THE SAILPLANE *and* GLIDER

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The Colloquium

WHAT is a "Colloquium"? The answer to this question was discovered by a large concourse of gliding men who turned up at the Royal Aeronautical Society's Library on January 28th, greatly outnumbering the representatives of the students' section of the society, which had organised the show.

Mr. C. H. Jackson led off with a paper on "The Aerodynamics of Sailplanes." He gave formulæ and drew typical graph curves showing the interrelation between such factors as gliding angle, air speed, speed range, wing loading, aspect ratio, lift, and the three different kinds of drag—parasite, profile, and induced drag. Many interesting facts were brought out by the formulæ, though Mr. Buxton later said that it was very difficult to estimate from them the effect of changes of dimensions on structure weight and stiffness.

Mr. H. Leaderman followed with a paper on "Sailplane Spar Design." Discussing torsional stiffness, he revealed that it is only in lightly loaded machines that the "D" section spar (plywood leading edge carried back to main spar) scores over the rectangular box; hence the latter is only used in power aircraft. Wing flutter is of three kinds: flexion, torsion, and aileron flap, and the type which occurs at low speeds is a combination of all three. Referring to the regulation about the oscillation period of a wing having to be not less than 120 per minute, Mr. Leaderman said he was sure that this quite empirical rule is now impeding further advance in sailplane design.

A paper on "Detail Design and Construction," by Mr. D. D. Fenton Smith, read by Mr. Rigby, covered ground which is being dealt with by Mr. Butterfield in this journal. Discussing ribs, he stated that the kind cut out of plywood sheet, with lightening holes, is heavier than the braced frame type. He also wrote that the cleanest and lightest design of tailplane is the pendulum type.

Mr. G. M. Buxton gave a talk on the design of the HJORDIS. He had attacked the problem of induced drag by designing for high speed, and that of wing deflection by high torsional stiffness and keeping the centre of pressure behind the assumed flexural centre of the wing. Asked why he had used plywood only 1 mm. thick for the fuselage, whereas the Germans use 2 mm., Mr. Buxton replied that the HJORDIS fuselage is not "pure monocoque," as the longerons can take much of the load. Mr. Leaderman added a warning against deducing anything about plywood from aeroplane practice, where it is often designed purposely to work in a buckled state.

Mr. P. A. Wills, talking on "The Technique of High-efficiency Sailplane Flying," quoted the theory that a thermal current may, although not reaching cloud level itself, push up air above it, causing a cloud to form in which a further up-current is induced, owing to the wet adiabatic rate being less than the dry. He quoted also Prof. Brunt's conclusion that the diameter and height of thermals are related, and said that he found that circling in a period of 20 seconds usually gave the best results.

Herr Robert Kronfeld, just back from skiing in Austria, dealt first with sailplane design, and said that to get the best flying results in all kinds of conditions at least three types of machines would be needed (a fact which had been brought out clearly by Mr. Jackson's formulæ and diagrams earlier in the meeting). There had been two lines of development in Germany for long-distance flying; one resulted in the WINDSPIEL, designed to remain completely within a thermal by flying in very small circles; the other line was based on a theory which Kronfeld claimed as his own —that climbing could best be done by describing a wider circle of which only part was in the up-current, flying fast when outside it and slowly within. Nowadays, however, he thought the most important factor was that of time—to get as far as possible before the thermals cease. As to thermals, he doesn't believe much in the "bubble" theory; he thinks that a stream of air flows upwards for a quarter or half an hour, and then stops, and one starts in another place.

The discussion was set going by Mr. S. Humphries, who had himself been a student member of the society 18 years ago. He asserted that in thermal soaring two things are needed: faith (or obstinacy), and an extremely good variometer. As to "cloud streets," he had found some confirmation of Sir Gilbert Walker's theory that the lift was only on one side, but even there it was only "hot" in patches.

The Colloquium was wound up by Mr. S. Scott-Hall making the important announcement from the chair that the society have under consideration a prize or scholarship for work in connection with motorless flight. Finally, he congratulated the student's section on the success of the meeting and suggested that it should in future become an annual affair.

Both his congratulations and his suggestion have our unreserved support.

Aftermath of Colloquium

By DIE-HARD

A WELL developed thermal up-current may be likened to a tree. The extremities of the fine fibrous roots lick low ground and lead upwards to join together into roots of increasing thickness. Higher still, where even a dirigible tea-tray would hold its height, the big roots amalgamate into the vigorous main tree-trunk, which at its summit, or ceiling, spreads out into a mass of foliage. Sometimes the shape of this aerial foliage is rendered visible in the form of a cumulus cloud.

The whole tree, owing to the increase of wind velocity with height, naturally tends to lean down-wind.

A cloud-street can be formed by a down-wind line of thermal trees. In gliding down a cloud-street, provided that the line of the trees is found, the machine is subjected to a series of vigorous upheavals. If the line of the trees is missed, then the machine is subjected to a series of down-draughts.

An unbroken street of cloud is formed when the trees are close enough for their foliage to intermix. Cloud-street conditions seem to occur most freely in the spring, especially in March, when the ground is warming up after the winter. Fortunately, there are many strong westerly breezes at this time of the year.

Worth-while thermals can be caused by the spontaneous upward escape of an unstable ground-layer of air. The "tree-trunks" may be alternately looked upon as the pipes up which the escape takes place. Once the ground-layer has become unstable, any disturbance is enough to set the relief machinery into motion. It will be remembered that clouds are only formed when there is enough moisture in the air. In times of mid-summer drought there may be wild aerial instability with a complete absence of cloud.

Dunstable Downs are a hotbed of aerial instability, i.e., of thermal spouts, not aerobatics, because the ground there is dry chalk barely covered with soil, approximately facing the sun at its zenith. Upwind the country consists of good damp farm land. In passing from the cool farm land to the hot chalk the westerly breeze is rendered hysterical with new heat.

Baby whirlwinds tear across the ground and up the hill. Machines cruising along the hilltop are momentarily canted on to a wing tip. These are the fibrous roots of the "thermal tree."

On a gliding site high above sea level, such as the Wasserkuppe, a machine can with luck glide from its launch right into the heart of the "tree trunk." In such conditions sinking speed is willingly sacrificed for the speed range that is useful for thermal hunting after the original thermal has been left.

On a low site, such as most of the British sites, the machine has to be able to pick its way upward in the fine "roots" of the thermal tree before it can reach the security of the main strong thick "trunk." In such conditions a premium is placed upon low sinking speed, low cruising speed and nimbleness of control. If length of flight is limited by the proximity of the coast, high speed with an economical gliding angle becomes unnecessary. In short, many people become contented with the idea of a machine of forty-foot span, light construction, high finish and hot controls.

In view of *all* these considerations, good examples of existing useful British machines become:—

(1) The Desoutter GRUNAU BABY. A G.B.1 in which were incorporated Wolf Hirth's modifications. Built with exceptional skill, care and exactitude by the late, and lamented, Louis Desoutter. Well below the standard weight for such machines. Light main spars and nose-connecting spars, fewer nose-stiffeners, one less bulkhead, fewer frames behind the bulkheads, lighter rudder and tailplane. Far and away better performance than the standard G.B.2.

(2) The KIRBY KITE. Gull wings, light and clean fuselage, cleaned-up wings, and a slightly larger span than the Grunau Baby type from which it sprang.

(3) The GOLDEN WREN. Beautifully built and finished, and full of useful gadgets. True as a hair all over, closed cockpit, slim fuselage, light weight, and nimble controls.

All of these machines have made flights exceeding fifty kilometres, and I am convinced that they are prototypes of the essentially British machines which will be used freely for the better flights of the future.

From Here and There

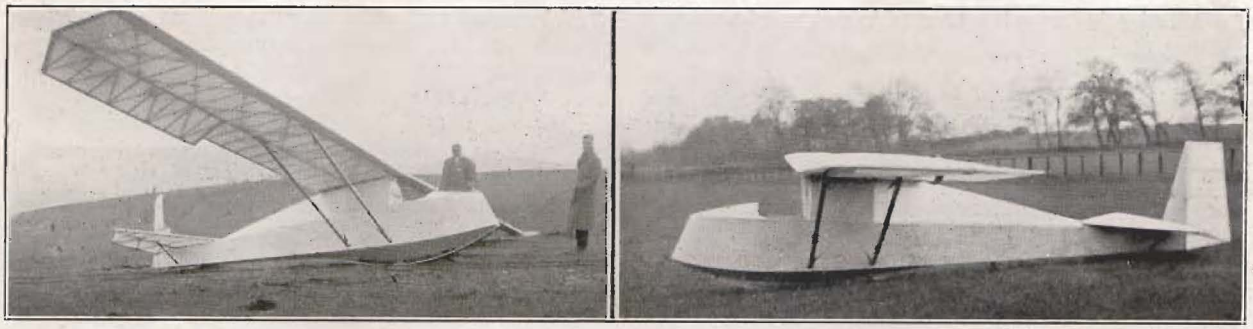
German Annual Meeting.—It is announced that this year's soaring competitions on the Wasserkuppe, Rhön Mountains, will be held from August 16th to 30th.

* * *

The Long Mynd.—The paragraph in last month's issue, headed "Do Gliders Disturb Birds?" had been held over for some months awaiting insertion, and one statement in it was out of date and somewhat misleading. The Midland Gliding Club is *not* prevented by an injunction from using the Long Mynd for soaring; in fact, it now possesses an almost completed hangar on the site. The injunction referred to only applied to a small piece of private land over which there existed a 21 years' shooting lease, and when the Midland Club found they could not launch from it, they soon secured another part of the Mynd for the purpose.

* * *

Inside Information.—The *Yorkshire Post* having reported a protest by the Harrogate Aircraft Club against the methods of distribution of the gliding subsidy, its Fleet Street representative got busy and obtained the following statement from an official of the British Gliding Association: "It is not a question of being included to benefit under the subsidy or not, but a question of fulfilling certain basic requirements of the Air Ministry to ensure that the State funds shall be properly used. The Harrogate Club have refused to submit any evidence whether their instructor is a man of experience, whether they have a qualified ground engineer to maintain the aircraft, whether their gliding site is suitable, or whether they will be able to use this site for any length of time, and, therefore, they cannot receive assistance."



The "Kirby Kadet," the latest product of the Slingsby works at Kirbymoorside, shown above at Dunstable, on the left, and at Handsworth, on the right. It is a secondary type sailplane with a span of 40 feet.

A Review of 1935

By P. A. WILLS

(continued)

3—Pilotage

WE now come to the progress which 1935 has seen in machines and pilots.

It must be admitted that, so far as the second is concerned, the improvement has been more notable in quantity than quality. In fact, neither of the records for distance or height set up in 1934 have been approached; though a new duration record was put up by J. C. Neilan at Sutton Bank on July 16th.

Our greatest hopes in this direction were dashed by the tragic death in July of Eric Collins. He was the one pilot we have so far produced of international standard, and it is doubtful if we shall see him equalled in the near future. My reason for thinking this is that the basis on which gliding is developing in this country is not calculated to produce pilots of first-class professional standard, who are only likely to appear when a pilot of great natural aptitude can find sufficient time (and often official support) to develop to the full.

What we are out to do, and are succeeding in doing, is to produce a large number of pilots of first-class amateur standing. I believe to-day we could pick an amateur team of half a dozen pilots which would stand a good chance against any similar team from any nation in the world.

The gap between the amateur and the professional is already a wide one. Thus the practice of advanced stunting and advanced blind flying is one to which few amateurs aspire. And for distance flights of the order of 300 miles a type of machine is being developed, with a comparatively high sinking speed at normal flying speeds and a correspondingly low one at high flying speeds, which is definitely not the machine which the amateur pilot wants. If this development in design continues, we shall see machines which will be incapable of ordinary light-wind soaring, and only at their best on extremely unstable days with a high wind. On the other hand the amateur sporting pilot will always want to be able to fly on the maximum number of days, and perhaps the greatest sport in gliding is playing about in thermals on a light-wind summer's day.

I doubt if people realise how very little actual cloud flying has been done in this country as yet. In descriptions by watchers on the ground one always reads "we saw him disappear into a cloud at 4,000 feet," and takes it for granted that this has actually happened. What really takes place, however, is that, the condensation level in the rising warm air being naturally higher than immediately around it, the apparently flat bottom of a cumulus is really slightly bell-shaped. The watchers on the ground see the machine disappear inside the bell and think he has gone into the cloud. The pilot, however, suddenly sees all round him an inverted rim of cloud, although he himself is still in clear air, and this warning usually gives him time to stop circling and glide out of the upcurrent and away from the cloud.

The main advance in pilotage during 1935, therefore, has been in quantity. Whereas last year the number of pilots who had brought off a cross-country thermal flight could be counted on the fingers of one hand, this year we can muster around a dozen, and several more are on the verge of taking the jump. British holders of the "Silver C" have increased to six.

Many people outside the movement may be surprised at the smallness of these numbers—yet they are sufficient for every keen pilot to have at least seen for himself what technique is required.

I must also mention here the party of pilots from the London Club who, on December 1st at Fairey's aerodrome and under the wing of Miss Meakin, practised aero towing with complete success. It is certain that any reasonably competent "C" pilot has nothing to fear with this method of launching, which is less frightening and no more difficult than a winch launch.

The next big step forward in pilotage has become clear. Just as the sudden jump from hill-soaring to thermal soaring enormously expands the possibilities of the sport, so the step from thermal soaring to blind soaring in clouds opens up new worlds.

The reasons which have so far delayed this advanced are clear: firstly, considerable and expensive equipment is necessary in the shape of a parachute (and a machine with a cockpit sufficiently large to take it), turn-and-bank indicator, and compass. These extras cost over £60; and having obtained them some time must elapse in learning the exceedingly difficult technique of circling blind in extremely rough air. Whilst I believe blind

flying practice in aeroplanes is of assistance in this, it is nothing like so difficult to fly a powered machine on a straight course through, as a rule, stable cloud, as it is to circle an engineless craft of great span and comparatively slow controls, in extremely unstable cloud. Personally I have so far been unable to keep it up for more than about a quarter of an hour before exhaustion, physical and nervous, has brought me out on a thankful compass course.

In 1936 we are likely to see, flying side by side, the three Hans Jacobs advanced machines, the RHÖNBUSSARD, RHÖNADLER and RHÖNSPERBER, and the advanced British design, HJORDIS. The comparison should be most exciting; and I hope that some of the German machines will be also equipped for cloud flying. This will mean that, whereas up to now thermal soaring has been limited to the level of the cloud-base, which is seldom more than 5,000 feet, far greater heights will now be possible.

4—The Industry

It is indeed a milestone that this year for the first time an article with this rather grand heading can be written. For during 1935 the manufacture and sale of motorless aircraft has at last graduated from being a rare and spasmodic form of optimism to becoming at least the promise of a commercial proposition.

The largest sailplane constructor in this country at present is Messrs. Slingsby Sailplanes, Ltd.; this firm during 1935 turned out 19 primaries and 16 sailplanes, excluding a large number of repairs. The firm only got into full production during the second half of the year. Since this was the period antecedent to the subsidy, it can be confidently predicted that the demand this year will be greater than last.

Since 1930, when a great number of machines, mostly primaries, were imported from Germany, the movement has practically lived on its own fat. As the many small mushroom clubs of that time collapsed, their machines were gradually absorbed by those remaining at second-hand prices, and the consumption of new machines was negligible. The output of 1935 certainly exceeds the total of the three preceding years together.

This advance in the number and design of new machines has acted like a transfusion of new blood into the movement, and has only just started. This year will see a further advance in the re-equipment of clubs and the number of private owners. In place of obsolete PRÜFLINGS, HOLS DER TEUFELS, KASSELS and PROFESSORS, club types are being modernised and will include a newly designed secondary in the shape of the KIRBY KADET; then FALCONS and various forms of improved GRUNAU BABIES for club-type sailplanes; and the FALCON III. two-seater is likely to be in increasing demand for dual instruction. The ubiquitous primary remains always with us, like the poor.

For the first time, too, home designers have produced advanced sailplanes for the private owner in the shape of HJORDIS and the SCUD III. Both these machines should be able to put up a good show against the latest continental machines, with the superior ease of assembly and handling which the purely sporting and amateur nature of the movement in this country demands.

From this brief survey it is apparent that the title of this article is now justified; there is without doubt an expansion of demand ahead, and those firms already established are likely to reap the benefit of past struggles.

The following list of machines being now produced for sale in this country may be of interest. I have, for want of a better dividing line, defined "Intermediate Sailplanes" as those with a sinking speed over 30 inches per second; "Advanced Sailplanes" those with one under this figure. The figures given are merely an estimate based on personal experience; to save myself from an indignant snort that one obviously cannot distinguish to the nearest inch, let me say that they are intended for comparative purposes only.

Type.	Span.	Approx. Sinking Speed.	Manufacturer.	Price.
Primaries—				
——	——	——	Abbott-Baynes	£52 10s.
——	——	——	Slingsby Sailplanes	£52 10s.
——	——	——	Zander & Weyl	£52 10s.
Secondary—				
KIRBY KADET	40 ft.	——	Slingsby Sailplanes	£85
Intermediate Sailplanes—				
SCUD II	40 ft.	35 ins. per sec.	Abbott-Baynes	£125
KESTREL	40 ft.	35 ins. per sec. (est.)	Dunstable Sailplane Co.	£130
GRUNAU BABY II	47 ft.	34 ins. per sec.	Slingsby Sailplanes	£125
FALCON	41 ft.	35 ins. per sec.	Slingsby Sailplanes	£130
KIRBY KITE	47 ft.	30 ins. per sec.	Slingsby Sailplanes	£145
CAMBRIDGE	47 ft.	35 ins. per sec.	Zander & Weyl	£130 (?)
Two-Seater Sailplane—				
FALCON III	58 ft.	34 ins. per sec.	Slingsby Sailplanes	£200
Advanced Sailplanes—				
HJORDIS	51 ft.	24 ins. per sec.	Slingsby Sailplanes	£190
SCUD III	46 ft.	24 ins. per sec. (est.)	Abbott-Baynes	£175

Total, apart from Primaries, 10 types.

Sailplane Construction for the Amateur

12—Some Notes on Wire Ropes

By W. BUTTERFIELD

THE following notes have been selected from a pamphlet compiled by T. F. Paskins and published by Messrs. Bruntons, the well-known wire rope manufacturers of Musselburgh, Scotland, and are reproduced in this series by kind permission of that firm.

How to Measure Wire Rope

The diameter of a wire rope is the diameter of a circle which will just enclose all the strands. Care should be taken in gauging a wire rope to take the greatest and not the smallest diametrical dimensions.

Lubrication of Ropes

Both winding and hauling ropes should be well lubricated as soon as they are put to work. The grease used must be neutral, neither acid nor alkaline, and should remain so under all conditions. Grease has been found to change after being exposed to the atmosphere. The lubricating process should be frequently done with a new rope until the interstices between wires and strands and strands and rope are well filled; this prevents damp striking into the rope, and is most important. By keeping ropes well lubricated the life is materially increased.

Flexibility

Wire ropes are made in varying degrees of flexibility to suit the particular working conditions for which they are required. The successful working of a wire rope depends upon its being suitably constructed for the work it has to do, and in consequence the question of flexibility is just as important as that of breaking strength.

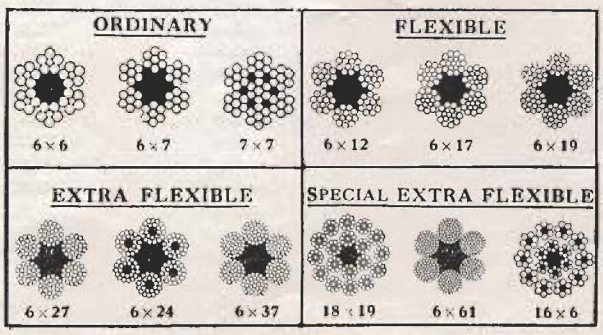
In order that the maximum durability be obtained from a wire rope, it is essential that those wires taking the wear should be of as large a gauge as possible consistent with:—

The dimensions of the drums and pulleys over which it works.

The speed at which the rope travels.

The nature of the work to be done, e.g., haulage, winding, etc.

For practical purposes wire ropes may be divided into four grades of flexibility, as illustrated by the standard constructions shown below.

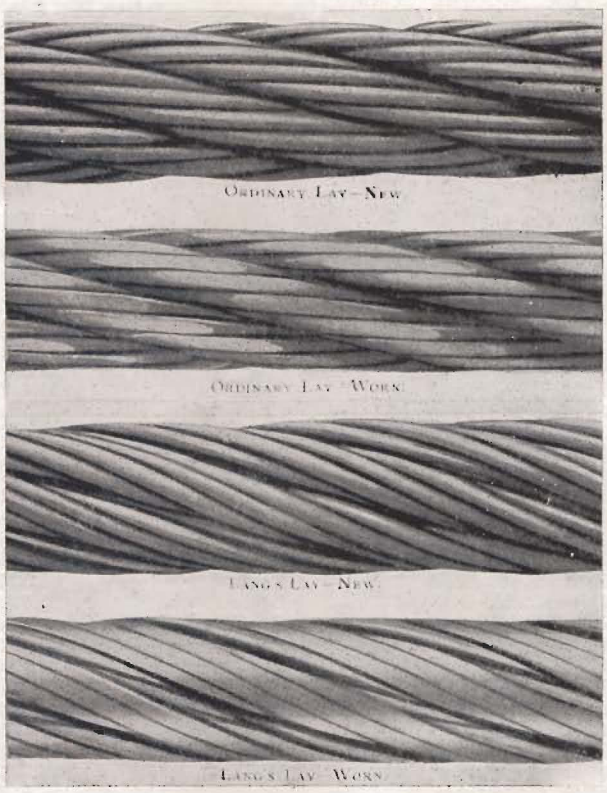


The Lay

A wire rope is either made Ordinary Lay or Lang's Lay.

In Ordinary or Cross Lay the wires are twisted in the opposite direction to that of the strands forming the ropes. A wire rope made in this way is practically free from spin.

In Lang's Lay, sometimes known as Albert Lay, the wires forming the strands are twisted in the *same direction* as the strands forming the rope. Its advantage lies in its greater wearing or contact surface. This will be at once apparent from the accompanying illustrations.



Uncoiling Wire Ropes

If rope is supplied in a coil it should be placed on a turntable and uncoiled from the outside end, keeping it taut between the coil and drum. A rope should not be laid loose on the ground. A turntable can be improvised out of a wheel mounted on a spindle.

If supplied on a reel, the latter should be mounted upon standards, and a brake applied by means of a plank held against the flange of the reel. In Lang's Lay ropes, and in others having a wire core, great care must be taken not to allow the rope to twist, otherwise the lay of the rope will be disturbed. This can be done by putting a loop on the end of the rope.

A Wiper for Goggles.—Sailplane pilots who are bothered by rain getting on to their spectacles or goggles would be interested in an apparatus used by Dudley Froy, the racing motorist. He wears a pair of miniature "wind-screen wipers" on his goggles, worked by a small propeller a few inches in front of his forehead.

Subsidy Payments

THE Trustees appointed in connection with the distribution of the Gliding Subsidy are: Prof. D. Brunt (for the British Gliding Association), Mr. W. E. L. Courtney (Air Ministry), Lt.-Col. E. Gold (Royal Meteorological Society), Lt.-Col. J. T. C. Moore-Brabazon (Royal Aeronautical Society), and Mr. H. Perrin (Royal Aero Club).

Claims approved at the first meeting of the Trustees were:—

London Gliding Club: Site improvement, £245 7s. 10d.; hangar accommodation to £2,733 7s. 1d.; claim for 70% of these items, £2,085 2s. 3d. Machines to nett cost of £330 15s.; claim for 50%, £165 7s. 6d.

Yorkshire Gliding Club: Hangar accommodation to £280; drainage and water supply to £80; claim for 70% of these items, £252. Machines to cost of £169; claim for 50%, £84 10s.

British Gliding Association: Two quarterly payments of £100 each.

Claims approved at the second meeting of the Trustees were:—

London Gliding Club: One GRUNAU BABY sailplane, £79 15s.; claim for 50%, £39 17s. 6d.

Midland Gliding Club: One FALCON sailplane, £115; claim for 50%, £57 10s.

Derbyshire and Lancashire Gliding Club: Workshop accommodation, £29 17s. 6d.; claim for 70%, £20 18s. 3d. Site improvement, £13 4s.; claim for 70%, £9 4s. 10d. One primary glider, £52 10s.; claim for 50%, £26 5s.

British Gliding Association: £100, being grant for quarter ending March 31st, 1936.

The Furness, Southdown and Newcastle Gliding Clubs are among those now taking steps to join the growing list of clubs eligible for subsidy.

Royal Aero Club Gliding Certificates

"A" Certificates

No.	*Name.*	*Club.*	*Date.*
416	P. B. N. Davis	London	19.4.35
417	Mrs. K. J. Grant	London	14.4.35
418	A. E. H. Coltman	Yorkshire	22.4.35
419	F. G. Batty	Midland	27.4.35
420	R. S. Rattray	London	14.4.35
421	B. H. T. Olver	Midland	27.4.35
422	Miss M. Evershed	Midland	27.4.35
423	F. J. Davies	Midland	28.4.35
424	J. G. Healey	Midland	24.4.35
425	H. T. Edmunds	London	5.5.35
426	H. L. N. Davis	London	5.5.35
427	W. R. Watson	Bradford	29.4.34
428	P. Snaddon	Yorkshire	7.4.35
429	J. C. S. W. Neilan	Yorkshire	24.3.35
430	A. S. Robertson	Yorkshire	17.6.34
431	J. L. Wordsworth	Yorkshire	7.4.35
432	L. F. Mott	Midland	28.4.35
433	O. J. Jones	Midland	28.4.35
434	I. H. Lawrence	Midland	28.5.35
435	G. C. Wright	Ryedale	26.5.35
436	W. T. Fisher	Ryedale	26.5.35
437	D. W. B. Rae	London	10.2.35
438	L. S. Bullwinkle	London	9.6.35
439	R. B. Gillett	London	5.6.35
440	H. F. J. Brunning	Kent	2.6.35
441	C. L. Ruffle	London	15.6.35
442	F. T. Williams	London	9.6.35
443	H. T. Blakeston	Yorkshire	2.6.35
444	G. O. Manning	Dorset	16.6.35
445	J. A. Lee	Ryedale	9.6.35
446	W. H. Rutter	Ryedale	11.6.35
447	T. A. Brown	Ryedale	12.6.35
448	G. W. Brown	Ryedale	11.6.35
449	W. Sturdy	Ryedale	11.6.35
450	M. McIver	London	9.6.35
451	W. Richards	Kent	2.6.35
452	E. S. Griffis	Manchester	23.6.35
453	A. Davis	Manchester	23.6.35
454	G. G. Clewlow	Dorset	30.6.35
455	F. J. Walden	Dorset	30.6.35
456	H. G. Horrell	London	5.5.35
457	C. A. Bill	Midland	11.6.35
458	J. S. Gelston	Kent	2.6.35
459	L. G. Beeton	Midland	17.7.35
460	J. E. Marshall	London	3.7.35
461	L. Everson	London	10.7.35
462	Miss M. F. Horsley	Yorkshire	14.7.35
463	L. A. Gardner	London	5.6.35
464	F. Hoffmann	London	28.5.35
465	K. W. Turner	London	21.7.35
466	M. F. Barnes	Midland	2.7.35
467	W. L. Foster	London	4.8.35
468	B. E. A. Vigers	London	3.8.35
469	P. Brown	London	3.8.35
470	J. M. Feeny	London	5.8.35
471	C. V. Fahrner	London	21.7.35
472	M. S. Aldridge	Dorset	5.8.35
473	L. B. Wise	London	8.8.35
474	D. C. Timings	London	6.8.35
475	L. J. Hudleston	London	4.8.35
476	C. H. Powell	London	3.8.35
477	R. E. Garner	London	4.8.35
478	C. H. Cook	Dorset	11.8.35
479	H. E. Hervey	London	3.8.35
480	C. A. Kaye	London	14.8.35
481	R. D'A. Gifford	London	4.8.35
482	R. A. Wagstaffe	London	8.8.35
483	A. H. James	London	7.8.35
484	H. Booth	London	14.8.35
485	J. C. Wilson	London	14.8.35
486	E. Thomas	London	4.8.35
487	L. W. Warren	London	5.8.35
488	P. MacG. Watt	Yorkshire	5.8.35
489	J. Y. Simpson	London	8.8.35
490	J. W. Wheeler	London	8.8.35
491	G. D. Cramp	London	14.8.35
492	J. S. Jepson	Midland	2.7.35
493	N. W. Burnett	London	3.8.35
494	G. P. Watson	Ryedale	8.9.35
495	A. R. Jackson	London	5.8.35
496	G. R. McConnell	Furness	18.8.35
497	C. R. P. Smith	London	10.7.35
498	R. C. Pick	Yorkshire	18.8.35
499	B. J. Hartley	London	22.9.35
500	G. E. R. Dyke	Southdown	22.9.35
501	C. B. Jordan	London	18.8.35
502	G. H. Stephenson	London	6.10.35
503	R. Pasold	London	6.10.35
504	R. A. C. Evans	London	22.9.35
505	J. Himmelreich	London	21.9.35
506	N. Foley	London	9.6.35
507	L. D. Goldschmidt	London	29.9.35
508	A. Holland	Midland	26.10.35
509	A. H. Sheffield	Midland	22.9.35
510	J. E. Simpson	Cambridge	3.12.35
511	K. R. Toes	Ryedale	1.9.35
512	W. A. Masser	Ryedale	22.9.35

"B" Certificates

No.	*Name.*	*Club.*	*Date.*
201	A. H. Walton	Manchester	10.6.35
240	N. T. Whiteman	Southdown	12.5.35
331	L. A. Alderson	Yorkshire	6.7.35
339	C. A. Pascoe-Ellis	London	2.6.35
356	D. A. Smith	London	17.7.35
364	J. W. S. Pringle	London	20.7.35
376	P. McC. Bond	London	20.7.35
379	A. E. Shelton	Dorset	16.6.35
383	F. J. R. Heath	London	9.8.35
387	R. W. Harnden	London	18.8.35
391	L. A. Lansdown	Dorset	2.6.35
401	H. McClelland	London	24.3.35
409	C. O. Meeke	Midland	17.7.35
416	P. B. N. Davis	London	19.5.35
418	A. E. H. Coltman	Yorkshire	6.5.35
420	R. S. Rattray	London	5.5.35
421	B. H. T. Olver	Midland	2.7.35
423	F. J. Davies	Midland	17.7.35
424	J. G. Healey	Midland	2.7.35
425	H. T. Edmunds	London	25.8.35
426	H. L. N. Davis	London	5.5.35
427	W. R. Watson	Bradford	3.6.34
429	J. C. S. W. Neilan	Yorkshire	4.5.35
430	A. S. Robertson	Yorkshire	12.8.34
431	J. L. Wordsworth	Yorkshire	16.6.35
435	L. S. Bullwinkle	London	26.7.35
437	D. W. B. Rae	London	10.2.35
439	R. B. Gillett	London	22.9.35
441	C. L. Ruffle	London	20.7.35
443	H. T. Blakeston	Yorkshire	6.7.35
450	M. McIver	London	9.8.35
452	E. S. Griffis	London	9.8.35
453	A. Davis	London	6.8.35
454	G. G. Clewlow	Dorset	27.7.35
455	F. J. Walden	Dorset	21.7.35
456	H. G. Horrell	London	16.6.35
459	L. G. Beeton	London	6.8.35
460	J. E. Marshall	London	22.9.35
462	Miss M. F. Horsley	Yorkshire	18.8.35
466	M. F. Barnes	Midland	6.8.35
467	W. L. Foster	London	8.8.35
468	B. E. A. Vigers	London	7.8.35
469	P. Brown	London	6.8.35
470	J. M. Feeny	London	7.8.35
471	C. V. Fahrner	London	18.8.35
472	M. S. Aldridge	Dorset	11.8.35
473	L. B. Wise	London	12.8.35
474	D. C. Timings	London	9.8.35
475	L. J. Hudleston	London	14.8.35
476	C. H. Powell	London	7.8.35
477	R. E. Garner	London	8.8.35
479	H. E. Hervey	London	7.8.35
480	C. A. Kaye	London	15.8.35
481	R. D'A. Gifford	London	5.8.35
482	R. A. Wagstaffe	London	14.8.35
483	A. H. James	London	14.8.35
486	E. Thomas	London	7.8.35
488	P. MacG. Watt	Yorkshire	5.8.35
490	J. W. Wheeler	London	14.8.35
497	C. R. P. Smith	London	22.9.35
498	R. C. Pick	Yorkshire	24.8.35
503	R. Pasold	London	12.10.35
507	L. D. Goldschmidt	London	29.9.35
510	J. E. Simpson	London	11.1.36

"C" Certificates

No.	*Name.*	*Club.*	*Date.*
165	L. E. T. Hatcher	Southdown	26.5.35
239	R. J. Parsons	Southdown	12.5.35
240	N. T. Whiteman	Southdown	12.5.35
319	A. Cox	Yorkshire	14.8.35
331	L. A. Alderson	Yorkshire	6.7.35
339	C. A. Pascoe-Ellis	London	20.7.35
351	J. Saunders	Manchester	13.10.35
380	E. J. Furlong	London	3.7.35
383	F. J. R. Heath	London	22.9.35
395	E. E. H. Collins	London	31.3.35
401	H. McClelland	London	31.3.35
409	C. O. Meeke	Midland	20.10.35
416	P. B. N. Davis	London	8.6.35
418	A. E. H. Coltman	Yorkshire	6.5.35
420	R. S. Rattray	London	16.6.35
421	B. H. T. Olver	Midland	20.10.35
429	J. C. S. W. Neilan	Yorkshire	6.5.35
430	A. S. Robertson	Yorkshire	12.8.34
431	J. L. Wordsworth	Yorkshire	16.6.35
437	D. W. B. Rae	London	7.4.35
439	R. B. Gillett	London	1.12.35
441	C. L. Ruffle	London	22.9.35
443	H. T. Blakeston	Yorkshire	11.8.35
456	H. G. Horrell	London	4.7.35
462	Miss M. F. Horsley	Yorkshire	22.9.35
465	K. W. Turner	London	1.12.35
468	B. E. A. Vigers	London	22.9.35
479	H. E. Hervey	London	9.8.35
488	P. MacG. Watt	Yorkshire	5.8.35
493	N. W. Burnett	London	8.12.35
497	C. R. P. Smith	London	8.12.35
498	R. C. Pick	Yorkshire	22.9.35

Totals for 1935

The accompanying table shows the number of certificates so far granted for which qualifying flights were made during 1935. The totals of each kind of certificate are shown for the separate clubs, so the table gives a comprehensive view of what the various clubs have been doing during the past year in the way of training pilots up to certificate stage. Taken in conjunction with the information given on the previous page regarding subsidy claims and payments, the figures provide a pretty clear answer to the question whether the objects of the Air Ministry in granting the subsidy are likely to be, and are being, achieved. (Note: The last list of certificates was published in THE SAILPLANE for June, 1935.)

CLUB.	"A"	"B"	"C"	TOTAL.
London	56	48	26	130
Midland	19	5	2	26
Yorkshire	8	8	9	25
Dorset	5	5	—	10
Ryedale	10	—	—	10
Southdown	1	1	3	5
Manchester	2	1	1	4
Kent	3	—	—	3
Imperial College	—	—	1	1
Furness	1	—	—	1
Cambridge	1	—	—	1
TOTAL	106	68	42	216

News from the Clubs

Furness Gliding Club

Much hail, rain and snow has fallen on our site since the last account of our activities was published. Meanwhile there has been a good deal of flying. The past year was a record for the number of launches made, but primary work ended early in November, when the machine took off on its own and wrote off one wing. A pair of new planes are under construction in the workshop at Hawcoat, but the working party, never large, gets smaller week by week. This will never do, so will members please rally and get this work finished off.

Our new hangar is at last complete and has already weathered the severest gales. It will be a great asset.

Perhaps the most gratifying news is that relating to our new members who have all shown such promise, particularly Frank Charles, who has bought himself a KIRBY KITE, built a trailer for it, and taught himself to fly in it, all inside two months, an achievement so unprecedented that it is set out in detail below.

Meanwhile, W. A. Stevens has made one or two soaring flights in the B.A.C. IV., as well as putting his full weight into the concentrated training of the KIRBY KITE owner.

We hope to hold a training camp at Easter, with members camping on the site, and possibly a strong contingent from Workington, in Cumberland (where a gliding club is being formed at the works of the United Steel Companies at Moss Bay).

J. C. Redshaw, one of our able pilots, has departed for the City, and will undoubtedly be seen at Dunstable before long.

[The Furness Club's site escaped mention in Mr. Wills's article on the subject last month, he having never been there; nevertheless, it is one of the finest soaring sites in the country, as all can remember who were at the B.G.A. Competitions of 1932. The club would like it to be known that they extend a hearty invitation to Mr. Wills or any other pilot with equipment, to come and try the site; no pilot who really wished to fly has ever visited it in vain. The problem of landing has now been solved by a mobile trailer, and those who would rather not face a descent on the rugged hill top can now touch lightly down on a long smooth beach with excellent approaches.—ED.]

Believe it or Not.

A thermal flight by a man who has never been launched in a primary glider and has not enough launches to his credit to qualify for an "A" ticket! And now he begs me not to make a song about it, because, in his own words: "I'm merely a novice and have a great deal to learn!" On the other hand, there are others who would also learn—of how, when and where it was done, and it would be unfair not to tell them. So here is the sequence of events, truly set out for the first time:—

November 23rd, 1935.—An *ab initio* pilot, never been launched, takes delivery from Slingsby's of the original KIRBY KITE—the one in which Neilan flew to Withernsea from Sutton Bank on its very first soaring flight three months before—and now named "Cutty Sark."

November 24th.—Car-launched on two slides and two hops, and decides straight away to build a handy trailer, as it appears essential for further progress.

January 11th, 1936.—Trailer fit for the road. Two slides and two hops on Askam beach.

January 14th.—Two long glides from Furness Club's site to Askam beach, distance 1½ miles, total descent about 800 ft., times, 4 and 7½ minutes respectively.

January 18th.—Launched at 1 p.m. with the intention of gliding down to sea level as before. Having arrived over the beach without losing any height, he began to circle (he had removed the delicate Collins variometer during the hopping stage). He climbed beautifully, circling to right and left to prevent dizziness, which began to present itself. By the time he got straightened out he had proceeded so far against the wind, which was only eight miles an hour at the starting point, that he had crossed the Duddon estuary to Millom iron works. Here he turned and made a bee line for Askam beach, where he landed, after being in the air 25 minutes.

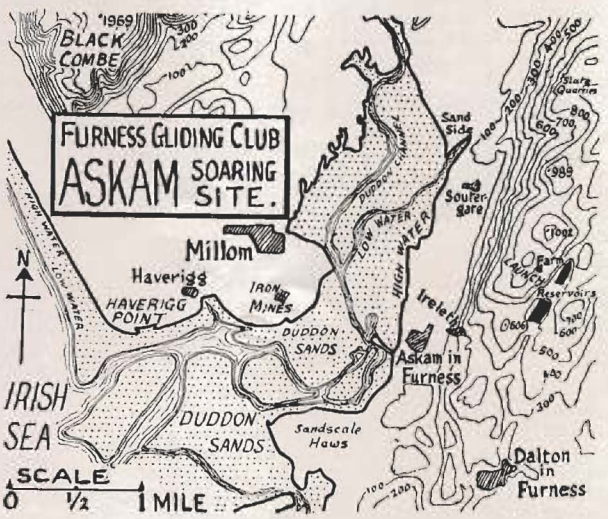
I can only account for the phenomenal lift as being due to cold air currents creeping down the snow-covered hill sides and forcing up the warmer air coming in from the sea, or else evaporation from the bare sands, the tide being well out at the time.

[We might interpolate here that the Air Ministry weather report shows a light N.W. wind and a temperature at inland stations of round about 32 deg. at the time, while the steamer "Cambria," crossing on the Holyhead route, reported that the air was from 6 to 9 deg. colder than the sea, the air temperature there being 39 deg. It seems likely, therefore, that the sea air was not only warmer than that over the land, but was in a very unstable condition.—ED.]

Same day, launched again at 4 p.m. No lift this time, glides to beach in 4½ minutes.

January 19th.—Launched in a tail wind and glides to beach in 4½ minutes.

January 23rd.—Soars for 58 minutes, converses with his ground crew from the air, gives instructions where to pick him up, and promptly lands on the appointed spot.



Environs of the Furness Club's site above Ireleth, where the B.G.A. Competitions were held in 1932, and where, as described on this page, an "ab initio" pilot has made phenomenal progress, reaching the thermal-soaring stage after only four hops and two glides.

January 26th.—Soars for 45 minutes, reaches colossal heights, circles continuously, swoops down to converse and instruct ground crew, gains height again and continues to "pole-squat" until trailer reaches beach. At dusk, side-slips down to a beautiful and feather-like landing on the predetermined spot.

I observed the flight myself and was more than amazed at the dexterity displayed. I can only attribute such remarkable achievements to a good site, a good machine, and last, but by no means least, to a most remarkable man. "Frank Charles" is a name well known to the patrons of Wembley Speedway, where he has won every honour possible. His judgment of speed is undoubtedly unique and precise.

I understand that, week-end after week-end last summer, he spent many hours on Dunstable Downs watching members of the London Club doing their stuff. He was particularly appreciative of that master G. E. Collins, and from that time his one desire has been to emulate those feats of airmanship.

Furness members who have been pottering about for five years are naturally blushing with shame. But why should they? The moral is: a licensed car and trailer, a good machine, a keen study of the technicalities of the sport and, lastly, the cash to carry out these dreams and schemes.

W. B.

London Gliding Club

Thursday, December 26th.—After being closed on Christmas Day "to give the staff the benefit of the holiday," the club re-opened from Thursday to Sunday inclusive.

On Boxing Day the wind became west in the afternoon, backing again later. Nicholson, Ivanoff, and Barker soared the Slingsby GRUNAU for about 10 minutes each; McClelland and Grant did about half an hour each in the FALCON, and Miss Evans flew the nacelled DAGLING, but didn't quite get her "C." There was too much wind for primary instruction or taking open DAGLINGS off the top.

Sunday, December 29th.—The wind was west over the whole of England, except Dunstable, where it was light S.W. We hear that the FALCON and CRESTED WREN flew down once each, and the year's activities concluded with "instruction proceeding as usual."

Saturday, January 4th.—The day's great event was the aerial baptism of the RHÖNSPERBER, recently arrived from Germany. After some days in the hangar having its streamlines stroked by envious admirers, it was at last brought out by Nicholson, given a test hop, and then soared to the Bowl and back. It has a red, white and blue colour scheme, possibly out of compliment to its British purchasers, though the red is more of a maroon, the white is a light grey, and the blue a bottle-green.

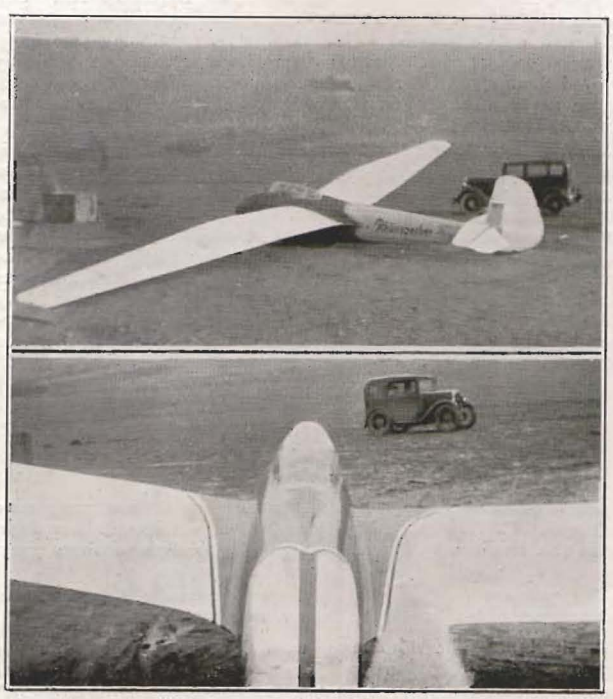
In a fair west wind Richardson soared the WHITE WREN, while the FALCON flew for periods of up to half an hour until the last of its three pilots was cold-shouldered out of the lift by the Desoutter GRUNAU.

Primaries descended from the top.

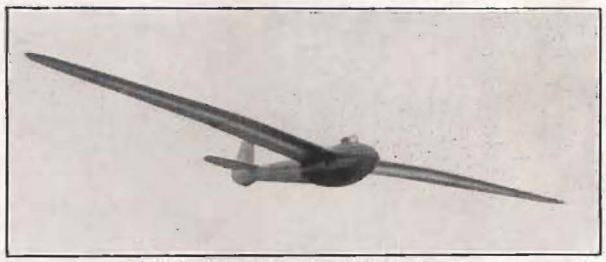
Sunday, January 5th.—A strong gusty south wind, which backed to S.E. on the approach of a depression to the south of Ireland and became still gustier. Three pupils each made about five hops, all most exciting and aerobatic but invariably followed by a normal landing. The machine got so worked up that it twice tried to take off on its own, but was caught in the act and brought sternly back to earth and duty.

Saturday, January 11th.—The new club house was for the first time open for general use, with meals served in the dining room and drinks in the bar.

There was a good soaring wind to celebrate the occasion, and the RHÖNSPERBER was flown by Mrs. Price and Nicholson, the KIRBY KITE by Hiscox for three-quarters of an hour, the WHITE WREN by Richardson, the FALCON and nacelled DAGLING by several people each (including Simpson, of the Cambridge Club, who took a "B"), the Brooklands GRUNAU by Ivanoff and Keeble, and the Slingsby GRUNAU by Bergel, Baker, Fox, and by Liddell, of the Ulster Club, whom we were delighted to see. The Brooklands GRUNAU seems much improved in controllability now that the aileron gap has been closed with celluloid.



Streamlined! A "Rhönsperber," the last word in German sailplane design, arrives at Dunstable. Below is a view from directly over the tail.



C. Nicholson piloting the "Rhönsperber."

Sunday, January 12th.—In calm air, seven ground-hoppers had no less than 57 launches under Culver's instruction. Another equally energetic party carried a DAGLING all the way to the top of the hill (the winch being temporarily out of order); one of them flew it down, but the others decided to forgo their gliding rather than repeat the effort.

Sunday, January 26th.—A beautiful soaring wind enabled everyone to blow away that "morning after" feeling subsequent to last night's house-warming party. A great variety of visitors were here to grace the occasion, including Lotte Ursinus, whose father it was who started all this gliding business, and a compatriot who was said to be the designer of the FLEDERMAUS, but who disappeared before we could confirm it. There was also a party of Northern Nomads from Kirbymoorside, escorting the KIRBY KADET, which had come to try its wings at Dunstable before settling down in the Midlands. Slingsby, McHugh (?) and Sproule were its guard of honour, and the last two tried it out in the air, as did also Humphries.

The said air being smooth and stable, there was only a narrow belt of lift, but at one time early in the day there was the inspiring sight of two WRENS, two GRUNAUS, the RHÖNSPERBER, and the KADET all up together, while the FALCON had to be held back till the atmosphere had cleared a bit. Numerous pilots soared these machines throughout the day, including Sproule, who had an hour in the Desoutter GRUNAU, and Dewsbery, who tried the RHÖNSPERBER for the first time. In the latter machine Mrs. Price achieved the day's height record with 500 ft. above the hill. Later, Nicholson tried to fly it at minimum sinking speed, while Bergel did the same with the Desoutter GRUNAU. Bergel claimed that he was consistently six inches higher than the SPERBER, which, although it has easily the better gliding angle, cruises a good deal faster than anything else in the club.

Other machines to perform were the PRÜFLING, which didn't soar and was once seen to lose 200 ft. of height in 15 seconds, and the DAGLINGS, one of which executed a perfect "falling leaf" which would have been a delight to watch if only it had been intentional. Another DAGLING, making a low turn at the Bowl, had the bad taste to stall its inner wing; the pilot, with a sharp push of the stick and opposite rudder and ailerons, just managed to raise the offending member in time to make a neat fly-on-the-wall landing up the steep part of the slope, but the machine ungraciously spoilt the effect by afterwards sitting on its rudder. The FALCON had been earlier put through a similar manœuvre, by whom and what for we were unable to discover; later, owing to absent-mindedness at the winch during a haul up the hill, it swung round the pulley at the top and started coming down again against the wind, but miraculously stayed on the ground. Finally it was engaged by the KADET in an attempted game of aerial "touch last."

All of which provided some comic relief for what has been the best day's flying so far this year. Flying money for the day totalled £5 14s. 6d., exclusive of those who forgot to pay.

A Letter.—Mr. M. J. van Hee, secretary of the Hague Gliding Club (Haagsche Zweefvlieg Club, Geraniumstraat 164), writes that any L.G.C. members who happen to be in those parts would be welcome to visit the club. Gliding takes place every Sunday.

Another Letter.—

To Chairman, Secretary,
London Gliding Club, London.

No fixed address.
22/1/36

Dear Sir,

During my tramping in search for work I passed your grounds at Dunstable, and it brought to me past memories of how it is



London Club members enjoy their first lunch in the new clubhouse. Right: a corner of the bar. From both rooms an uninterrupted view is obtained of the entire soaring ridge. Compare these photographs with the pair reproduced in "The Sailplane" of April 15th, 1932, showing corresponding scenes in the former clubhouse when it was first opened.

possible to make a gliding plane into a perminant flyer, i e perpetual motion, without the aid of petrol.

By above I write to ask is there any-one, or more, in your club Lady or Gentleman be prepared, in an honest and straightforward business, to finance, or invest, in the patenteeing of the machine?

From what I have seen in my searches I fail to find any similar to my Idea.

I am making my way to London, visiting Free Libraries, Via, Kettering, Bedford, Luton, St. Albans, etc should you wish to reply It would be most advisable to one of the latter Libraries.

Yours Obedient

J. H. Cookson.

[Note.—The writer of the above letter actually turned up at the club ground on February 1st, and, it being a good soaring day, enjoyed the proceedings hugely. Unfortunately we only discovered him when it was too dark for a photograph, and by the following day he had resumed what, alas, is the only sort of Perpetual Motion he is ever likely to discover—that implied in his address.]

Derbyshire and Lancashire Gliding Club

For some months now our activities have been seriously hampered by adverse weather. Week-end after week-end, either a howling gale or the hill top has been in cloud. It seems that a high site such as this (our Club House is exactly 1,250 ft. above sea level) is at rather a disadvantage in winter on account of this low cloud business. So bad has been the week-end weather generally that in spite of constant attendance the GOLDEN WREN has only flown about three and a half hours since the middle of October; a sorry record, as it had been averaging nearly two hours per week for a year until this period.

In spite of the rain, hail, sleet, snow, cloud, gale, and everything but thunder, training has proceeded whenever possible, and it has been quite a common thing for us to congregate for half an hour under a wing and then continue our ground hopping. The attendance of "A" and pre-"A" standard members has been very gratifying, as also has been the progress made by everyone (including the gentleman who holds the present record for the quickest descent from the West Slope).

It was considered that a NACELLED DAGLING was of greater urgency to the club than a FALCON and consequently one was ordered. "Sling" himself brought it down on December 15th, and with him came Watson *père et fils* (or should one say "C" and "A") and Sproule, all of whom we were very pleased to see. Unfortunately it was not a soaring day, but even so their mouths watered.

A group of eight members have bought the veteran KASSEL TWO-SEATER from the London Club. Let us hope that it will double its flying time in their hands. Several less fortunate or less far-seeing members are already hoping that this machine will be acquired by the club.

At last our new winch is ready; and what a winch! Slater and Kaye are jointly responsible and they have made a real engineering job of it. The drum is mounted longitudinally under the seat on bearings of its own, while the roller box is slung on an outrigger suitably braced to the frame. An additional gear lever is provided by which one can drive either the car or the drum. Bottom gear is normally used, and a quarter throttle is sufficient to launch the DAGLING in no wind. Actually it has only been in use for three week-ends at the time of writing, but everyone who has tried it (including "B" and pre-"B" standard pilots) has been enthusiastic about its possibilities. They have got over that cold feeling prior to the first attempt and now realise that winch launching can be just as pleasant as any other method. Of course, no jacking up is required and the position of the winch can be changed in two minutes if necessary. A very stout piece of work.

Talking of work, mention must be made of our ground staff. Davies, our official G.E., and Upton, have done invaluable work both in major repairs and general maintenance, while they have had whole-hearted assistance from Harris and others. Of course, they do fly as well, but they certainly do more work for it than most.

Herr Kronfeld gave a lecture on Modern Gliding in Manchester, on November 21st, which was attended by those members who were able to get there. Herr Kronfeld showed great interest in the club, and we hope to see him at Camphill before long.

A dinner and dance was held at the Marquis of Granby Hotel (about five miles from the club), on December 7th. Unfortunately it was a foggy night and the attendance was not all that it might have been, but those who were there (including Ashwell-Cooke and Barnard of the London Club) thoroughly enjoyed themselves. Arrangements were made for flying to commence at 10 a.m. the next morning, *but the weather was unsuitable*, so everyone stayed in bed.

Arrangements are proceeding for the Easter meeting. It is already possible to winch over either the west or south slopes from the club ground. Stone walls, of course, are our chief site trouble, but they are disappearing gradually. Someone had the brain wave of pushing them all flat first, then moving the stone as and when convenient. A stone wall lying flat on the ground is certainly an obstacle in landing, but not such a serious one as when it was upright, as Euclid could have shown. We can definitely guarantee that there will be ample landing space from either slope by Easter, as the essential walls will have been removed (not only pushed down) by then.

Leicestershire Air Sports Club

Construction.—During the past month work has progressed on the B.A.C. II. The wings have had two coats of silver dope, while the fuselage has been painted blue and the fittings grey, and the club's initials have appeared on the rudder.

The primary trainer was ready for action by January 19th, but was not taken out owing to fog, snow, and an icy road.

Clack Hill.—The PRÜFLING was flown in light winds on Sundays, December 29th and January 5th. On the latter date proceedings were enlivened by spot-landing practice. The "spot" was a mackintosh laid at the bottom of the south slope, and by dint of much fish-tailing H. Adcock landed within 3 ft. of the target.

Yorkshire Gliding Club

December 29th.—Wind S.E. Fog, rain, mud.

January 5th.—Wind still S.E. More fog, rain, and mud.

January 11th.—Wind S.W., 20 m.p.h. During the afternoon the KIRBY KADET arrived from Kirbymoorside. Sproule was launched first for a test flight. After seven minutes he landed and reported that conditions seemed favourable. McMurdo was then launched for his "B," for which he qualified with a soaring flight of three minutes, landing on the top. He was immediately sent off for his "C," which he obtained with a steady flight of ten minutes.

January 12th.—Wind S.W., 5-15 m.p.h. Holdsworth started the day with a test circuit in HOLS II., which, being to his satisfaction, was hopped by Lingford. After a few fairly high launches, from which he practised left and right turns, he was instructed to climb as high as possible and attempt his first circuit. This he did and duly qualified for his "B."

The wind had now risen slightly so FALCON was brought out and soared by Holdsworth and Heath for 15 minutes each, Heath reaching 450 ft. Finally Alderson made a circuit in HOLS II.

January 18th.—Wind S.W., 10-15 m.p.h. The KADET arrived once more and was launched at 5 p.m., piloted by McMurdo. After five minutes with a maximum height of about ten feet he decided to call it a day and landed on the moor adjoining the club site.

Southdown Gliding Club

Annual Report.

The club's annual report, which we have received, states that the club has made steady progress, with an increase of about 17 per cent. in the membership and 40 per cent. in subscriptions.

In the spring the old site at Lancing was given up and the club's machines and equipment were transferred to two medium-sized barns on the new three-in-one site on the outskirts of Brighton. It had been planned to provide a hangar and repair workshop, capital for which was to be raised by a loan through the chairman, Mr. R. F. Dagnall, pending payment of the Government subsidy. Complaint is made in the report, however, that a letter was received from the British Gliding Association "dissuading the club from pursuit of its plans and suggesting that the payment of the grant was an uncertainty," and that this has caused a halt in the plans and hampered club activities through lack of hangarage and repair facilities.

Plans are now complete and approved by the Local Authority for the erection of a large hangar and workshop fully equipped, also a records office. As to machines, during the year two more privately-owned machines have been constructed by club members, and four others are in course of construction. The record figure of £79 has been spent on the reconditioning, rebuilding, and repair of club machines, which comprise an R.F.D. trainer, and R.F.D. advanced trainer, an R.F.D. soaring practice machine, and a two-seater with dual control. There are also three spare R.F.D. fuselages and a tail unit. A GRUNAU BABY II. is also on order. Other equipment includes a Trojan retrieving car, a Morris auto-launching car, a Chrysler auto-tow car, which is to be converted into a winch for launching, and two sailplane trailers.

Flying.—Gliding certificates qualified for during the year have raised the club's previous total to 60 "A," 30 "B," and 21 "C." Sixteen pilots are stated to have reached the "soaring" stage, and the number of hours soaring put up is approximately 36, excluding times put up on privately-owned machines within the club, of which there are four in active operation.

At the Sutton Bank Competitions eight flying members attended, bringing with them four soaring machines. The club's chief instructor, Captain A. N. Stratton, was in charge of all competition flying at the meeting, and Mr. Filmer, a club member, made a cross-country "goal" flight of 12 miles.

The club claims the distinction of being the only gliding club called upon to represent the Air League of the British Empire on Empire Air Day, and a very successful meeting was held on the new site on May 26th.

The club has now a salaried ground engineer, officially approved, in the person of Mr. G. A. Little, B.A., of the staff of Airspeed, Ltd.

[As the reason for the club not receiving subsidy is not made clear in the report, we inquired at the office of the British Gliding Association, and learned that the club had not yet submitted a Certificate of Security of Tenure of the site. The Subsidy Trustees rightly require evidence that a club will have the use of its site over an extended period, before taxpayers are asked to pay 70 per cent of the cost of buildings erected thereon.—ED.]



A new British secondary type : the "Kirby Kadet" in flight at Dunstable. Other photos of the machine appear on page 21.

Easter Training Camp.—The hon. secretary writes that a four-day training camp is being arranged at Easter, on the lines of the short summer training courses inaugurated last year. A special prize is being awarded for the highest aggregate flying time by any one machine during the "camp."

Newcastle Gliding Club

Sunday, December 22nd.—Bitter cold. Frost and snow. As we are experiencing trouble with a clause in the lease of our site, which would not give us secure tenure, Miller, Boss, and Coates made a tour of various likely sites, so that we might be prepared in the event of the Moat Law lease not materialising as required. They spent a chilly day, mostly 2,000 ft. up, in four inches of snow.

The New Workshop.—As the workshop in Jesmond has proved too small for so ambitious a club, a new building at Byker has been taken, in which a machine of 40 ft. span can be rigged. Allan's 57 ft. span mystery machine, which he refuses to name, was transported there on Sunday, December 29th, and on the following Sunday the club's nacelled CRAMCRAFT was brought there from Moat Law, as it was considered better to keep it in a dry floored place while the dirty weather continues. Those who went to fetch it found, on arrival at Moat Law, that half the beer had been lost, the bottles having burst with the frost, and they had the tantalising experience of having to wade about the floor in beer which they could not drink.

Meanwhile all the gear was transferred from the old workshop to the new, including the dynamo and engine.

January 11th and 12th were devoted to arranging for the benches and fittings in the new workshop. All were happy with a 12 ft. fixed woodwork bench under a window and a deadlight; also a long trellis-plank bench for spar work, and a portable well-type joiner's bench. There will also be a 6 ft. metal work bench under another window, and a design table complete with full size drawing board and provision for storage of drawings under a third window. Two nests of oak filing cabinets will be indexed and filled with the small paraphernalia associated with glider construction.

Jersey Gliding Club

Thursday, January 2nd.—A S.W. wind of 8-10 m.p.h. blew at the hill top, while on the ground at the foot of the hill the wind speed was nil. In spite of this Carter soared his SCUD I. for 45 minutes.

Thursday, January 23rd.—A month's work has been put in on the other SCUD I.—the one which we had from Guernsey—and on this day it was taken out for its trials. Carter, now chief instructor, had the first launch in a west wind of five m.p.h.; the next flight was a glide of 200 yards from the gully.

Sunday, January 26th.—Very little wind. In the club's SCUD Carter and Wagstaffe had seven launches each on the flat and finally one each of about 300 yards, from the lower part of the gully; on the last of these the seat was split through a heavy landing.

This month there have been 22 days on which soaring should have been possible, but not one of them happened to be a Sunday!

Midland Gliding Club

December 23rd.—Spent in tobogganing over the snow-covered ground in the primary machine. This was great fun and excellent practice for the beginners as the machine would run on for fully 80 yards after landing and retain full rudder and aileron control.

January 5th.—After a few evenings in the hangar with the thermometer below zero, the technical people decided that the damage to the nacelled DAGLING was more extensive than at first believed, and that the job of reconstruction should be placed in Slingsby's hands. Meanwhile, training continued on the primary.

January 11th.—More hopping with the open DAGLING.

January 12th.—Primary instruction proceeded while Felton's HOLS was packed into a trailer to have the opening of the office enlarged for the benefit of those pilots with oversize hips. We understand that the portion to be removed is to be hinged so that the nacelle, when closed, will retain the old shape.

January 14th.—A fully attended meeting of instructors was held in order to standardise methods of instruction within the club and to grade every pilot.

Grading was done from A3, denoting an absolute beginner, up to C1, which was applied to pilots who have reached the stage when they may be safely sent off to have a shot at their "C" test. A1 denotes a pilot who could pass his "A" test given the opportunity, and B1 denotes ability to make a "B" flight. The grading was done entirely according to the individual ability of each pilot, and was found desirable owing to the limitations of our ground at Handsworth making it possible for pilots holding only the "A" ticket to be better pilots than those holding the higher grade certificates.

January 18th.—Two new members turned up for their initiation: Bowen, an experienced power pilot, and Mrs. Alcock, who was given three hops.

January 19th.—The NACELLED DAGLING had been delivered from Kirbymoorside the previous evening. The nacelle has been lengthened and has pedals fitted instead of the rudder bar, which is a great improvement. In the afternoon it was test flown and handled very nicely.

January 26th.—A beautiful day with a light S.W. wind brought a bumper attendance at Handsworth. Bunji, auto, and winch launching was done according to the type of launch allowed to each pilot under his grade. Circuits of the ground were possible after winch launches.

The hangar at the Long Mynd is nearing completion and now it is only a matter of a week or so before flying will be in full swing up there. Mr. Hardwick has very kindly offered to place his FALCON III. at the disposal of the club for dual instruction occasionally.

The KIRBY KADET was tried out at Dunstable during this week-end and is to be flown here next week-end. This will bring the club's fleet up to nine machines, including privately owned sailplanes and a primary just purchased for the Northfield branch of the club.

Olver, having succumbed to German measles, has made good use of his time building a four-foot span model of a CONDOR.

Norfolk Gliding Club

Sundays, January 5th and 19th.—Construction work on the DICKSON primary; also on the sailplane, on which a small party of optimists attended to the last rib and the final cross-bracing in the wing.

Sunday, January 10th.—Making rather a late start at Skeyton at 1.5 p.m., ten members put in 19 flights.

We are waiting for a C. of A. before attempting any "A" flights at this site. We are, however, losing the site shortly, but have fixed on a better one near Sheringham, which should be ideal for the spring winds and would almost do for sailplaning if the ridge were a trifle longer. We are also searching for a really good site for the remaining winds of the year (S.W.), but so far without success.

The fact that the Annual General Meeting is coming off on January 20th is causing some stir in the club. Unsuitable members are leaving us in a very satisfactory way, although funds will, of course, suffer. One of these gentry, an ex-power pilot, who stalled rather badly in the primary several weeks back, breaking the rudder bar and making himself rather sore in the process, referred disparagingly to the whole sport as "a kid's game." Perhaps he expected the glider to bounce!

Sunday, January 26th.—At Skeyton eight members put up 14 primary flights of up to 25 seconds. Hick, in one flight, managed to include three turns at great speed.

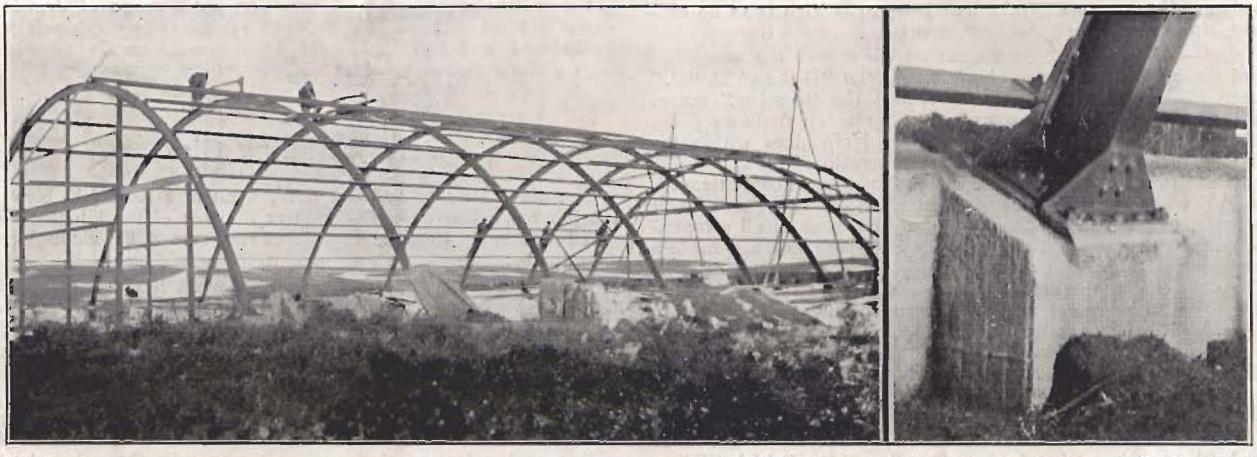
Annual General Meeting.—This was held at Norwich and presided over by the chairman, Mr. G. M. Hick, who gave an outline of the club's development to date. At the beginning of 1935 work started on a hangar and a sailplane, and in February a pair of Avro wings were bought for use in a primary glider, which had its first test flights on September 12th. Training began at Skeyton on September 19th, and at the end of October auto-launching was introduced in preference to hand launching. About 250 flights have so far been made at Skeyton.

The annual subscription is two guineas, with an entrance fee of a guinea, but people who put in two hours' work a week for the club pay the guinea entrance fee only. Visitors may become temporary members for not more than three months at 7s. 6d. a month, without entrance fee. The hon. secretary reported a balance in hand at the end of the year of £1 6s. 8d. The membership stands at about 25.

Official Notice

Annual General Meeting

The sixth Annual General Meeting of members of the British Gliding Association will be held in the Lecture Hall of the Junior Institution of Engineers, London, on Saturday, February 29th, 1936, at 2.30 p.m.



The Midland Club's hangar on the Long Mynd, Salop, is now nearing completion and is expected to be housing machines by the end of this month. It will contain a ton-and-a-half of glass in the lights and 14 tons of material in the walls. The photo on the right shows one of the girder ends and the concrete pillars, of which three feet are underground and two feet above ground. The building is designed to withstand gales of up to 130 miles an hour!