SAILPLANE AND GLIDER

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Official Organ of the British Gliding Association.

EDITED BY ALAN E. SLATER

THE SAILPLANE *and* GLIDER

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Aeroplane-Towing at Leicester

THE meeting at Ratcliffe Aerodrome, 6 miles north of Leicester, at Easter, is the first of its kind ever held in this country. All sailplanes participating are to be launched by aeroplane-tow. They will be towed up to a height of 2,000 feet above the aerodrome and then cast off to find what up-currents they can—or else glide down again.

The idea of towing gliders behind aeroplanes is comparatively new—at least, the practice of it is, for the first time it was ever done, as far as records show, was on April 10th, 1927. This was at the Cassel aerodrome in Germany. The firm of Raab-Katzenstein provided the aeroplane and the expenses; but, as they had never constructed gliders before, they hired one from the Fieseler firm, and a pilot to fly it. The pilot was none other than the enterprising Gottlieb Espenlaub, of swarthy complexion and striking appearance with his golliwog-like mop of black hair, a familiar figure in the pioneer days of German soaring, who was always game for any new adventure.

The experiment went off well, except that Espenlaub, in his desire to give the press photographers a good view, swerved to one side and overstrained his controls.

The affair was looked on as a stunt, at the time, by the more dignified section of the German gliding movement. But they soon changed their minds when they realised that here was a means of exploring those upper rising currents which sailplanes could not reach by the usual method of gaining height over a hill. In the spring of 1931 a series of flights were made over the flat country around Berlin, using the method of launching by aero-tow, and for the first time some definite and detailed knowledge was obtained of thermal up-currents in places where they are uninfluenced by hills and do not show their whereabouts by the presence of clouds.

Later in that year a course of instruction was held at Darmstadt, as an experiment, and it was proved that the new method could be taught with safety to pupils with comparatively little flying experience. Nowadays a large number of German sailplane pilots have been taught aero-towing before they have even learned to soar; and in England several members of the Cambridge University Gliding Club, whose surroundings are notoriously devoid of hills, are in the same position.

One of the principal objects of the Leicester meeting is to accustom pilots to aero-towing who have previously had little or no experience of it, for at the National Soaring Competitions to be held at Dunstable next July all the launches will have to be by aero-tow on days when the wind refuses to blow up the face of Dunstable Downs.

Since long distance flights by sailplane are made down-wind, it is possible that the present British distance record of 104 miles will be broken both at the Leicester meeting and at the subsequent one at Dunstable, for soaring will be independent of wind direction.

Gliding Instruction Courses

INSTRUCTION courses held by the various gliding clubs and open to non-members as well as members are being held this year on the following dates:—

May 6th to 15th, London Gliding Club.

June 3rd to 12th, London Gliding Club.

June 6th to 19th, Derbyshire and Lancashire Gliding Club.

June 25th to July 8th, Derbyshire and Lancashire Gliding Club.

July 29th to August 12th, London Gliding Club.

August 7th to 20th, Yorkshire Gliding Club.

August 13th to 21st, Midland Gliding Club; this is to take the form of a Public Schools' Camp.

September 9th to 18th, London Gliding Club.

Addresses of these clubs and particulars of their sites will be found in the List of British Gliding Clubs which appears on page 87.

An Advanced Course

The Yorkshire Gliding Club is holding, from July 24th to August 1st, a course for advanced pilots which, in its comprehensiveness, is much in advance of anything yet offered to such pilots in this country. It is of special interest that a number of German pilots, all of "Silver C" certificate standard, will be attending the course, which will thus partake of the nature of an Anglo-German Camp similar to that held at Dunstable last year, except that the pilots of both nationalities will be of a much higher standard of skill. Full particulars of this camp will be found on page 88 under "News from the Clubs." It is to be hoped that many pilots will make use of the opportunities provided for extending their skill, for the Yorkshire Club's initiative deserves the fullest possible support.

1938 National Competitions

Dunstable, Saturday, July 9th, to Sunday, July 17th.

Arrangements for Participants.

COMPETITORS and competitors' teams who require accommodation in the bunkhouse of the London Gliding Club at Dunstable are requested to write stating the number of beds they require. The minimum period of booking is eight nights, and the price is one guinea for this period.

It is also hoped to provide facilities for campers and parking of caravans on adjacent private land, where they will be reasonably safe from outside interference. The charge for this will be 5s. per tent or caravan for the period of the Competitions.

Full catering facilities will be provided for competitors, their teams, and officials during the period of the Competitions at reasonable prices.

The organisers will be glad to know the number of beds required *as soon as possible*, and applications should be addressd to the Manager, London Gliding Club, Dunstable, Beds.

NOTE.—Prior consideration will be given to the needs of competitors and their teams, but it is hoped to provide additional accommodation for those not coming within this category, who should also notify their requirements to the same address.

The Organising Committee will also be glad to hear from anyone who is willing to volunteer his or her services for a job during the Competitions, and those willing to help should send their names and addresses, together with the dates upon which they can offer their services, to the address given above.

Will intending competitors also note that there will be a meeting of competitors at 7 p.m. on Saturday, July 9th (the eve of the contest), when arrangements for competitors during the contest will be announced.

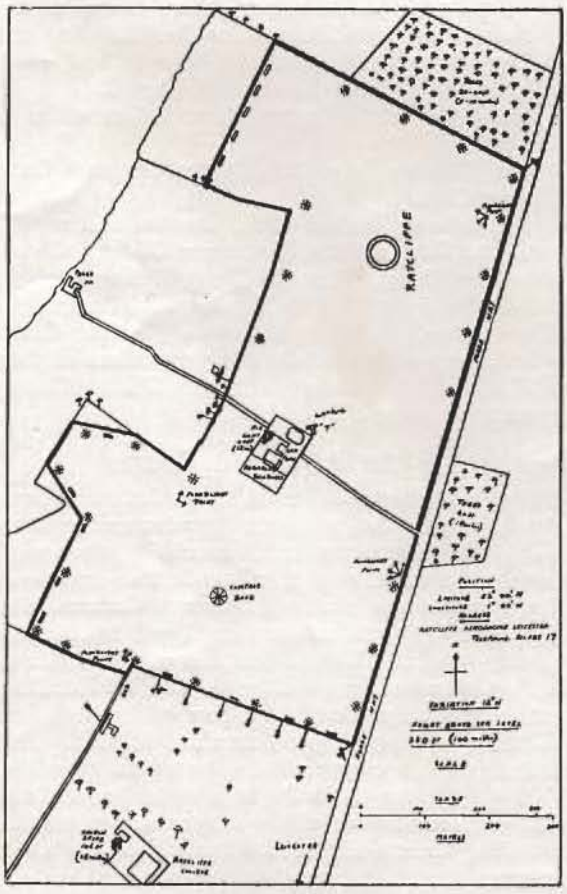
Entry forms and rules are in course of preparation, and copies of these will be sent as soon as possible to gliding clubs. Intending entrants will be able to secure these from their club or direct from the British Gliding Association on application.

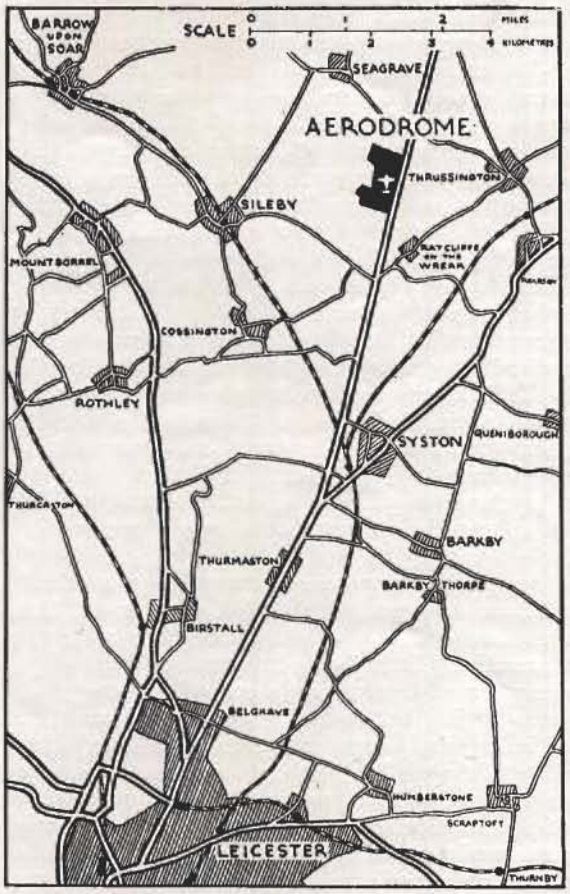
A "Lilienthal Medal"

The *Fédération Aéronautique Internationale* has created a "Lilienthal Medal" for the purpose of rewarding any particularly remarkable performance of a sporting nature in motorless flying. It will bestow the medal annually for an achievement made during the year preceding that of the award.

Nominations must be sent to the Secretariat of the F.A.I. not later than eight days before the day fixed for the award. Each *Aé. C.N.* can nominate only one candidate. Voting will be by secret ballot in accordance with the rules fixed for the award of the gold medal of the F.A.I. Voting by proxy or by post is not allowed.

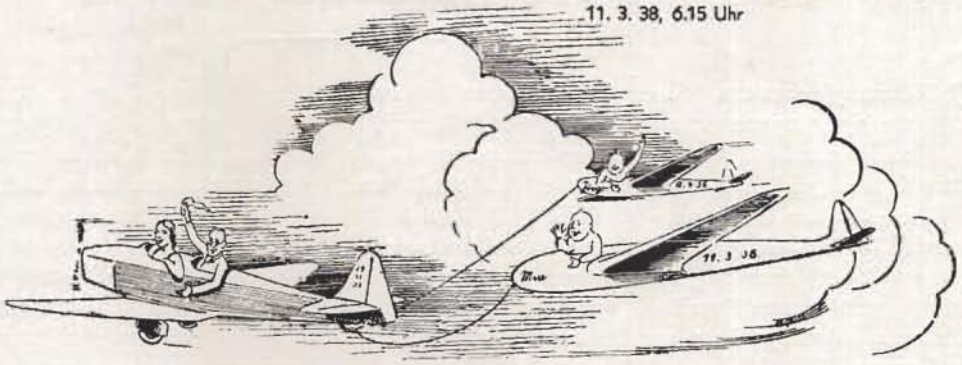
On the proposal of the Commission for Motorless Flight (of the F.A.I.), new conditions for the awarding of the Lilienthal Medal may be fixed annually.





GRETE KREKEL, geb. Jörn
Dipl.-Ing. PAUL KREKEL

Ort und Zeit der Landung:
Frankfurt-Main, Diakonissenanstalt, Prof. Eckelt
11. 3. 38, 6.15 Uhr



This is how Dipl.-Ing. Paul Krekel, well known in German gliding circles, announces a happy event in his family to all his friends, including "The Sailplane." We hope that the new arrival, when the time comes for him to cast off the parental towing cable, will find good uplift and continue to soar happily through life.

From Here and There

Poet would Glide.—A recent competition in a literary journal brought to light the following verse by Darley:—

O that in tears from my rocky prison streaming
I too could glide to the bower of my love!
Ah, where the woodbines with sleepy arms have wound her
Opes she her eyelids at the dream of my lay.

* * *

Wolf Hirth.—The English version of Wolf Hirth's text book on soaring is about to be published and clubs which want to advertise in it should communicate immediately with Miss Heron-Maxwell, 20, Portugal Place, Cambridge. Wolf Hirth himself is on his way to South Africa, and a postcard just received from him says that he soared his heavily-loaded aeroplane underneath a black mass of cumulus cloud over Nairasha Lake, between Kisumu and Nairobi, and in three circles climbed from 900 to 1,200 feet.

British Gliding Association

Council for 1938.

Gliding Clubs.

Cambridge University Gliding Club	J. W. S. Pringle.
Channel Gliding Club	Captain T. M. C. Turner.
Derbyshire and Lancashire Gliding Club	Major A. Goodfellow.
Dorset Gliding Club	R. Rolfe.
Essex Gliding Club	E. G. Seaward.
Furness Gliding Club	F. Slingsby.
Kent Gliding Club	E. G. Sanguinetti.
London Gliding Club	J. R. Ashwell-Cooke. H. E. Bolton. Arthur Sweet.
Midland Gliding Club	C. E. Hardwick.
Newcastle Gliding Club	P. A. Wills.
Southdown Gliding Club	G. A. Little.
Yorkshire Gliding Club	Major J. E. D. Shaw.

Societies.

Royal Aero Club	Major H. A. Petre, D.S.O., M.C.
Royal Aeronautical Society	W. O. Manning, F.R.Ae.S.
Royal Meteorological Socty.	Prof. D. Brunt, M.A.

Individual Representation.—Miss R. H. Sinclair, Captain C. H. Latimer-Needham.

Committees for 1938.

Technical Committee.—H. E. Bolton, G. A. Little, W. O. Manning, Captain C. H. Latimer-Needham, F. Slingsby.

Finance Committee.—D. Hiscox, Treasurer; Major H. A. Petre, D.S.O., M.C., E. G. Seaward, P. A. Wills.

Subsidy Committee.—Major A. Goodfellow, D. Hiscox, G. A. Little, J. W. S. Pringle, E. G. Sanguinetti, Major J. E. D. Shaw.

Contest Committee.—J. R. Ashwell-Cooke, Major A. Goodfellow, D. Hiscox, Captain C. H. Latimer-Needham.

Secretary: Harold E. Perrin,
119, Piccadilly, London, W.1.

Gliding Certificates

The following gliding certificates, for which qualifying flights were made on the dates shown, were granted by the Royal Aero Club on March 23rd:—

"A" Certificates

No.	*Name.*	*Club.*	*Date.*
885	M. S. Hancock	Yorkshire	22.1.38
886	A. A. Rice...	Norfolk and Norwich...	19.2.38
887	A. H. Yates	London	6.2.38
888	D. T. W. Gibson ...	Yorkshire	5.2.38
889	A. R. Colman	Norfolk and Norwich...	26.2.38
890	R. Donald...	Inverness	31.7.37
891	R. Riley	London	6.3.38
892	N. J. de K. B. Kingsmill	Furness	7.3.38
893	P. Priest	Yorkshire	22.8.37
894	M. Swallow	Derby and Lancs. ...	13.3.38
895	N. C. Mayhew	Newcastle	12.3.38

"B" Certificates

No.	*Name.*	*Club.*	*Date.*
859	R. S. Woolass	Derby and Lancs. ...	20.2.38
885	M. S. Hancock ...	Yorkshire	19.2.38
886	A. A. Rice...	Norfolk and Norwich...	6.3.38
888	D. T. W. Gibson ...	Yorkshire	19.2.38
889	A. R. Colman	Norfolk and Norwich...	5.3.38
890	R. Donald...	Inverness	5.9.37
444	G. O. Manning	London	6.3.38
842	H. W. E. Huxley ...	London	6.3.38
862	R. M. Dixon	London	8.3.38
762	H. S. Tovey	London	6.3.38
893	P. Priest	Yorkshire	29.8.37
687	E. Sugden...	Derby and Lancs. ...	13.3.38

"C" Certificates

No.	*Name.*	*Club.*	*Date.*
856	C. J. E. Kendal	Derby and Lancs. ...	5.3.38
787	H. M. Latto	London	9.3.38
893	P. Priest	Yorkshire	4.9.37

International Affairs

FOR many years the "Silver C" certificate has been the highest international honour a sailplane pilot could earn. There are now, according to the latest figures published, 643 holders of this certificate, of which 462 are Germans, 101 Polish, 29 British, 18 French, 10 U.S. Americans, 8 Swiss, 4 Hungarians, 3 Finns, 2 each from Jugo-Slavia and Czechoslovakia, and 1 each from Brazil, Rumania, Holland, and Lithuania. Among these are 22 women, of which 15 are German, 5 Polish, and 2 British.

The time has evidently come for this vast body of pilots to be given the opportunity to progress to greater glories, and that the opportunity is now at hand is shown by recent communications from the "Istus" (International Commission for the Study of Motorless Flight) to the British Gliding Association.

A "Gold Medal" Proposed.

Professor W. Georgii, President of the Istus, has sent the following communication to the various national members of that body:—

In the year 1931 the Istus conferred, for the first time, the silver high-performance badge ("Silver C") for a flight of 5 hours duration, 50 kilometres distance and 1,000 metres height. This silver badge at first served to distinguish the soaring pilots who stood out from among a large mass of pilots with the "C" soaring badge through their mastery of true high-performance soaring flight. In the course of succeeding years, however, knowledge of the methods of, and necessary conditions for, high-performance soaring has increased to an unexpected extent. To-day high-performance soaring in very many countries is part of the normal training routine. As a result the number of "Silver C" badges has increased prodigiously. The figures are:—

To December 1st,	1937	...	...	631
,, ,, ,,	1936	...	...	324
,, ,, ,,	1935	...	...	197
,, ,, ,,	1934	...	...	62
,, ,, ,,	1933	...	...	18

Doubtless in years to come the number will increase in like manner, the more so as the development of high-performance flying will make great strides in the countries which only took up soaring flight a short while ago. For this reason it appears that the time has come to make a proposal which has already been suggested on many sides, namely, to institute a golden high-performance badge.

The presidency has proposed the following conditions for the obtaining of this badge:

1. Possession of the "Silver C,"
2. A distance flight of 300 km. (186.4 miles),
3. An altitude flight of 3,000 m. (9,842.5 feet).

An altitude flight of 3,000 metres will not be possible without cloud-flying, apart from exceptional cases. It is also in conformity with the scientific character of the Istus that it should, by means of the gold high-performance badge, provide a spur to extending the knowledge of up-currents within clouds. Thanks to progress in sailplane construction, and thanks to the almost universal insistence on the use of parachutes, there is hardly any objection nowadays to blind-flying in clouds.

Apart from this, duration flights can be ignored. In general a duration flight is carried out by means of slope-soaring. It is hardly to be expected that any new scientific knowledge will lead to progress in the art of slope-soaring.

The presidency of the Istus has decreed that the gold high-performance badge shall only be awarded for altitude and distance flights which have been carried out after January 1st, 1938. In isolated cases the General Conference can make a special decision to confer the gold high-performance badge on pilots who have satisfied the conditions before this date.

The authentication of the flights will require the same conditions as for the "Silver C."

[NOTE.—It would be as well to decide at once on an English name for this new badge. We propose that it should be provisionally called the "Gold Medal"—till we see what it looks like.—ED.]

The "Istus Ring."

At the meeting of the Istus in Paris in January, 1937, the creation of an "Istus Ring" was suggested, and a committee was appointed to decide on the conditions for its award.

The Ring for 1936 has been awarded to the Hungarian sailplane pilot Rotter for his goal flight from Berlin to Kiel. [The flight was described by Ludwig Rotter himself in THE SAILPLANE for December, 1936.]

The following are the published conditions for the awarding of the Istus Ring:—

1. PURPOSE.—In order to encourage the progress of soaring flight, the Istus may, once in every year, award a badge of honour in the form of the "Istus Ring" for a valuable flying, technical or scientific achievement.

2. NOMINATIONS.—The organisations affiliated to the Istus will be invited to tender nominations for the conferment of the Istus Ring. These nominations, including exhaustive confirmation of the scientific, technical or flying achievement during the preceding calendar year in the realm of soaring flight, must reach the President of the Istus one month before the general meeting. Each organisation can nominate only one person as candidate. The candidate need not be a national of a country which is affiliated to the Istus; in

Map showing the route of this year's contest for the "Prince Bibesco Cup." Competitors should note that the numerous hatched areas indicate prohibited zones, and not regions of up-current, though doubtless when the time comes all the best cumulus clouds will congregate there.

particular, he need not be a national of the country whose organisation nominates him.

3. AWARD.—The award of the Ring is made by the administrative committee of the Istus after considering the nominations sent in. Voting takes place on the occasion of the annual meeting of the Istus. Each country present has one vote. Votes sent in writing are not permitted. The voting is by secret ballot. The Istus Ring will be awarded to the candidate who receives an absolute majority of the votes given. In the event of a tie, a second ballot is held. If this again leads to a tie, the President of the session gives a casting vote.

If there are more than two nominations to be voted upon, and if during the first ballot one of them has not received an absolute majority, then the decision is made, in accordance with the previous paragraph, between the two candidates who have received the most votes.

Prince Bibesco Cup.

His Highness Prince Bibesco, President of the Fédération Aéronautique Internationale, has offered an award of honour for the establishment of an international competition in the form of a goal-flight tour.

The Prince Bibesco Cup will be awarded annually. Special rules will be drawn up for each separate competition. The final winner of the Cup is the country which has won it three times, either consecutively or otherwise.

Each year the competition for the Cup will be organised by the Aero Club of the country which won it in the previous year. The first contest will be run by the Aero Club of Germany. The point of departure for the flights will be decided by the organising club, and need not be in its own country.

The contest is open to all countries affiliated to the F.A.I. Each country can enter up to three single or multi-seater aircraft. The pilots must have the "C" soaring certificate.

The object of the contest is to connect the country whence the start is made with Bucharest in the shortest possible time by means of soaring flight. The distance flown must be at least 1,000 kilometres. This distance is reckoned as the sum of the distances between the compulsory landing places specified in the rules for that year. The rules will specify the places at which frontiers must be crossed. The total time taken on the flight must not exceed 28 days, and the start and end of this period must be defined. Landings elsewhere than at the compulsory landing places are allowed.

The victor is the competitor who has flown the course in the shortest time.

The special rules for each year must be published three months before the start of the contest.

For this year's contest, Prien, on the Chiem Lake in south Germany, has been chosen as the starting place. The course is shown on the accompanying map. The compulsory landing places are at Linz, Vienna, Pressburg, Budapest, Szegedin, Temesvar, Turnu Severin, and Craiova. This makes nine sections, adding up to 1,242 km., or 772 miles. The individual sections are, in miles, 98, 100, 31, 98, 98, 65, 104, 62, and 116.

The start of the competition is on June 12th, and competitors may not arrive later than June 19th at the starting place. They must reach Bucharest before 8 p.m. on July 9th. Entries must be sent to the Aero Club of Germany before May 15th.

For competition purposes, the time will be reckoned from the time of cast-off from the first aero-tow over Prien aerodrome to the time of landing on Bucharest aerodrome.

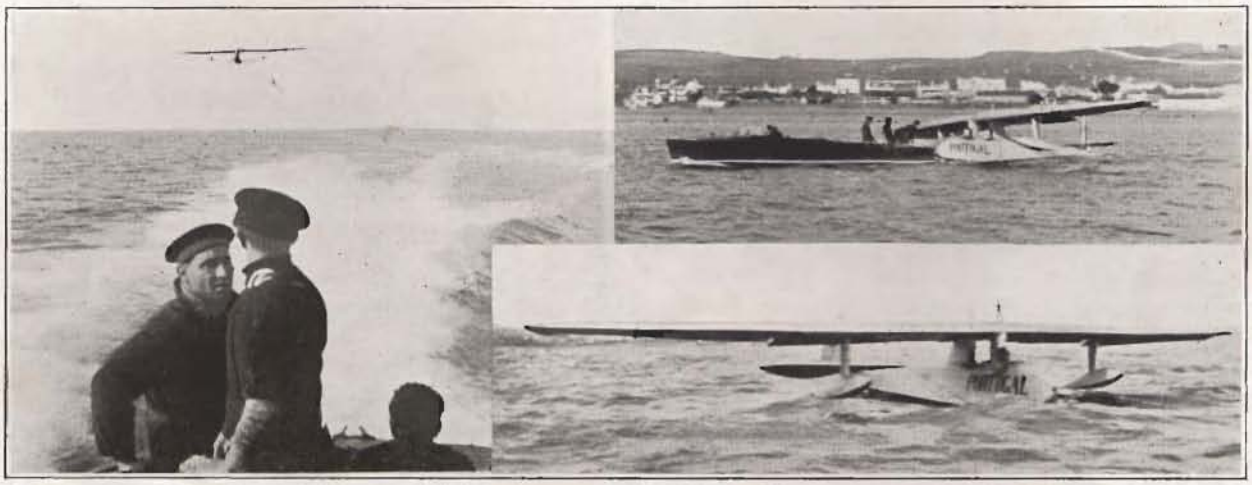
All launches are to be by aero-tow to not more than 800 metres (2,625 feet). If a pilot has landed outside a compulsory landing place, he can start again from where he has landed, or else from a neighbouring aerodrome, provided that he casts off from the aero-tow immediately above his previous landing place.

Competitors must provide their own towing aeroplanes.

Water Sailplanes

THEIR USES FOR FLYING INSTRUCTION AND RESEARCH

By Dipl.-Ing. ARTHUR VARELA CID



The water sailplane "Portugal," showing, on the left, the method of launching in tow of a motor boat. In a sea such as that in the right lower picture it is still possible to take off easily from the water.

[*Mr. A. V. Cid, of Lisbon, will be remembered by many readers as a visitor to the International Competitions in Germany last year; he was at the time studying aerodynamics at Darmstadt. The following article, which has been translated from a German version sent to* THE SAILPLANE *by the author, deals with a branch of motorless flying which has been little developed as yet but has interesting possibilities for the future.*—ED.]

ONLY a few years ago it was the almost universal opinion that the development of an efficient water sailplane was a matter of no importance and could be ignored. However, in 1935, as a result of the pioneer work done in Portugal, the *Fédération Aéronautique International* saw the occasion to create a special category for water sailplanes, and in consequence the leading countries in the world of soaring began to devote themselves intensively to this problem.

The aerodynamic and constructional peculiarities of water sailplanes.

The slow development of water sailplanes is attributable to the many difficulties which are not met with in land sailplanes.

A water sailplane is launched usually by means of a tow behind a motor boat. On land a sailplane's wing is held by one man until it has attained enough speed for lateral control, whereas a water sailplane has to rely on its side floats, which do not work too well. Owing to the very considerable water resistance a long take-off run is necessary. Meanwhile the pilot must keep a straight course behind the motor boat by means of the directional control which is coupled to a water rudder. When coming down upon a water surface which is in continual motion it is notoriously difficult to estimate one's height; the landing must always be made upon a wave crest. The broad fuselage and the side floats are aerodynamically a disadvantage. The impact of the waves gives rise to such violent shocks that the fuselage must be especially strongly built and the safety factors increased throughout. Rendering the fuselage and wing sections watertight is likewise a complicated matter. Thus, in addition to the aerodynamical disadvantages, one gets a much greater weight.

The special value of the water sailplane.

The significance of the water sailplane is nevertheless so great that one must take these difficulties in hand.

The meteorological investigation of soaring possibilities above extensive water surfaces cannot well be carried out with land sailplanes, since these are always dependent upon a fixed base. The fact that excellent soaring possibilities exist over the sea is shown, not only by the sharply defined cloud streets that move across, for instance, the tropical part of the Atlantic Ocean, but also by the thermal currents known by the name of "ocean thermals," which always exist where the water temperature is higher than the air temperature. As this temperature difference need not amount to more than 1° C., one could even soar at night.

For training pupils on water sailplanes it is best to use a two-seater until the take-off and landing manœuvres have been learnt. The transfer of pilots of land aeroplanes to seaplane flying is a specially important matter. If water sailplanes are used at first, the pupil has, owing to the better gliding angle and slower speed, more time at his disposal when alighting on water. As the repairs and running costs are very small, the process of determining which pupils are most suitable for the transfer becomes very much cheaper and less dangerous.

It may also be expected that many who indulge in water sports, who have till now been sceptically opposed to flying, will be won over to sporting aviation. New knowledge obtained with water sailplanes will be found applicable to large flying boats.

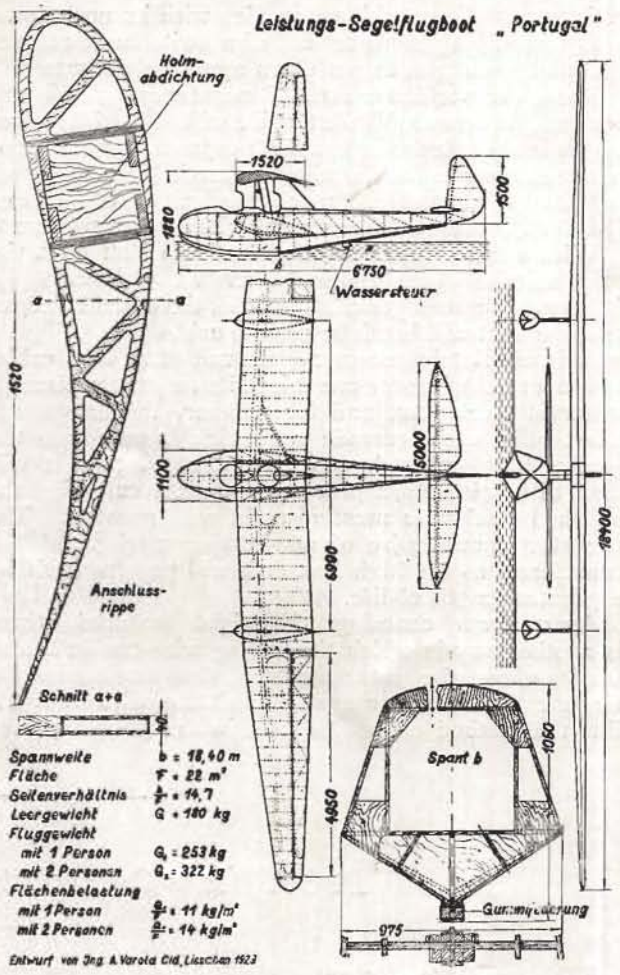
The design of the "Portugal" high-performance water sailplane.

Portugal being a country which possesses a long coast line on the Atlantic and a number of islands, it is no wonder that the idea of a high-performance water sailplane first took palpable form there.

In the design of such a machine the ensuring of lateral stability on the water presents the greatest difficulties. A design like that of the "Dornier" flying boat could not be considered, as the great span of a high performance sailplane would necessitate too great a length for the stub wings. The fear that a wide boat would cause too much air resistance could have been resolved by having a narrow boat and wide floats. But the difficulties in launching would have been too great, for as soon as one float plunges deeper in the water than the other, the unequal resistance causes the machine to swing to one side. The result is that either the cable breaks or the structure of the machine gives way. The only solution was a boat with narrow side floats.

The chief data of the PORTUGAL are: Span, 18.4 m. (60 ft. 4 ins.); surface, 22 sq. m. (237 sq. ft.); aspect ratio, 14.7; empty weight, 180 kg. (397 lbs.); flying weight with one occupant, 253 kg. (558 lbs.); with two, 322 kg. (710 lbs.); wing loading with one occupant, 11 kg. per sq. m. (2.25 lbs. per sq. ft.); with two, 14 kg. per sq. m. (2.87 lbs. per sq. ft.).

The fuselage is of spruce covered with plywood. The single-spar wing is covered with plywood and fabric. The control surfaces have a symmetrical section. Rudder and elevator are undivided. The rudder has a somewhat large area, as it must answer well during take-off and alighting on water.



General arrangement drawings of the "Portugal" water sailplane. On a larger scale is shown a wing rib, which includes a large watertight spar; also a section of the fuselage just behind the cockpit at the site of the main bulkhead.

Practical experiences with the "Portugal."

Many gliding and soaring flights were carried out with this machine during the years 1931 to 1935, amongst others by the well-known Portuguese pilot Paulo Viana.

Every sailflying boat must have a skid for alighting on dry land; the skid is also a convenience in transporting to and from the water. In the PORTUGAL it is specially light, and is sprung with three rubber blocks. Holes are bored in it to drain out the water. Naturally even a water sailplane takes off much better from land than from water.

The use of gull wings with pronounced dihedral, connecting directly with the fuselage, would have brought the centre of gravity lower and increased the rigidity, but would have aerodynamical disadvantages. The raising of the centre of gravity a few centimetres does not worry a good pilot. Also the side floats have an angle of incidence with respect to the water surface, which gives them hydrodynamic lift and so assists stability. Besides, a launch in a high sea would cause the waves to batter against the leading edge of a low-placed wing.

The boat can be made blunt in front, since this part is always out of the water when planing.

To prevent the boat from sinking if it should overturn, the wing must be made buoyant. This can be achieved by means of a spar of large dimensions and square section, which has the additional advantage of great rigidity. The spar is divided into several watertight compartments by means of partition walls, which at the same time take the torsion stresses.

The pendulum elevator and rudder are undamped, as this is necessary for quick corrections of attitude on the water and in the air.

The PORTUGAL is a high-performance two-seater with dual control. Though it weighs only 180 kg., it is calculated to have a safety factor of 13. This high degree of strength is naturally only required for stormy weather, since the water sailplane must be able to take off in such weather if it is to carry out a long distance flight.

The investigations were also concerned with the question of the towing cable. At first the cable hangs loose in the water. As soon as the motor boat starts to move, the cable takes the form of a hanging chain below the surface. Owing to the speed, the water creates a resistance which, above a certain threshold value, prevents the cable from being lifted clear of the water. This threshold value depends upon the diameter and length of the towing cable.

At high towing speeds the sailplane takes off from the water, whereupon the cable, now that the towing resistance is lessened, is pulled down below the water withall the greater force as a result of the water

resistance. The machine then flies with its nose down and, after flying more or less of a switchback course, the pilot is obliged to put down again on the water.

There are various means of counteracting this unpleasant tendency. While a cable of 100 to 150 metres length is suitable for instruction purposes, for advanced pilots 800 metres (half a mile) are needed in every case, so that the aircraft can reach a height of 500 metres (1,640 ft.), where it can connect with up-current areas.

With a flying boat of the type of the PORTUGAL the most suitable diameter for the cable was found to be 1.2 mm. If a stronger cable is used, there is the danger that the float will break before the cable.

It is absolutely necessary, instead of a steel cable, to use a steel wire; for one thing, its resistance through water is much less, and for another, the component wires of a cable corrode too quickly, owing to the greater area exposed, and after a short time it will tend to break. As a protection against corrosion the polished steel wire must also be well greased. The use of a special wire of non-rusting steel should be considered, as the high first cost will pay for itself by a greater length of life.

Apart from choosing the right material, there is another way in which the towing wire can be forced to rise above the water surface. One can secure the aircraft to a buoy or a ship until the wire is tight. But the method cannot be used with flying boats of bad hydrodynamic properties, for a cable of only 1.2 m. thickness will break, so that a thicker cable would have to be used. In this case one must wind the greater portion of the wire on to a large-diameter drum rigidly attached to the motor boat. At the launch the length of wire allowed is only 150 metres. As soon as the aircraft is free from the water, the drum is allowed slowly to pay out the rest of the wire.

If the towing is done with a seaplane, the cable is not longer than 100 metres and these difficulties lose their importance.

The use of a water rudder, connected to the flying rudder, has been found an advantage.

From what has been said it will be evident that water sailplanes of a type such as the PORTUGAL are useful in great measure for flying instruction, practice and research, but that one cannot yet speak of seaworthiness in the open ocean owing to the great stresses to which such a machine would be subject. Investigations are now being made with a view to improving the seaworthiness. A tailless type without side floats has given good results in model tests.

Developments in this branch of aviation are as yet in the early stages, but all countries which are interested in water sailplanes will now make efforts to catch up with Portugal's lead. This is to be welcomed, for an exchange of experiences will enable the desired goal to be more quickly attained.

A New Two-Seater from Göppingen

[*The sailplane factory at Göppingen, Germany, already famous for the well-known types "Wolf," "Minimoa" and "H–17," has now produced a two-seater sailplane with side-by-side seating. The following description of this interesting new machine has been sent by Martin Schempp.*]

A NEW two-seater sailplane for training purposes is being placed on the market, under the name of "GOEVIER," by the Sport Flugzeugbau Schempp-Hirth, Göppingen. The designs for the new machine were prepared by Dipl. Ing. Wolf Hirth and Wolfgang Hütter.

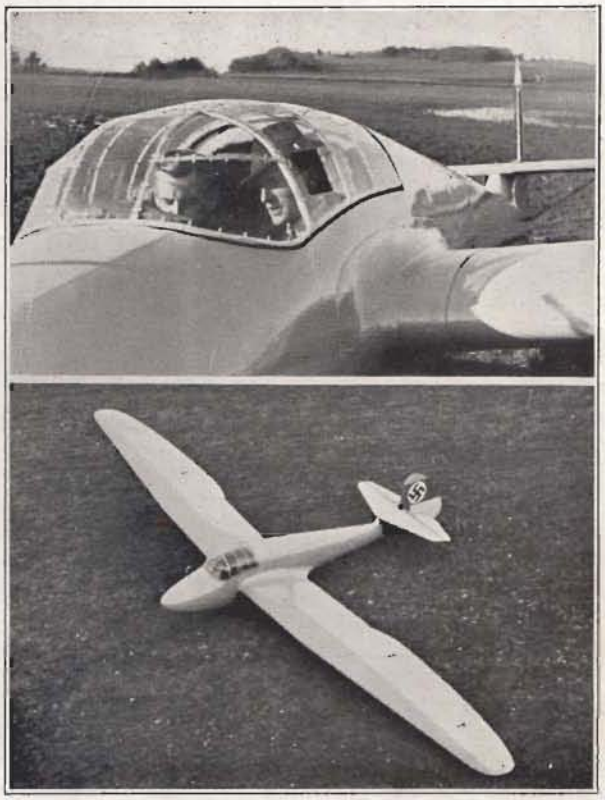
The GOEVIER is a cantilever sailplane with a mid-set wing and a span of about 49 ft. 4 ins. The two seats are arranged side by side, which, in a type of this description, is most convenient for instructor and pupil alike. In spite of this, the fuselage is no more than 36¾ ins. wide. This was obtained by arranging a suitable transition to the wings at a height at which the arm and shoulder of each occupant could be accommodated comfortably.

The performance of the GOEVIER two-seater is at least as high as, if not actually higher than, that of a standard single-seater training sailplane, like the WOLF, for example. The structural weight is no more than 396 lbs., which is only 55 lbs. more than that of a single-seater cantilever sailplane with mid-set wing, of approximately the same wing span. Owing to the central arrangement of the pilots' seats, the sensitivity is remarkably good. The ailerons, which are large, are very effective; they are drawn backwards in the usual manner, and have a practically constant depth to the end of the wing. The influence of previous designs, such as those of Wolf Hirth, the WOLF and MINIMOA, and those of Messrs. Hütter, types H–28 and H–17, are clearly discernible. The planes are fitted with a C-spar, open in front, with a torsion nose of plywood. The leader spar of the aileron consists of a C-spar, open behind, which also serves to cover the gap. The conditions of visibility in the GOEVIER have been made unusually good by providing a large cockpit fairing of Astralon, with a framework of thin steel tubing (with windows fastening at the side), and by designing the fuselage with a steep slope in front. The instrument board is accommodated in the fuselage and not in the fairing, so that the instruments are always at the correct distance from the eyes of the pilot, while the fairing is sufficiently light to be flung off rapidly in case of emergency. As no more than one set of instruments is required for the two-seater sailplane, it has been found possible to effect considerable economies in the first cost.

The fuselage, which is round in cross-section, is entirely made of plywood. It is interesting to note that the space between the two main bulkheads has been utilised to take provisions, etc., and is large enough to accommodate sufficient luggage even for a week-end. The cockpit is provided with a firm bottom, which is completely enclosed. All the cable lines and moving parts are arranged underneath this board or the seat.

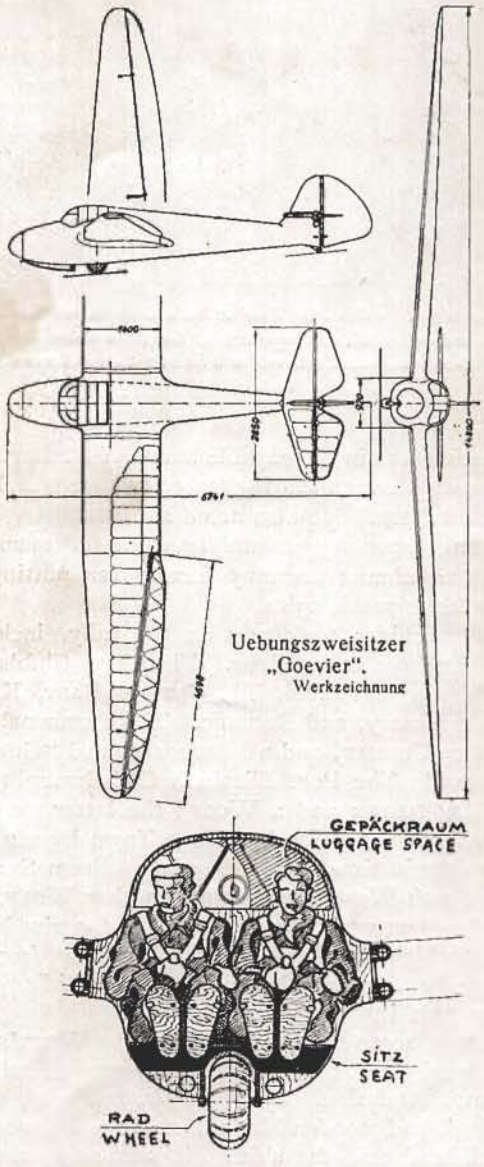
The release knob is fitted in the centre of the instrument board; the lever for the wheel brake is mounted between the two pilots, because, like all other sailplanes produced by the Sport-Flugzeug Schempp-Hirth, the GOEVIER is fitted with a single-wheel undercarriage, provided with a $15\frac{1}{4}'' \times 6''$ balloon tyre. This wheel is directly underneath the pilots' seat so that, when landing, the main weight, i.e., the weight of the pilots, is transmitted directly to the undercarriage, because the seat spars also serve as wheel spars. At the same time, the wheel is in front of the centre of gravity of the glider, as in an aeroplane. It must therefore be forced down when starting, while the landing also is at two points, i.e., on the wheel and the tail skid, just as in an aeroplane. This feature makes it easier for a pilot accustomed to a glider to learn the features of an aeroplane.

The tail unit is high, and accordingly protected; the elevators and rudders are damped. The elevators are braced downwards. Handles are fitted in front of the elevators on the right and left of the fuselage, to facilitate transport over rough country, even with the pilots on board.



The "Goevier" is the latest product of the firm Sport-Flugzeugbau Schempp-Hirth, of Göppingen, and is the fourth sailplane type produced by the firm—hence the name, which is an abbreviation of "Goeppingen vier." The first was the "Wolf," the second a two-seater with tandem seating, and the third the "Minimoa." The firm has also taken over and developed the "H-17" type. The upper photo gives an idea of the excellent visibility obtained by pilot and passenger through the transparent cockpit-cover. It is possible to shut off one half of the cockpit with dark blinds, for blind-flying instruction.

[Photos by Euler, Göppingen



General arrangement drawings of the "Goevier" two-seater sailplane. Below is an enlarged section of the cockpit, showing how the fuselage is kept as narrow as possible by accommodating the occupants' off-side elbows in the wing-roots.

[From "Flugsport"

The following special features can be fitted on request at extra charge:—

(1) Brake flaps, which are made to hinge on the upper side of the planes, to render landing easier on small grounds.

(2) Black hangings can be arranged round the pupil's seat, so that he only has a view of the instrument board. At the same time, the instructor's field of vision is not seriously hindered, and the pupil can practise blind flying.

Learning motorless flight will be accompanied with fewer breakages, and effected more rapidly, by employing machines of this type. The pupil too can be taught the more difficult lessons of gliding with all the greater ease. This applies more particularly to aeroplane-towing or using the winch for the first time, as well as recognising the correct steep spiral in thermal soaring flight, and the explanation of such dangers as stalling or spinning; more particularly, however, blind flying, which is of such importance for achieving record results in soaring flight.

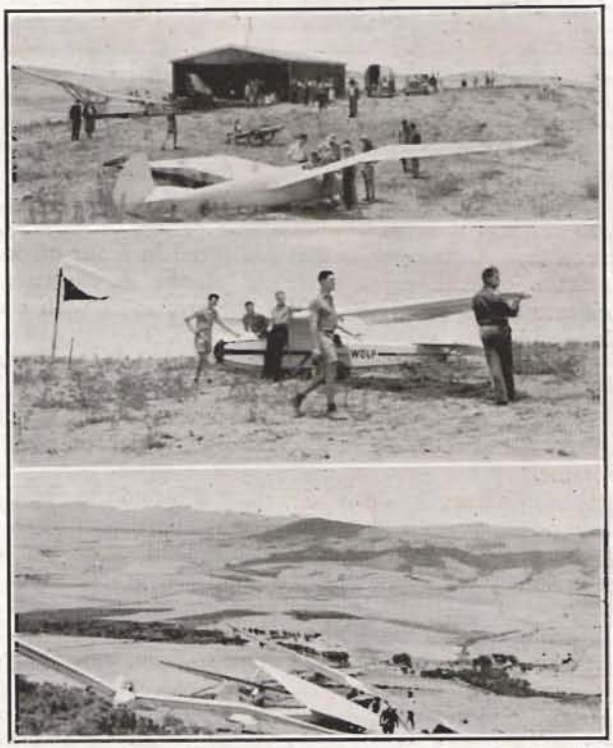
A Rally at Cape Town

A RALLY of South African gliding clubs at Christmas, 1937, proved a bigger success than any previous aviation function ever organised in Cape Town. It was held on the site of the Cape Pioneer Gliding Club at Koeberg (Philadelphia Kop on the map), 18 miles from Cape Town.

As a soaring site the place is excellent; the only snag is the large number of thistles and gorse bushes on the landing ground, which, by the end of the rally, had caused several of the machines to damage themselves on landing.

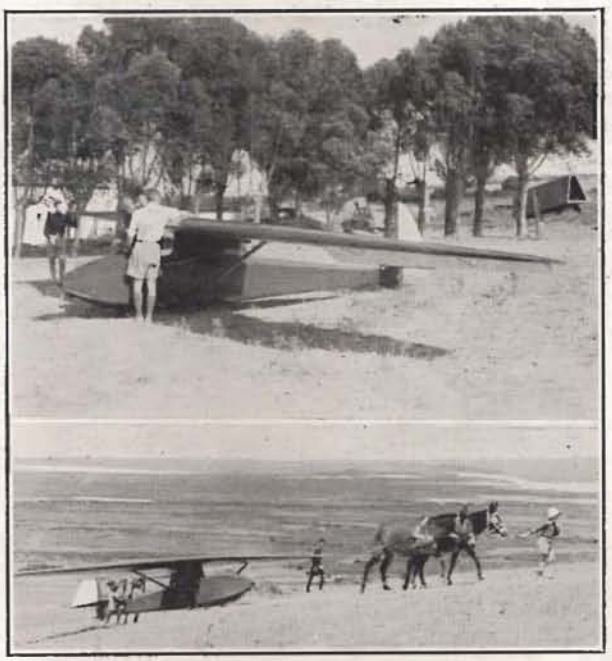
However, a large amount of flying was done, and the sight of five sailplanes soaring together was seen for the first time in South Africa. By the end of the meeting the South African records for height, distance and duration had all been broken.

At the same time as the inter-club competition, an instruction course was held at which 4 "C," 2 "B" and 2 "A" certificates were obtained, and there were in addition 5 "legs" of the "Silver C" achieved by the competition pilots. A lack of outside helpers obliged the pupils often to leave their instruction in order to form launching teams for the others, and some people were heard to sigh: "Oh for a party of Hitler Youths!"



At the opening of the Cape Town Rally: Above, the "Minimoa," "Falcon III," and "Wren" (in shed). Centre, the Swakopmund "Wolf" before her last launch (note the thistles which proved her undoing when landing). Below, the "Rhönadler" and "Blue Wren" waiting for the breeze, with the Drackenstein mountains in the background.

[Photos sent by P. Dallamore



The "Blue Wren," which once flew at Dunstable, Sutton Bank and Prestatyn, has emigrated, and here it is at the Cape Town Rally last Christmas, being unpacked (above), and later, retrieved from a flight (below).

[Photos, P. Dallamore

Instruction was in the capable hands of H. Bartaune, a well-known German soaring "ace," who is now living at Port Elizabeth. He also acted as ground engineer, and, when inspecting unfamiliar types of machines, displayed an almost uncanny faculty for putting his finger on their weak spots.

Eleven machines took part in the rally, including six brought from other clubs. The Cape Club's own machines were a FALCON III, GRUNAU BABY, KADET, GRUNAU 9 primary, and DAGLING. The Transvaal Club had another GRUNAU, and a MINIMOA named "GUNTHER GROENHOFF." The Port Elizabeth Club brought Bartaune's RHÖNADLER and a WOLF; the latter, together with the MINIMOA, arrived at Cape Town by sea from Germany just in time for the meeting. From Swakopmund in South-West Africa, came another WOLF, and, finally, there was the BLUE WREN, just arrived from England, which also had to be fetched up from the docks by a group of members of the Rand Gliding Club, who now own it.

There was some amusement when the WREN's turn came to be rigged and inspected. Everyone, including the Germans, admired its fine finish, but why, everybody asked, had wooden blacks been fitted between the main bulkhead and the skid? It was only when an attempt was made to removed them that the "wood" was found to be rubber after all. The experts had been completely misled by the saw-marks, hard surface, and beautiful blue paint on the rubber.

On the third day of the meeting the WREN got into the air, and a soaring flight of 10 minutes was made by Bartaune "in a breeze which nobody else even bothered to test." His reported opinion was that her sinking speed was as good as the GRUNAU BABY, and her gliding angle the same or better; but he emphasised her light construction, and advised the use of a parachute for thermal flights!

December 27th, the third day of the meeting, was "duration day," and a total of 25 hrs. 18 mins. flying was put up. This included 7 hrs. 35 mins. by E. Hakl (who only got his "C" the previous week) in the Transvaal Club's GRUNAU. On the same machine Clarence Louw had done 5 hrs. 20 mins. (probably the day before), while Karl Weinstein (Cape Club) did 5 hrs. 2 mins. in the KADET, and George Ott, of Swakopmund, after keeping up the WOLF for 4 hrs. 49 mins., landed down-wind and overturned. A remarkable flight on the same day was one performed in a stiff south-easter by Bartaune on the primary GRUNAU 9, during which he soared to 1,000 ft. and stayed there 10 minutes. On coming down again, he decided that conditions that day were too dangerous for primary training.

December 28th was "cross-country day." There were cloud streets in a south wind. H. Winter, in the Transvaal Club MINIMOA, went up in the morning to 3,000 feet, but came down again in a down-current after 82 minutes. He was launched again at 2.25 p.m. and, after some minutes' slope-soaring, made a bolt for a cumulus cloud between the Koeberg and the Tygerberg, finally disappearing at a great height over Blaauwberg. After a flight of 3 hrs. 20 mins. he came down at Aurora, a distance variously given by the Press at 69 miles, 78 miles and 81 miles; but whichever it was, it beat the previous South African distance record set up by P. A. Wills in 1936. Mr. Wills's height record of 5,400 ft. was also exceeded by Mr. Winter on this flight, as his barograph showed that he had reached 6,320 feet. He had therefore completed his "Silver C."

Another distance flight on this day was by E. Holthrop, in the Port Elizabeth Club's WOLF. He set off towards Mamre and flew 15 miles, after which he is reported to have spent 5 hours walking to the nearest farm.

On the same day Bernard Hamilton, who only got his "C" during the rally, did 5 hrs. 10 mins. in the BLUE WREN, and got up to 2,700 ft. in a thermal which he says he could "smell," only having to leave it because of his drift down-wind. (Press reports, by the way, are conflicting as to the dates of these flights.)

The total flying time for the meeting was about 111½ hours.

The principal award, the Argus Challenge Trophy, was won by the Transvaal Pioneer Gliding Club for putting up the best all-round performance, and the club also won the Junkers Trophy for Mr. Winter's altitude record, Mr. Winter himself winning the P. A. Wills Trophy for the distance he flew. Captain G. J. Prinsloo won the Pidsley Memorial Trophy for the highest total of marks in the Open Contest. Mr. Holthrop and Mr. Hakl received money prizes.

A "Grunau Baby" and "Wolf" soaring at Cape Town. Note the Table Mountain in the distance with its "tablecloth"—said to be an infallible indication of a good "south-easter" such as the Cape Gliding Club requires for soaring.

[Photo, P. Dallamore

Finally, it has to be recorded that, even on the less congested roads of South Africa, accidents will happen. The BLUE WREN was being transported to Johannesburg after the meeting when, after covering 250 miles of the journey through mountainous country, the trailer was run into amidships by someone tearing round a blind corner. So it had to do the rest of the journey in a railway truck.

"Istus" Meeting at Berne

The 1938 annual meeting of the Istus is at Berne from May 22nd to 29th. As already announced, an international model sailplane meeting is being held in connection with it; the rules for this have now been sent to the British Gliding Association. The competition is from May 21st to 23rd, and is for amateurs only. Models are classified into normal types, experimental types, and those with automatic or distant (e.g., wireless) control. The span must be between 1.3 and 3.5 metres. Prizes are given for duration, altitude and distance flights.

At the same time, we learn from *Flugsport*, there is to be an international meeting for full-sized sailplanes from May 22nd to 29th. Launches are to be by aerotow, and competitions will include a goal flight to Lausanne aerodrome. Each country may enter four machines.

A Japanese Sailplane

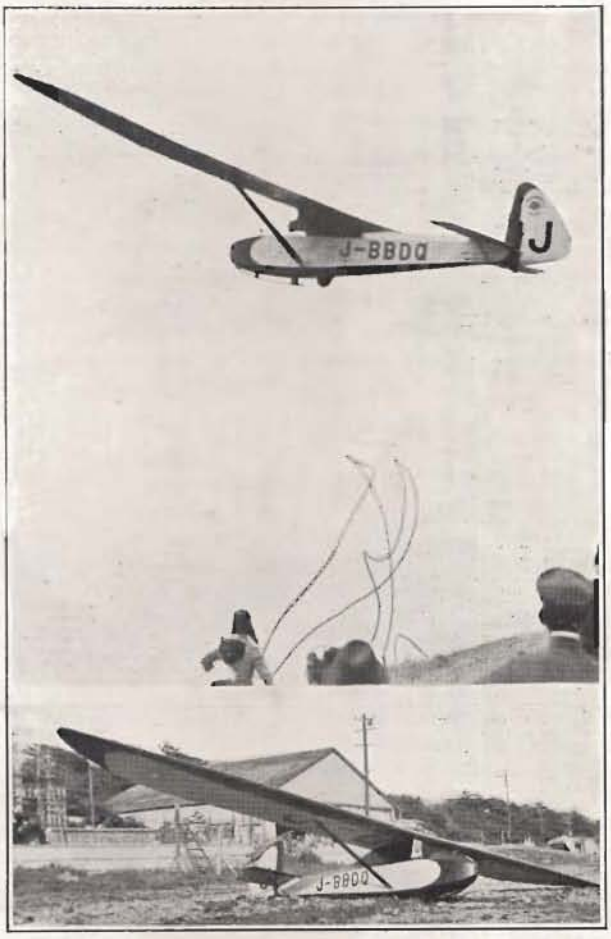
In view of the fact that the Olympic Committee has now definitely decided to hold the next Olympic Games at Tokyo in 1940, and that plans for the inclusion of soaring flight among the Olympic Sports have already been drawn up, Japanese soaring activities are of particular interest.

The accompanying pictures show the sailplane C–2, designed by Yosio Yamazaki at Tokyo, and constructed by O. Ito at Tibs, Japan. The designer sends us the following particulars :—

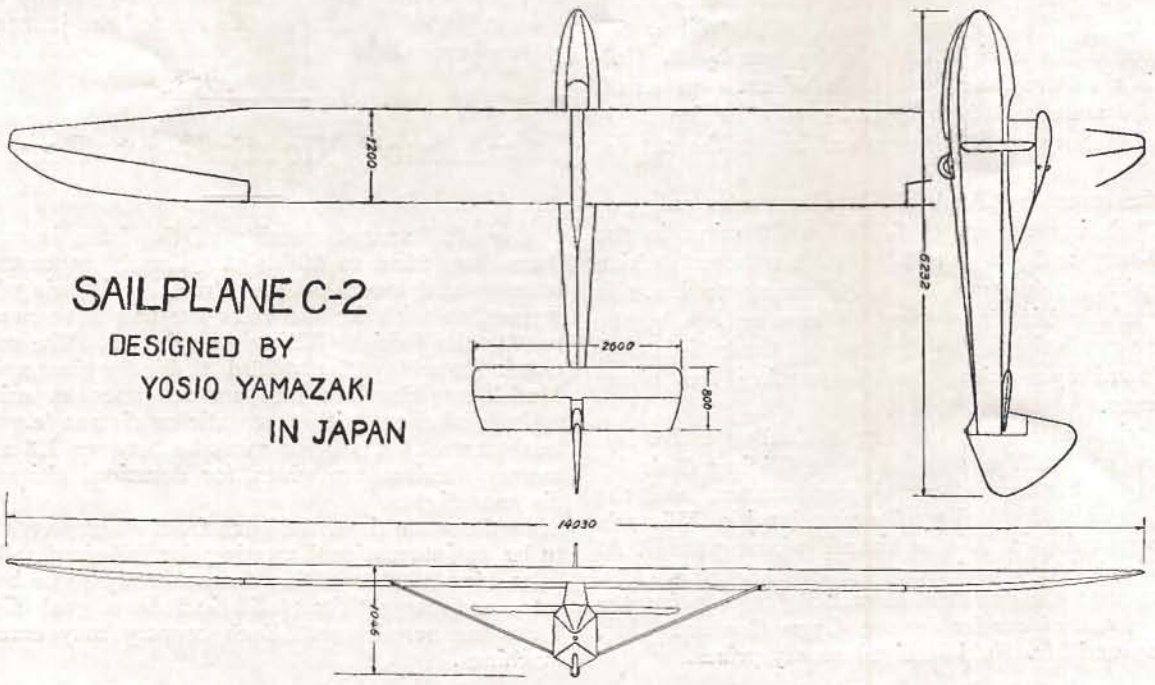
Span, 14.03 m. (46 ft.); wing area, 15 sq. m. (161 sq. ft.); aspect ratio, 13; length, 6.232 m. (20 ft. 9 ins.); weight empty, 150 kg. (331 lbs.); flying weight, 220 kg. (485 lbs.); wing loading, 14.7 kg. per sq. m. (3.01 lbs. per sq. ft.); sinking speed, 0.9 m. per sec. (2 ft. 11 ins.); flying speed, 50 km. (31 miles) per hour; gliding angle, 1 in 19; wing section, Göttingen 535; load factor, 8.

This machine set up a Japanese record of 2 hours' duration and climbed from 400 m. to 1,800 m. (1,300 to 5,900 ft.) in a thermal current.

Mr. Yosio Yamazaki also sends a plan and photos (not reproduced here) of an earlier model on somewhat similar lines called C–1. This has a span of 14 metres; wing area, 15 sq. m.; weight empty, 160 kg. (353 lbs.); sinking speed, 0.86 m. per sec. (1 ft. 10 ins.); load factor, 10. The plan shows a cockpit cover designed for a smooth flow of air over it on to the upper surface of the wing; another feature is that the elevator with its fin is apparently set at a positive angle of incidence of nearly 10 degrees in relation to the upper border of the fuselage.



[Photo by Yosio Yamazaki



List of British Gliding Clubs and their Secretaries

For information as to the running of a gliding club, apply to The British Gliding Association, 119, Piccadilly, London, W.1. (Tel. : Grosvenor 1246-7-8.)

England.

BEACON HILL (Essex).—G. F. Harris, Eastwood Rise, Eastwood, Southend-on-Sea. Primary training ground at Canewdon, Essex. Workshop at Southend. Subscription, 10s. 6d. p.a.

BILLINGHAM.—J. Tunstall, Nth. Mt. Pleasant Street, Stockton-on-Tees. Primary training. Subscription, £1 p.a. (10s. for those under 21).

CAMBRIDGE UNIVERSITY.—J. W. S. Pringle and P. M. Thomas. Club rooms at 1, Benet Street, Cambridge. Flying ground at Caxton Gibbett (Tel.: Caxton 39); winch launching. Subscription, 3 guineas p.a.; Associate membership, 1 guinea p.a.; no entrance fee. Flying charges: 1s. to 1s. 9d. per winch launch; 7s. 6d. to 9s. per aero-tow. Flying, seven days a week during term. Resident instructress. Limited number of non-University members admitted.

CHANNEL.—F. G. Whitnall, 16, High Street, Cheriton, Folkestone. Auto-towing at Hawkinge Air Station; soaring at Arpinge, 2 miles N.W. of Folkestone. Hangar at Arpinge.

CORNWALL.—J. W. Graham, Red House, Tywardreath. Flying ground at Rosenannon Downs. Primary training; soaring possible.

COTSWOLD.—J. D. Pether, Culver's Close, Burford, Oxon. Primary training at Minster Lovell, near Witney, or Pewit Farm, Wantage, Berks.

DERBYSHIRE AND LANCASHIRE.—C. Kaye, 63, Clarkhouse Road, Sheffield. (Tel.: 62463.) Primary training and soaring. Headquarters at Camphill, Great Hucklow, Derbyshire (between Buxton and Sheffield), adjoining flying grounds at Bradwell Edge and Eyam Edge. Clubhouse (Tel.: Tideswell 207) and hangar. Subscription 3 guineas p.a.; non-flying £1 1s. (both include 5s. subscription to Royal Aeronautical Society, Manchester Branch); no entrance fee. Flying charges: from 6d. per flight; soaring flights from 2s. 6d. Resident instructor-manager.

DEVON.—S. G. Tolman, Journal Office, Exmouth. (Tel.: 76.)

DORSET.—L. A. Lansdown, The Portman Arms Hotel, East Chinnock, Yeovil, Somerset. (Tel.: West Coker 01 Y4). Primary training and soaring at Maiden Newton; soaring also at Kimmeridge, Isle of Purbeck.

EAST GRINSTEAD.—G. J. Smith, "Tolskity," Sackville Lane, East Grinstead, Sussex.

ESSEX.—W. Webster, 113, Coombes Road, Dagenham. Primary training.

FURNESS.—J. S. Redshaw, 18, Fairfield Lane, Barrow-in-Furness, Lancs. (Tel.: 803). Training sites at Hawcoat, Birkrigg and Gleaston. Soaring sites at Moorside (near Ireleth) and Bootle Fell, Cumb. Hangar at Moorside. Subscription, £2 p.a. and flying fees.

HARROGATE.—E. T. W. Addyman, The White House, Starbeck, Harrogate.

HEREFORD.—See Midland Gliding Club.

HULL.—R. E. Havercroft, 216, Park Avenue, Hull. Flying ground, Hedon aerodrome (auto-towing).

IMPERIAL COLLEGE.—L. S. Holt, Imperial College of Science, South Kensington, S.W.7. Members use London Gliding Club's machines and flying ground at Dunstable Downs; also a sailplane for club's exclusive use.

KENT.—Miss R. H. Sinclair, Lady Place, Sutton Courtenay, Berks. (Tel.: Sutton Courtenay 46.) Primary training ground at Lenham, near Maidstone, Kent.

LONDON.—Tring Road, Dunstable, Beds. (Tel.: Dunstable 419.) Flying ground, Dunstable Downs (1¼ miles S.W. of Dunstable). Primary training and soaring. Clubhouse and hangar; sleeping accommodation; 13 gliders and sailplanes for members' use. Subscription, 3 guineas p.a. (country member, 2 guineas); entrance fee, 2 guineas. Associate member, 2 guineas p.a.; no entrance fee. Flying charges, from 3s. per day. Resident full-time instructor; flying on Sundays and every week-day except Thursday.

MIDLAND.—M. F. Barnes, 100, Holly Road, Birmingham 20. (Tel.: Smethwick 1181.) Primary training grounds at Handsworth (Vernon Avenue), Northfields and Hereford. Soaring site at Long Mynd, 3 miles W.S.W. of Church Stretton, Salop. (Tel.: Linley 34.) Clubhouse and hangars; 10 gliders and sailplanes for members' use. Subscription, 3 guineas p.a. (10s. 6d. junior membership); entrance fee, 1 guinea; flying charges, 3s. per week-end for primary or secondary training; 6s. per hour for soaring.

NEWCASTLE.—A. P. Miller, 25, Holme Avenue, Walkerville, Newcastle-on-Tyne, 6. (Tel.: Wallsend 63320.) Soaring sites at Chillingham. Auto-towing at Cramlington Aerodrome. Workshop in Newcastle.

NORFOLK.—"Ivy Cottage," North Walsham, Norfolk. Primary training at Skeyton, also at Mundesley (soaring possible).

NORFOLK AND NORWICH AERO CLUB.—Gliding Section, North Walsham aerodrome. One sailplane; auto-towed launches.

OXFORD UNIVERSITY AND CITY.—Miss M. S. Thring, 13, Polstead Road, Oxford. (Tel.: Oxford 5109.) Subscription, 2½ guineas p.a.; entrance fee, 1 guinea.

PORTSMOUTH AND SOUTH HANTS.—R. E. Clear, York Cottage, London Road, Purbrook, Hants. Flying ground: Portsdown Hill.

PRESTON AND DISTRICT.—L. E. Falla, "Lendor," Lawrence Road, Penwortham, Preston. (Tel.: Preston 2301.)

ROCHDALE.—A. Claypole, 17, Agnes Street, Castleton, Rochdale. Primary training at Shuttleworth; hangar. Subscription, £2 p.a.

SHROPSHIRE.—G. B. Muir, "Ireland," Halford, Craven Arms, Salop.

SOUTHDOWN.—A. York Bramble, 7A, First Avenue, Hove 3, Sussex. (Tel Hove 4335.) Primary training and soaring grounds at Devil's Dyke, Brighton. Clubhouse and hangar, ½ mile S.S.W. of Devil's Dyke Station.

STAFFORD (Gliding Section of Stafford Aero Club).—J. H. Simpson, 38, Newport Road, Stafford. (Tel.: 138). Primary training; two gliders.

STOKE-ON-TRENT.—H. N. W. Goss, 36, Crewe Road, Alsager, Cheshire.

TEES-SIDE.—T. Anderson, 49, Wellesley Road, Middlesbrough, Yorks.

WORKINGTON AND WEST CUMBERLAND.—W. L. Foster, c/o The United Steel Co., Moss Bay, Workington, Cumberland. Primary training at Siddick, Workington (hangar and clubhouse). Soaring possible at The Hay, Cockermouth.

YORKSHIRE.—H. T. Blakeston, Spellowgate, Driffield, Yorks. Primary training and soaring. Flying ground, Sutton Bank, between Thirsk and Helmsley. Clubhouse and hangar. (Tel.: Sutton under Whitestone Cliff 19.) Resident Steward; full residential facilities. Full range of machines for members' use. The present Secretary is: L. A. Alderson, 32, Wensley Green, Chapel Allerton, Leeds 7.

Scotland.

DUMBARTONSHIRE.—J. V. Campbell, Kirklea, Cardross Road, Dumbarton. Primary training ground at Barrs Farm, Cardross. Subscription, 2 guineas p.a. (non-flying, 1 guinea). Flying at week-ends; charges: 1s. per day, 6d. per launch thereafter.

ELGIN.—D. M. McRae, Park House, South Street, Elgin.

FIFE.—Alex. M. Aitken, 14, Kinnear Street, Buckhaven.

INVERNESS.—F. Oliver, 13, Leys Drive, Inverness.

PERTH.—R. Mackelvie, View Cottage, Union Road, Scone, Perthshire.

SCOTTISH GLIDING UNION.—J. W. Gardner, Journal Office, Alloa.

Northern Ireland.

ULSTER.—N. P. Metcalfe, c/o Ulster Spinning Co., Ltd., Belfast. Flying centre and hangar at Downhill, Magilligan Strand, Co. Londonderry. Auto-towing and soaring.

Channel Islands.

JERSEY.—A. J. Scriven, "Quainton," Samares, Jersey. Subscription, £3 p.a. Flying on Sundays and Thursdays.

News from the Clubs

Gliding Club of Victoria

A Pioneer Australian Venture.

The Gliding Club of Victoria was formed in 1929 by several enthusiasts, prominent among whom were Mr. H. E. Hervey and Mr. L. C. Withall, now of the London Gliding Club.

The first machine acquired by the club was a ZÖGLING primary (built locally), and flying training, by catapult launching, was carried out at the Essendon Aerodrome, Melbourne. Later, the club moved to Coode Island Aerodrome, Melbourne, and a second machine, a RHON RANGER primary, was purchased. This machine was also locally built.

During this period the membership had been as high as 300, but this number soon dropped to 20 or 30.

At Coode Island Aerodrome car-towing was introduced in 1932, and regularly 10 to 15 members circuited the primaries around the aerodrome at heights of 800 to 1,000 feet, with durations up to 6 minutes.

Now another move was made to Mt. Fraser, Beveridge, 25 miles from Melbourne, on the Haime Highway, the main road to Sydney.

Mt. Fraser is a perfectly bald hill rising 450 feet from the plains; it has a crater in the centre, and forms a horse-shoe shape. Contrary to what might be expected, it is particularly free from turbulence, and soaring flight is possible in any wind.

Steps were taken to make this a permanent home for the club, and a hangar, 100 ft. × 24 ft., has been erected on the site.

The RHON RANGER primary has been soared here for 1 hour 12 minutes, and other flights ranging from ¾-hour to 10 minutes have been recorded.

During August, 1936, the club was registered at Melbourne, and applied for a grant from the £600 gliding subsidy made available by the Commonwealth Government. Payment is made only to one registered club or association in each State.

In Victoria the Gliding Club of Victoria was the only club operating, and was registered under this name and, acting as a parent body, assists in forming country clubs.

The system of payment to clubs is:—

(*a*) On a basis of 20–29 members, 2 machines; 29–39 members, 3 machines; and so on at the rate of 10 persons per machine.

(*b*) £5 per quarter year per primary machine, £7 10s. per secondary machine, £10 10s. per sailplane.

Each machine must be flown regularly. A reasonable length of time is allowed for repairs. Flying must be carried out on 10 days of each quarter.

Early last year the club decided to purchase a GRUNAU BABY II from Germany at a cost of £205 landed in Melbourne. The machine arrived on August 23rd, and on September 20th and October 3rd members were able to test the machine, by car tow, near the Laverton Aerodrome. Six pilots: Davies, Richardson, McGeehan, Williams, Duckworth and Roberts, flew the GRUNAU first on straight flights and later on circuits. Heights of 500 feet and 6 minutes' duration were reached on October 3rd.

On October 30th Roberts made a thermal flight of 20 minutes, landing 1½ miles from the start; this flight was made without a variometer over perfectly flat ground at Laverton.

A Cobb-Slater Variometer was ordered from England and fitted to the machine. The landed cost was £9 10s.

During the Christmas holidays Roberts connected with a thermal off a car tow and flew 6½ miles to Deer Park.

Roberts has also made flights at Beveridge of 2 hours 44 minutes and 3 hours 22 minutes, breaking the Victorian record and Australian single-seater record.

The previous records were 2 hours 40 minutes by H. Morris (Victoria) and 3 hours 15 minutes by D. Henderson (Queensland). The Australian duration record is held by E. T. Parr (Queensland), carrying a passenger in a two-seater machine, PEGASUS, with a flight of 5 hours.

Up till now no claims have been made for records in height or distance.

Between Christmas and January 10th of this year three members of the club—Richardson (President), Williams (Treasurer) and Fox (Committeeman)—made a car trip to Byron Bay, New South Wales, where the Queensland Gliding Association was in camp.

It was here on the Coorsbell Range that D. Henderson and E. T. Parr had made their record flights the previous year. Unfortunately the range is good only for a north-east wind, and a north-east wind simply refused to blow, although it is the prevailing wind, until the day camp was broken when the Queenslanders had to return to Brisbane and the Victorians to Melbourne via Brisbane.

While in Brisbane the Victorians were able to see the winch gear used by the Queensland Club at Eagle Farm Aerodrome. Richardson was taken up as a passenger in PEGASUS by J. McDonald on the winch.

On returning to Melbourne Richardson and Williams constructed a winch on the lines of the Queensland one with the result that on Sunday, February 6th, the first winch-launchings in Victoria were made with a RHON RANGER primary, Richardson, Duckworth, Davies, Williams, Roberts and Hyde flying in turn. This method of launching will greatly speed up flying at Beveridge where car towing is not practicable.

[A description and pictures of the GOLDEN EAGLE sailplane, designed by a member of the club, will appear next month.—ED.]

Advanced Flying Course at Sutton Bank

July 24th to August 1st.

The object of the course is to provide high-performance flying facilities for pilots of approximately "Silver C" standard, comparable with the best amenities obtainable abroad.

Membership of the course is confined to "Silver C" pilots, or pilots who have done at least six hours' soaring in GRUNAU BABY or more efficient types, and can in addition furnish references, such as the chief instructor of a recognised club.

Methods of launching will be by bungy, winch, and aero-tow; bungy and winch from Sutton Bank, and winch and aero-tow from Welburn Aerodrome, 11 miles distant. A fleet of machines will be kept at both sites. Dual instruction in aero-towing will be given, when required, and one two-seater will be at Welburn for this purpose in addition to other machines. Certainly one, and probably two, aeroplanes will be available for towing.

Machines available (apart from less advanced sailplanes for duration work, etc.) will be: GRUNAU BABY, *at least* two KIRBY KITES, SUPER-KITE, and at least two two-seaters. Members may, of course, bring their own (approved) sailplanes.

At least one machine will be fitted with complete blind-flying equipment, parachute, etc., and several barographs will be available, together with sets of maps.

Arrangements have been made for lectures on meteorology, navigation and similar subjects, and for frequent meteorological and lapse-rate reports to be received at both Sutton Bank and Welburn.

Members of the course will be given every opportunity of making cross-country flights on every possible occasion—we might almost say that it will be expected of them.

Aircraft will be housed fully rigged at both Sutton Bank and Welburn Aerodrome.

Retrieving facilities for all aircraft will be instantly available throughout the course.

The only liability of course members (apart from fees as below and for damage to their own property or persons) is for bare retrieving cost incurred by them, and a damage liability on *distance flying only* to the first £5 on each occasion of damage to club aircraft.

The fees are:—

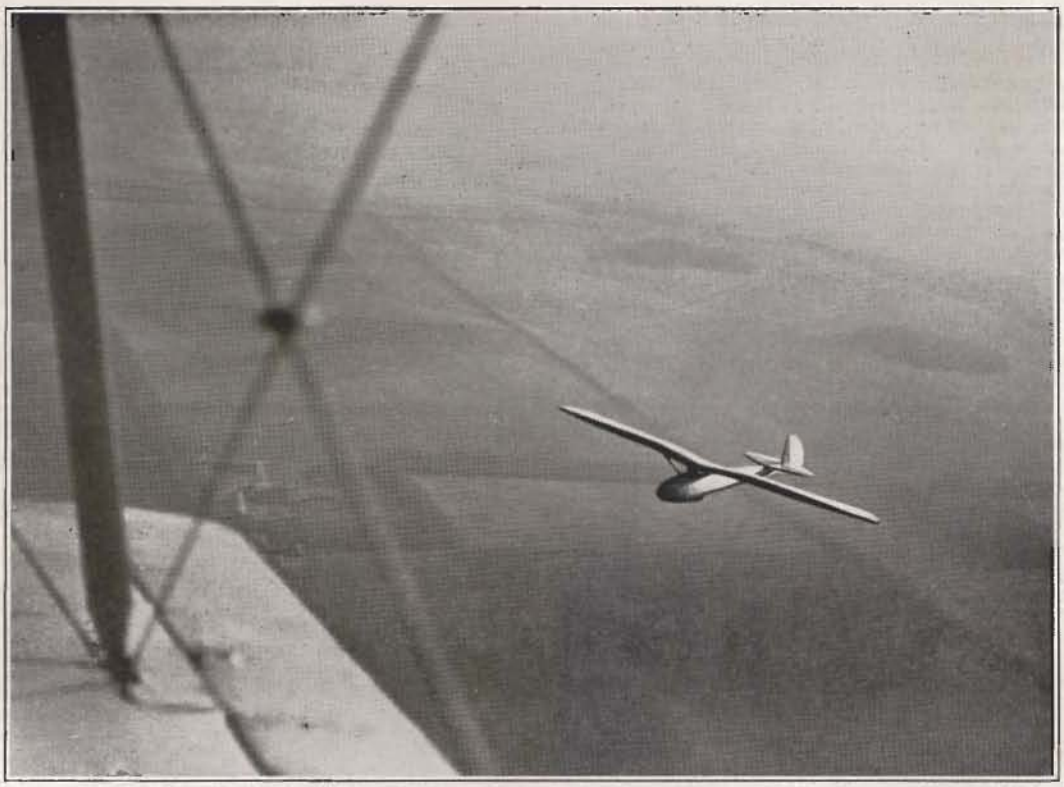
Membership of the course, £1 11s. 6d.

Extra for those using club machines, £5 5s.

Extra for those requiring full board, £2 12s. 6d.

Extra per aero-tow, 10s. *maximum* per tow, solo or dual.

It is expected that a few German "Silver C's" will be coming over for this course with their own machines. The course is being run concurrently with the sixth Sutton Bank Annual Open Contest, and all flights by course members will be eligible for Contest awards.



P. M. Thomas soaring the Cambridge Club's "Kirby Kite" over Duxford Aerodrome, photographed from the aeroplane which launched him.
[Photo by J. E. Simpson

Cambridge University Gliding Club

March 5th and 6th.—The R.A.F. very kindly gave us permission to use their aerodrome at Duxford, and on Saturday the KITE was towed over from Cambridge and seven tows were made behind the club's "Moth," piloted by Gardiner and Beauchamp. It was a fine sunny afternoon, but there were no thermals about.

On Sunday the CAMBRIDGE I was also in action at Duxford, and several members had their first tows. Fourteen tows were made, and in spite of a strong inversion at 2,500 ft. some thermals were found and used at lower altitudes. The big event of the day was a flight by H. W. F. Jones, an *ab initio* member, with no previous hill-soaring experience, who, when he had got down to 800 ft. in the CAMBRIDGE, found a thermal and circled in it for five minutes, reaching 1,200 ft. As he was carrying a sealed barograph, we hope he will be awarded a "C" certificate for this flight.

We were pleased to have with us again "Loppy" Lingford, and to see and hear him do two of the usual in the KITE.

At the end of the day the CAMBRIDGE was towed over to Caxton, where it was wanted for some winch-launching, and the KITE was towed back to Cambridge.

March 12th and 13th.—Another week-end of aero-towing at Duxford. On Saturday 8 training-tows were made in the CAMBRIDGE with no "incidents" to report, and on Sunday there were 13 tows, in the CAMBRIDGE, KITE and RHÖNADLER.

Conditions were very similar to those of the previous week-end, and the longest flight was 30 mins., made by Fox in the RHÖNADLER, the runners-up being Parker and Pirie in the CAMBRIDGE, who both flew for 25 mins.

Visitors we were pleased to see included Fox and Benemann, who have now both joined the club as country members, and also Kronfeld, Prof. Melville Jones and the Editor of THE SAILPLANE.

March 14th.—Term had ended two days earlier, but a few people were still left in Cambridge, and on this day John Pringle found interesting things in the sky.

He went up at 1.30 p.m. in the KITE from Cambridge Aerodrome in a clear sky and was towed to 2,400 ft., where he released, and stayed 7 minutes without losing any height. The air was very smooth, and he hardly circled at all as the whole mass of air seemed to be going up at 3 ft. per sec., just enough to keep the KITE up. There was a wind of about 20 m.p.h., and he stayed roughly over the Gogs, to the S.E. of the town. After 7 minutes the lift gradually died away, and after another 3 minutes he started to go down at 6 ft. per sec. all the way to the ground. He made the observation from 2,400 ft. that the haze top was not level, but was definitely arranged in waves, and he thinks that the whole air was probably moving in waves instead of just steadily along horizontally. This would account for his staying up, and also for the fact that on the ground the wind was waxing and waning with a period of about 5 minutes.

At Caxton.—During March winch-training went on as usual at Caxton, and on March 12th the Most Exciting Flight of the Month was made. Bratt tried a tight turn in a DAGLING just after releasing at 400 ft., and got into a tight vertical spin instead. He went round three times and then extricated himself 6 feet off the ground, just in time for a perfect landing. However, the DAGLING did not survive the day as, later on, another pilot stalled it on to a wing. This was an unlucky week, as the TOTTERNHOE and another DAGLING were also damaged, but to a less degree.

Summary of flying, March 1st to 18th.—Ten flying days, 206 winch launches, 45 aero-towed launches.

Certificates gained: 1 "A," 6 "B's."

Derbyshire and Lancashire Gliding Club

March.—A club record which was set up this month was that of the greatest number of flying hours ever achieved during one week-end. That this should take place so early in the year promises well, for the time of just over 45 hours should easily be increased much further on the arrival of longer days.

One performance of particular note was that of Joe Kendal. He took his "C" one afternoon, and followed this up with two more soaring flights later on. The following day he made two further soaring flights, and so, in 24 hours, secured sufficient flying time to qualify for transfer to the KADET or FALCON.

We are sorry to announce the departure of Terrence Horsley, of the *Daily Dispatch*, to another part of the country. He has been to a great extent responsible for the interest taken by his newspaper in the gliding movement, and we in this club have reaped very considerable benefits by the generous assistance of the *Daily Dispatch*. Terrence Horsley has also broadcast several times from the North Regional Station, in order to tell the public something of the gliding movement. Therefore, it is

with genuine regret that we say *adieu*, and in hoping that our loss will be another club's gain, we wish him many happy landings.

In order to commemorate Horsley's association with us, a concert was arranged in his honour and he was presented with a tankard. The concert took place in the club workshop, which by dint of hard work on the part of a number of members was fitted up with stage and curtains and excellent stage lighting effects. We cannot speak too highly in praise of Fred Harris and John Noble for the tremendous amount of hard work put in, both on and off the stage, also to Mr. L. du Garde Peach for the gliding sketch he had written at such short notice, which was very ably acted by John Noble and our worthy steward, Bob Walker. Copies of "The Glider Pilot's Psalter" were distributed to all attending. It contained "special songs of praise and intercession, glees and madrigals, for the festival of the aerial baptism," and these were sung by individuals and the company, assisted at times by the entire audience. The orchestra was willing, even if at times slightly discordant. An excellent performance.

Adequate arrangements have now been completed for the success of our two training camps this summer. Accommodation and feeding arrangements are to be of a high order, and a greater amount of flying training per day will be put in than ever before. Our site is situated so that full advantage can be taken of soaring in many wind directions, and our camp secretary will be only too pleased to answer any inquiries. Those who have not yet made up their minds to have a gliding holiday at Camphill are advised to communicate with us at an early date, as we are anticipating a full house.

Saturday, March 5th.—Wind 20 m.p.h., W. A glorious summer's day, with everything in the air. Unfortunately, only one "C" candidate was present, but he, Kendal, did the job faultlessly.

We were pleased to welcome our first "evening thermal" of the year; for those who are not familiar with it, it occurs usually after a warm sunny west-wind day; as evening approaches the wind drops lower and lower, sometimes to a mere 5 m.p.h., and everything begins to go up and up. The lift, dead smooth, seems to be everywhere, and it is common on these occasions to see the NACELLE at 600-800 feet above the edge, with sailplanes at 2,000 feet. Our only complaint is that we never have time to get to the top of it; in fact, we are often seriously perturbed about how to get down before dark.

Flying time, 11¾ hours.

Sunday, March 6th.—Wind 15 m.p.h., W. Another grand day, with only the dirty curtain of muck from Manchester to grumble at. Absolute ceiling was 1,500 feet, where there appeared to be an inversion. Kendal had another two long flights in the NACELLE, the last at a steady 600 feet. Sugden completed his "B." A NACELLE wing was broken, following a stall off an oversteep winch climb by an aspiring "C," and a little argument with two members of the proletariat, who wanted to take photos of the wreckage, resulted in a lively exchange of correspondence in the *Sheffield Telegraph*.

Kaye in the KITE and J. Parker in the taper-wing KADET plugged away until they both had their five hours. Apparently mere flying became so boring that Smith in the CONDOR and Thompson in the G.B. had to take to stall turns for amusement, and gave a fine display.

Flying time of over 45 hours for the week-end is the club's best ever.

Sunday, March 13th.—Wind 2-8 m.p.h., S. After a good training day yesterday, to-day dawned a bright sunny morning with the lightest of breezes. Slater in the CONDOR accomplished a short spell over the south slope, but the wind was insufficient to maintain anyone for long, so the day was devoted to training, and excellent progress resulted in "A's" for T. Horsley and Swallow. Alan Davies flew the two-seater continuously until dark on one-beat flights, to the evident delight of the many passengers.

Sunday, March 20th.—Wind 30 m.p.h., S.W. and very gusty. This wind direction usually points to unpleasant flying conditions. It was very rough, with only a little lift, confined to a 100-yard beat. The G.B.'s skid having been flicked off in a down-wind landing, Smith went up in the CONDOR twice to keep the public, of which there was a good turn-out, amused, and later the BUSSARD group each had a flight. But all decided that, although the practice was good, the fun was nil, and the day resulted in only just over three hours. Our visitors from Sutton Bank were very welcome, but we should be even more pleased to see them again when the soaring is better.

Saturday, March 26th.—Wind 20 m.p.h., W.N.W. A grand thermal day until 4 o'clock, which, however, was not taken advantage of owing to the disappointing turn-out. Later, conditions deteriorated, and it began raining. This was dear old NACELLE weather, so out it came, and Horsley got in three good circuits, and another "45" towards his "B" before dark.

Flying time, 2 hours. Next Sunday, the wind being 50 m.p.h., there was no flying.

Summary of Flying During March.—Bungy launches, 67; winch launches, 151; flying time, 51 hours 16 minutes.

Certificates: 2 "A," 1 "B," 1 "C."

London Gliding Club

March.—There was 170 hours' flying from the 1st to the 28th; figures for the last three days of the month have not yet been made up, but since there was flying each day the month's total will probably reach 200 hours—easily a record for the month. At the time of writing there has been a continuous westerly wind for nearly a fortnight; if we could have sent up two people in the FALCON III with full facilities for sleeping, eating, etc., they would have been up still.

There has been a spate of "Silver C" duration flights; Kendall, Burnett, Crease, Saffery and Miss Thring (on the 31st) have all done their 5 hours' flights during the month.

It is time special mention was made of Murray, who is so devoted to the two-seater that he rarely flies anything else. He comes to fly it not only at week-ends but even on week-days, and takes up a long succession of passengers until dark, landing on top each time with consummate skill among the public and their cars.

A dance was held in the clubhouse on Saturday, March 6th, with the New Victoria Players providing the music. Although most people wore their gliding clothes, it was not officially a "tramps' ball" this time. The "Palais Glide," about which THE SAILPLANE receives so many reports from its Press-cutting agency (they are instructed to send along anything they find about gliding), was performed for the first time in the club, which can now claim that all forms of gliding are taught to its members.

Week ending March 6th.—Soaring every day except Monday and Friday.

On Wednesday a total of 17 hrs. 20 mins. flying included a five-hour flight by Kendall, during which he got up to 950 feet. Lacey found lift by striking off up-wind from the road which goes up Whipsnade hill; this took him to 1,000 ft., from which he circled to 1,200 ft. Rattray also found thermals in his H-17.

Thursday is officially closing day, but a continuing west wind tempted Hervey to take a busman's holiday of an hour's duration in the Desoutter GRUNAU.

We have now got a launching winch permanently installed at the top of the hill, so that only four people (including pilot) are needed to get a machine launched there. On Sunday it caused some excitement while launching a FALCON I; a strand of bungy broke and flew back at the machine, wound itself round the front diagonal strut above the fuselage (it might have been the pilot's neck) and wrenched it out, but the machine held together well during the subsequent flight. Another bit of emotion was caused when Rattray, in H-17, got himself launched by winch from the bottom; as the attachment is at the front end of the nose (or was—he has now installed a release hook underneath), the machine became unstable on its elevator, reared up, and then dived for the ground; Rattray flattened out just in time. An expert explained that the diagram of forces was such that the elevator must have been stalled.

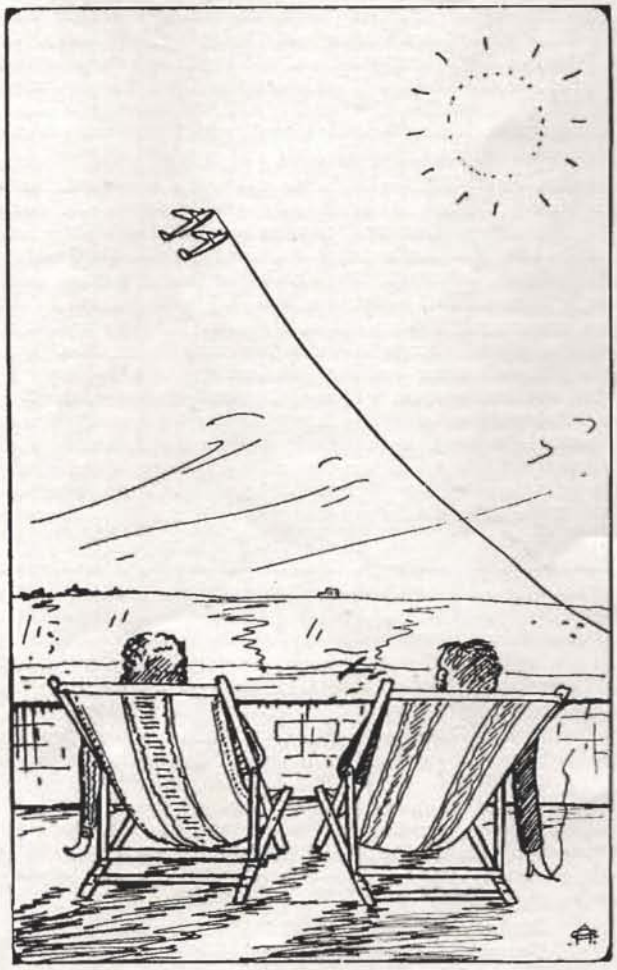
Week ending March 13th.—Four "C" tests were done on Wednesday, two in KADET and two in nacelled DAGLING.

On the same day there was some cloud lift, and Withall, having got to 1,000 feet over the clubhouse, progressed further up-wind and rose to 1,400 feet.

Sunday brought an E.S.E. wind, and 128 ground-hops were made.

There was also some attempt at soaring. Withall was winched up and found some unexplained lift just beyond the entrance to the club ground, where there ought to have been a down-current in the lee of the hill. Great excitement. Was it an "upward rebound"? There was certainly a suspiciously lenticular-looking cloud over Totternhoe. Or was it, as Pasold suggested, caused by the meeting of two air currents coming down our two gullies, in the manner of air currents on each side of a ship which meet over the stern and keep up the gulls? Anyhow, Withall rose at 2 feet per second, but lost the lift as soon as he began to circle. Two more pilots tried to find the lift, but sank rapidly and only just regained the club ground. So Withall tried again,

After the —————— Club's Party



"Well, now, I've never seen them do that before!"

[Drawing by Ann C. Edmonds

went to the place where he had previously found lift, and was pushed down so violently by a down-current that he had to land on the other side of the road. Having encouraged these attempts, we feared being held responsible if anything worse happened, so departed hastily on a visit to the Cambridge Club with Fox and his RHÖNADLER—which, by the way, were most hospitably received.

Expedition to Reigate.

There being a south wind on Sunday, March 20th, a number of people went off to try the new site at Reigate. The winch is not yet there, so launches had to be made by bungy off the top of Colley Hill, much to the interest of the public.

The grey KITE got there long before the others, who arrived to see Greig at 900 feet above the top, alternatively visiting Redhill to the east and Box Hill to the west. Hiscox was next off in his own KITE, followed by Furlong in CAMBRIDGE II, then Saffery in H-17. Although Rattray has a share in both the latter machines, it wasn't his turn to fly either of them, poor man. Fox was launched in RHÖNADLER, and finally Miss Edmonds in her new GRUNAU. Twice, when flying slowly, she went into a spin, and afterwards discovered that the two wings had different angles of incidence. (They are now having the leading-edge plywood removed and put back properly without twist.) Hiscox and Fox landed at the top in a field half a mile back; the others put down in the field at the bottom where it is proposed later to install the winch. The grey KITE landed early enough to be brought back to the top and launched again, so there were seven flights altogether.

During the afternoon the wind veered to S.W. putting Box Hill beyond reach till it backed to south again in the evening. For one who has soared models over this part of the North Downs on many occasions from 1922 to 1929, it was grand to see real sailplanes at the same game.

Sunday, March 20th.—Meanwhile at Dunstable the same changes were rung by the wind, with the result that when Box Hill became unsoarable there was soaring at Dunstable, and *vice versa*. Grant got up to 900 feet in thermals, and Murray rose straight off the winch in a thermal from 500 to 800 feet. Others found thermal lift too. At Reigate there had been suggestions of thermal lift here and there, but nobody appeared able to make much use of it.

Sunday, March 27th.—A fairly stiff west wind, in which soaring began before breakfast. Several people got out of bed to launch Pinchin in the KADET, and, having got him safely into the air (as they thought), returned to bed again. Next time they looked out, there was the KADET upside-down on the ground, near the hedge at the bottom of the hill. The pilot, being rather dazed from a clout on the head, didn't know how he got into that position. Nor did anybody else, as they hadn't seen him do it. So it remains a mystery.

There was good soaring for the rest of the day. Fox got up to 1,800 feet in RHÖNADLER. Most people found, with Dewsbery, that although the thermals appeared to be good, they seemed to petre out as soon as one began to circle in them.

Five-hour flights were done by Crease in the Imperial College KIRBY KITE and Saffery in H-17. The other H-17—the orange (or boiler-red) one—was flown by Miss Johnson and Rattray meanwhile.

Bolton turned up to inspect machines on behalf of the B.G.A. He put in a thoroughly strenuous day's work, complete with unpaid overtime; the demands for his services seemed insatiable.

This week-end's flying totalled 99 hours 33 minutes—consisting of 34 hours 29 minutes on Saturday, 63 hours 19 minutes on Sunday, and a flight of 45 minutes not yet entered on the records. Pity we couldn't make it a hundred by adding in the ground-hops, but there weren't any, as the wind was too fierce.

Summary of Flying.

Week ending:	*Days of Flying*	*Ground-hops*	*Timed Flights*	*Flying Time hrs.*	*mins.*
March 6th ...	5	85	162	41	40
March 13th ...	4	210	46	9	8
March 20th ...	3	7	59	18	45
March 27th ...	3	–	151	100	33

Total since January 1st: 1,633 launches; 360 hrs. 17 mins. flying time.

Certificate Flights.

March 2nd.—Wright, "C"; Davie, "C"; Kendall, part "Silver C" (duration).

March 5th.—Dixon, "B."

March 6th.—Riley, "A"; Huxley, "B"; Manning, B."

March 9th.—Robinson, "C"; Lewis, "C"; Inglesby, "C"; Latto, "C."

March 26th.—Burnett, part "Silver C" (duration).

March 27th.—Crease, part "Silver C" (duration); Saffery, part "Silver C" (duration).

List of Machines.

It is about time to give once more our annual list of machines, though the list is in such a state of flux nowadays that it is harder than ever to keep it up to date.

Club machines are:—

FALCON III two-seater.

RHÖNBUSSARD, obtained a few months ago, partly for the purpose of allowing ordinary club members to do cross-country flights. A very restricted list of pilots is allowed to fly it.

Desoutter GRUNAU BABY, lighter than the other GRUNAUS and possibly more efficient in light winds. List of possible pilots also restricted.

Slingsby GRUNAU BABY II.

Baker GRUNAU BABY II, with optional closed cover for the cockpit; taken over from Baker, who previously owned it.

KIRBY KITE, for use of the Imperial College group only.

FALCON I.

Another FALCON I.

KIRBY KADET.

Two Nacelled DAGLINGS.

Primary fuselages and wings in sufficient number to make up three or four open primary DAGLINGS, or possibly five, for all we know.

Private machines are :—

HJORDIS I, owned by Wills and Buxton, and now for sale.

MINIMOA, owned by Wills, just arrived from Germany. A trailer for the machine has been built by Zander & Scott.

RHÖNADLER, owned by Fox, who has just taken Dr. Edmunds and P. B. N. Davis into partnership.

RHÖNSPERBER, owned by Nicholson, Dewsbery and Cooper.

RHÖNSBUSSARD, owned by I. Pasold.

RHÖNSBUSSARD, owned by Baker, Cooper and Mrs. Price.

KIRBY KITE, owned by Hiscox, who is disposing of it as he is now getting a SUPER KITE.

Grey KIRBY KITE, owned by Stephenson, Greig and Dent.

CAMBRIDGE II, owned by Furlong and Rattray.

SCUD II, owned by Davis but for sale; coloured buff.

SCUD II, formerly green, now white, owned by Wood.

TERN, owned by Gardiner; but he has not been near it for some time.

WHITE WREN, owned by Morland; whole or share of machine for sale; built by him and Richardson.

GREEN WREN, formerly yellow; owned by the brothers Read; built by Manuel.

GRUNAU BABY, owned and built by Heath, and, until it goes out to him in Egypt, flown by Sproule, Ivanoff and Humphries.

GRUNAU BABY, with blue struts, owned by Miss Edmonds; built at Brooklands.

H–17, owned by Rattray, Saffery, Miss Johnson and Miss Thring; built by Zander & Scott.

H–17, painted orange, owned and built by Scott; for sale.

KASSEL 25, recently renovated, owned by Toth, who formerly flew it in France; for sale.

Thus there are about 15 club and 19 privately-owned machines kept more or less permanently on the premises.

There are also some machines owned by club members who usually keep them elsewhere, but occasionally bring them over. These are: SCUD III (Barker), CONDOR and CRESTED WREN (Thomas), CAMBRIDGE I and KIRBY KITE (Cambridge Gliding Club), TOTTERNHOE named "SCAUP" (Seth Smith).

Ivanoff and Sproule, who have designed a sailplane called the CAMEL, have just had the design stressed, and the machine is about to be constructed by Zander & Scott.

Yorkshire Gliding Club

March.—This has been a very active month. Apart from a record amount of soaring time and a great deal of instruction—especially for the members of our County Durham Branch, which now, incidentally, has its own primary machine at Sunderland and will continue with the good work there (and provide its own reports in the future)—responsible officials of the club and their assistants have been very busy with preparations for the Advanced Flying Course which commences at Sutton Bank on July 23rd. These arrangements are about complete, and we trust to have the kind of weather that is necessary. 'Nuf said!

For the first six days of the month there was soaring every day. Last month we left Hancock and Gibson neck and neck, so to speak, both passed to attempt "C's" in suitable conditions. Conditions were suitable on the 2nd, and a spin of the coin had to decide precedence! Hancock won, and qualified with a flight of 8 minutes in which he reached 800 feet. Gibson followed his example with 18 minutes and a maximum height of 1,000 feet. This friendly duel has been going on since September, when they joined the club together, neither having flown before.

On Thursday, the 3rd, Slingsby brought along the new KIRBY KITE in its experimental form in order to make a few tests.

Sunday, March 6th.—A sunny day with light north-west wind. Thermal flights up to 48 minutes (J. C. Neilan, FALCON IIIs) were made in almost windless conditions; the new KITE with Slingsby, Neilan and Stedman, also Hastwell, Wordsworth, Barker, Locke and Heath in the club KITE, Pick in his GRUNAU and Sharpe in FALCON IIIs all took part. In the afternoon there was just enough hill-lift for Renwich to hold height in KADET. Practice circuits were flown and some further training was carried on for our Co. Durham Branch members.

The following week's flying began on Tuesday, Monday being the official closing-day. After some flying on Wednesday, the wind backed to the south-east, and nothing more was done until Saturday, the 12th, when Miss Johnson and Mr. Hiscox arrived with Slingsby and all made short flights in the new KITE. Later, Wordsworth and Shaw flew the club KITE but the wind was too light for soaring to be possible.

Sunday, March 13th.—E.S.E. to east winds continued, but a little stronger. Practice circuits only were possible in the morning. Neilan kept aloft for 3 minutes over the South Slope, and about mid-day, the sun having got to work, albeit a little weakly, Miss Johnson, Hastwell, Barker, Neilan and Stedman found enough light thermal activity to hold height for short periods. Thus encouraged, FALCON III and FALCON IIIs ventured upon passenger flights. Amongst passengers carried were Mrs. Jones (Miss Johnson's sister) and Mr. Johnson.

Unfavourable weather held up flying until Thursday, the 17th, when Fisher did an hour in KADET; the following day Billy Sharpe did an hour in the same machine and reached 1,200 feet.

Saturday followed, and we were visited by Frank Charles, who took up a passenger in Slingsby's FALCON III. The wind was S.W., 20 to 40 m.p.h., somewhat gusty. Neilan flew KADET for 30 minutes.

Sunday, March 20th.—Wind south, 40 m.p.h. to south-west, 20 m.p.h. John Wordsworth tested conditions in KADET in the morning and found the wind very strong indeed at 200 feet. Later, the wind having veered and abated a little, Neilan was launched in the new KITE and remained in flight for an hour and a half. Gardiner was launched in KADET, but, unable to hold height, had to land on the moor, two fields away. Slingsby and Sharpe took up passengers, Pick soared his GRUNAU, and other members, including those of our Durham Branch, did practice circuits and other training.

Several members turned up on Wednesday, the 23rd, but the wind (S.W.) was very light.

Saturday, with a N.W. wind, 20 to 40 m.p.h., sunny, with good thermals, was greatly appreciated. The following flights are notable :—

Raphael, 5 hours (max. 2,500 feet) in KADET;
Hancock, 5 hours (max. 2,200 feet) in KADET;
Fisher, 5 hours (max. 1,700 feet) in GRUNAU.

Also flights in FALCON III by Slingsby, Wordsworth and Shaw (second pass-out for the machine), and by Gibson and Heath.

Sunday, March 27th.—Wind, W.N.W., 35 to 40 miles per hour, gusty. Shaw flew FALCON III and Hastwell the KITE. Slingsby made three passenger flights in FALCON III, a notable passenger being Mr. U. Kunsisto, a gliding "C" certificate holder from Finland. He qualified for his "C" at Bezmiechova, Poland, last year, at the same time that Wordsworth was over there. He is on his way to America to take up an appointment in Detroit, and hopes that he will be able to continue his gliding activities.

[From another source we learn that the Yorkshire Club, like all gliding clubs, has had its share of excitement. On the day of Frank Charles's visit, the 19th, he found it almost impossible to get back to the club ground against the wind after soaring the FALCON III at the north end of the bowl. After several attempts he tried going "out to sea" and then edging in sideways. But just as he was about to reach port there was a particularly violent gust and the stick "came off in his hand." (Someone had previously tried to remove it, found it too tight in its socket, and forgotten to put the locking-pin back.) So Charles leaned over and grabbed his passenger's control stick instead, and skilfully brought the machine to earth.

On another occasion Stedman, apparently trying to avoid a crowd with his two-seater, stalled it on top of the club horse, causing one wing to become a temporary horse-collar. Stedman is alleged to have described the incident thus :—"And when I came to, blimey, there was the blinkin' horse sitting beside me!" This horse, incidentally, was originally engaged for retrieving machines, but is now mostly confined to retrieving the cable; the trouble is that, being an old racer, the feel of a head-wind in its

face revives old memories and starts it galloping away causing the machine behind it immediately to become air-borne.

And then there was the recent arrival who managed to borrow Slingsby's new KITE and put it into a spin, only just recovering before hitting the ground; Slingsby's comment was: "You're not air-minded, you're 'air-brained."—ED.]

Newcastle Gliding Club

Saturday, February 5th.—High winds confined flying to circuiting the NACELLED DAGLING. In the middle of the flying activities had to be suspended while we unloaded the last lorry-load of material from the old Moot Law site.

Sunday, February 6th.—Wind trouble and winch trouble combined to train more likely recruits for the tank corps. We are grateful to Mr. O'Grady for coming to the rescue of trainees with auto-towing until the winch was prevailed upon not to squirt water all over the place.

Saturday, February 12th.—A gale confined us to work in the hangar, but this hardship was made bearable by the news that Mr. Runciman had offered to present the club with a KIRBY KADET.

Sunday, February 13th.—After our most *blasé* "C" pilot had admitted that flying in the terrific squalls was *quite interesting*, we gave in to the snow and wind after only 2 launches. Further work was done by Mr. Savage on the club KADET.

Saturday, February 26th.—Those of us who turned out were able to get in some practice at spot-landing the NACELLED DAGLING in view of the competition on the morrow. Perhaps it was the high wind that made the landings so accurate until Savage stopped all further practice and the competition itself by landing on the fence at least 150 yards from the spot.

Sunday, February 27th.—With repairs to both the open and nacelled DAGLINGS in progress no flying was possible on this, our elementary training ground. Savage tried to make amends for his misdemeanour by working furiously to repair the damage.

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