorsling" and "Tern," till a frontal thunderstorm arrived and its initial gust gave two of the machines an exciting few seconds. Collins had tried to make contact with a previous "front," but his cable broke during the launch.

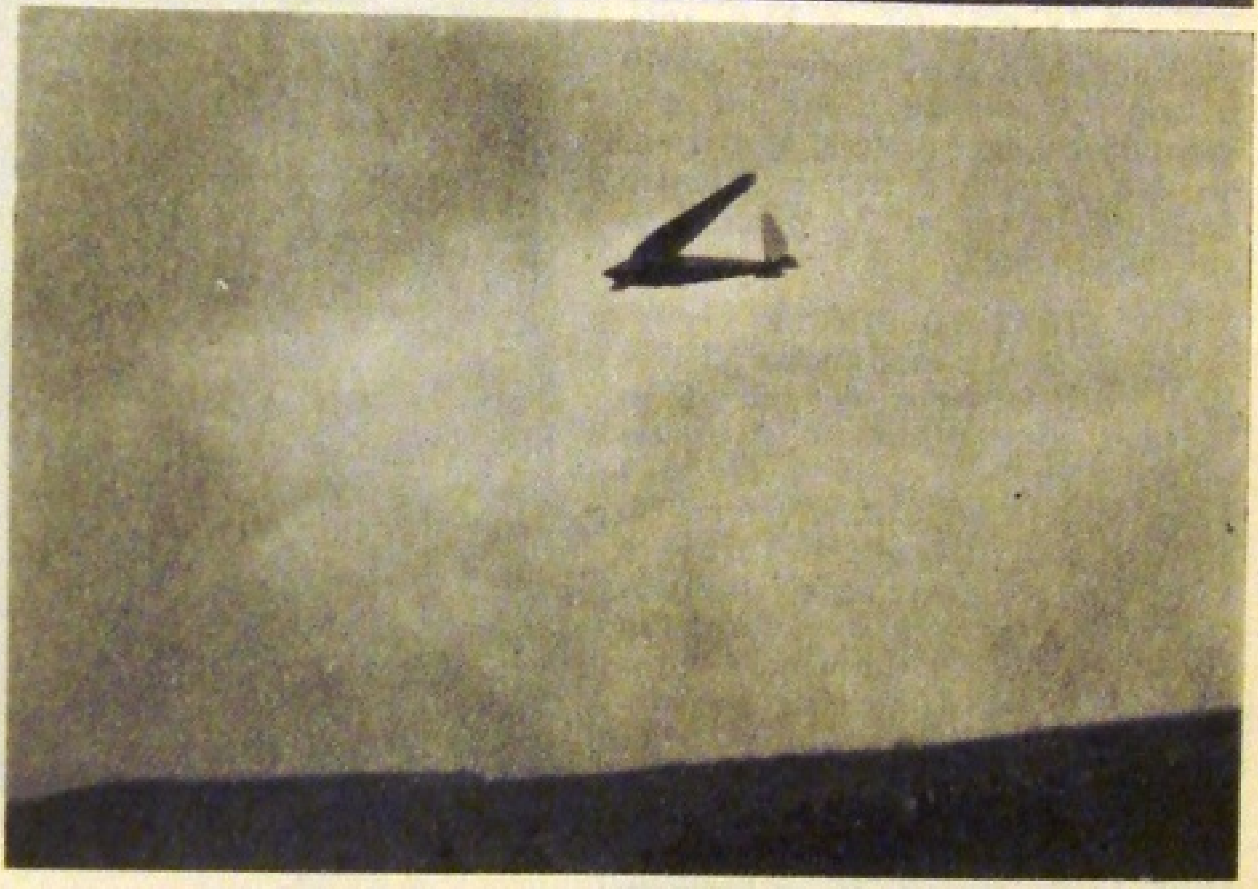
There were two important results from this meeting. Firstly, it led to the financial collapse of the B.G.A. and so compelled that body eventually to reform itself and become really representative of British motorless flight. And secondly, the thermal flights put an end to a period of stagnation and started British soaring on the road to its present success and prestige.

### SUTTON BANK DEBUT

This revival of interest in soaring progress led to an extraordinarily successful week-end National Contest at Sutton Bank in Yorkshire, held later in the year to retrieve the situation resulting from Huish. The first day, October 7th, brought poor conditions and only practice hops could be done. But Sunday the 8th was grand.

SUTTON BANK, 1933.





Ulster Gliding Club's "Scud II" being assembled (top) and soaring over the site.

The site was to become the headquarters of the Yorkshire Club (an amalgamation of several clubs in the district) in the following year, and deservedly so. It has a magnificent horseshoe, 1½ miles across, facing W.S.W., rising 800 feet above the plain below. From this an irregular west-facing range of hills stretches northwards for 12 miles, and adjoining the site is a south-facing slope which is more or less continuous for 6 miles to the east.

Of 15 machines entered, 11 took part in the soaring on Sunday, and at one time eight were up together—a hitherto unknown phenomenon in England. The soarers were: two "Prueflings" from Manchester and York, two "Hols der Teufels" from Bradford and Ilkley, two "Scud II" from London and Ulster, the "Dorsling" from Dorset, "Tern" from Southdown, a "Professor" from Bradford, the "Falcon," and its modification, the "Falcon II," with extended wingtips, built by Slingsby for C. E. Hardwick.

*Continued on page 6*

*Pioneers of British Gliding—6.*

# ERIC COLLINS

THE flying career of G. E. Collins lasted only three years and a half, but in that time he broke the chains which had bound British soaring to its hill sites and showed the way up to the clouds and across the countryside.

His first gliding hop was at the London Club on January 16, 1932, and by May 1 he had the "C" certificate. In those days it was customary for "C" aspirants to stay up just long enough to make sure of passing the test and then whizz back to earth, but Collins stayed up half-an-hour. Later that year he took a share in the privately owned "Kassel 20" and put in a great many hours of slope-soaring, so that he should feel sufficiently at home in the air to proceed to the next step.

### FIRST TO CIRCLE

It was pretty well known at this time that the way to get up in thermal currents was to go round in tight circles. Yet as far as I know, except on two occasions, no British pilot had so far turned a sailplane in a circle at all, tight or otherwise. Slope-soarers dared not turn their tails to the wind for fear of being blown back over the hill-top and getting into trouble in the leeward down-currents. But in January, 1933, Collins was seen putting the "Kassel 20" into a circle in the narrow space between Whipsnade Zoo and the base of a low rain cloud, and "that's how it all began."

Collins's next circle was not performed until July 1, 1933, but this time it was in real thermal lift. He had been engaged to give passenger flights at the Huish meeting in Wiltshire, and was repeatedly launched by auto-tow to 600 or 700 feet above the hill-top. The weather was calm, and the up-current over the hill-top appeared to be almost continuous, though it varied in strength. After more practice, Collins was able to get away on a cross-country flight of 6 miles on July 3, and climbed to 2,350 feet on July 4.

### TRUE VOCATION

He now gave up his profession of instrument-maker and devoted his whole time to gliding affairs, taking a small cottage at Flamstead, a few miles from Dunstable, where he settled with his wife, whom he had married some months earlier. It was a precarious existence, but Collins had found his true vocation at last, and had the intelligence to put happiness before prosperity.

The next achievement was a British distance record of 19¼ miles, set up from Dunstable in a "Professor" sailplane on August 23, 1933, in thermals and under cumulus clouds. By this time Collins had learned to find thermal currents without a variometer, by sensing slight differences of lift under his two wings and turning towards that side which was lifting most.

The Huish flights and the new record got into the papers, and Collins's father, duly impressed, offered early in 1934 to buy him the best available sailplane. This was a German "Rhönadler," the most efficient type then in production, and it arrived in April, 1934. Meanwhile, on March [illegible], he flew the "Kassel" two-seater with a passenger, 46 miles from Dunstable into Essex, mostly under a "cloud street." This distance was only 2 miles short of the then world's record for two-seater sailplanes. On the same day, however, he lost the single-seater record to P. A. Wills, who did 56 miles.

### GERMAN LOCAL RECORD

Next, Collins flew the "Rhönadler" 32 miles from Dunstable to Rayleigh, near Southend. Then, in June, he took a course at Was[illegible]

(Continued on page [illegible])

# TRAINING IN ARGENTINA

FOR the benefit of people who may be forming new clubs under similar conditions it might be interesting to give our training system in some detail, especially as it differs considerably from the pre-war requirements in Great Britain. In fourteen years' experience we have had only two fatal crashes and a minute percentage of minor breakups, and the average standard of piloting is definitely first-class. Personally, my confidence in the system of instruction is so great that I have allowed my fifteen-year-old son to advance to aero-towing without a qualm, and if we had not come to England he would already have been practising aerobatics.

### MEDICAL TEST

We follow the international rules to some extent, in that we have A, B, C and Silver C tickets, but there is a very stiff medical test and the training is much more comprehensive. We also have to qualify for a National Sailflying Licence. For this we must possess at least five soaring flights totalling one hour, pass a written examination in sailplane construction and upkeep and meteorology, and then take an aerobatic test in front of a qualified Air Ministry Inspector. This consists of an aerotow to 900 metres followed by (in this order) a stall, a left-hand spin (three turns) a right-hand spin (three turns), a loop, a stall turn to the left, a tailwind loop, stall turn to the right, three steep turns left, three steep turns right, sideslip left, sideslip right, and a spot landing. The standard of training is so graded that it would be extremely rare for a pilot to fail once he is considered good enough to enter for the test at all. It might be an excellent idea to make this a world-wide practice, as being perhaps more representative of prowess than even the International Silver C.


### UNIFORM SYSTEM

Each ticket carries the same guarantee of training. The instructor of each club outside has a yearly refresher course at the mother club, with special lectures and demonstrations, as well as practical experience in tuition and actual soaring flight. Thus one may go from Club to Club and be sure the system of instruction is unform, variable only in slight degree by an instructor's personal idiosyncracies. (In the course of learning to fly an aeroplane I was unlucky enough to have five different instructors, with the natural result that I discovered each previous system to be entirely wrong and unorthodox! I also discovered that an aeroplane will fly *and land* itself entirely alone, due to an unfortunate mixup in the signals, but that's another story.)

MRS. PLATT.

To revert to gliding. We begin with auto-towing, the instructor driving the car and so in full control of speed, while looking backwards at the pupil. For the A certificate an average of fifty launches are required, from the initial slide, through small hops, to a steady 20-foot glide in two across the field (1,200 metres wide). A few launches later you are allowed to release and land alone (beer all round), and finally you are doing straight glides from the full 60 metres of the cable. Then comes slight deviation with rudder alone, straightening up by slight use of ailerons as well. When this is perfected you are granted your A on three flights of 30 seconds.

### TAILWIND LANDINGS

Immediately you pass on to three tailwind landings, and from there (still in the open primary) to the long cable. This is 220 metres, so from this height you go on to practice full circles and figure eights with 30° bank, always to a spot landing. Then the nacelle cabin is fitted, the turns steepened, and roughly fifty launches after the A you have to face the exam. for a B.

By now the training is so advanced that if you pass the B test you go straight on to the " Grunau Baby." Here you do sideslips and perfect the " S " approaches already practised on the primary until the instructor thinks you sufficiently skilled for aerotowing.

### TRAINING WITH RADIO

Now training speeds up, as we begin with the radio. This is a very simple receiving set fitted in the barograph box of the " Baby " with a light telescopic aerial erected in the front juncture of the wings. It carries a slight disadvantage in that the headphone noises shut out the accustomed wind whistle, but you have already learned to fly by the A.S.I. as well as by the wind in your face; and the extra confidence engendered by the calm voice of the instructor is invaluable when beginning aerobatics.

The first aero takeoff must be very carefully explained, for engine noise is transmitted to the head phones so strongly that the radio is switched off from the ground till


the glider releases. You are buckled into a parachute, strapped in firmly, the instructions are repeated, and off you go—with so far 100 per cent. success.

### SPINS AND STALL TURNS

The first time you release at about 300 metres, being signalled to do so by the white glove of the aeroplane pilot ahead, and of course the first tow is only allowed in calm weather, usually around sunset. But in the following days the advance is very rapid, from simple stalls to loops, from loops to spins, and from spins to stall turns. Launches are left to your discretion, the price being 40 cents a minute (roughly sixpence per 300 feet). On the average we take 2,500 feet for aerobatics and use up any extra height practising steep turns, co-ordination of controls, sideslipping, or stalling on the turn. If meanwhile we contact a thermal we are encouraged to use it for our C, but a C is only granted for a barograph recording of at least 300 feet gain in height and 15—20 minutes in the air.

### MOONLIGHT SOARING

Except in the three of four summer months thermals are few and far between, as we have a great deal of brilliant but cloudless weather with days and days of utterly stable air in spring and autumn. Occasionally great duststorms come along and these have produced some interesting soaring conditions in front of them, heights of 2,500 metres being not at all uncommon. Then, too, we have immense cold fronts rolling up hundreds of miles wide from the South Pole. But these are unkind; they usually arrive in the evening and we have no facilities whatever for night flying. We did make six aero launches one midnight with no lights, a brilliant full moon, and three keroseney rags burning on the ground; but although the authorities publicly congratulated us over the radio news they privately firmly forbade us ever to do it again. But it was lovely while it lasted, and we hope to repeat it some day.

VERONICA PLATT.

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## THERMALS AT HUISH

*(Continued from Page 3)*

There were three distance flights, all done by slope-soaring along the range of hills to the north: Wills went 12¾ miles in "Scud II," MacClement 10¾ in "Falcon II," and Little 6 miles in the "Tern." Wills also won the altitude prize (1,000 feet in "Scud II") and the out-and-return prize (5½ miles each way in "Professor").

### BUXTON'S DURATION PRIZE

The same out-and-return course was flown by Collins in "Professor," and by Buxton and again Wills in "Scud II." Buxton won the duration prize with 2 hours 39 minutes in "Scud," closely followed by H. S. Crabtree in the Ilkley "Hols" with 2 hours 20 minutes. Both these times were exceeded next day, after the meeting was over, by Laver, who put up a new British duration record of 7 hours 22 minutes in the "Dorsling."

### THE REAL START

Of the 22 pilots who soared during this meeting, all but one or two continued to be active in the gliding movement. Six of them afterwards obtained the "Silver C" certificate: Collins, Wills, C. Nicholson, G. O. Smith, A. L. Slater and G. A. Little. Three others, N. H. Sharpe, C. E. Hardwick and B. A. G. Meads, were to become first Chairmen of the Yorkshire, Midland, and Derbyshire and Lancashire Clubs respectively. British Soaring had received a hefty push, and has never since looked back.

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## ERIC COLLINS

*(Continued from Page 4).*

Hirth's high-performance school at Hornberg, near Stuttgart, at which he climbed in a cloud to 6,825 feet, this being a local altitude record for the Hornberg School.

A remarkable achievement in July was a flight from Dunstable to Hanworth at right angles to the direction of a wind blowing from 10 to 15 miles an hour. Later in July he made the first British "cold front" flight, going 25 miles.

Then, on August 5, 1934, Collins made the greatest flight of his career, a new British record of 95 miles from Dunstable to the Norfolk coast at Holkham Bay. It was carried out partly under cloud streets and partly under isolated cumulus, and was a difficult and tiring flight, taking him 4½ hours to do. Only the sea prevented him from covering a longer distance, for he was still 3,000 feet up on arriving at the coast.

At the National Contest in Yorkshire Collins took part in another "cold front" flight, and brought off a tricky out-and-return flight between Sutton Bank and Osmotherly.

### ARRIVED BY THERMAL

Next year he was responsible for the first appearance of a sailplane at the Royal Aeronautical Society's Annual Displays. He was to have been towed there by aeroplane from Reading, but on the way the cable broke. However, there were good thermals about, so Collins arrived on time. He made a spectacular diving approach which enabled him to float for hundreds of yards across the aerodrome just above ground level.

Soon after this he obtained a lucrative engagement with Sir Alan Cobham's Display, performing aerobatics on a "Grunau Baby" sailplane. It was at one of these displays that he met with an unfortunate accident which caused his death. At Ramsey, in Huntingdonshire, he attempted a "bunt," or forward loop, but the "Grunau" was not designed to withstand the resultant stresses and a wing broke off. Collins had reckoned to take to his parachute in this event, but for some reason, never certainly determined, he was unable to use it.

Although Eric Collins's soaring career led to this untimely ending, it brought him the happiest period, perhaps the only really happy period, of his life, and most people will agree that it was well worth while his embarking upon it.

A. E. S.

# THE SILVER "C." (I: Distance)

**By J. W. S. PRINGLE.**

To most glider pilots who have just gained their "C" certificate with a flight of five minutes above a hill slope, the next recognised stage in the art of soaring, the Silver "C," seems a very long way off. So, at any rate, it did to me in July 1935, sitting in the Nacelled Dagling on the edge of the hill near the Bowl at Dunstable. My "C" flight had been a hectic one, as the wind that day was not strong. The Bowl is not a usual place to finish a soaring flight at the London Club, and I certainly did not intend to land there on that occasion; the hill just got closer and closer until it finally touched the bottom of the skid and the glider came to rest, fortunately in one piece. Three years and one month later, in a Kirby Kite at Cambridge Airport, I remembered that landing as I checked the barograph record which had just logged the last stage of my Silver "C."

## BACON AND EGGS

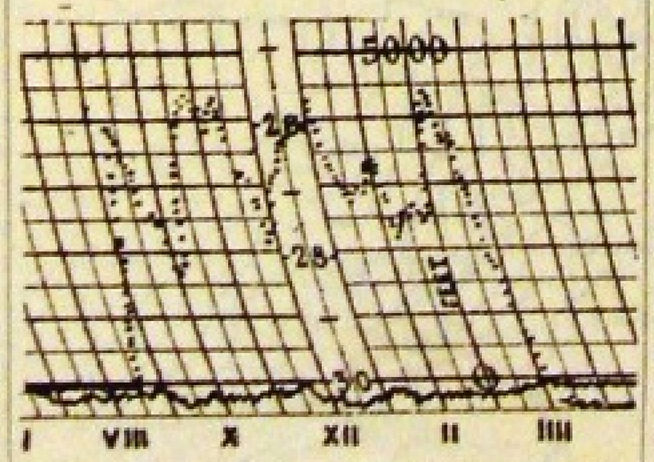
The first stage, in my case, was distance. At the Cambridge University Club, we did not go in for distance in the ordinary way, as it meant the end of flying for the day for the other members. But on our vacation camps at Draycott Farm in Wiltshire all was fair for him who could get it, and on April 17th, 1938—Easter Sunday—a strong north-east wind looked full of promise when we emerged from our barn dormitory to Mrs. Swanton's breakfast of bacon and eggs. Fortunately we had brought our Moth towing aircraft to the camp, for north-east was the one wind for which we had no hill organised. By the time the planes were rigged the sky was full of clouds, and Beauchamp gave me a good tow of 2,000 feet under a perfect flat-bottomed mushroom which made the start easy; as the barograph chart shows, the first climb was faster than the tow. When that one gave out I was well on my way: already quite lost, but full of hope.

## OH! FOR A THERMAL

One of the troubles of being at cloud-base is that you cannot see where to go next. I had a compass on board, but was much too excited to remember to look at it, and the wind at that height was strong enough anyway to make it easy to see which was down-wind; I went that way. There was an artillery range somewhere near, I knew, but what of it! To be away at last, with the roadless downland streaking below at 70 m.p.h., was worth the risk of a few stray shells. In a very short space of time I was down to 2,500 feet and getting worried. What did all the books say about finding thermals? I could remember only that villages were better than fields; and, sure enough, dead ahead, was a village—we worked out afterwards it must have been Imber—surrounded by wild-looking heathland, with a road for the trailer in case it did not work. I stopped and circled.

## FOUND IT!

At 2,200 feet on the clock the red ball hesitated, sank to the bottom, came up again, sank again, and stayed there. The air shivered. The green ball, after a pause to gather strength as it always did on the old Kite, fairly bounced up the tube and then hung, balanced, at about plus three. If the gunners down below had fired a salvo at us at that moment, I don't think I would have noticed it, so important did it seem to keep the circles accurate and the airspeed at 32. By the time we got to cloud-base that thermal must have formed almost a cloud street, for the next ten minutes were cold and murky, and by the time the sun reappeared the countryside had changed and was now full of fields, with roads and villages everywhere. There was one large country house, perhaps a school, with good landings; that was when we were down to 2,000 feet again. Then there was a railway station with a line going off to the left—where was that map? It was time I knew where we were. But nothing in Wiltshire or Somerset seemed to have a railway just like that. I put the map away again. There was less cloud now, but lift seemed to be good, and all the time we were drifting west. One hour—it must be thirty-two miles by now—what is that ahead? The sea? If it is the Bristol Channel the coast ought to slope to the left; but it doesn't, it goes away to the right! Just then a fine thermal in a clear sky took us higher than ever, over 4,000 feet, but there were now no drifting cloud shadows to show which way to go. And the sea was on the wrong side! Anyway, there was a town, and a good field by a road. At 2,000 feet the field had sheep in it, but they were all on one side; pray God they stay there! At 1,000 feet it seemed to be on a bit of a slope—alright, it's uphill! The red ball rose still more: of course, a downdraught! Speed up to 45 m.p.h. in case of trouble, one S-turn, and we were down.




CROSS COUNTRY TO BRIDPORT FROM DRAYCOTT 64 MILES (17.4.38)

## BRIDPORT

It was galling to have to ask what the town was. Even more so not to have heard of Bridport and to have to try to find it on a map of Somerset. Finally to be given another map to measure up the distance—64 miles; one stage of the Silver "C" done. The altitude would not count because of the aerotow. Some kind people gave me tea, and I rang up Yeovil Police Station to tell the trailer crew where we were. By that time the sheep had nearly eaten the rudder off the Kite. Two small boys helped me to derig. The sun was still warm down here.

In many ways it was a thoroughly bad flight. I got lost; I never once looked at the compass; I forgot all my resolves to mark the next cloud before getting up into the misty base of the first; and finally I think I landed downwind owing to the sea breeze. But anyway I made it; and, what is more important, made a beginning of learning the ways of the air and what it does on a hot day. For that is the real essence of soaring, and for me the chief joy of it.

*Cloud Habits No. 2*

# THE HELM WAVE

## By NOEL McCLEAN

*(Holder of former British Altitude Record, June 22nd, 1939)*

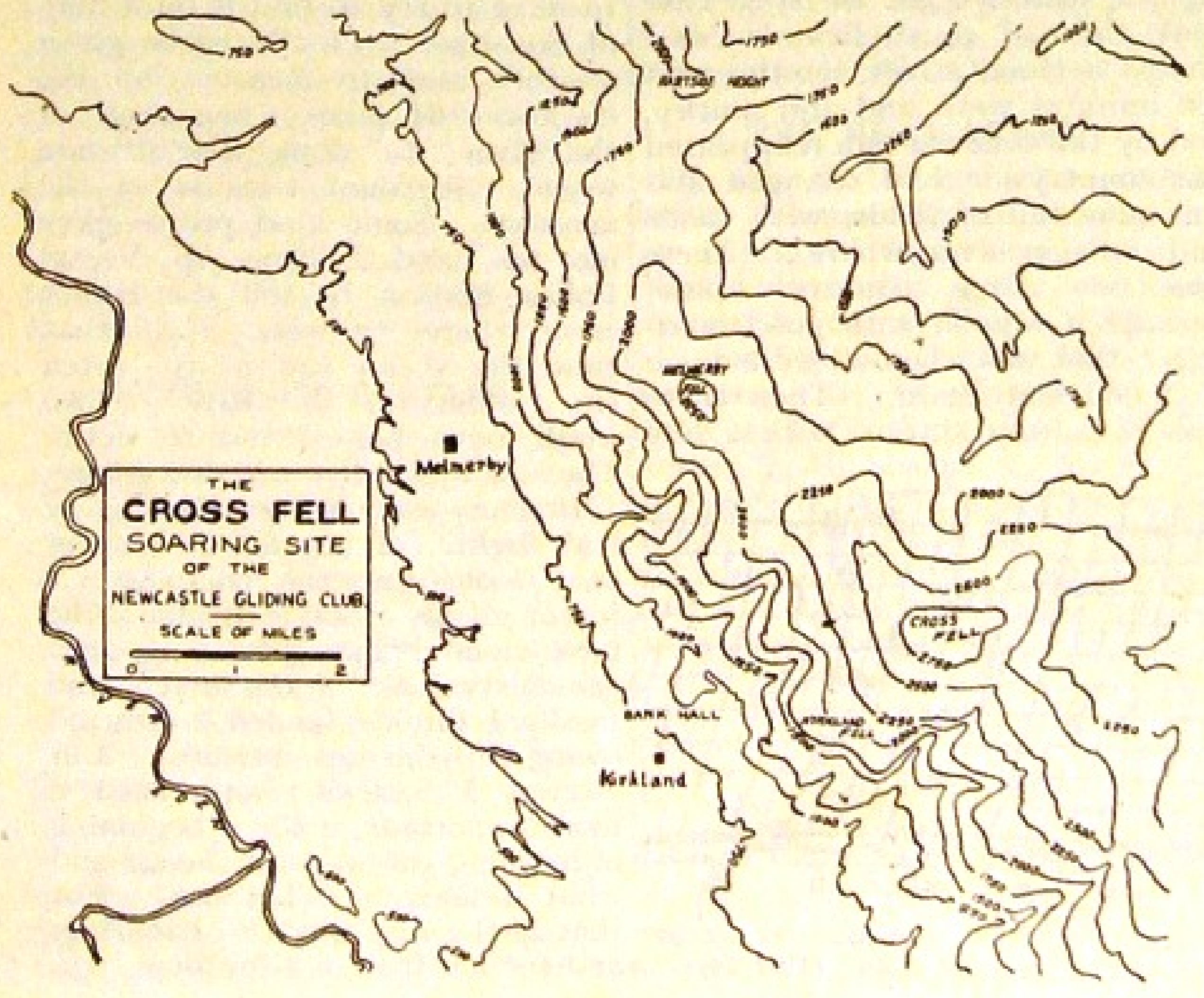
THE best authority on the Helm system is Mr. Manley, late of Durham University, and now of Cambridge. Since the very distinctive wind and cloud formation of West Cumberland were mentioned well back in history, he is the only man to have spent any considerable time studying them. He stayed 18 months in camp on top of the ridge to get his data, thanks to a Leverhulme grant. The investigations by the Newcastle Gliding Club have only taken place over about four days of actual Helm activity, so that most of our information comes from Mr. Manley's books, lectures and chats.

### PENNINE CHAIN

The ridge in which the Helm wind has its source appears on the map as the Pennine Chain. It is a very regular escarpment running north-west to south-east, the steep face being the west side, where there is a sudden drop averaging 2,000 feet in height, to the plain of Cumberland. When a north-east wind blows over this ridge, the ridge acts as a submerged weir. If this happens in a stream only little deeper than the weir, then we get the common phenomenon of a depression and increase of speed followed by a standing wave. The Newcastle Gliding Club group explained the necessary shallowness of the north-east wind by assuming that the prevailing south-west wind blew just over it, but Mr. Manley prefers the presence of an inversion at a height not very much greater than the ridge—something like 4,000—6,000 feet above sea-level. Apparently the air above this inversion follows the contours of the air beneath it.

### DISTINCTIVE CLOUD FORMATION

There is rarely any doubt as to when the Helm system is in action, as it is accompanied by very noticeable sights, sounds, and forces. The cloud formation is of a very distinctive character, probably more so than the " Moazagotl." It takes the form of a long roll of cumulus-type cloud, the Helm Bar, at a height of 2,500—5,000 feet, hanging just in front of the ridge, with a lenticular, the High Bar, immediately above it at a height of 8,500—16,000 feet. Both clouds are, of course, stationary in position, but the Bar is visibly rolling, far faster than any cloud movement we have ever seen. At times of high humidity these clouds unite to form a solid wall, and often the first cloud formation is repeated four times across the plain, without rain or cloud forming in the blue spaces between the walls. The Helm, or Cap, is the helmet of cloud which sits on top of the ridge, and out of which pours the Helm wind—which, however, is not a katabatic wind. It is this wind which causes the distinctive noise in its terrific charge down the rocks and in among the trees at the foot. As for the forces, these are notorious throughout the district to such a degree that the older farm houses have no windows in the east side, while railway engineers were warned of the danger of laying the line through the Eden valley in the old days. I personally have seen a " Whitley " bomber having a very thin time of it just west of the Pennines on the day the second Helm flight was made, when the weather was quite pleasant over the rest of England, but the wind happened to be N.E.

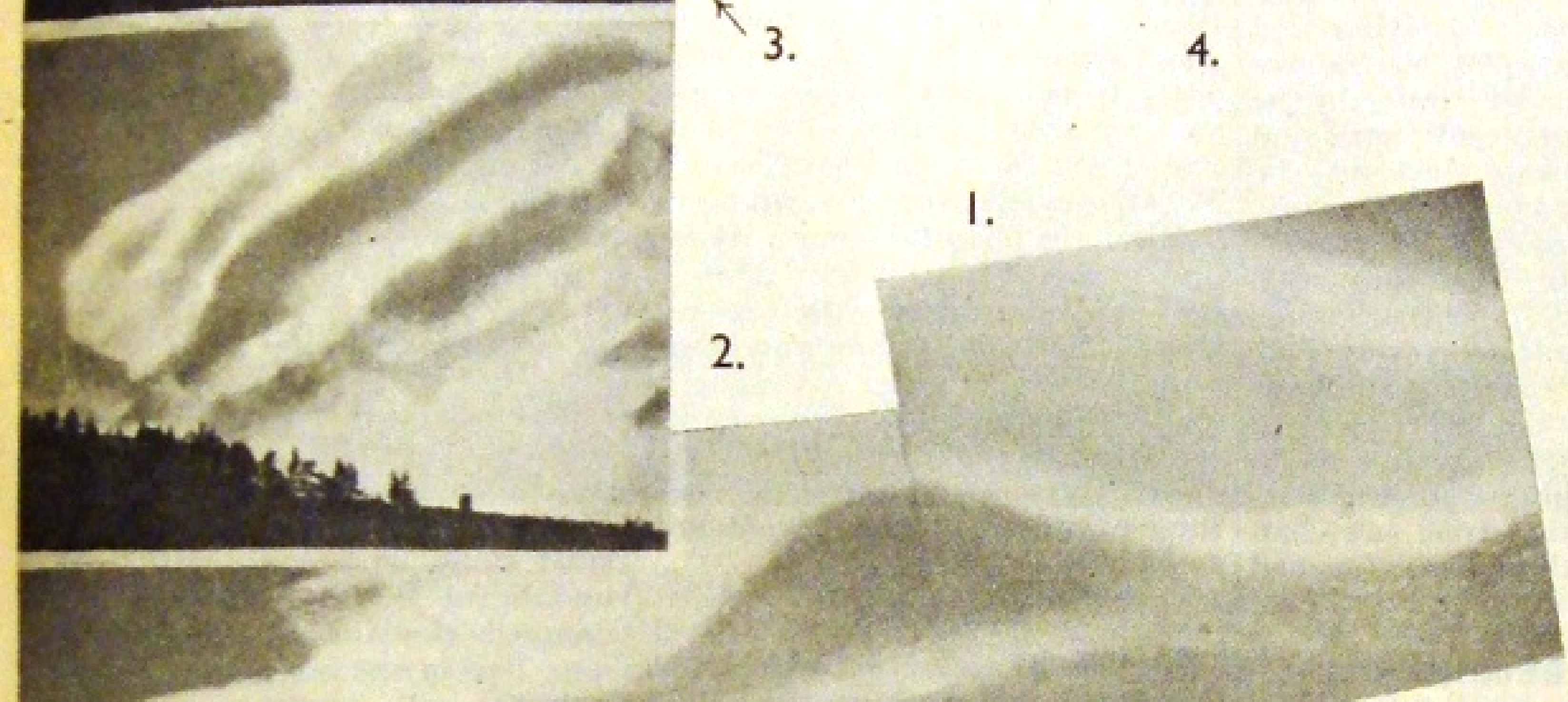



### GOLDEN " C " IN " DAGLINGS "

The Helm wind is a north-easter, but it rarely penetrates much more than a mile from the ridge, after which there is a sharply defined area of calm, or even westerly breeze. This is repeated, like the clouds, across the plain, the calm or westerly area always beneath the bars of cloud. A roll of cirrus cloud immediately above the ridge, at 20,000—30,000 feet, is seized upon by John Allan to support his suggestion that, as our wave faces directly into the prevailing south-westerly, there is likely to be a curl-over from the top of the wave into the higher westerly, giving lift out of all proportion to the height of the ridge. I am inclined to agree with him, and further suggest that the second or third waves will be better than the first. This seems unreasonable, I know, but the cloud formation seemd to suggest it. So to Cross Fell's " normal " attractions of a 30-mile beat, soaring in winds S. to N.W., lift three miles deep, hill lift to 4,000 feet above

3.

4.



1.

2.

**Helm Wind Clouds on April 30th, 1939.**

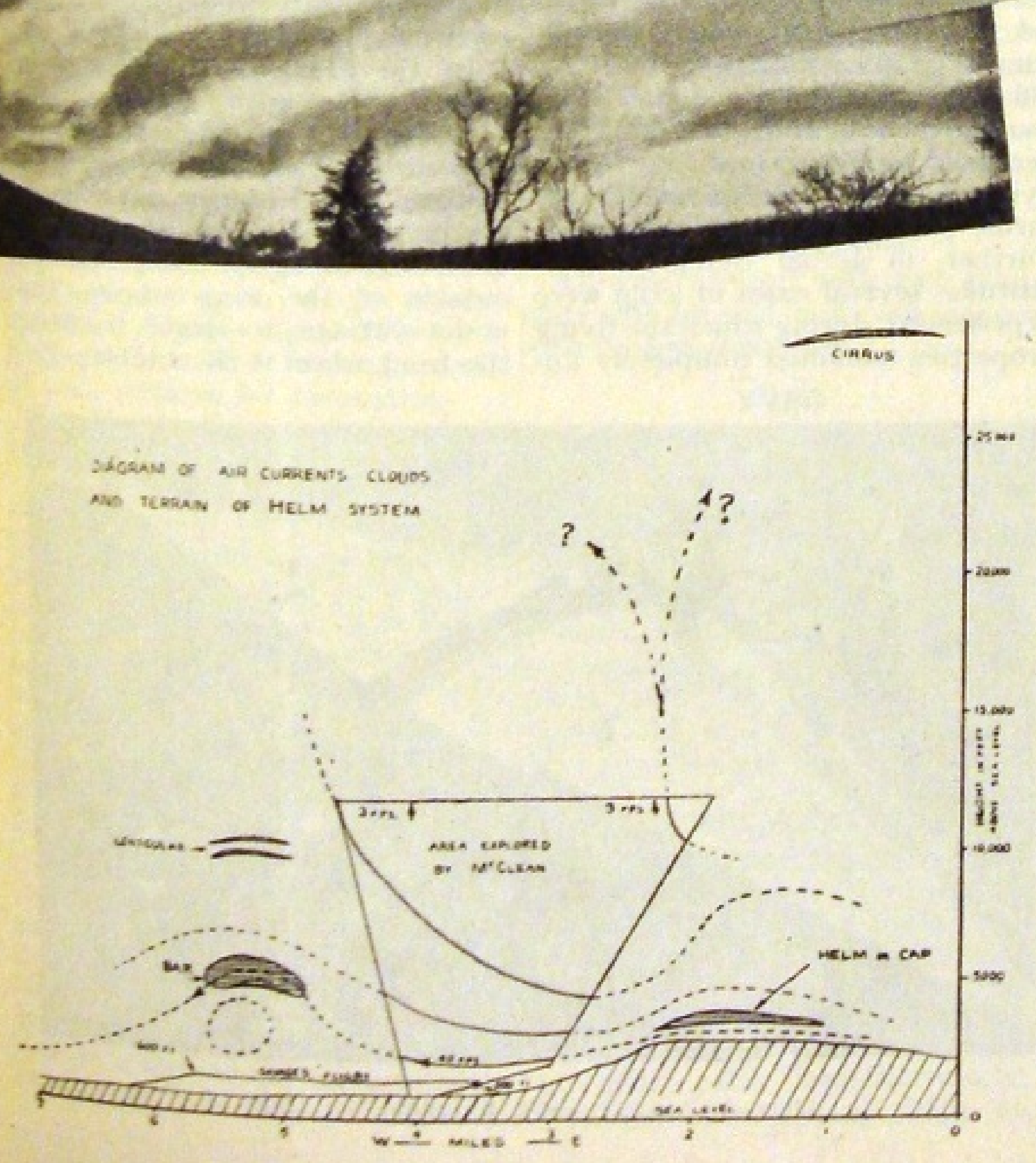
**1. The first wave of cloud which, at 3 p.m., was just east of Melmerby. Isolated patches of cumulus were forming below the cloud, which was estimated to be 8,000 to 10,000 feet above the village. Wind at Hartside was about N.E., 30 to 35 m.p.h.**

**2. Another view of the first wave, with cumulus beneath it forming a more continuous line.**

**3. Part of the first wave, with the second, third, fourth and fifth waves visible.**

**4. The same five waves from a slightly different angle.**

*Photos by A. C. Burningham.*




take-off for a "Grunau," we now add a standing wave in north-easters, frequent in the spring, quite often during the rest of the year, with "Golden C" height for children in nacelled "Daglings."

This has nothing to do with the Helm system, but there is a cloud formation at Hartside which suggested to me that height records would be broken there before ever I knew of the standing wave, and which may possibly be several times more effective than the wave. It occurs in late summer under conditions exactly opposite to a Helm, *i.e.* a slight breeze from the S.W. among other things. However, this is, if anything, only conjecture.

## THREE ATTEMPTS AT CONTACT

Three attempts were made at contacting the Helm wave: by

Savage, McClean and Allan respectively. All launches were from our normal flying ground at the foot of the ridge at Bank Hall Farm, the usual positions of machine and winch being reversed.

Savage was launched on the Wednesday in the "Grunau Baby," and on releasing at 500 feet flew at once down wind towards the Helm Bar. He had plus six inches showing on the Cobb-Slater variometer all the way to the Bar and reached there at 600 feet above take-off. At this time we held the theory that the wall of cloud marked the upward flow of the wave. We know now that it marks the apex reached by the various layers of air. In accordance with our former theory, however, Savage proceeded to circle under the Bar, but as soon as he flew to the west side of it, was forced down so quickly that he had no time to do more than scramble a landing anywhere. By the time we had retrieved him, flying was finished for the day.

### THE RECORD

On the Thursday the Helm was still blowing, so I took a launch in the "Grunau" and at once found lift. I quartered a little towards the Bar, but profited by Savage's experience and did not approach too closely. The lift speedily mounted to 25 feet per second, and except for some stickiness at 1,000 and again at 9,000 feet above take-off, had a perfectly pleasant, if cold, ride to 11,140 feet above take-off. My object in not waiting to explore the wave fully was to permit Allan and Savage to get their "Golden C" height, after which I intended having another flight, with some exploration this time. But greed did not pay, because when Allan took off in a 50-mile-an-hour Helm he struck only a violent down-draught and a very sticky landing ground, and by the time we had hauled the machine back to the proper landing ground it was late evening. After comparing notes we have come to the conclusion that had John burnt his boats and whistled down wind he would almost certainly have contacted the wave before the ground, which falls away quite rapidly. Apparently the entire system had moved out a mile or so from the ridge. However, that remains to be tried next time the Helm howls.

# ALL-WING GLIDERS.

**by W. W. ZUORL.**

THE Horten brothers of Bonn, have achieved exceptional success in the development, under the inspiration of Lippisch's work, of different models of tailless gliders. Their first sailplane, the "HI," was constructed in the spring of 1933. It had a span of 12 m. (39 feet), and was flown for about seven hours. On completion of the tests in 1934, it was scrapped and replaced by the "H2" with a span of 16 m. (52 feet), which, like its predecessor, also came into being at the parental home. It was first flown as a sailplane; then in 1935 it was provided with a 60 h.p. Hirth H.M. 60 engine, and was flown for over 80 hours. The engine was built as an integral part of the wing, and the pusher airscrew was driven by remote control. Later, three examples of the H2 were built as gliders.

### 270 M.P.H.

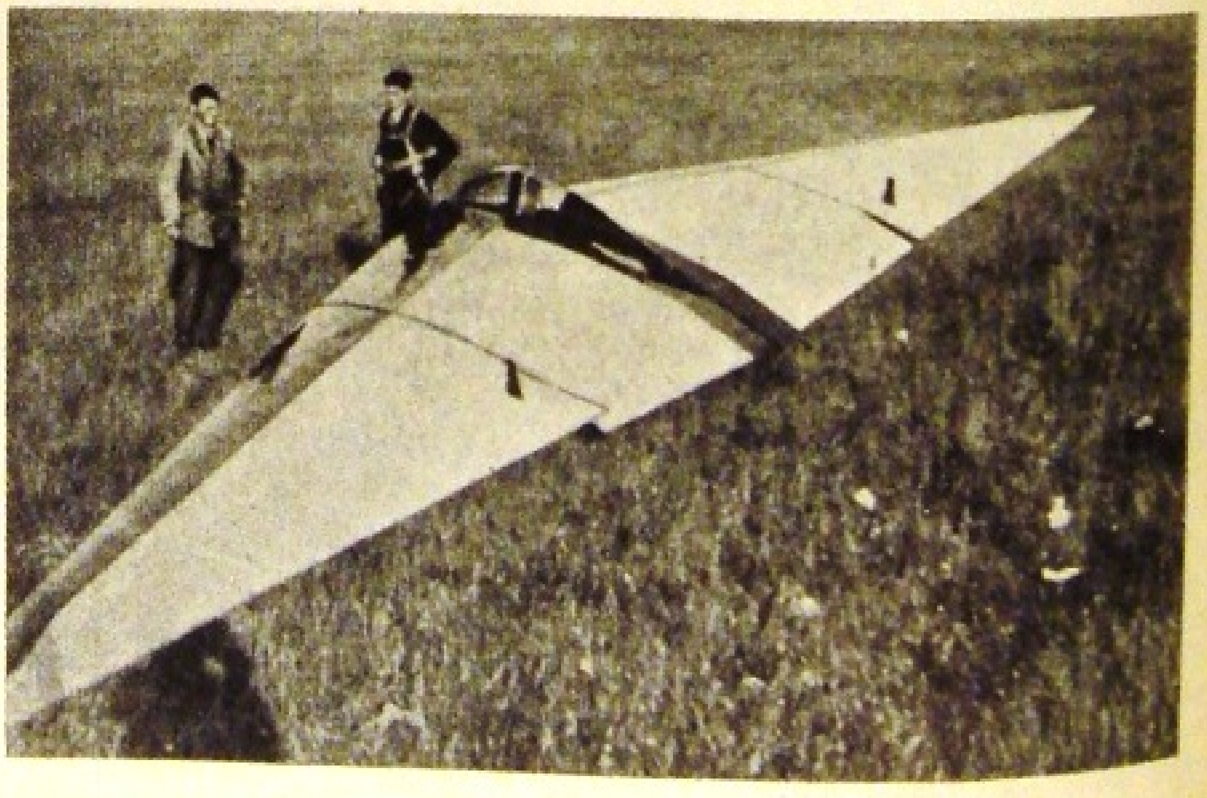
In 1936-37 this type was further developed in two directions: on the one hand, as a sailplane, which led to the construction of the all-wing type H3 with a span of 20 m. (66 feet). Its entry for the Rhön competitions enabled valuable experience to be gained as to its flying qualities, manoeuvrability in turns, particularly in blind flying. Further, in actual flying at high altitude, several cases of icing were experienced, during which the flying properties remained completely unaffected. In further aerobatic tests, the glider at speeds of over 400 km/h (270 m.p.h.) exhibited absolute stability and a complete absence of supersensitivity. Data of the three types were :—

| | H1 | H2 | H3 |
|---|---|---|---|
| Span, in feet .. | 39 | 52 | 66 |
| Wing area, in feet 2 | 226 | 344 | 387 |
| Weight empty, in lbs. .. .. | 266 | 563 | 473 |
| Flying weight, in lbs. .. .. | 440 | 803 | 693 |
| Gliding angle .. | 21 | 24 | 32 |
| Vertical rate of descent inches .. | 39.3 | 34 | 19 |

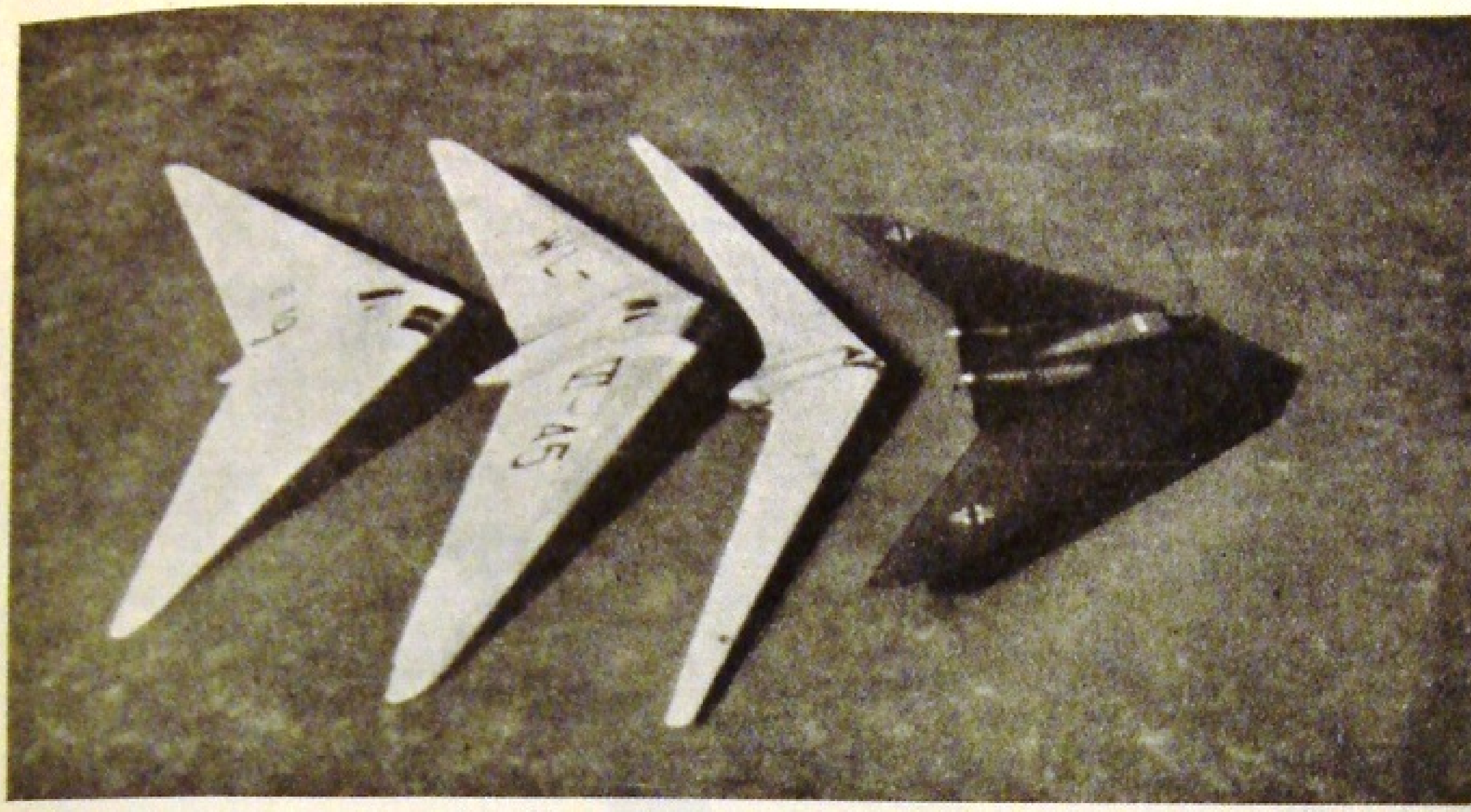
### FEATHERING PUSHER AIRSCREW

The improved H3 called the H3b, was of composite construction (wood-steel) by the Peschke-Flugzeugbau in Minden. This aircraft could be supplied with: (*a*) undamped elevator; (*b*) normal damped elevator; (*c*) extrudable nose flap in the midwing; and (*d*) a 1000 cm3 engine and automatically feathering pusher airscrew, as powered glider.

In the H3*b*, the wings are in three parts with quick-locking devices, so that assembling and dismantling can be done in three minutes. The elevator and ailerons are on the wing tips, the rudders are designed as split flaps on the outside of the wing nose. The under-carriage is single tracked; the front wheel is retractable.



THE HORTEN I, (1933).



HORTEN FAMILY, II, III, IV, V.

### EASILY FLOWN

The aircraft can be flown without special training by any pilot. In spite of its 66ft. span, the aircraft has a very small radius of turn. The nose dive brakes are very efficient and do not call for any variations in the trim. Because of its foolproofness, the H3*b* is particularly suitable for blind flying. Its data are: span, 66ft.; length, 16½ft.; chord at the wing root. 10¾ft.; chord at wing tips 19.6 ins.; wing area, 400 sq. ft.; weight empty 550 lbs.; flying weight, 770 lbs.; gliding ratio 1 : 30.5; sinking speed, 21 ins.; suitable for aerobatics.

The Horten H4 was designed as an all-wing glider with cantilever wings with slight dihedral and considerable sweep back. A peculiarity of this aircraft is that the pilot is accommodated in a semi-prone position inside the short fuselage, and the controls are operated by a tiltable handwheel. Whilst the mid-section of the 5-part airframe is made of wood, the outer wings are of light alloy. The aircraft is provided with diving brakes (120 m.p.h.).

### DATA

Span, 66ft.; wing area, 204 ft.; aspect ratio, 1 : 21; weight-equipment, 528 lbs.; flying weight, 770 lbs.; gliding ratio, 1 : 37; falling speed, 19½ ins.

With a view to obtaining further experience and data on all-wing aircraft, the Horten brothers designed and tested the twin-engine Horten V aircraft. Since sufficient internal space for the accommodation of the load, crew and engine entails considerable flying weight, the Horten was first constructed as a large, high velocity experimental model, which can be considered as a reduction to scale of a fast all-wing powered aircraft.

### CONSTRUCTION

All-wing aircraft with two pilot, seats side by side, and twin engines with pusher airscrews.

### WING

Traperoidal in plan with large sweep back; the leading edge approaches parabola because of the subdivision of the sweep back into four blunt nose angles. The wing root profile is on the centre of pressure, with S-shaped centre line, 2% camber, and 16% thickness/chord ratio. The monospar wing tips are of wood, with torsionally rigid plywood nose.

### CONTROL SURFACES

The outer flaps on the trailing edge of the wing act chiefly as positive elevators, the inner flaps chiefly as negative elevators, and the aileron effect is obtained by operating the positive elevator on one and the negative elevator on the other side simultaneously. The brake consists of flaps on the front of the wing tips which, in the closed position form part of the wing skin and, when raised, produce by their additional drag a moment about the vertical axis. The three split flaps on the midwing serve to aid landing and take-off, for which the inner negative elevators may also be used without impairing their controlling effect.

### POWER UNIT

Two counter rotating, air-cooled, 4-cylinder in line Hirth HM-60 engines, of 80 h.p. each. The engine are built as an integral part of the wing and drive the pusher airscrews with remote control.

### UNDERCARRIAGE

Tricycle undercarriage attached to the midwing. Front wheel castering, the landing wheels with mechanical brakes. In future all three wheels will be made retractable.

### DIMENSIONS

Span, 52 ft.; wing area, 449 ft.2; aspect ratio, 6; weight empty, 1430 lbs.; flying weight, 2420 lbs.; maximum speed, 175 m.p.h.; cruising speed, 153 m.p.h.

As a development of this type of power aircraft, the Horten brothers have published a plan of a towing aircraft, the advantages of which as an all-wing aeroplane should not be underestimated.

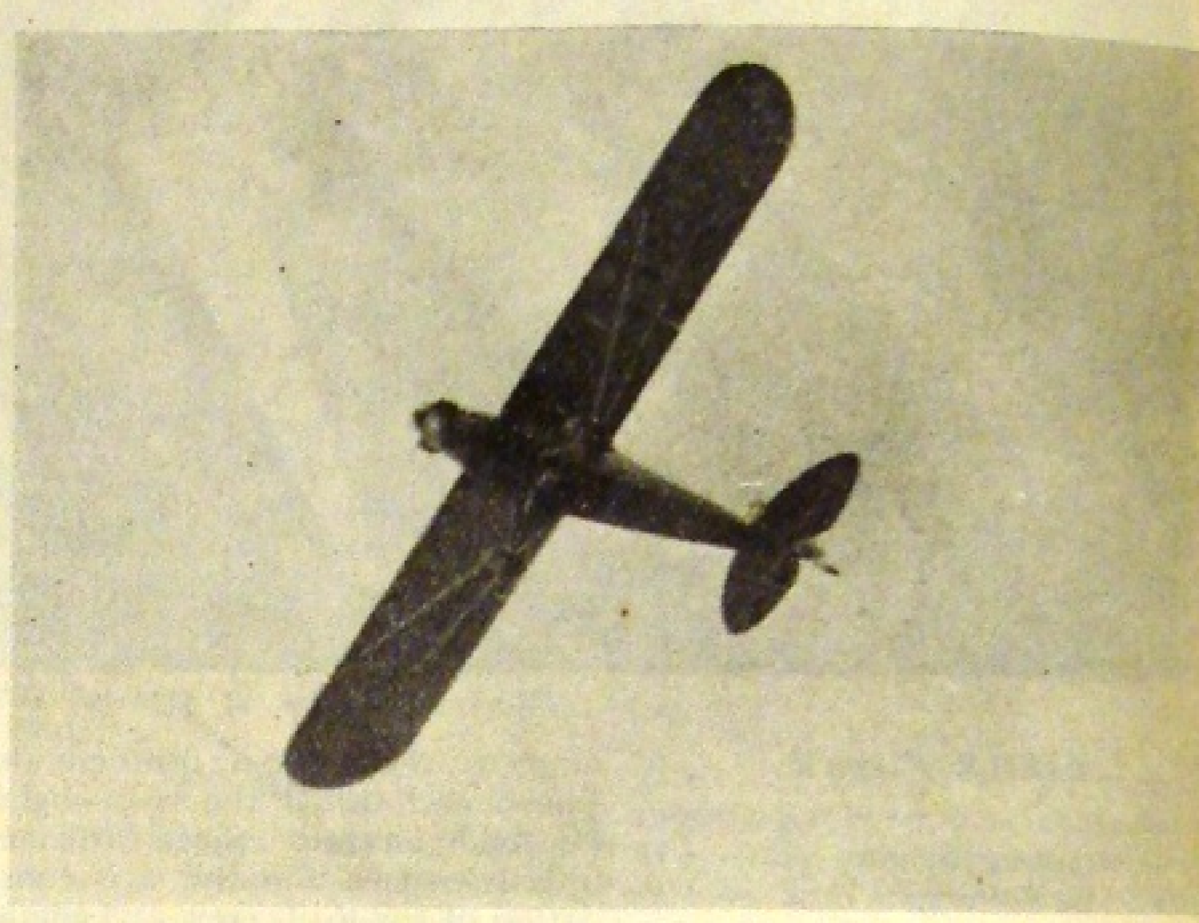
Translated by V. P. Akimoff.

*Acknowledgments to RTP3. Map.*

# GLIDING AND SOARING WITH A LIGHT PLANE

**By HAROLD H. BROWN**

*(from "Soaring")*



FEW owners and users of light planes realize that in gliding efficiency, their ships are somewhere about midway between a primary and a secondary or utility glider. Neither do they realize what real fun is or how much a knowledge of it adds to one's safety and security in the air.

In my own personal case, so far with my Cub I have had four "dead stick" landings, three of them emergencies. In all four of them, I landed without doing either the ship or myself any damage. In fact, outside of the motor being dead, the landings themselves were perfectly normal.

Over a year ago, I was talking with a friend of mine, Mr. Turpin, manager of the Airport at Dover, Delaware, and he told me that a dead stick landing was about a fifty-fifty chance of a crackup. Of course, it may be plain bull luck that I didn't have two crackups. However, I am inclined to lay the results to some extent to my practice of gliding.

## EXPERIMENTS

Considerably over a year ago, I had something like an hour I could give to flying and, casting about for something to do, it struck me that it might be interesting to try some experiments in gliding. I got over a mark about four miles from the airport at about 3,000 feet altitude and put the plane into a glide (motor fully throttled) first at forty miles an hour, and noted how far I was when my altimeter showed 500 feet. I repeated the experiment at 45 miles per hour glide and found that my distance wasn't quite as far. I then repeated the experiment at 35 miles and found it wasn't quite as far even as at forty-five. This, of course, showed me that my best gliding speed was somewhere around 40 miles per hour. Afterwards, I tested my airspeed indicator and found that it was approximately 12 m.p.h. slow. However, this didn't alter the fact that the airspeed as shown by my airspeed indicator that gave the best glide was somewhere around 40 miles per hour, with no wind. In the case of these trials, the wind was very slight and what there was was cross wind.


## MOST EFFICIENT GLIDING SPEED

These experiments got me very much interested in the subject of gliding, and shortly after this I installed a rate of climb indicator or variometer in my ship. I found that at 40 m.p.h. by my airspeed indicator, the rate of descent was 2 miles per second, approximately 360 feet per minute. Furthermore, as the most efficient gliding speed depends to some extent on the loading of the plane, this instrument gave one a chance to find the most efficient gliding speed almost instantaneously while actually gliding by simply dividing the gliding speed by the rate of descent at the time, the combination which gave the biggest answer being the most efficient gliding speed.

### USING R.P.M.

Many of the light planes are not equipped with airspeed indicators, let alone rate of climb meters. To some extent, the tachometer can be used as a substitute for the airspeed indicator while gliding. For instance, I have noted that while idling on the ground with my motor fully throttled, the tachometer shows 700 r.p.m., whereas while gliding at the most efficient gliding speed, it shows 1,100 r.p.m. However, beyond 1,100 r.p.m. and at greater air speed, the r.p.m. increases very slightly so that this method, if it must be used, should be used with discretion. Another substitute for the airspeed indicator is a pitch indicator. This instrument is comparatively inexpensive. I might add, however, that the compass card, if one can be found on the ship, will make a fair substitute for the pitch indicator if one notes how high up the card comes on the lubber line while gliding.

### 17 MILE GLIDE

The longest glide I have made so far was from directly over the centre of Freehold to the Central Jersey airport in Windsor where I keep my ship, a distance of 17 miles. At my first attempt at this, I went up to 6,600 feet over Freehold. It was rather interesting, as I was climbing at the rate of 1 meter per second and my airspeed indicator read 45 m.p.h. When I got over the centre of Freehold on my first attempt, I simply intended to see how far I could glide. I kept the airspeed at 40 and flew by airspeed motor. At times the rate of climb showed no descent at all and at others 1 meter. Owing to striking thermals, I was very much surprised to find when at 500 feet altitude I was only about two miles from the airport. It struck me that it would be worth trying again from a high altitude. I returned to the airport, put on my overcoat, and made a second attempt. This time I climbed to 7,600 feet. I might mention that I climbed against the wind and glided with it. On this trip it took me 30 minutes to get in position over Freehold from the airport and only 17 minutes to glide back. I jazzed the throttle only three times for less than a couple of seconds and when I landed, my oil thermometer showed barely sixty degrees temperature.

I think anyone who will try good long glides will agree with me that it is rare good sport. Outside of this, it teaches one, as no amount of lectures and talk can, the futility of trying to stretch glides into so-called "Graveyard" glides. It also teaches one the advantage of at all times flying fairly high, so that in case of motor failure one has plenty of time and space in which to pick a suitable landing place.

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# AUSTRALIAN GLIDING ASSOCIATION

### TRAINING IN GLIDING

A letter to the Editor of the Melbourne *Age* was published under this heading on 17th June, 1944. The following is the text of the letter :—

"In an address to members of the Royal Society of Victoria recently, Dr. Fritz Loewe, lecturer in meteorology at Melbourne University, pointed out that, apart from its value as a sport, gliding offered opportunities for observing atmospheric conditions which otherwise could not be obtained. A recent report from England shows the success of the A.T.C. scheme in training cadets in gliding; over 70,000 boys have been trained up to the end of 1943. It is hard to understand the reluctance of the A.T.C. to provide similar facilities for Australian boys. It would seem that there are some difficulties or objections to gliding training being made part of the A.T.C. course. The provision of permanent flying grounds for gliding enthusiasts, under supervision of established clubs, is an urgent need in each State in Australia, and this disability should be remedied without delay." — R. Duckworth (Hon. Sec. Australian Gliding Association).

### THE GLIDING CLUB OF VICTORIA

N. Hyde, recorder of flights, has furnished the following figures for flying for the six months ending 30th June, 1944 :—

"Grunau," 8 flights, 1 hr. 7 mins. flown 3 days; "H.17," 2 flights, not timed, flown 1 day; "Merlin," 115 flights, 5 hrs. 4½ mins., flown 8 days. Total, 125 flights, 6 hrs. 11½ mins., flying on 11 days.

Repairs to the "Grunau," which was damaged on 16/1/44, are now complete.

"Winch No. 3" is almost ready and is expected to be in operation in the near future at Fawkner, where a new flying ground is to be tried out.

The Mordialloc flying ground is now very wet in parts and is only usable on East-West run.

### N.S.W. SYDNEY SOARING CLUB

Letter, 16th May, 1944, from Harry Ryan :—

"Report of our doings at Box Hill on Sunday, 7th May.

"Only four of us participated, Doc. Heydon and Steve Newbigin brought up the 'Gull' in trailer and Mervyn Waghorn and I brought along the old winch car of Frank Whitlock's from Beecroft.

"There was no wind throughout the day, which accounts for the low heights obtained on the launches, the poor old Dedgo being flat out. The first flight was myself at about 12 noon, and I only made 700 feet. Turned back for the base without finding any lift until down to about 300 feet on what was intended to be my final approach. Circled in somewhat uneven and bumpy lift up to 2,000 feet during which time the hinged panel in the front of the cockpit cover kept dropping down due to a loose fastening catch. Finally it bounced the celluloid panel, which was also loose, clean out of its seating, thereby increasing my rate of sink and slso upsetting the accuracy of the Slater Cobb. I decided to come down and was much surprised to learn that the others had seen the panel float down and had picked it up, so we immediately proceeded to tape it securely in position. Time was 21 minutes.

"Next off was Steve, who made 800 feet on the winch, but found nothing. Time was 2½ minutes at 1 p.m. Wag. followed at 1.20 p.m. He got 800 feet also, but managed to find enough to take him up to 900 feet before he lost it. Time 7¾ minutes. The Doc. took off at 1.45 p.m. to get 500 feet

(*Continued on page 16*).

# THE CHILTON "CAVALIER"

## PRELIMINARY DETAILS OF A NEW SAILPLANE FOR POST WAR SOARING.

A BRIEF survey of the trend of design in sailplanes before the war seemed to indicate that the high performance machines were developing into two separate categories.

Firstly there was the performance at any price type such as the "Darmstadt D-30," the Horten tail-less machines, and in this country, the "Hjordis." Such machines were generally built for special research purposes, and no attempt was made to put them into production, in almost every case the expense of design and manufacture, if costed by normal standards, would have resulted in a dis-proportionally high selling price compared with other machines on the market.

### BASIC THEME

The second type of high performance machine seemed to be some variation of a basic theme where an effort was made to obtain good performance with a relatively simple and cheap form of construction. In almost every country the majority of sailplanes had a span of between 45 and 54 feet, a mean size being 49.5 feet.

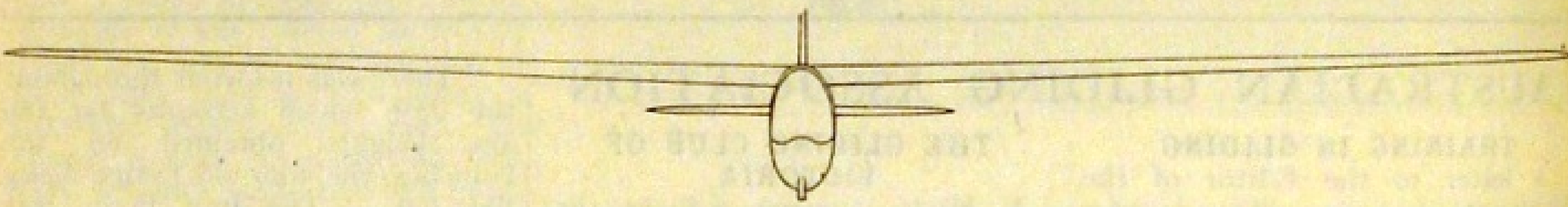
When the I.S.T.U.S. (the International Committee for the Study of Motorless Flight) were asked to formulate a basic design for the Olympic Games (which were to have been held in 1940) they stipulated a span of 15 metres or 49.25 feet, when the specification was drawn up. The complete specification appeared to approximate very closely to the average characteristics of the majority of sailplanes, with the exception of the ultra-high performance types.

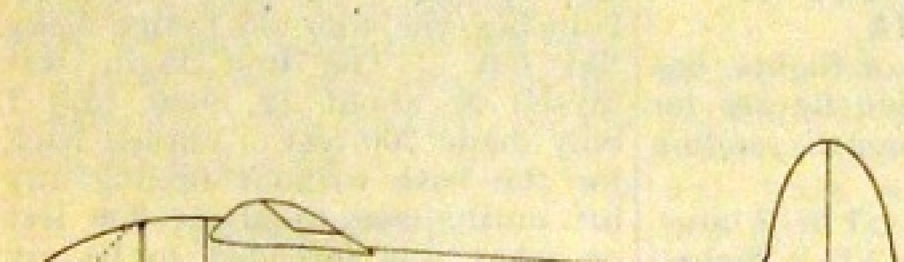
### FIFTEEN METRE CLASS

The 15 metre class is very suitable for club use, giving a useful type capable, in good conditions, of cross-country flying and having a good all round performance at a figure that makes such a machine an attractive proposition.

The Chilton "Cavalier," which will be made available at the cessation of hostilities, incorporates several features which have hitherto been found in special machines only.

Preliminary details of dimensions and performance are appended:—





Span, 49ft.

Length overall, 22.5ft.

Height, 4.7ft.

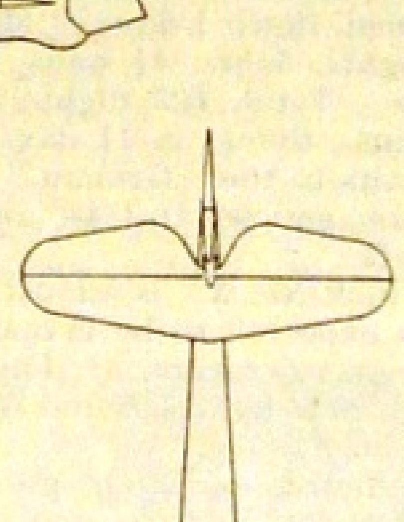
Wing Loading, 3.37 lb. sq. ft.

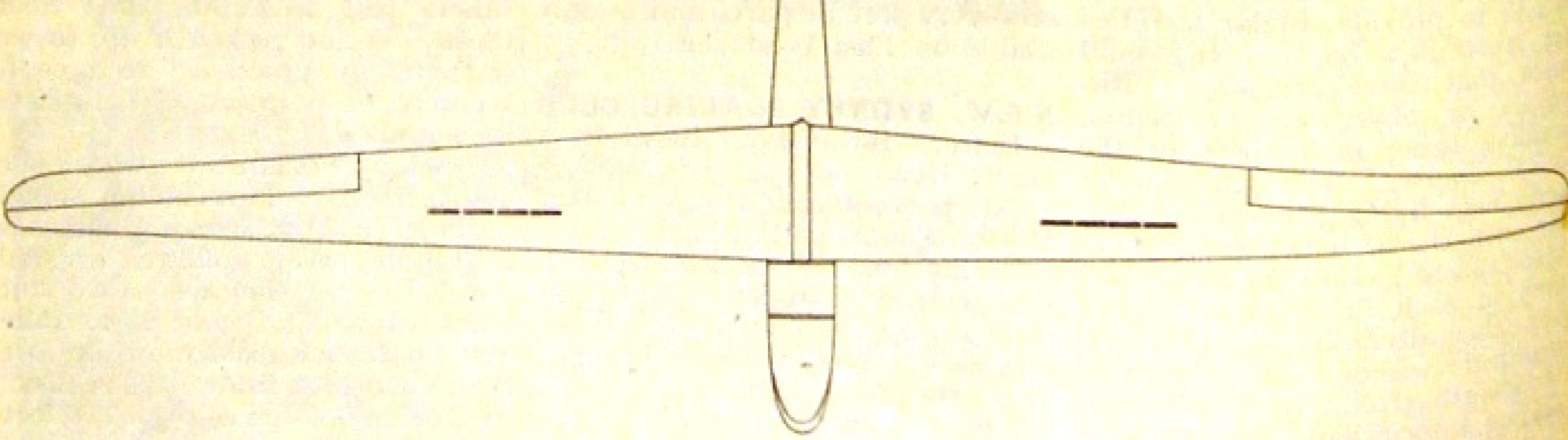
Best Gliding Angle, 25.8:1 at 43 m.p.h.

Minimum sinking speed, 2.08 f.p.s. at 34.5 m.p.h.

Stalling speed, 28.6 m.p.h.

A single-retractable wheel is fitted to facilitate handling on the ground and aero towed take-offs. This wheel is fitted with brakes to assist pulling up in confined spaces.





### DIVE BRAKES

Dive brakes of DVL pattern are incorporated in the wing in such a manner that when applied no adverse effect upon the ailerons or tail-surface will be experienced. These dive brakes, apart from assisting approaches to small fields, are of value in storm flying, as the limiting diving speed is restricted to a figure which the structure will withstand with an adequate margin of strength.

Two alternative windscreens can be fitted, the more streamlined of the two being recommended for cross-country flying where a good view is not so essential as in slope soaring.

### PROVISION FOR BIG PILOTS

Ease of control and comfort on long flights have been particularly studied, special aerofoils on the wing helping to achieve desirable handling characteristics at all speeds and attitudes. The cockpit is large enough to cause no discomfort to a pilot of outsize build and provision is made for seat or back type parachutes.

A full range of instruments will be fitted as standard and arrangements will be made to provide for the installation of radio or oxygen equipment when requested.

Construction follows conventional practise throughout, spruce and ply forming the main structure with all fittings of aircraft grade steel.

### SUITABLE FOR OVERSEAS

Despite the advantages, on paper, of recent developments in plastic or semi-plastic material and light alloys, these have been avoided, as such construction necessitates special processes and heat-treatment when even minor repairs have to be carried out. In view of the fact that the "Cavalier" will prove particularly suitable for use overseas where repair and maintenance facilities are in some places apt to be limited, it was felt that a simple robust structure would prove best in service.

Those who remember the exceptionally good performance of the Chilton Carden and Train engined Monoplanes before the war may realize that the tradition of the Chilton organization will be adequately upheld by the "Cavalier."

# A POST WAR PLAN

## CECIL RICE'S PROPOSAL.

### LETTER TO THE EDITOR.

Blaby,
Near Leicester.
24/8/44.

DEAR SIR,

After the war we will have a vast multitude of potential glidei pilots. They can't all get to the present national sites like the Mynd, Camp Hill, Dunstable and Sutton Bank, etc. The future of gliding is linked with other flying activities. I propose a combined front bringing all flying interests into one strong community rather than odd groups that know little of each other. One hears people talking as if soaring and power flying were things apart. Surely they are complementary—they can help each other.

My proposition is laid out briefly below, and I would like you to give space to it. I want to see a centre of aviation in each populous district where the uprising generation can meet airmen of experience. I want to see a nursery of young air-minded people to feed the power and soaring clubs. And decent facilities for lectures and interest talks.

The bar will remain at the flying club, of course, but I want to see the activities go further beyond that point than they sometimes went before this war. Gliding training must be available to the average person without having to travel some 30 to 40 miles. The modellers should have access to full-sized machines and their users. We do not want to drift. Plan now for a vigorous, healthy flying community. Unity is strength and we shall need all we can get.

Yours faithfully,
J. CECIL RICE.

OUTLINE OF PROPOSED CIVIL SPORT FLYING ORGANISATION FOR LEICESTER AND OTHER SIMILAR CENTRES.

*Name.*

The Leicester Aviation Centre.

*Sections.*

Three wings or sections to cover (1) Power Flying; (2) Soaring and Gliding; and (3) Modelling.

*Premises.*

Firstly a flying field such as Rearsby Aerodrome for the first two sections and a flying field apart for the aero-modelling section. All the usual facilities would be arranged as at pre-war flying clubs, plus such improvements as would be possible by the greatly increased membership.

Secondly a headquarters in the City for social and propaganda purposes, offices for staff, etc.

*Activities.*

The power section would cover all the normal phases of club flying and if possible provide a sound air-taxi service. Certain light aircraft would also be fitted for aero-towing sailplanes for the members of the Soaring Section. Members would be drawn from the soaring side of the concern and *vice-versa.*

The Soaring Section would provide training for members on the lines of the present A.T.C. winch-launching methods up to circuits. This would be followed by aero-towed flight for thermal soaring both by two-seater tuition and single-seater sailplanes. By affiliation with the principal gliding clubs use would be made of the national gliding sites. The transport of machines could be arranged with the power section by aero-towing A member could within an hour or so be at one or other of the well-known soaring sites. Gliding training would be available to members of the Modelling and Power Sections on advantageous terms.

Except for the advantages of co-operation the Modelling Sections would continue on the lines of the present clubs with their own flying field and organisation. They would form a "nursery" from which transfer to the other sections would be possible on advantageous terms.

*Lectures.*

It would be the aim to encourage a serious interest in the theoretical side of aviation. So far, this has not always been noticeable in flying clubs. The keenness of the members would be the main factor, but with the sections combined a sufficient attendance would be assured to make good lectures worth while. Visits to factories, technical schools, etc., could be arranged. The Modelling Section could gain experience from contact with the other sections, and so on.

The proposal at the moment is to call a meeting of those interested in the above idea. It is desirable that all aviation interests should be combined in one strong vigorous and potent body, rather than in competitive groups of scattered resources. *If you are interested please communicate with the undersigned so that you may be acquainted with the progress made.*

J. CECIL RICE.

## NATIONAL COMPETITION ASSOCIATION OF BRITISH AERO MODELLERS

ONE of the signs of the way the youth of Great Britain is becoming airminded is the rise in the number of people who make and fly model aircraft and are members of the A.B.A. and affiliated Clubs.

The A.B.A. have just announced National Competitions on a scale never before attempted. Prizes are offered for rubber-driven duration and scale models, non-flying scale models, power-driven models, seaplanes, flying boats, experimental models and sailplanes. The closing date for the latter is December 1st, 1944. Details can be obtained from the Secretary, Mr. Arthur Lodge, M.M., A.B.A., 28, Hanover Street, W.



### SUBSCRIPTIONS

The circulation of *Sailplane and Glider* is limited by its paper quota. This is the reason for the reduction in size, and the thinner and therefore lighter paper. The publishers can dispose of far more copies than can be printed. To be sure of your copy, therefore, it is necessary to take out an Annual Subscription of 13/- post free for twelve numbers. Publication date is the 25th of the month dated the succeeding month. Cheques, Money Orders, etc., payable to *Sailplane and Glider*, and crossed.

# ROYAL AERO CLUB GLIDING CERTIFICATES

THE following Gliding Certificates have been issued by The Royal Aero Club during the past month :

| "A" *Certificates* (52) | | *Gliding School* | *Date taken* |
|---|---|---|---|
| 1912 | Harry Richard George Ashton | M.48 E.G.S., Bretford | 29.5.44 |
| 1913 | Frank Moreton | Ditto | 29.5.44 |
| 1914 | Claude Neville Bradley | Ditto | 29.5.44 |
| 1915 | Michael Springman | C.123 E.G.S., Bray | 25.6.44 |
| 1916 | John Eynon Morgan | Ditto | 2.7.44 |
| 1917 | Frank Mills | M.47, Derby and Lancs. | 22.7.44 |
| 1918 | Albert Laurence Rackham | M.45 E.G.S., Meir | 20.5.44 |
| 1919 | Kenneth Edwin Denson | C.123 E.G.S., Bray | 2.7.44 |
| 1920 | Kenneth George Roberts | W.70 E.G.S., Swansea | 22.7.44 |
| 1921 | Julien John William Salmond | C.123 E.G.S., Bray | 8.7.44 |
| 1922 | Maurice William Dunn | C.128 E.G.S., Theale | 13.5.44 |
| 1923 | Herbert Edward Eyre | Ditto | 25.6.44 |
| 1924 | John Henry Wilkinson | Ditto | 4.6.44 |
| 1925 | Ernest Joseph Morris | M.48 E.G.S., Bretford | 23.7.44 |
| 1926 | Eric Walter Clarke | Ditto | 23.7.44 |
| 1927 | Patrick Frederick Dean | L.141 E.G.S., Kidbrooke | 16.7.44 |
| 1928 | Norman Arnold Charik | C.121 E.G.S., Halton | 16.7.44 |
| 1929 | Cyril Gill | Ditto | 23.7.44 |
| 1930 | Alfred John Clark | Ditto | 16.7.44 |
| 1931 | John Michael Bloodworth | 167 E.G.S., Woking | 16.7.44 |
| 1932 | Kenneth Ian Richard Kemp | C.122 E.G.S., Harrow | 24.6.44 |
| 1933 | John Francis Miles | M.48 E.G.S., Bretford | 23.7.44 |
| 1934 | Derek Anthony Taylor | C.122 E.G.S., Harrow | 16.7.44 |
| 1935 | Cyril Edward Tomkins | C.123 E.G.S., Bray | 8.7.44 |
| 1936 | Eric Wilfred Avery | S.E. 161 E.G.S., Brighton | 30.7.44 |
| 1937 | John Edward Charles Howells | M.50 E.G.S., Hereford | 30.7.44 |
| 1938 | Alan Louis Warren | M.50 E.G.S., Hereford | 30.7.44 |
| 1939 | John Aubrey Grubb | Ditto | 30.7.44 |
| 1940 | James Morrow | 203 E.G.S., Newtownards | 1.7.44 |
| 1941 | Brian Everett Hann | W.65 E.G.S., Cardiff | 5.8.44 |
| 1942 | David Vaughan Peace | N.E.24 E.G.S., Netherthorpe | 14.5.44 |
| 1943 | Adrian Frederick Rex Stedman | N.E.30 E.G.S., Sherburn-in-Elmet | 9.8.44 |
| 1944 | Peter Reuben Howard | Ditto | 8.7.44 |
| 1945 | Stanley Race | Ditto | 17.7.44 |
| 1946 | Thomas Edgar Pitkethly | Ditto | 17.7.44 |
| 1947 | James Stuart Glass | Ditto | 17.7.44 |
| 1948 | David Hamish Bennett | C.128 E.G.S., Theale | 23.7.44 |
| 1949 | Ralph Ashley Shute | Ditto | 23.7.44 |
| 1950 | John Sedman Brown | M.48 E.G.S., Bretford | 23.7.44 |
| 1951 | Donald Alfred Garner | W.70 E.G.S., Swansea | 6.4.44 |
| 1952 | Donald Antony Victor Trott | C.122 E.G.S., Harrow | 29.5.44 |
| 1953 | Peter Stuart Bennett | C.121 E.G.S., Halton | 6.8.44 |
| 1954 | Douglas Roy Hobday | M.48 E.G.S., Bretford | 23.7.44 |
| 1955 | Cyril James | E.167 E.G.S., Woking | 16.7.44 |
| 1956 | David George Walter Cox | M.44 E.G.S., Rearsby | 30.7.44 |
| 1957 | Malcolm Sydney Cross | 184 E.G.S., Woodford | 23.7.44 |
| 1958 | Robert George Darvell | C.121 E.G.S., Halton | 6.8.44 |
| 1959 | Francis Raymond Frampton | M.44 E.G.S., Bretford | 18.8.44 |
| 1960 | Henneth Clarence Wild | Ditto | 18.8.44 |
| 1961 | Richard Charles Bryant | C.123 E.G.S., Bray | 6.8.44 |
| 1962 | Anthony Bernard Harrison | Ditto | 6.8.44 |
| 1963 | Jonathan Oreste Eichholz | M.44 E.G.S., Bretford | 17.8.44 |

| "B" *Certificates* (13) | | | |
|---|---|---|---|
| 1789 | Horace Edward Spragg | C.121 E.G.S., Halton | 23.7.44 |
| 1842 | Frederick Ralph Buckland | S.W.83.Moreton Valence | 19.7.44 |
| 1912 | Harry Richard George Ashton | M.48 E.G.S., Bretford | 30.5.44 |
| 1922 | Maurice William Dunn | C.128 E.G.S., Theale | 23.7.44 |
| 1923 | Herbert Edward Eyre | Ditto | 23.7.44 |
| 1924 | John Henry Wilkinson | Ditto | 9.7.44 |
| 1053 | Aubrey Noel Williams | C.123 E.G.S., Bray | 7.8.44 |
| 1943 | Adrian Frederick Rex Stedman | N.E.30 E.G.S., Sherburn-in-Elmet | 9.8.44 |
| 1944 | Peter Reuben Howard | Ditto | 27.7.44 |
| 1945 | Stanley Race | Ditto | 27.7.44 |
| 1946 | Thomas Edgar Pitkethly | Ditto | 27.7.44 |
| 1947 | James Stuart Glass | Ditto | 8.8.44 |
| 1745 | Frederick Campbell Bambridge | C.122 E.G.S., Harrow | 6.8.44 |

## AUSTRALIAN GLIDING ASSN.

(*Continued from Page* 13)

and 2 minutes. His luck must be out, as he has not yet struck a thermal since we repaired the 'Gull.'

" The lift seemed to be getting more scarce and weaker in the next round, although some very likely looking clouds came over.

" Harry Ryan, at 2.15 p.m., to 700 feet ; time, 6 minutes. Steve Newbigin, at 3.0 p.m., to 800 feet ; time, 4 minutes. M. Waghorn, at 3.30 p.m., to 1,000 feet (launch) ; time, $8\frac{1}{2}$ minutes. Doc. Heydon, at 4.0 p.m., to 800 feet ; time, 4 minutes. Steve Newbigin, at 4.30 p.m., 950 feet ; time, 4 minutes. Doc. Heydon, at 4.45 p.m., to 800 feet ; time, 4 minutes.

" We are rebuilding our good winch with rollers, and the 'Kite II' is now at my place for overhaul and repair."

In a letter dated 27th June, 1944, Harry Ryan states :—

" We have had a long interesting letter from Sel. Owens, he has been asked to meet some of the London Club and visit SAILPLANE AND GLIDER, to which he has paid a subscription."

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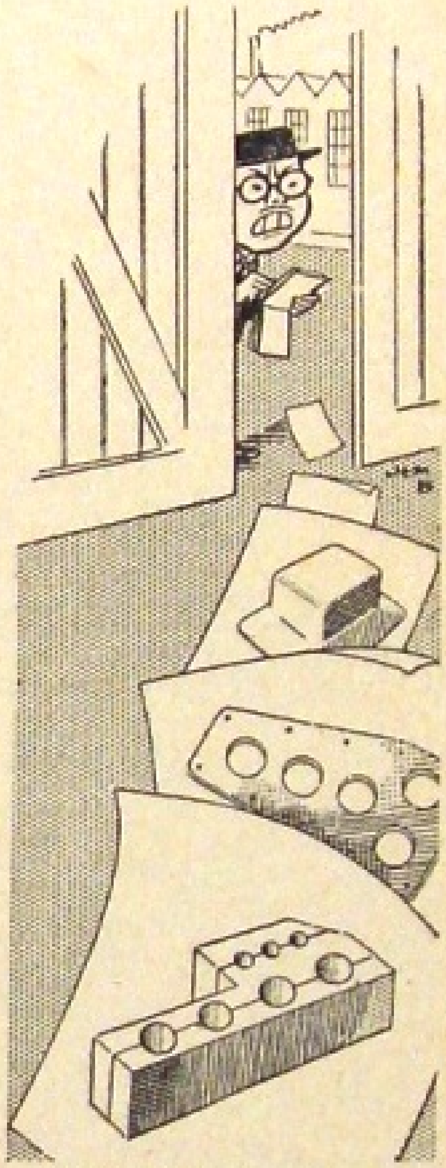

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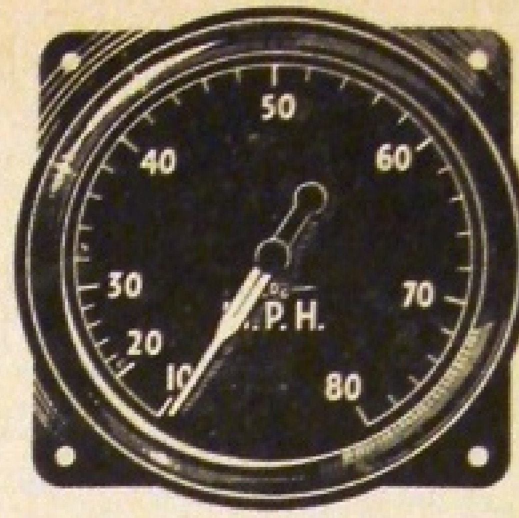


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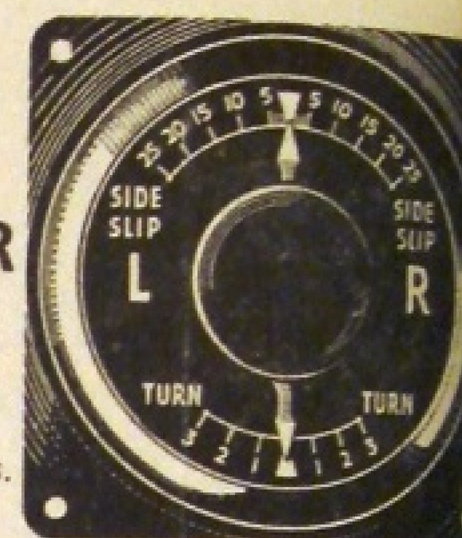


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