THE SAILPLANE & GLIDER

MAY
1935

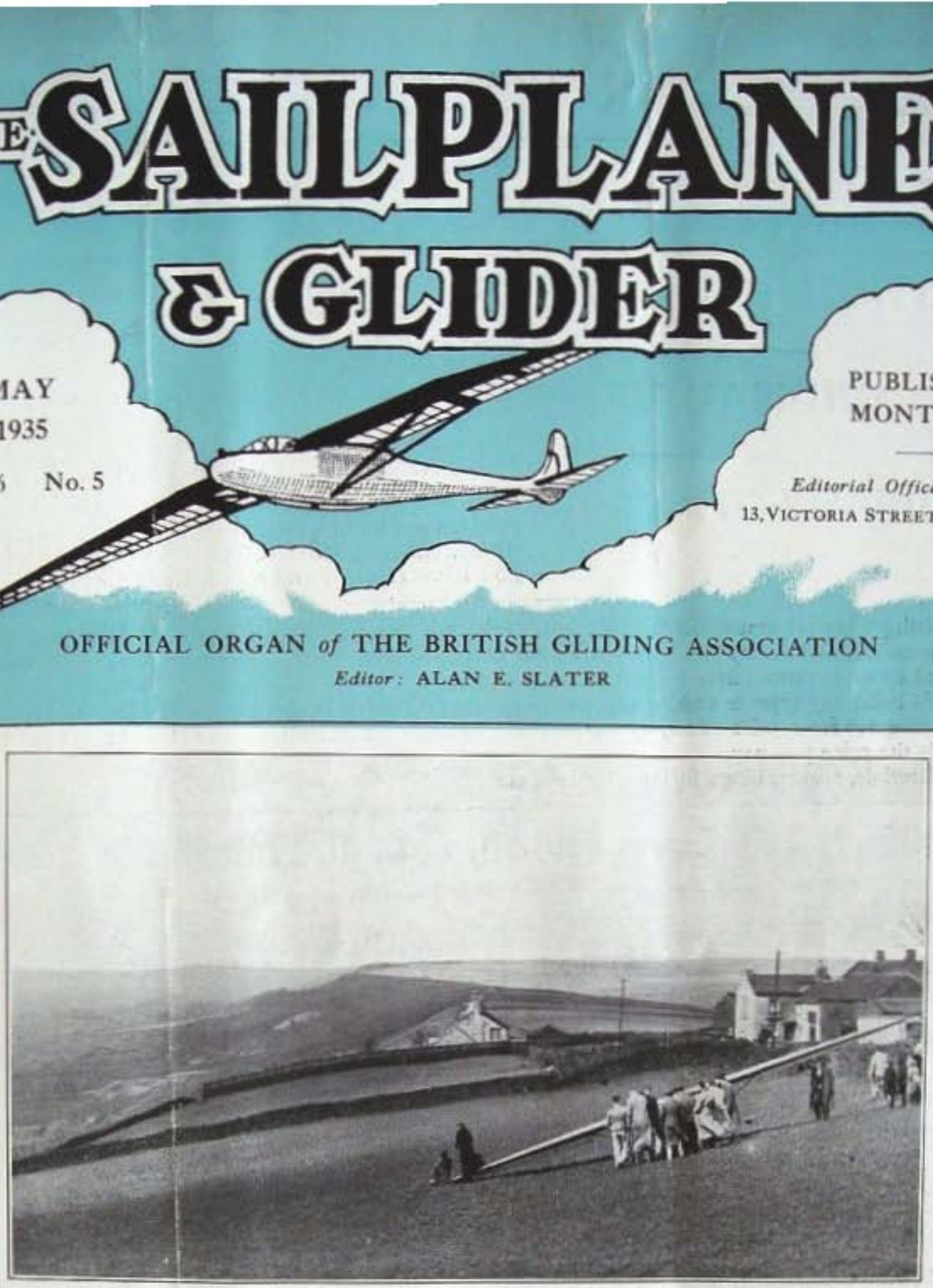
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OFFICIAL ORGAN *of* THE BRITISH GLIDING ASSOCIATION

Editor: ALAN E. SLATER



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THE SAILPLANE *and* GLIDER

Official Organ of The British Gliding Association

Editorial Offices: 13, VICTORIA STREET, LONDON, S.W.1 Telephone: Victoria 9153-4

Vol. 6 No. 5 MAY, 1935 Published Monthly

THE SAILPLANE AND GLIDER welcomes news of gliding and soaring activities from all parts of the world. Articles are also published on all aspects of gliding and soaring, including related subjects; illustrations are also welcome. Orders for copies of the journal should be addressed to the Publisher, not the Editor; it is also obtainable through newsagents. Subscription rates: one year, 10s. post free; half year, 5s. 6d. post free; single copies, 1s. post free. Enquiries for information regarding gliding clubs should be addressed to the Hon. Secretary of The British Gliding Association, 66, Victoria Street, London, S.W.1.

Editorial Comments

The B.G.A. Chairman

THE election of Prof. D. Brunt, M.A., to the chairmanship of the Association will be welcomed for many reasons, not least of which is that it will give the movement some much-needed prestige in the world of science. For we now have as our Chairman one of the leading scientists of the day who, after a distinguished career in the Meteorological Office, has taken on the professorship of Meteorology at the Imperial College of Science on Sir Gilbert Walker's retirement. Incidentally, Prof. Brunt is continuing the work on the distribution of vertical currents in artificial cloud layers, which was initiated by Sir Gilbert Walker, and which is probably, at present, the most fruitful line of research for future progress in the art of soaring flight. The new chairman starts with the advantage—which the Council was quick to see!—of knowing nothing of past "internal politics" within the B.G.A., and with an experience of Government Departments which should be of the greatest value in the subsidy negotiations.

The Subsidy Gets Nearer

The B.G.A. in its new form has now finally achieved legal existence; the reforms which might have been brought about in time to take advantage of the subsidy when it was first announced, on June 27th last year, have been carried through at last. There has thus been 10 months' delay. We may be thankful that the composition of the new Subsidy Committee is such that further delaying activities, however well-meaning, are unlikely to find a place in it, and that it has been given full powers to negotiate with the Air Ministry. We are also pleased to note that one of our leading Vice-Presidents, after advocating that the subsidy should be concentrated on the fitting out of a central gliding school, has now swung completely round and favours a wide geographical distribution of the funds. That the more active clubs are quite capable of teaching large numbers of pilots to fly is evident enough from a glance at this month's club news; the London Club alone has secured eight new soaring certificates in one day, and has done 115 hours' flying in under a month. The Subsidy Committee takes the view that clubs to be subsidised should be able to provide soaring facilities, and we certainly agree that the clubs to be subsidised are those which have shown that they regard the attainment of true soaring flight as their goal, to which mere gliding descents and ground-hops are no more than a preliminary.

Coming Events

Whitsuntide Meeting at Sutton Bank, Yorks.—Saturday, June 8th, to Tuesday, June 11th. Visiting machines cordially welcomed.

* * *

American National Soaring Competitions.—To be held at Elmira, New York, from June 29th to July 14th inclusive.

* * *

German Annual Meeting.—To be held as usual at the Wasserkuppe, Rhön Mountains; dates not yet fixed, but the meeting lasts a fortnight, and is expected to be held some time between July 16th and August 8th.

* * *

Instruction Course at Dunstable.—August 1st to 14th inclusive. There are still some vacancies, and early application should be made to the Secretary, London Gliding Club, 13, Victoria Street, London, S.W.1. Fee £12 12s., inclusive of accommodation, full board, and gliding instruction.

* * *

Swiss International Meeting.—To be held on the Jungfraujoch from September 4th to 14th, under the auspices of the Swiss Aero Club. Full information obtainable from Swiss Federal Railways, Lower Regent Street, London, S.W.1.

* * *

Model Gliders.—A big model glider meeting will be held on the Wasserkuppe, Germany, on June 9th and 10th. Hundreds of model sailplanes are usually entered for this annual event, many being of great size and weight. An English model glider meeting is being held on Ivinghoe Beacon, Bucks, on Sunday, June 16th.

From Here and There

Words of Wisdom.—"There is no call on physical courage in learning to fly."—Filson Young in the *Radio Times*. "When I read about gliding, my flying experiences seem nothing at all."—From same article. Also: "The air is a very 'cushiony' place really, and it is very nice to have a great deal of it between you and the ground."

* * *

Women's Duration Records.—Martha Mendel, who used to run a gliding group for ladies only at Mainz (and may still do so), has done a flight of 11 hrs. 28 mins. in a RHÖNADLER near Kirchheim. (We saw her fly a KASSEL 20 in the 1932 Rhön Competitions, launched by said ladies, all wearing trousers.) But on April 18th she lost the record to Liesel Zangenmeister, a girl medical student, who kept up for 12 hours 57 minutes over the sand dunes at Rossitten in East Prussia, the scene of several former World's Duration Records.

* * *

Waterfall Goes Soaring.—A waterfall at Honolulu which cascades upwards instead of downwards was described by Bob Ripley, the "Believe it or not" raconteur, in a recent broadcast relayed from America. The water takes off from a high cliff facing the prevailing wind, but, before it has gone far, it has split up into drops whose terminal velocity is less than the strength of the up-current. So the whole lot is blown up again and lands on the high ground at the back in the form of rain, which then collects itself into a river and flows away in quite a different direction. We have known gliders go through a similar performance.

* * *

The Smoke Screen.—The National Smoke Abatement Society, at a special conference in London on May 30th, is to collect evidence on the way in which the smoke of towns impedes flying operations. It certainly impedes soaring operations, according to London Gliding Club pilots who have tried to soar from Dunstable into Kent. Mr. Collins, when he flew into Essex on April 22nd last year, was unable to cross the Thames owing to absence of suitable clouds, although there were plenty elsewhere; and he attributed this to the haze and smoke drifting eastwards from London and cutting off the sun's rays from the ground, thus preventing cumulus formation.

* * *

Vertical Currents at Kilimanjaro.—Walter Mittelholzer, the Swiss airman who specialises in flying among mountains, described in a lecture on April 15th how he once used the vertical currents up Kilimanjaro to carry his heavy transport aeroplane to 20,000 feet in order that he could look down into the crater at the top. On April 21st, M. Maurice Finat, a famous French airman with twenty years' flying experience, crashed fatally at Shira Ridge in the high saddle (14,000 ft.) between Kilimanjaro (19,000 ft.) and Meeru (17,000 ft.); the report says that he and his companion "encountered difficulties among the dangerous air currents in the vicinity of Kilimanjaro."

Instruction Courses at Salzburg.—At these courses, which are held at the gliding school on the Gaisberg, near Salzburg, Austria, a limited number of foreign pupils are taken. The beginners' courses start on May 5th, June 2nd, June 30th, July 28th, and August 25th. Courses for advanced pupils start on the same dates and, in addition, on May 19th, July 14th, and August 11th. The fee, inclusive of 3rd class fare to and from London, is £16 18s. for beginners, and £21 8s. for advanced pupils. Further particulars are obtainable from Anglo-Continental Express Co., Ltd., 177, Regent Street, London, W.1. (A musical festival is to be held at Salzburg from July 27th to September 1st.)

* * *

Miss Meakin's New Sailplane.—Miss Joan Meakin, who brought her RHÖNBUSSARD from Germany to England last year by the simple method of being aero-towed, has done the same again with her new machine, which has been built by Martin Schempp at Göppingen, near Hornberg, and is specially designed for performing aerobatics at Sir Alan Cobham's displays. Miss Meakin, who was towed the 700 miles by Capt. J. D. King in an "Avro 504," was delayed by bad weather, finally arriving at Lympne at 11.30 a.m. on April 12th, after a journey of 1 hour 50 mins. from Brussels. Here the towing cable managed to pull down 28 telephone wires, thus making it impossible to settle an argument with the local Customs by appeal to higher authority over the 'phone. Eventually the machine was allowed to proceed to Heston and clear Customs there.

* * *

Thermal Flights under Overcast Sky.—On March 17th, at the Hornberg gliding school near Stuttgart, fifteen thermal soaring flights are reported by *Flugsport* to have been made under a fully overcast sky. The unusual conditions were discovered by Karl Baur, flying the FLEDERMAUS (which has wing-tip rudders), after which Wolf Hirth kept up in the veteran MUSTERLE for 2¼ hours. Even the shortest of the 15 was of half-an-hour's duration. The Air Ministry weather reports show that there was little or no wind in that part of Germany. Kahler Asten in the north and Munich in the south-east reported no low cloud, but higher cloud covered most or all of the sky. Strasbourg in the west, at 6 p.m., reported a sky half covered with strato-cumulus at about 4,000 feet, with higher cloud also. The upper air observations at 7 a.m. at Darmstadt, which are given below, seem to show 7,500 feet as the most likely level for the cloud layer:—

Height.	*Temperature.*	*Relative Humidity.*
445 feet	46 deg. Fahr.	55 per cent.
980	48	62
3,280	41	68
5,570	31	82
7,560	24	91
8,200	23	79

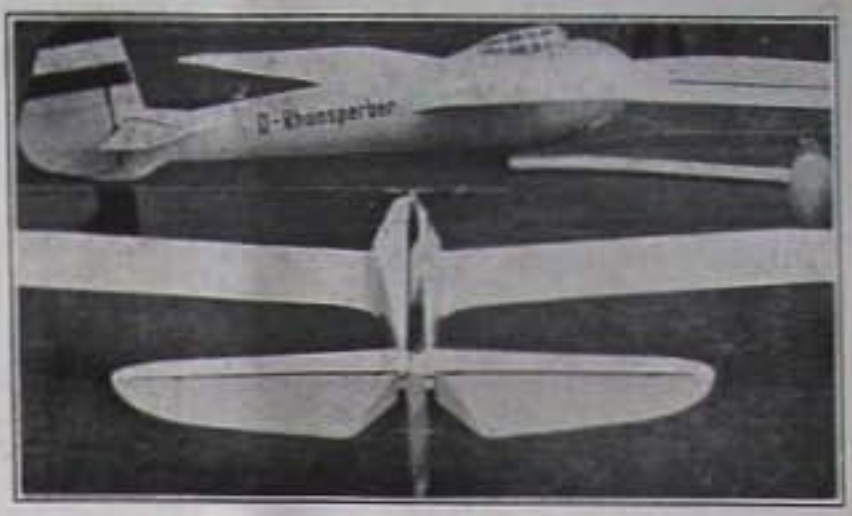
The maximum day temperature was 57 deg. at Munich (1,726 feet up) and 59 deg. at Strasbourg (495 feet), enough to produce instability up to 7,000 feet. With such conditions over even ground, in the absence of sunshine, one would expect a tendency for the up-currents to be arranged in a regular pattern of "cells"; but the Hornberg is a mountain 2,560 feet high, which complicates matters.

"The Rhönsperber"

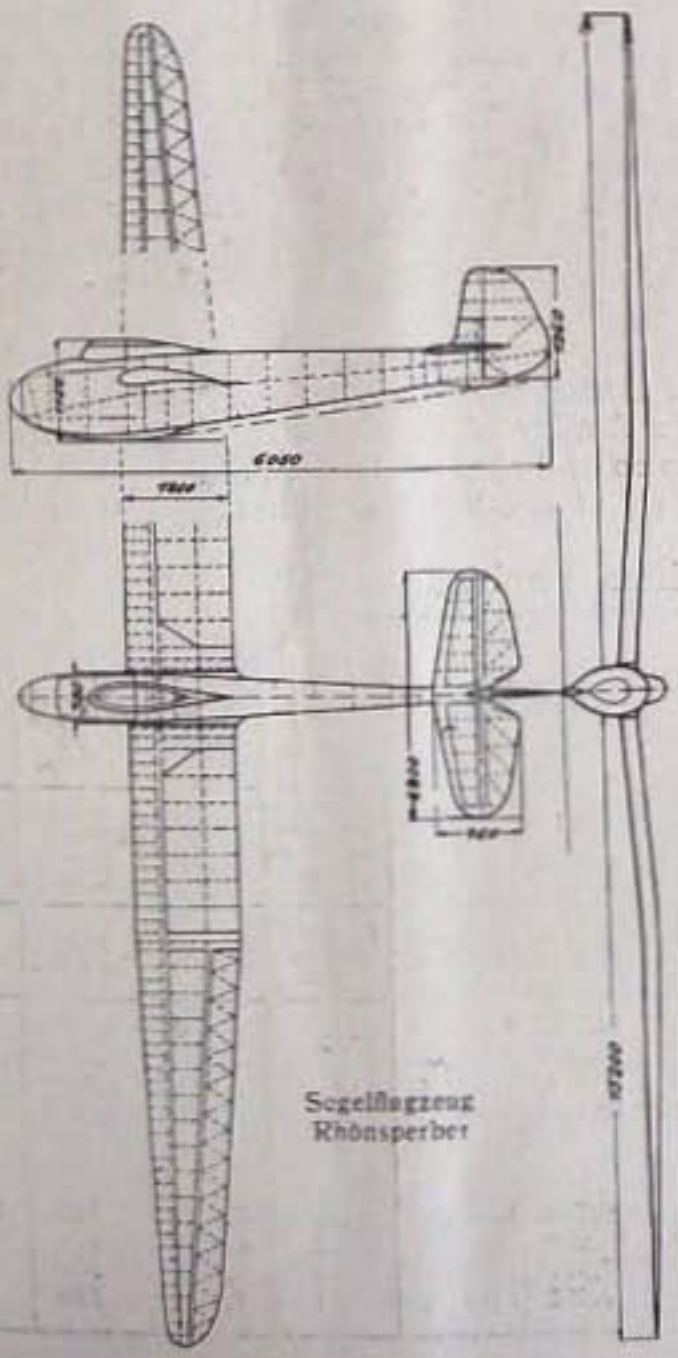
A New German Design

THIS machine is a further development of the RHÖNBUSSARD, which was described in our March issue. Like the latter, it is designed both for high-performance soaring and for aerobatics. The designer is Hans Jacobs, who was responsible also for the RHÖNBUSSARD and RHÖNADLER; the manufacturer is Schweyer, of Mannheim.

The span has been increased to give a better performance than its predecessor; the wing section, however, remains the same, being Göttingen 535 in the middle section, and becoming symmetrical at the tips, without "geometrical" reduction. The most obvious difference is in the position of the wing, which grows out of the sides of the fuselage: this has been done for the sole purpose of improving the pilot's all-round view in order to lessen the risk of collisions, the advantage over the RHÖNBUSSARD being that the pilot can now look directly backwards before commencing a turn. (In view of one or two serious collisions that took place in Germany last year, the importance attached to a good backward-and-upward view is significant as showing where the chief collision danger comes from.) It will be noticed that the wings have a "seagull" bend, evidently to lift the tips well clear of the ground, owing to the low wing root. Though this is the purpose for which the "bent wing" was originally introduced in the FAFNIR of 1930, it has since been found, according to German writers, that such a wing improves the flying qualities, in that the machine is more stable in a turn, and can therefore be circled in clouds with less danger of getting out of control. Notable machines with such wings are the CONDOR, MOAZAGOTL, SAO PAULO and STORMARN.



Three aspects of the "Rhönsperber."



Special attention has been paid to the pilot's comfort. The tall and the fat are accommodated with the same ease as pilots of more normal aspect ratio, owing to adjustable foot-rests and "hanging pedals," which can be adjusted without loosening the control cables. The angle of the seat can also be adjusted during flight. A strong cockpit floor is easily detachable, being unconnected with the control fittings. Where the control stick emerges, it is enclosed in a leather pocket.

The instrument board, which is removable, is placed some distance in front of the pilot's face; he can thus overlook all the instruments at one glance, and prolonged blind flying is made less tiring. Also he does not bang his face on it in a crash.

The cockpit cover, of non-splinterable glass, is transparent all round the field of view. It can be removed and substituted by a wind-screen and head fairing for pilots who are not used to being enclosed.

Assembly is simplified owing to the main spars being connected inside the fuselage; thus weight and expense are saved by the elimination of a rigidly attached centre section, as the main spar runs right through and the rear spars are attached outside the fuselage. Connection between fuselage and wing is by four bolts, placed on the under side of the wing and the outer side of the fuselage.

The machine has been tried out by such well-known pilots as Hanna Reitsch, H. Dittmar, Wiegmeyer, Fischer and Hofmann, the latter having done a cross-country flight of 87 miles in 1½ hours on March 12th. It has been dived at 158 m.p.h. without flutter or other defects developing.

The dimensions are:—Span, 15·3 m. (54 ft. 4 ins.); wing area, 15·2 sq. m. (163·6 sq. ft.); aspect ratio, 1 in 15; wing loading, 15 kg. per sq. m. (3·1 lbs. per sq. ft.); gliding angle, 1 in 20; sinking rate, 72 cm. (2 ft. 4½ ins.) per sec.; weight empty, 150 kg. (331 lbs.); maximum additional load, 100 kg.; normal flying weight, 225 kgs. (496 lbs.). The price is R.M. 2,250, equivalent to £110 at par, or £186 at present exchange rates.

The above particulars are taken from *Flugsport*, from which also the illustrations are reproduced. "Sperber," by the way, means "sparrow-hawk."

Sailplane Construction for the Amateur

4—Some Notes on Materials

By W. BUTTERFIELD

Timber

AN experienced woodworker can select timber by observation and feel quite well enough for most commercial purposes. Experience has taught him that green or damp timber is difficult to work, that it shrinks and warps after working, also that good glued joints cannot be made with damp timber. He may also be aware that damp or green timber is weaker in compression than dry timber of the same variety, and that very dry or overheated timber is less resilient, brittle, and breaks off short when subjected to bending stresses. But he cannot always determine by rule of thumb methods the exact amount which the timber is affected.

The designer of aircraft requires more accurate information and bases his calculations upon certain data obtained as the result of numerous scientific tests. Then, in fairness to the designer, the constructor must endeavour to fulfil the specification by acquainting himself with a knowledge of the factors governing the strength of timber and other materials called for by the drawings.

Some Factors Affecting the Strength of Timber

The mechanical properties of timber are dependent upon a number of factors; the more important are as follows, viz. :—

1. The Mode of Growth of the Tree.—Trees grown out in the open produce wood of better quality than forest-grown ones. The more uniform the growth conditions, the more uniform become the annual rings and the quality of the timber. See Fig. 2, A.

Examine for uniformity and concentricity of the annual rings.

2. The Rate of Growth.—Rapidly grown wood having less than eight annual rings per inch is relatively weak. The best rate of growth for Spruce, Pines, and Firs, gives from 12 to 16 rings per inch. Examine and count rings per inch.

3. The Position of the Timber in the Tree.—The wood near the roots and the upper branches is generally weaker and more liable to defects such as cross grain, spiral grain, shakes and knots. The middle logs produce timber which is strong in bending and shear. The transverse position is equally important and depends upon the method of cutting up the logs. See Fig. 2, D, E, and F. Rift sawn material is the best for beams or struts, and, lying midway between the centre and the outer circumference of the tree, it corresponds to the normal growth which is the strongest.

Examine for angularity of grain, flat or straight grain. See Sketch, Fig. 2, of a rift sawn spar and make a splitting test.

4. The Effects of Seasoning and Moisture Content.—Seasoning may be carried out in three ways.

AIR SEASONING, by storing in a draughty shed in such a manner that air can pass freely between the logs or planks. This may result in much waste, due to the fact that, in drying, the greatest shrinkage occurs tangentially to the annual rings, resulting in cracks. To reduce this the logs are often quartered, or, alternatively, the logs may be immersed in water and afterwards air-dried. The ends of planks and boards are often painted to prevent cracking. Flat or Slash sawn planks, common in joinery, shrink as shown in Fig. 2, E.

STEAMING AND KILN DRYING is fairly common, but care and experience, as well as equipment, are necessary. When seasoned wood is steamed for a few hours its bending strength is diminished by from 20 to 40 per cent., and its crushing strength by about the same amount. This factor is taken advantage of when forming wing-tip bends, skids and other bent formers used in fuselage construction, but the strength of timber which has been steam-bent and dried is always inferior to the original timber.

Tests prove that the strength properties for the same kind of timber and the same moisture content increase with the density of the timber. Thus the strength of a specimen of timber of *standard dryness* may be judged from that of another specimen of the same kind but

Physical Properties of Various Timbers

	Specific Gravity Based on Volume and Weight When Oven Dry.			Shrinkage from Green to Oven Dry Condition.		Static Bending.				Compression Parallel to Grain.	Compression Perpendicular to Grain.	Parallel to Grain.
	Average.	Minimum Permitted.	Weight 15% Moisture.	Radial.	Tangential.	Fibre Stress at Elastic Limit.	Modulus of Rupture.	Modulus of Elasticity.	Work to Maximum Load.	Maximum Crushing Strength.	Fiber Stress at Elastic Limit.	Shearing Stress.
			Lbs./ Cubic Ft.	%	%	Lbs./ Sq. Inch.	Lbs./ Sq. Inch.	Lbs. per Sq. Inch.	Inch lbs. per Cubic Foot.	Lbs / Sq. Inch.	Lbs./ Sq. Inch.	Lbs./ Sq. Inch.
HARD WOODS												
Ash, White	0.62	0.56	40	4.5	7.1	7,700	12,700	1,500,000	14.2	6,000	1,300	1,750
Hickory	0.81	0.73	50	7.3	11.4	8,900	16,300	1,900,000	28.0	7,300	1,800	1,800
Oak, White	0.72	0.65	46	5.3	9.2	6,700	12,000	1,400,000	12.7	5,900	1,300	1,760
Mahogany	0 54	0.50	36	3.5	4.2	7,000	10,000	1,300,000	9.1	5,500	1,000	1,420
SOFT WOODS (Conifers)												
Douglas Fir	0.52	0.47	34	5.0	7.9	6,800	9,700	1,780,000	7.2	6,000	750	1,020
Norway Pine	0.51	0.46	33	4.6	7.2	7,900	10,900	1,700,000	6.1	6,100	720	1,150
Sitka Spruce	0 41	0.36	27	3.9	7.5	5,100	7,900	1,300,000	7.4	4,300	500	920
White Pine	0.39	0.36	27	2.2	5.9	5,100	7,400	1,200,000	6.1	4,500	530	850

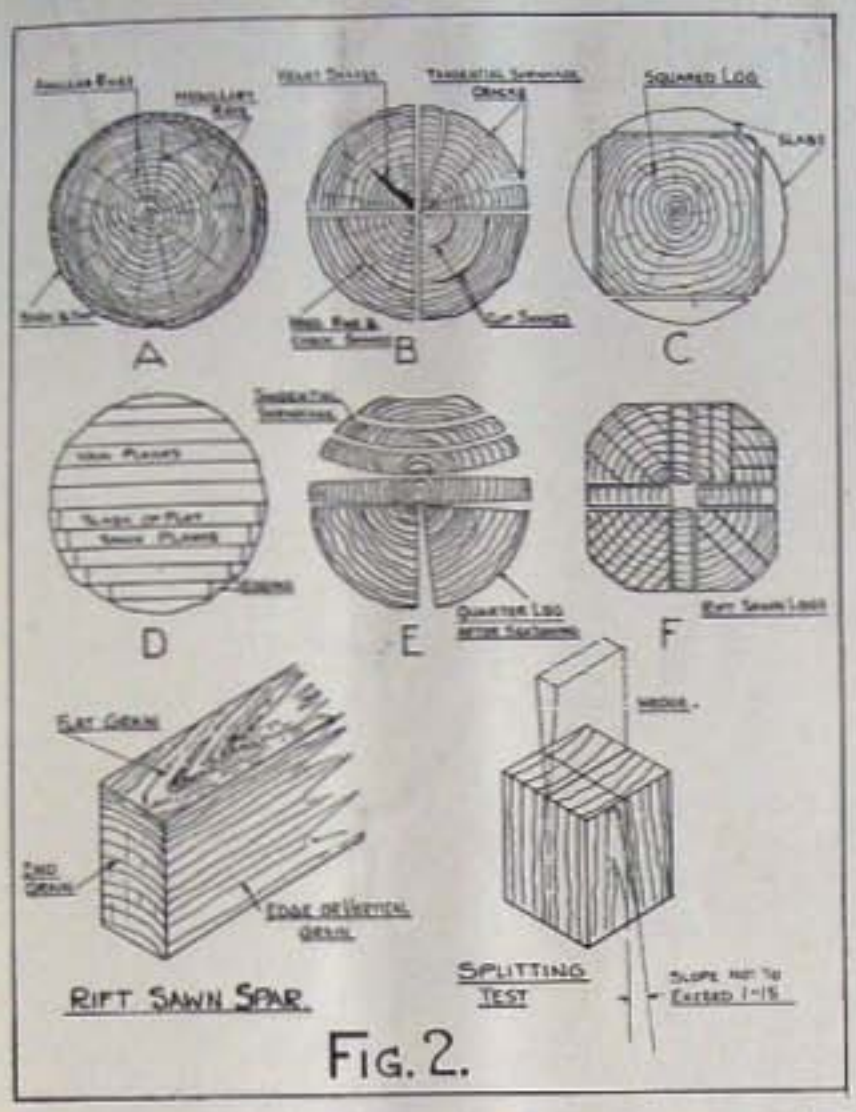


FIG. 2.

of different density, and the heavier specimen will be the stronger.

TESTS.—When testing for moisture it is usual to take a sample some distance away from the end of the plank or log; this sample may be in the form of chips or borings, or pieces about the size of match stalks. The weight of the specimen collection is noted and it is then placed in an oven, at a temperature not exceeding 100° C., it is kept there until there is no further reduction in its weight. Moisture content % is difference between weight before and after drying, divided by weight after drying and multiplied by 100.

Some Useful Woods

Sitka (Silver) Spruce.—Specification D.T.D. 28 A (for rough timber), also D.T.D. 36 A. Weight 24 to 27 lbs. per cubic ft. Moisture content 14 to 17%.

Owing to its high strength-for-weight ratio, Silver Spruce is unsurpassed for the manufacture of spars, struts, longerons and ribs. The selected battens should be of 1st quality or grade A, free from knots or shakes and of not less than 10 annular rings per inch. The members should be rift sawn and the grain should not turn out to the edge of the spar throughout its length. If sanctioned by the designer, Oregon Pine, Douglas Fir, White Sea Red or White Deal form good substitutes for silver spruce, although these woods are generally heavier, more brittle and less reliable. They should be carefully selected.

English Ash.—Specification B.E.S.A. 3.V.4. Weight 38 to 40 lbs. per cubic ft.

Ash is a tough and resilient wood, ideal for heavily stressed struts, wing-tip bends, skid shoes, packing blocks, etc. If cut from young trees it can be bent to curves of small radii. It is frequently steamed and bent to shape, being dried out in the bent position, it takes up a permanent set and is very tough and strong.

Mahogany.—The straight-grained Honduras variety is nice to work and can be usefully employed with good effect for parts subjected to hard wear. In the form of veneers it is used for monocoque fuselage construction. Gaboon Mahogany is used in the manufacture of plywood, and such plywood is little, if any, inferior to the Birch variety.

Balsa Wood is well known to the builder of models. It is a light pithy wood, about the weight of cork; it may be used for fairings or parts which are not stressed.

Pliable Woods.—Ash, Beech, Birch, and Oak can be converted into extremely pliable woods by chemical treatment. The wood is thoroughly impregnated under pressure. Experiments are proceeding with this process with a view to marketing the product on a commercial basis. When a normalising process is discovered, timber so treated should find a ready sale in the aircraft industry.

Plastic Wood is sold in paste form in tubes. Useful for fairings and forming corner fillets, it adheres well to ordinary wood. It is also used for stopping pin holes and as a medicine for bad workmanship.

Plywood.—Sheets built up from a number of very thin layers or veneers of wood, securely cemented together under pressure, are known as plywood sheets. For sailplane constructional work, such as leading edges of planes, wing ribs, formers and gussets, it is usual to specify 3-ply wood in which the outer layers are of birch, and the core, which is from $\frac{1}{2}$ to $\frac{3}{4}$ of the total thickness, of aspen or alder; the grains of the outer layers are usually parallel, and run in the direction of the length of the sheet.

Continental plywoods are often made with the grains of the outer plies running at right angles to each other, and at an angle of 45° to the grain direction of the centre ply which runs in the direction of the length of the sheet. The standard or commercial sizes of such sheets are about 42" long by 36" wide; this size is governed by the size of the clamping presses and manufacturing equipment.

Since the veneers from which constructional plywood is made are cut from a steamed log by the rotary cutting method, very large sheets of plywood can be made up, quite free from face joints or seams, providing the presses are large enough to accommodate the work. Sheets exceeding 9ft. × 6ft. have been made by the Aeronautical and Panel Plywood Co., Ltd. The following thicknesses and the corresponding weights are most common in sailplane construction (weights are for dry birch plywood) :—

Thickness	(·8 or 1-32")	1 m/m.	(1·5 or 1-16")	2 m/m.	3 m/m.
Weight lbs.	·145	·17	·25	·34	·48

Plywood is also available in multi-ply form up to 1 inch in thickness, and metal-faced plywood, known as "Plymax," is largely used in automobile construction. Veneers with fabric coverings have been effectively used for wing coverings and flexible fairings.

For aircraft quality plywood the specification number is B.E.S.A. 3.V.3.

Plywood should be well protected from damp by the application of varnish or paint. The joints, if any, in the middle layer may be inspected (before painting) by passing the sheet between the eye and a very strong light. Plywood up to 1-16th inch in thickness can be cut quite easily and cleanly with a pair of scissors or tinsmith's shears.

Advanced Soaring

By P. A. WILLS

4—The Future

THE future is black with promise. Someone has said that it is easier to die for the girl one loves than to live with her. The same is true of a cause, and the pioneers of a successful cause seldom really enjoy the fruits of their toil.

The great point we have at last gained, greater even than the actual subsidy, is the attainment of authoritative support. If that rare thing, a good soaring site, is found now, we can at least be sure of the benevolent support of the authorities, instead of having to face alone the opposition and contempt which has been our lot all round hitherto. No longer are we to be regarded by the public and landowners as half-crazy—worse, impoverished—fanatics seeking a complicated but inevitable death. And, as a result of this, real equipped soaring sites are bound to increase, and once people see real soaring the clubs are certain to prosper.

But another equally remarkable result of this change of view on the part of the authorities is that technical people also are now prepared to help. It is no long time ago that at a certain important meeting one after another pundit rose to his (it's?) feet and declared that in his opinion gliding could not make any appreciable contribution to technical knowledge. Now we are given the chance to prove that they were wrong : if we want assistance in the form of the loan of special instruments, etc., it is likely that we shall get it. To begin with, two or three pilots might fit their machines with combined temperature and pressure recording machines in order to make some investigations into the lapse-rate on unstable days. At present there are, I believe, only two such instruments in the country, and these are large and unwieldy, being constructed to neutralise as far as possible the vibration and heat of an aeroplane engine. A simple instrument that might function quite satisfactorily in the far easier conditions of a motorless aircraft, has been previously suggested in these articles.



"COR LUVADUCK, LIZE! SAY YES, OR, BLIMEY, IF I DON'T GO AND COMMIT SUICIDE, MODERN LIKE, AS THEM MAD BLOKES BE DOING!"



A PUNDIT RISING TO ITS FEET.

(PUNDITS RISE ON BUBBLE THERMALS TO THE LEVEL OF THEIR FEET (XY). THESE THEY DROP IN A PERPENDICULAR POSITION AND THEN STALL TO POSITION XY ON FLOOR.)

Of course, whilst climbing in a thermal current it seems certain that an exactly adiabatic lapse-rate would be registered, but it is the lapse-rate during the intervening periods of descent that should be extremely interesting. What will it be in the steadily descending air between the thermal columns? Will there not be a sudden alteration in this rate in the afternoon when the up-currents, and consequently the down-current, die, and also in the morning when they begin? It would be interesting if a recording variometer could also be carried on the machine. Lastly, Dr. Slater some while ago suggested an interesting method of testing Hirth's "bubble theory." On a still hot day at Sutton Bank, puffs of wind can be felt blowing up *both* faces of the slopes at regular intervals of a few minutes, and small cumulus form at regular intervals and slowly dissolve, exactly like slow-speed shell bursts. Also birds can be seen soaring over the heather-covered top. He suggested that sensitive recording thermometers should be put at two or three points in the heather. If they showed a rhythmic rise and fall at more or less constant intervals, this would prove the collection and break-away of successive bubbles of warm air, and the periodicity could be matched with the formation of the small clouds overhead. It should even be possible to time a launch so as to strike each bubble as it broke away from the ground.

(Concluded)

(Illustrations by H. McClelland)

News from the Clubs

News from the Clubs

NOTE.—*Will Club Secretaries please send the next instalment of news by May 20th at the latest. Owing to editorial holidays, any matter sent later will be held over till the July issue.*

Derbyshire Gliding Club

Negotiations were completed for the use of a club site in a strategic position on Bradwell Edge a week or two ago, so of course there has been no suitable wind since then to try out the soaring possibilities of the West Slope. The ground at the top obtained by the club has gentle slopes in all directions, and after a few walls have been removed (this operation is half completed at the time of writing) training will begin immediately.

The GOLDEN WREN travelled up to Sutton Bank on Good Friday, but after hearing the weather forecast she started home again on Saturday morning, this time accompanied by the RHÖNBUSSARD, with Nicholson and Dewsbery as the first visiting pilots to Derbyshire sites.

Easter Sunday, April 21st. Site: Eyam Edge.—Wind S.S.E. backing to S.E. 30 m.p.h. at hill top level. Conditions very bumpy, and generally about as unpleasant as they might well be, with heavy rainstorms coming along at about half-hour intervals.

Dewsbery, thriving in these conditions, got the RHÖNBUSSARD up to 1,100 ft., while Robertson and Smith could only manage 600 ft. apiece in the WREN. The wind had been backing all day, and as there was some delay between flights there was no lift when it was Nicholson's turn in the RHÖNBUSSARD. The bumps, however, were worse than ever, and he had a thoroughly uncomfortable ride to the bottom. Bad luck!

Total flying time for the day, 3¼ hours.

Monday, April 22nd. Site: Eyam Edge again. Wind S.S.E. 10 m.p.h., increasing to about 15 m.p.h. Conditions beautiful, except that the wind was not strong enough at first.



The "Rhönbussard" in Derbyshire: Nicholson is launched from Eyam Edge, keeps his height for a time, and is then forced down by a lull.
(Photos by J. P. Dewsbery.



Slater, leading off in the WREN, made a masterly flight of 15 minutes, and had gained at least 25 ft. above the start when a temporary lull brought him to the bottom. Robertson and Nicholson, in a very slightly stronger wind, had 35 and 30 minutes respectively before a similar fate overtook them.

Later in the day the wind seemed to improve again slightly, and Smith was launched in the WREN, to find conditions definitely better, so much so that on returning over the launch after his first beat he saw the RHÖNBUSSARD being feverishly rigged. Dewsbery then proceeded to show us what *soaring* really means; after a few beats along the hill he was in thermals and seemed to wander at will over the countryside, reaching a maximum height of 1,900 ft.; a very stout effort. Smith was thrilled by his first attempt at thermal soaring, his relative skill being easily expressed by his maximum height, 750 ft. Nicholson and Slater also had further flights, but the thermal activity had largely died down by then, although Nicholson once circled up to 600 ft.

Total flying time for the day, 4½ hours.

On Tuesday, April 23rd, there was no wind at all, and so ended a holiday that was most enjoyable to us and we sincerely hope to our visitors as well.

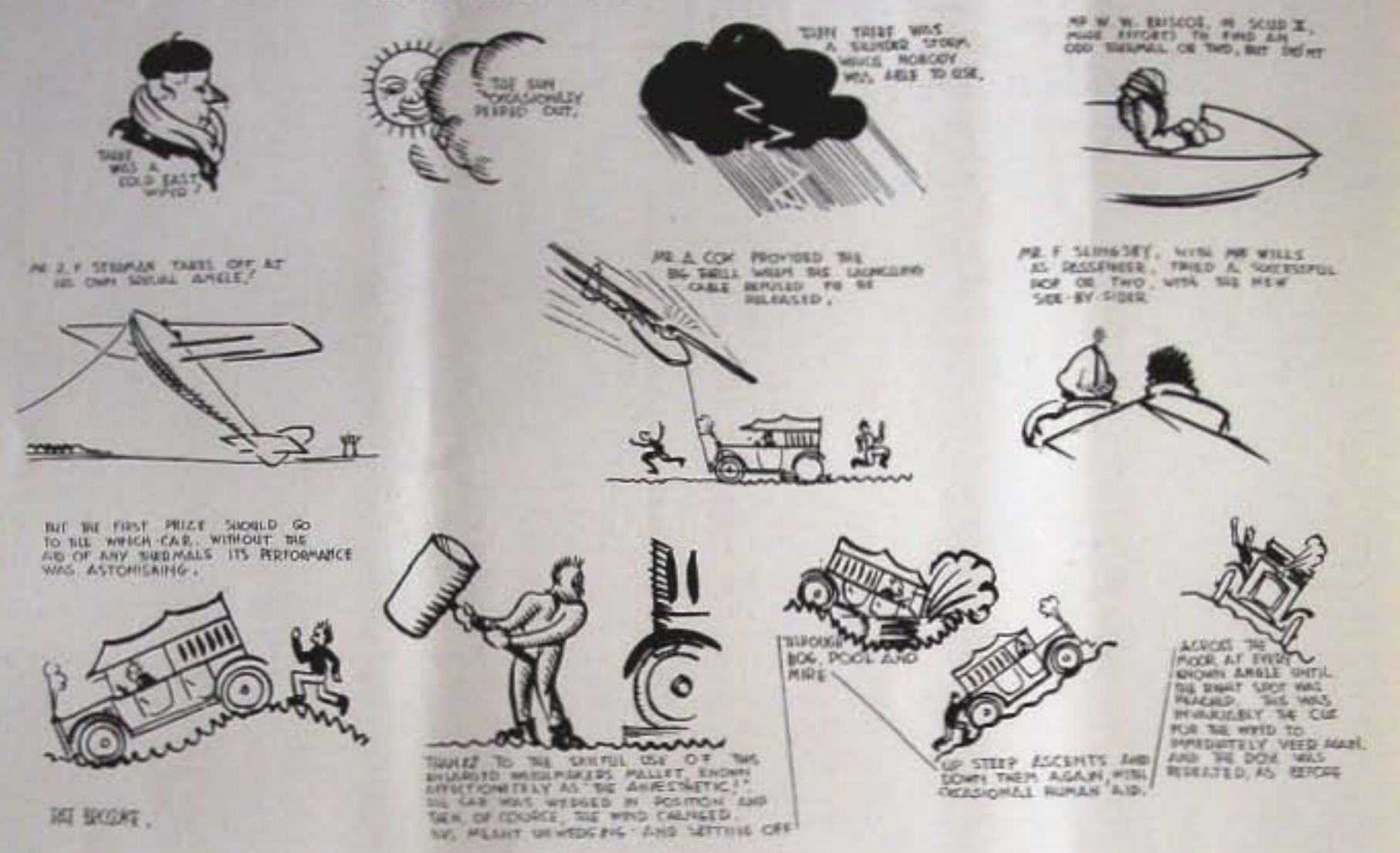
Dorset Gliding Club

Maiden Newton, Sunday, April 14th.—Although some members were away at Kimmeridge erecting the new hangar, there was quite a good attendance. In spite of some April showers, and continuous rain setting in prematurely, a lot of useful training was done, 45 launches being made. There was a nice steady south-west wind, 15 m.p.h., and L. A. Lansdown (team captain) in a steady flight of 61 seconds took the machine to the bottom, where training started at once. Three new members—one from Bournemouth—had their initial instruction, all doing quite well.

Launches were then made from a slight slope for the more advanced beginners. Owing to the wind being rather gusty, an error of judgment provided an effective lesson and this supplied the necessary restraining influence.

After an interval during a shower the wind dropped a lot and another portion of the slope was used, with advantage, till continuous rain brought the proceedings to a close.

[Kimmeridge is one of the few soaring sites in the country to face south-west, and it is good news that a permanent hangar is to be built there. It is in the Purbeck Hills, near Swanage, and the ridge is nearly two miles long and 600 ft. high, with the sea a mile and a quarter up-wind. Owing to the nearness of the sea, it is doubtful if thermal conditions are as good as they would be further inland—much depends on the relative temperature of land and sea; but anyone making cloud contact would have over 200 miles at his disposal before reaching the coast on the other side of England. We suggest the club members should study locally the formation of cumulus clouds in a sea breeze, so as to get some idea of where the thermals are likely to start from.—ED.]



Yorkshire Gliding Club

On **Sunday, March 17th,** with a steady northerly breeze, DICKSON, HOLS, and the STEDMAN two-seater were busy all the day. Winch launches were given to the more advanced members of the primary training squad, who were then passed out on to HOLS, on which they made straight winch-launched flights of from 20 to 25 seconds. Several "C" pilots made circuits round about a minute and a quarter with HOLS from winch launches, while the two-seater dealt with a long list of passengers, including Mrs. E. Craven, our treasurer's wife, who thoroughly enjoyed her first glider trip. The two-seater was able, occasionally, to make a few short beats over Roulston Scar, losing height only very slowly before coming in to land within a few yards of its launching point.

Sunday, March 24th.—On the previous Saturday several members had arrived at the club house for the week-end, but a suitable wind did not arrive till after dark, and they were left to bite their nails and talk about night flying, while the London club (all credit to them and the pilot) were actually getting on with the job.

Sunday morning, however, produced a vigorous north-west wind and brilliant sunshine and, for the first time this year, flying was started before breakfast. The honourable names are Holdsworth and A. S. Robertson, who, after launches by car, soared HOLS for 35 and 18 minutes respectively. The wind at this time was slightly vicious and conditions were very instructive. Holdsworth attained a maximum height of 550 ft. above the top. By the time these flights were over, one who, after assisting in launches, had departed in search of breakfast, had returned with a full stomach and took off with the object of remaining in the air while the others got something to eat. Probably due to a surfeit of ham and eggs he flew slap into a vigorous down-current and was extremely thankful to get the machine down intact and on the top before the previous pilots had got further than their porridge.

By this time there was a good attendance of members and the two-seater and winch were brought out while HOLS was retrieved.

Several members were on the list for dual instruction, so Stedman spat on his hands and started with Neilan, who joined us recently with a very satisfactory background of 80 hours' solo power flying. The flight lasted 35 minutes and a maximum height of 1,000 ft. above the start was recorded. Stedman's report on landing has considerably revised our opinion of power pilots of experience. Immediately after the winch launch Stedman relinquished the controls to Neilan, who then did everything else, excepting one beat when he wanted to take photographs.

In the meantime HOLS was soared by Hastwell and Jowett, after which Neilan was launched in it for his first solo soaring flight. He remained aloft for 40 minutes and reached an altitude of over 500 ft., per barograph. He gets his "A" for this!

Later in the day Wordsworth and Threapleton received dual instruction with Stedman, and HOLS was soared by Sharpe.

Finally, all the kick having gone out of the wind, HOLS was sacrificed to a prospective "C" pilot, who, after four minutes, decided to call it a day and made for the only ditch within reach, damaging a couple of struts.

The final landing of the two-seater was of a distinctly forced variety due to a falling wind, and the passenger thoroughly enjoyed it. We were very glad to see the ever cheerful Percy Watson, who will shortly be returning to the fold with his rebuilt PRÜFLING, which was tested and passed out for its C. of A. the previous week.

On **Sunday, March 31st,** owing to the absence of favourable wind and showers of rain, activities were confined to repairs and reconstruction and further decorating of the interior of the clubhouse.

On **Sunday, April 7th,** the club's first "A" certificates from winch launches were recorded, the successful candidates being Wordsworth, who immediately wrote an ode about it, and Snaddon, whose "ticket," so it is stated, will be exhibited in a well-known Leeds emporium for several days. The two-seater, with passengers, and HOLS were launched alternately throughout the day, by winch, while DICKSON, also, did a good deal of work with the primary squad.

A Club for Grimsby

Four Grimsby men, local fish workers, are building a glider under the supervision of Mr. C. W. Sizer of the Blackburn Aero Club, with the intention of forming a local gliding club. The machine is to have a span of 42 ft. and dual controls, and is designed for either auto-towing or hill flying. It is claimed that this will be the first gliding club to be formed in North Lincolnshire.

Ulster Gliding Club

March 31.—Grunau Baby II. was trailed to the top of Benbradagh, but low cloud which enshrouded the summit from time to time dissuaded the more optimistic of us from launching.

A retreat was made therefore to Hell's Hole, near Magilligan, where rather similar conditions prevailed, except that the ceiling was higher. Liddell was launched and flew for some ten minutes at about 400 ft. apparently comfortably. His comfort, however, was to receive a severe shock, for with very little warning he found himself drawn into the cloud, which stretched for miles in all directions and which, from the ground, appeared to have little appearance of lift. Then began what he himself described afterwards as a hectic twenty minutes. After attempting in vain to get out below it again, he resigned himself, and climbed in various attitudes to 1,000 metres, where the opaqueness became clearer and he had hopes of getting out through the top. It was not to be, however, for as quickly as he had risen he fell again, and came out some 200 ft. above the moor and three miles to leeward of his launching place, with all the lift gone. From his account he attained pretty well every flying attitude possible and found his rudder indicator indispensable, not to speak of his compass. A good effort, we think, for one who has flown only for some four hours or so. Flying time, 30 minutes.

April 13th.—Scud II. and Kassel 20 flown from the Knockagh in a gusty south wind of 10-15 m.p.h. Rain, sleet and low cloud made conditions unpleasant and at times painful, so that only four launches were made, the pilots being Mackie, Mrs. Mackie, Harris, and Metcalfe. Heights ranged from 600 ft. to minus 800 ft., the latter phenomenon being caused by a nerve-racking rumble in K 20's tail-end, and a discreet retreat to the bottom. The pilot admitted to flying her at 70 kms. p.h., thus scaring himself or herself unnecessarily. Flying time, just over two hours.

April 20th.—Scud II. flown by Metcalfe from Knockagh for half hour. Liddell's G.B. II. was recalled from Magilligan, where it had been sent early in the day. Failing wind and mist prevented it being flown, so it was packed off back again. One imagines that its road mileage now far exceeds its air mileage.

April 21st.—Scud II. and Kassel 20 hauled to Black Hill, the former, with Wynne piloting, launching first into a light easterly breeze. A steady loss of height resulted in a safe landing in a virtually impossible field below. K. 20, flown by Mackie at 500 ft., in rain and hail for half hour, and later by Metcalfe for 1¼ hours in better conditions—poor lift considering the conditions. Liddell arrived back all the way from Magilligan once more with his Baby in tow, but as the wind was fluky he didn't fly, proceeding back there once again, 310 miles so far this week-end! Flying time, about two hours.

April 22nd.—K. 20 and Scud II. at the Knockagh once more. Wynne flew Scud in the mist for 20 minutes, but after losing his way once or twice decided to come in. Harris tried it in Scud and Metcalfe in Kassel, both sinking to the bottom in a weakening breeze. Liddell tired of road travel and gave one or two auto-towed demonstration flights at Magilligan to interested people—a windless afternoon and evening.

April 23rd.—Liddell is one up on us at last. Launching at Magilligan at 8 a.m. he gradually froze for 5 hours 20 minutes at about 1,500 ft. in a fresh north-wester. He has the most boring part of his "Silver C" done now, and we expect great things from him in the future. The three machines flew all afternoon—Binevenagh is now merely a pleasant jaunt; Wynne tried to spin the Grunau (but she wouldn't, looking merely like an old lady in a slightly inebriated condition) several times. Everyone flew; Mackie put K. 20 up to 2,700 ft., whereat she became intent upon entering a cloud; whereat he became intent upon keeping her out of it. One wonders what her rumblings were like. She later bled her nose against the beach when the tow rope caught in wet sand and pulled her down from about eight ft. We begin to locate thermals now, out near Binevenagh, so one never knows? A grand day to finish off the week-end. Flying time, 16½ hours.



Mackie and Wynne soaring the "Kassel 20" and "Grunau Baby II" at 1,500 feet over Eagle Hill, Magilligan, on the north coast of Ireland.



London Gliding Club

Sunday, March 24th.—The day's flying commenced at 1.50 a.m., when the full moon had broken through into a clear sky after yesterday's rain. The FALCON was man-handled up the hill and Nicholson pushed off into the moonlight, getting up to what looked like 300 feet, but he couldn't read the aneroid. The air was smooth except for a mild bump or two when clouds got across the moon. (It was the moon which was above the clouds; not Nicholson, as stated in the Press.) Finally, when he had been up about 40 minutes, a large sheet of high cloud came over from the N.W. (ground wind W.S.W.), and visibility became so bad that he signalled by flash-lamp and car headlights were turned on for him to land, which he did at 2.30 a.m.

The party then retired into the bunk-house, and no further flying was done till a reasonable hour. The soaring wind, however, continued well into the day, and only began to fade out at tea-time. Daylight flights, as far as information could be collected, were as follows:—

RHÖNBUSSARD: Collins first took it up, looped it, sported in thermals, and made it do everything it was capable of doing, if not more. Then Miss Meakin started with the intention of doing 5 hours towards her "Silver C." With the worst of luck, the wind let her down after 4 hours 35 minutes, and, in an effort to prolong the flight to the uttermost second, the RHÖNBUSSARD landed precariously on the very edge of the northern gully.

SCUD II.: Briscoe also tried for his 5 hours, and succeeded with 5 minutes to spare, having started earlier than the other machine.

Green SCUD: Ground-hopped by Barker for the first time.

KASSEL 20: Reached the hill-top too late to catch the wind, so glided down again.

Green WREN: Cooper and Nicholson soared it for 1 hour 15 mins. each.

CRESTED WREN was showing the benefit of her overhaul by Slingsby. Dewsbery took her up to 800 feet in a thermal; otherwise her ceiling was about 400 feet. Thomas had a flight and was struck with her sweetness. Humphries stayed up for 3 hours 6 mins., reaching 1,600 feet in a thermal at the Bowl, and 1,000 feet by circling over the Zoo.

FALCON: Was being soared all day by various pilots, and especially well by Armstrong, who spent much of the time practising circles, and was rewarded by catching a thermal which took him up to 1,600 feet, well behind the hill.

PRÜFLING started early by being taken by Bell to the Zoo, where it got up to 400 feet in what he believed to be heat lift, since he lost it on the way back. Many others soared it, including Keeble for 42 minutes. Finally, a pilot, after a sharp turn, stalled it on to the top of the hill and put its skid out of action.

DAGLING, with nacelle, was soared at intervals, and performed a brilliant flight of 45 minutes in the hands of Grant, who got his "C" thereby.

The Cambridge Club's ZÖGLING (with nacelle) also soared.

KASSEL two-seater was busy taking up passengers, piloted by Dewsbery, landing each time on top. But on the last of these landings it had to choose between a child and a bush, neither of which would move out of the way; so it picked on the bush and was then man-handled home for repairs to tail.

Collins had also done some of the two-seater work, taking up about 15 passengers in turn.

The GRUNAU BABY is also believed to have flown, but we have no notes of what it did. The DUNSTABLE DEVIL was glided down either this Sunday or last, notes again lacking.

While all this was going on, sundry primaries ground-hopped at the bottom.

Some "A" and "B" certificates were obtained during the day, the "B's" being Robertson, Fox, and McClelland; also two "C's," Grant (as above) and Barker, who flew the PRÜFLING for 22 minutes.

Flying time for the day at least 30½ hours, possibly more.

Among the visitors was Ivor McClure, who has run the A.A. Aviation Department ever since it started. He proposes to join.

Saturday, March 30th.—The wind blew somewhat along the ridge from the south-west, but with enough up-hill component to keep up the FALCON and GRUNAU BABY. Sproule flew the FALCON twice (for 20 and 45 minutes), Baker once, and Bell for the first time. Similarly Hiscox flew the BABY twice, Ivanoff once, and Richardson for the first time. The nacelled DAGLING tried to keep up, but couldn't.

Total flying time, 5 hours.

Sunday, March 31st.—A perfect west wind, blowing slap on to the hill, strong enough to keep everybody up without worrying, and with hardly a bump except when clouds got across the sun. Consequently almost the whole club fleet took the air, and 32½ hours' flying was done.

GRUNAU BABY was first off, with Collins, who took it up and looped it. This is the first time a club machine has been looped. Ivanoff used it for practising spins—the first time a club machine has been spun (?)—and got all the practice he bargained for, including seeing the centre fairing suddenly stick out forwards at him, from some queer suction effect. Richardson, Bergel, and Armstrong also flew it.

RHÖNBUSSARD has been sold by Miss Meakin to a syndicate of three: Dewsbery, Cooper, and Nicholson. Miss Meakin had been persuaded to attend an Oxford Group séance in the morning, but on arrival, noticed the hearty west wind blowing outside, and forthwith deserted to Dunstable to indulge in an alternative method of approaching heaven, more suited to the meteorological conditions. She went up in the RHÖNBUSSARD and put it through some farewell loops before handing it over to its new owners, of whom Dewsbery and Cooper soared it and were delighted, the former doing flights of 1½ and 1 hour. Cooper also soared his GREEN WREN, while the green SCUD, formerly his, was soared by its new owner, Barker, for 3 hours in two flights.

The FALCON did wonders in the hands of Bell who, soaring it for only the second time in his life, went up to 1,100 feet under a big black cloud, with a bit of circling thrown in for convention's sake. Keeble flew it for the first time, for 20 minutes, Sproule did two half-hours, and Baker and Morland also took it up. As to Bell, who was it said you must have simply dozens of hours of soaring experience before you dare even dream of using cloud lift, and that an ounce of practice is worth a ton of theory, and so on and so forth? How long has he been theorising? For years. And soaring? A total of less than three hours.

Humphries flew the CRESTED WREN for 5 hours 7 minutes, all in one flight. At one time he managed to get within half a mile of Ivinghoe Beacon, at 1,300 ft., when he suddenly began to drop and had to retreat hurriedly to the home ridge. Two years ago, during another five-hour flight, he actually managed the return flight to the Beacon and back without losing height at all.

KASSEL 20 was soared for an hour by the Editor, who went over the Zoo for the first time and thus obtained release from a vow of some years' standing, never to enter Whipsnade on foot before having first seen it (solo) from the air. The surprise with which the old veteran (the KASSEL) was greeted showed what a lot of members have joined the club since it last soared.

Its fellow-native, the KASSEL two-seater, made about 15 flights with passengers, Hiscox taking three and Collins the rest.

The PRÜFLING was busy all day, its pilots including Curtis (36 minutes), Payne (17 and 20 minutes), Woods and E. H. Collins (who each got a "C"), and Keeble (37 minutes, which earned him promotion to the FALCON).



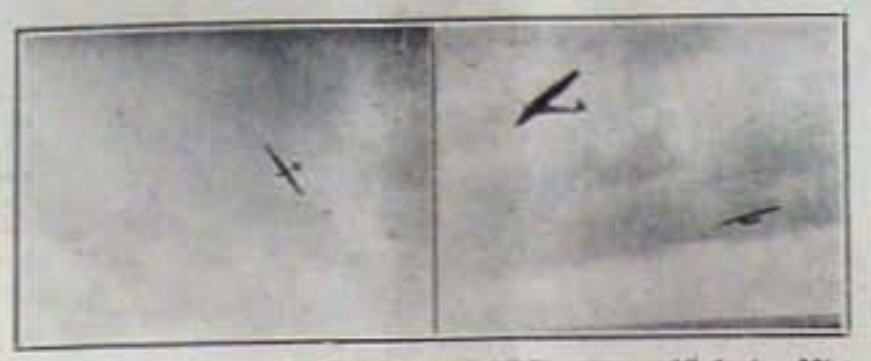
The London Club's nacelled "Dagling" which earned six out of the eight "C" certificates obtained by club members on March 31st.
(Photo by S. Fox

The nacelled DAGLING had a red-letter day, earning no less than six "C's" for its pilots. As the PRÜFLING was responsible for two more, this makes a total of eight "C" certificates earned by club members in one day, six of the eight making flights of over half an hour instead of the five minutes minimum required. Their names are: Robertson, Fox, McClelland, E. H. Collins, Mrs. Baker, Woods, Rainey, and Restall.

Of the primary machines, the "Hill-top DAGLING" and the "Instruction DAGLING" both lived up to their names.

Among visitors was A. H. Reffell, formerly of the Southdown Club and pilot of the TERN, which, he said, has now unfortunately had to be returned to its owners, Messrs. Airspeed.

Saturday, April 6th.—Briscoe was launched in his SCUD II. (whose ownership he shares with Wills and Buxton) at 12.15, and managed to make the first cross-country flight of the year. After hanging about Dunstable Downs for about an hour, he



Soaring at Dunstable. Left to right: the "Rhönbussard" during Miss Meakin's 4½-hour flight, the "Golden Wren" and the "Falcon."

suddenly found a thermal which took him up to 2,700 ft., so off he went. However, he lost it after a few minutes, and could find no others, as the air seemed to be dead, so he gradually came down again and landed at Amwell, near Wheathampstead, about 12 miles away. This is his first cross-country effort, and he says he learnt quite a lot. His brother fetched him back.

Smith and Slater, of Derbyshire, turned up for the week-end with their GOLDEN WREN, with its newly covered-in cockpit, which they believe has improved it aerodynamically as well as made it a lot more comfortable to fly. It was given its first experience of soaring at Dunstable by each pilot for about an hour.

The RHÖNBUSSARD was soared by each of its new owners, and GRUNAU BABY had several flights until it damaged its skid in a landing.

Collins brought his RHÖNADLER out from its winter quarters and went up in it for two hours, with aerobatics.

The FALCON, PRÜFLING, and the nacelled DAGLING also flew, and primary instruction was given at the bottom.

Total flying time, 14½ hours.

Sunday, April 7th.—No less than three depressions have managed to pass by during the week-end without noticeably interfering with the flying. On Saturday the club had the benefit of the west wind in the rear of Depression No. 1; No. 2 thoughtfully passed over in the night, so that its cold front fetched up on Sunday morning with another west wind, and it wasn't till late in the day that this dropped and was replaced by the premonitory south wind of Depression No. 3.

Flying started at 9 a.m., and 19 hours were put in before dusk. In the morning there were some large masses of thundery cumulus floating about of several cubic miles apiece. Collins got into one of these with his RHÖNADLER, and before long found himself "hanging in his straps"; he came out of it (the cloud, not the safety-belt) in more or less of a spin, straightened out and then threw a few loops, after which he felt better. He was up for two hours.

The RHÖNBUSSARD was again soared by its three new owners, Dewsbery with the *Daily Mail* aeroplane dancing in attendance, as it flew round and round him trying to get photographs.

Cooper also flew the GREEN WREN, Briscoe the SCUD II. (twice), Smith and Slater the GOLDEN WREN, and numerous pilots the GRUNAU BABY, FALCON, PRÜFLING, and nacelled DAGLING. In the latter, G. Toth and D. B. Rae passed their "C" tests.

The two-seater took up about a dozen passengers in turn, while down below primary instruction went on all day till somebody put the machine out of action.

Saturday, April 13th.—The RHÖNADLER put in 1½ hours in the hands of Collins, and the GRUNAU BABY and FALCON were soared by various members. Flying time, 3 hours or more.

Sunday, April 14th.—A light west wind, only soarable for short periods at odd times.

Collins managed to connect with some thermal lift and got up to the cloud base, which he found to be at 2,200 ft. Thereafter he did a circular tour of the countryside, being seen at intervals, first a few miles to the north, then more miles to the west (where he crossed the Grand Junction Canal and nearly reached Leighton Buzzard), finally approaching at a great height from Ivinghoe in the south-west, having covered about 14 miles on the round trip. Meanwhile Robert Kronfeld had turned up with his wife, just in time to see the RHÖNADLER make one of its famous aerobatic descents. Kronfeld was definitely heard to say that he doubted if he could throw a machine about like that himself. It was, we believe, Kronfeld's first visit to the London Club for nearly five years; the last time he came there were two primaries and a PRÜFLING, one or two instructors who could fly, and swarms of *ab-initios* who couldn't.

To return to the present day; Briscoe in the SCUD and Bergel in GRUNAU BABY kept their height for a minute or two, but otherwise no real soaring was done until a thundery looking affair came up from the south, which Kronfeld said was a "dying front." However, it wasn't dead yet, for the PRÜFLING was launched off the top at that moment and miraculously started gaining height into a newly arisen wind blowing parallel to the hill. Then, with a veer in the wind, Payne found himself keeping up in the FALCON, much to the envy of large numbers of pilots who had been trying to soar all day, and had given it up in disgust and gone in to tea.

Throughout the day descents were made from the hill-top in the machines mentioned, and in the closed and open DAGLINGS, Mrs. (or Frau) Kronfeld being among the pilots. Three members earned their "A" certificates, including Mrs. Grant, who studies plant bacteria on week-days, but got well away from them this time. Primary instruction went on all day as usual.

Good Friday, April 19th.—There was a good west wind until the early afternoon, when it dropped and then backed towards south.

Barker, in his GREEN SCUD, soared for two hours and got up to 1,700 ft. Collins was up in his RHÖNADLER at 10 a.m. and did 2 hours 20 minutes. The FALCON was flown by Sproule for an hour, and Keeble found that it gained extra height just before a shower of rain. Ivanoff took up the GRUNAU BABY, the PRÜFLING and DAGLING flew, and Davies got his "A."

Flying time, 8½ hours.

April 20th.—Instruction when it wasn't raining; a group of beginners had five hops each.

April 21st.—Strong south wind, moderating enough later for some instruction to be started. Earlier in the day, looking round for something to do, the assembled company decided on a bonfire. Junk appeared as if by magic from forgotten corners of hangars and workshop, and the resulting blaze brought the public trooping down the hill, only to be disappointed when the club failed to produce a body from the wreckage.

Total Flying Time.—In four weeks, March 24th to April 19th, flying at week-ends only, club members have put in 115 hours' flying.

Cambridge University Gliding Club

This club's nacelled ZÖGLING, which was illustrated in our last issue, is a brand-new machine, built by Messrs. Zander & Weyl, and not a reconditioned one, as was stated in error. It is true that the same firm has recently reconditioned a ZÖGLING, but it was bought by another customer. The sailplane which the firm is building for the club is now nearly finished; it has some interesting and original features which we are not yet allowed to divulge.

The club, we understand, takes a certain number of members from outside, subject to the condition that two-thirds of its members must be resident at the university. A unique feature is that it is intended to provide auto-towing facilities in the afternoons *every* day of the week. We hope the club will in time achieve the position held by many of the university gliding clubs in Germany, which can usually count on the support and co-operation of the teaching staff from the aeronautical and meteorological faculties.

Nottingham Gliding Club

A public meeting, in connection with the reforming of the Nottingham Gliding Club, will be held in the Y.M.C.A. Hall, Mansfield Road, on Friday, May 17th, at 7.30 p.m. All interested in the gliding movement are invited to be present at the meeting.

A circular has been sent out, from which we reproduce the following extracts:—

Reasonably low subscription rates are contemplated and no entrance fee will be charged for a limited number of members who join the club at the outset.

The club will be fortunate in having the co-operation of a former member of the Nottingham Gliding Club, Mr. Searby, of Netherfield, who has had considerable experience in both the flying and construction of gliders. He has his own gliding ground and hangar at East Bridgford, which he has agreed to place at the club's disposal, and it is intended that the club shall commence activities on Mr. Searby's ground and under his direction. The ground is quite accessible, and a bus service runs close at hand.

Applications for membership should be sent as early as possible to the Organising Secretary, Mr. R. C. Sowerbutts, 426, Woodborough Road, Nottingham.

Members will receive notice of a general meeting, to take place as early as possible, for the purpose of deciding the future constitution of the club. The chair will be taken by the club's president, Major S. A. Currin.

Manchester Gliding Club

THE Annual General Meeting was held at the Exchange Hotel, Manchester, on March 30th. Mr. Chadwick was in the chair. After the secretary had read his reports, the accounts were taken and passed unanimously.

At present the club have two machines in use, a two-seater B.A.C. VII. for dual instruction and joy rides, and a PRÜFLING, complete with a Chrysler car and auto-towing gear. Negotiations are in hand for the acquisition of a WREN sailplane, so, in the very near future, activities will be extended to soaring instruction on our own site. Two further machines are under construction for members.

There are five vacancies to bring the club up to standard requirements. The annual subscription is £2 7s. The new Hon. Secretary is Mr. J. Norman Saunders, "Davenport Heyes," Henbury, Macclesfield, Cheshire.

Joy rides and auto-towed dual flying instruction are available at Woodford Aerodrome, near Bramhall, every Sunday.

News from the North

WE hear that the South Shields Gliding Club has joined forces with the Newcastle Gliding Club. The Newcastle Club members have lately been busy with the interior fittings to their clubhouse and hangar at their soaring site at Mootlaw. Mr. Hick has resumed work on the wings of his sailplane (of his own design), which he is calling the "Kestrel"; its fuselage, now complete, was recently exhibited at a model aeronautical exhibition in Newcastle.

There was once a Sheffield Gliding Club, and Mr. Roy T. Wheeler, of 51, Carterknowle Road, wishes to get into touch with former members, or anyone else in the district who is interested.

Considerably further north, a gliding club is reported to have "sprung up among the ruins of an old farm" near Dunbar, and to possess already two planes.

Essex Gliding Club

In the January issue THE SAILPLANE published some statistics of gliding clubs which had been collected by the previous B.G.A. secretary. The secretary of the Essex club then wrote to point out that some clubs appeared to have more certificate-holders than members. His complaint was justified, since the Essex club figures only included certificate-holders who were still members of the club. If past members are also included, the club secretary now writes, the correct figures for the Essex club should read: 15 "A," 10 "B," and 1 "C" certificate.

The club membership at the beginning of April was 35, and this is expected to be increased in the near future.

Correspondence

SIR,

May I appeal to all those who have anything to do with the administration of the Government subsidy to do all in their power to ensure that its distribution and effects shall be spread evenly and equitably over the whole of the country?

The grant has come from the taxpayers' pockets, and all parts of the country, therefore, have an equal right to benefit. The twenty or so clubs that have been struggling for years against great hardship, such as the economic depression, inability to obtain use of site on account of shooting rights, and other causes, regional depression, etc., etc., should each be strengthened to form a sound nucleus upon which a strong national movement can be built.

The Air Ministry has already approved of certain standards to which clubs must attain in order to become affiliated to the B.G.A., but any further regulations that would prevent the less fortunate clubs from participation of the subsidy would be a national wrong, and must be avoided.

C. H. LATIMER NEEDHAM,
Vice-President, British Gliding Association.

To further the development of Gliding and Soaring in this country

The Government has offered a subsidy of up to £5,000 *per annum* for five years, on the understanding that this amount will be generously supplemented from private sources. **You can help** by joining, or giving a donation to

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Blue Prints: "R.F.D." Primary, £2 2s. 0d.; "Falke," £7 10s. 0d.; "Scud II," £8 8s. 0d. Post free.

Particulars of your nearest or most convenient Gliding Club can be obtained from the Hon. Secretary of the Association.

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10,017 miles on the road by an Austin—without stopping the engine

EXTRACT FROM REPORT OF ROYAL AUTOMOBILE CLUB TRIAL No. 771. WAKEFIELD PATENT CASTROL "XL" OIL.

ENTRY.—Messrs. C. C. Wakefield & Company, Limited, of Wakefield House, 30/32 Cheapside, London, E.C.2, submitted for trial a sample of Wakefield Patent Castrol "XL" Engine Oil.

OBJECT OF TRIAL.—The object of the trial, as declared by the entrants, was to demonstrate the performance of the oil in the engine of a car, running over a distance of 10,000 miles, without stopping the engine.

DESCRIPTION OF TRIAL.—The car used for the trial was supplied by the entrants and was a 1935 18 h.p. Austin car, fitted with saloon body.

The trial run was in three eight-hour shifts per 24 hours, intentional stops, with the engine running, being made for traffic, refreshments, and changing crew. The total distance covered was 10,017¾ miles at an average speed (settled by the entrants) of 32.2 miles per hour excluding all stops.

RECORD OF TRIAL.—The engine ran continuously throughout the trial for a total time of 341 hours 52 mins. The car was stationary, with the engine running, for a total time of 40 hours 12 mins., the longest stops being of 44 mins., 43 mins. and 43 mins. duration respectively.

The engine sump was drained and refilled before the start of the trial, but not again during the trial. The total amount of oil used was 1.64 gallons, equivalent to a consumption of 6,118 miles per gallon. Throughout the trial the oil level in the crankcase was maintained between the "maximum" oil level, as shown on the dipstick, and two-thirds full.

At the end of the trial the engine was completely dismantled. All working parts were found to be covered with a film of oil and were in good condition. The carbon deposit on the piston heads and cylinder heads was thin. There was little carbon deposit on the metal parts of the sparking plugs and the insulators were clean. The piston rings were free in their grooves.

The appearance of the parts was very consistent throughout. The wearing parts, being in uniformly good condition, were not photographed.

On dismantling, the engine sump was found to contain no sludge or deposit.

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British Altitude Record	G. M. Buxton ...	**Scud II**—8,323 ft.

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De Havilland Cup	... For greatest altitude	**Scud II**—Buxton, 8,323 ft.

PRIZES

Class I (unlimited span)

Altitude	1st, G. M. Buxton..	**Scud II**—8,323 ft.
Daily Prize	September 8th, G. M. Buxton	**Scud II**—out and return
Landing Prize	Greatest number ...	**Scud II**—P. A. Wills

Class II (span up to 46 feet)

Distance	1st, P. A. Wills ...	**Scud II**—18 miles
Altitude	1st, G. M. Buxton..	**Scud II**—2,650 ft.
Do.	2nd, W. W. Briscoe	**Scud II**—2,000 ft.
Out and Return	G. M. Buxton ...	**Scud II**—Oswald Kirk and back

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