February 1, 1932 Vol. 3. No 3

THE SAILPLANE & GLIDER

Official Organ of the
British Gliding Association

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THE SAILPLANE & GLIDER

(*Founded in September*, 1930, *by* THURSTAN JAMES)

The only Journal in the World devoted solely to Motorless Flight.

OFFICIAL ORGAN OF THE BRITISH GLIDING ASSOCIATION.

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Editorial Offices: 44a Dover Street, W.1. *Telephone*: REGENT 6145.

Subscription Rates (Post Free): Annual, 15s. 0d.; Half-Yearly, 7s. 6d.; Quarterly, 3s. 9d.

Vol. 3. No. 3. February 1, 1932. [Published on the 1st and 15th of each month. Price 6d.]

CONTENTS.

THE 1932 COMPETITION

The Council of the British Gliding Association is to be congratulated on having taken steps so early in the year, as announced on another page, to appoint the Contest Committee as the Committee to organise the 1932 Competition. We venture to predict that the choice of the Contest Committee for this purpose will give general satisfaction to those associated with the Gliding Movement. The appointment of one committee to organise and carry out the whole of the arrangements for the Competition is definitely a step in the right direction, and the Contest Committee is the obvious body for this work.

One of the first duties of the Committee will be to select a suitable site for the Competition. It is with very considerable satisfaction that we note that the site is to be chosen mainly from the point of view of soaring. At the risk of becoming monotonous we would repeat that soaring flight should be the aim of the activities of every Club, and a competition organised on the lines contemplated will, undoubtedly, excite to more vigorous action those Clubs which are pursuing a progressive policy. From another point of view, there is no better method of stimulating public interest in the Gliding Movement than by holding attractive public competitions, and a meeting devoted principally to this branch of motorless flight should prove extremely diverting to the general public.

It is realised, of course, that even by the date of the Comptition, certain Clubs will not have progressed far beyond the training stage, and, while soaring flight will be the main aim of the Meeting, every endeavour will be made to include contests for primary and secondary machines, in order that every Club may have an active interest in the Competition.

The work of the Committee will not be confined to the selection of a suitable site. Rules and regulations for the contests have to be drawn up and, while the final drafting cannot be settled until the site has been selected, we understand that this work is already well in hand.

There is also the question of the provision of an adequate prize fund, without which no Competition of this character can hope to succeed. It is hoped that the fund will attain such dimensions that it will be found possible to offer substantial prizes of an order calculated to attract the best British and Foreign sailplane pilots to enter and compete.

The actual date of the Competition remains to be fixed and it must clearly be chosen so that the Meeting will not conflict with any other similar event on the Continent. One thing, we gather, is assured and that is that the Competition will extend over a week or ten days. In this way those who are unable to be present for the whole period of the Meeting will probably be able to spare at least a few days during which they can compete in one or more events. An added advantage of extending the Competition over a period is that the weather, ever fickle in these Islands, will have a better opportunity of conforming, for at least part of the time, to the conditions essential to successful soaring flight.

The first Conference of Gliding Clubs was held last year at Ilkley and proved of considerable assistance to many Clubs which sent representatives. It is hoped to make this Conference an annual event, and no better time could be fixed for it during the present year than in the period of Competition. We understand that this is to be arranged, if at all possible, but it will obviously depend to some extent on the site finally selected for the Meeting.

We have endeavoured to give an outline of the general arrangements which, as far as our information goes, have already been decided upon for the 1932 Competition. But it is clear that if the Contest Committee is to carry through to success the onerous task which it has accepted, it will need the active support, right from the start, of every Club and every individual interested in the Gliding Movement. Any Club or individual who knows of a suitable site for such a Meeting as is contemplated is invited to communicate without delay with the Secretary of the British Gliding Association, giving full particulars. We understand that questionnaires are available and are being distributed for this purpose. It may not be out of place, for the guidance of those who are interested, to call attention to the leading article on the subject of Sites and Competitions which appeared in THE SAILPLANE of Dec. 18, 1931. If the meeting is to be a success, the selection of the right site is a question of paramount importance and anyone who can be of assistance should spare no pains in the matter.

It now remains for the Clubs to push ahead with their training and to have as many "B" and "C" pilots and

machines as possible ready by the summer, in order that they may secure a win in an event which, it is hoped, will provide a substantial increase for Club funds. Manufacturers and private owners will not be neglected, for the British Gliding Association intends to offer them every encouragement to participate in the Competition.

The early and definite start which has been made by the British Gliding Association and by the Contest Committee augurs well for the success of the Competition. There is every prospect that, in spite of the present economic depression, the year 1932 will be a memorable one in the history of the British Gliding Movement. But, we repeat, it is up to Clubs, owners, manufacturers and others who are interested to rally to the call and to give whole-hearted support to what, we hope and believe, will be an outstanding event in Motorless Flight and the forerunner of many years of sustained progress and achievement.

PREPARING FOR THE COMPETITION

There are two offers in this issue of THE SAILPLANE which should appeal to those who wish to start right away training for the Summer Meeting.

The first is from the London Gliding Club which is making a genuine effort to help the Movement generally by arranging for an Easter Gliding Camp. For remarkably low fees anyone joining this camp can enjoy, for anything up to five days, tuition and practice in all branches of motorless flying from primary gliding to advanced sailplane flying. The whole of the resources of the Club will be at the disposal of their visitors. We advise anyone who intends joining the camp to make early application.

The second invitation comes from the Portsmouth and Southsea Gliding Club which offers the hospitality of their excellent site at Portsdown Hill to private owners on any Sunday afternoon. Portsdown Hill is an excellent starting point for cross-country soaring flights. Once a pilot has mastered the art of soaring at his home ground there is no better practice than to carry out flights from a strange centre where conditions are probably quite different from those to which he is accustomed. It has to be remembered that a southerly wind is necessary at Portsdown Hill and intending visitors should first ascertain from the Meteorological Office, either direct or through listening to the B.B.C. or Automobile Association (Heston) broadcasts, that a southerly wind is likely to blow when they are there.

We hope that intending competitors at the International Meeting will avail themselves of one or both of these sporting offers. The Great Week will be here all too soon and there is no time to be lost if we are to show our foreign visitors that we in this country are in "this Gliding business" in earnest.

MOTORLESS AND POWER-FLYING

It is becoming more and more obvious that the flying of gliders forms a definite stage in the education of a would-be power-pilot. In fact, cases are on record, both in this country and in Germany, where exceptionally experienced glider pilots have, without any previous instruction, taken off, flown and landed a power-plane, single-handed. There is, however, such a vast difference between taking-off and landing motorless and power-driven machines that such a drastic procedure is definitely risky.

There is, however, a reverse aspect of the relation between the two types of flying. If a glider pilot is imbued with the ambition to become a first-class sailplane pilot he will find that a short intermediate course of dual power-instruction will help him to appreciate the delicacy of the controls in a high-efficiency sailplane. Here, again, in support of this view, there are practical, and recent cases in British gliding circles.

From whichever point of view the glider pilot views his future career, we welcome the attitude of British Air Transport Ltd., of the Air Port of London, Croydon, who have arranged special terms for tuition in power-flying to meet the requirements of glider pilots.

On Negotiating Turns

In a recent article on "Negotiating Turns with Gliders," Martin Schempp, in addition to giving the usual advice, calls attention to the pronounced effect of the increase of wind with height when a sailplane of large span, flying against the wind at a low altitude, is put into a banked turn. The air speed of the outer wing is increased not only by the fact of the glider turning, but also by the stronger wind into which it comes the moment the glider begins to bank. Many a power-pilot, says Schempp, has been taken by surprise in such circumstances, finding himself suddenly in a steep bank for no apparent reason; a sudden gust may even roll the machine over on its back. The effect is especially pronounced when soaring over wooded slopes, owing to slowing-up of the lower layers of air by the friction of the trees.

It may be recalled that even Groenhoff has been known to get into trouble in this way, for in 1929, while making a sharp turn over the wooded south-easterly slope of the Eubeberg (where much soaring was done at last year's Rhon meeting), he side-slipped down into the trees and wrote off his machine. The design of the machine, a Schleicher sailplane, was not to blame, for its had performed well at the previous year's Rhon meeting.

A pilot, therefore, who in such a situation wishes to bank, need only give his machine a slight start and it will complete the bank all by itself; this, as Schempp points out, is one of many cases in which a knowledge of the behaviour of air currents enables a pilot to let the forces of Nature do his manœuvring for him, instead of working his controls, thereby causing extra resistance, worsening his gliding angle and so losing height unnecessarily.

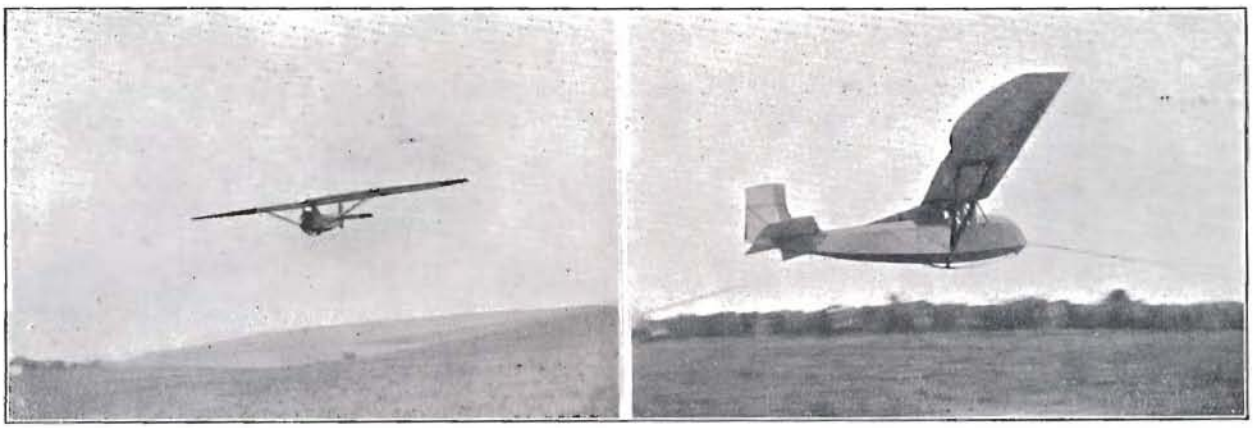
The tendency of a turning glider to stall its inner wing can be to some extent prevented by arranging for a relative "wash-out" of incidence at the tips, and Schempp recommends that gliders should be rigged in this way where possible. This is, in fact, the practice at the Rossitten school; when rigging their ZOGLINGS they tighten the rear landing wires more than the front ones, each rear flying wire being correspondingly lengthened a little to allow of this.

In the case of a glider with wings of poor torsional strength, or one whose rigging wires have been allowed to get slack, a sudden and violent application of ailerons may cause distortion of the wings and put the glider into an opposite bank to that intended; for this horrid predicament Schempp recommends, "if there is still time, to give gradually reverse aileron, taking the ship out of the bank, and to land immediately."

The "National Glider and Airplane News," in which Schempp's article appears, has now taken to printing the word "Glider" insignificantly small on its outer cover, while the word "Airplane" is blazoned forth in large lettering for all air-minded bookstall frequenters to see. Worse still, we understand that the title is shortly to change to "Practical Aircraft."

It is regrettable to note this apparent shyness on the part of our U.S. contemporary to advertise the gliding side of its activities. In any case THE SAILPLANE retains its unique position as the only paper in the world devoted solely to motorless flight and we are far from being ashamed of it.—A.E.S.

The 1932 Competition Committee of the British Gliding Association have sent a questionnaire to the Secretaries of all known Gliding Clubs in England, Wales and Scotland asking for the particulars of sites and any Secretary who has not received such a questionnaire, or any other person who has any information to give as to a suitable site, is asked to communicate with the Secretary of the British Gliding Association, 44a, Dover Street, London, W.1.



The British Falcon

CLUB CONSTRUCTED MACHINES

By "SEGELFLIEGER."

V.—British Enterprise: THE "BRITISH FALCON."

The "British Falcon," the first Falke to be built in this country by an amateur, and to receive its C. of A., is a credit to its owner and constructor, Mr. F. Slingsby, of Scarborough.

The Falke, as far as design is concerned, is not a machine which would inspire the amateur to try and build it, on account of its very difficult wing lay-out. Mr. Slingsby, however was not to be daunted, and not only built the machine and obtained his C. of A., but has since done some remarkable flying in it.

He has very kindly supplied a few notes on the construction methods which he used in building up his British Falcon, and it is proposed to retail these for the benefit of other clubs who wish to build this same excellent type of machine.

In the first place Mr. Slingsby followed continental practice in the construction of the machine, and found this method of construction a good one. He summarises the method thus: "No nails, no worry!"

The greatest difficulty was found in the construction of the wings. On this point Mr. Slingsby writes: "Owing to the peculiar shape of the "Falke" main planes, the secret of correct construction is to retain both spars in actual flying position before ribs and drag bracing members are fixed. The job is comparatively simple if the spars are correctly positioned at the commencement of operations, and dead accuracy is observed in marking-off."

Anyone who has seen the machine, will realise that Mr. Slingsby is right in stressing the importance of very careful work on the wings.

Personally, I should not advise any club to undertake the construction of a Falke, unless it had already built some simpler machine with success.

The remaining parts of the machine, such as the fuselage, tail units, etc., were not, according to Mr. Slingsby, very different from ordinary practice, the only real difficulty being with the wings.

Much has been said in THE SAILPLANE about the flying capabilities of the Falke. But at the risk of reiterating what has been said by others, I would say that, if there are any clubs which, having already had some experience in machine construction, are considering the construction of a secondary machine, they will not be disappointed in the flying capabilities of the Falke, once having succeeded in constructing it; but they may have very serious difficulties in the construction work.

Mr. Slingsby gives a rough estimation of 800 man hours for the construction of the British Falcon and its gigs.

A Suggestion

The building of successful machines by a club is, in many people's opinion, as important for the club as the capability of flying them. There are many clubs in England who are at present building machines, or who have built them.

"Segelflieger" will be pleased to receive any news from such clubs, so that he may have the opportunity of passing on any new ideas in these short articles for the benefit of others.

Will anyone wishing to help the Movement in this way, kindly write to: "Segelflieger," c/o The British Gliding Association, 44a Dover Street, London, W.1.

A BOON TO CLUB CONSTRUCTORS

To those who are making their own machines, it may be of assistance to know where to go for special machined parts of good design with a high standard of accuracy and finish. Mr. Leonard Heys of Faraday House, Henry Street, Blackpool, who has a first-class cabinet-making plant as well as engineering and distributing facilities, makes a speciality of this kind of work. He is also prepared to stock and supply any accessories or instruments of use to the sailplane constructor.

HOW TO OBTAIN METEOROLOGICAL INFORMATION FOR YOUR WEEK-END FLYING

With everybody starting in earnest intensive training for the Summer Competition, every day that can be devoted to flying becomes important. Much valuable time can be lost through not knowing in advance the wind and weather conditions that are likely to obtain at a particular site. It is proposed, therefore, to detail the various services that are available for the dissemination of meteorological information useful for motorless flying operations.

1. Meteorological Office, Air Ministry.

The forecast service of the Meteorological Office, Air Ministry, is in operation day and night, seven days a week. Detailed information regarding existing and probable wind and weather conditions in any area may be obtained immediately by telephoning Holborn 3434, Extension 185. If arrangements are made in advance for a forecast or series of forecasts, a small registration fee is charged in addition to the cost of transmission of the forecast (telegram or telephone). Telegraphic address :— "Weather London."

2. Local Forecast Services.

Meteorological Services, under the Meteorological Office, Air Ministry, are maintained at the following Royal Air Force and Civil Aerodromes. In general, the services of a forecaster at these stations are only available on weekdays during normal flying hours.

Station	*Telegraphic Address*	*Telephone*
South East England		
Croydon	Meteor c/o Aeronautics, Croydon	Croydon 2720, Extension 23
Lympne	Meteor c/o Aeronautics, Hythe	Hythe 123
Southern England		
Boscombe Down	Meteor c/o Aeronautics, Amesbury	Amesbury 121
Worthy Down	Meteor c/o Aeronautics, Winchester	Winchester 278
Calshot	Meteor c/o Aeronautics, Fawley	Fawley 46
South Farnboro'	Weather, Sth. Farnboro'	Farnboro' 103
Central England		
Upper Heyford	Meteor c/o Aeronautics, Heyford	Bicester 105
South West England		
Mount Batten	Meteor c/o Aeronautics, Plymouth	Plymouth 1634
Eastern England		
Cranwell	Meteor c/o Aircoll, Sleaford	Sleaford 64
Felixstowe	Meteor c/o Aeronautics, Felixstowe	Felixstowe 184
North East England		
Catterick	Meteor c/o Aeronautics, Catterick	Catterick 53
North West England		
Sealand	Meteor c/o Aeronautics, Chester	Chester 1105
Scotland		
Leuchars	Meteor c/o Aeronautics, Leuchars	Leuchars 16
Renfrew	Meteor c/o Aeronautics, Renfrew	Renfrew 125
Northern Ireland		
Aldergrove	Meteor c/o Aeronautics, Crumlin, Antrim	Antrim 20

3. British Broadcasting Corporation.

The B.B.C. broadcasts weather forecasts, supplied by the Meteorological Office, Air Ministry, from both its National and Regional transmitting stations.

The National Station (Daventry 5XX, wave length 1,554 metres) broadcasts weather forecasts in the morning at 10.30 a.m. and again in the evening at 9.15 p.m. The morning broadcasts contain (a) forecasts for land areas; (b) a general statement of the pressure distribution; and (c) forecasts for shipping, the forecasts covering a period of 12 hours. In the forecasts for land areas no reference is made to wind. The evening broadcasts are for shipping only.

The forecasts issued from the Regional Stations are of a more general character and do not, as a rule, give detailed information regarding probable wind conditions.

4. Automobile Association Wireless Broadcasts.

The Automobile Association has recently established a Meteorological Radio Station at Heston Airport, which broadcasts daily on a wave length of 833 metres weather reports from about 25 selected stations and forecasts for aviation, supplied by the Meteorological Office, Air Ministry.

The **reports** give the general state of the weather and the visibility at each station, followed by the direction and force of the wind and the amount and height of the base of low cloud.

The **forecasts** cover England, Scotland, Wales and Northern Ireland and give information as to visibility, cloud and the likelihood of rain, hail, snow or sleet with wind conditions both on the surface and at 2,000 feet.

The hours of broadcasting are as follows :—
8.45 a.m.—Early morning observations.
9.30 a.m.—Part I. Repetition of the 8.45 broadcast amended by any subsequent reports.
Part II. Forecasts for the period until dusk.
10.30 a.m.—Recent observations in South East England.
11.30 a.m.—Observations received during the preceding hour.
12.30 p.m.—Forecast for the period until dusk.
4.30 p.m.—Recent observations.
5.30 p.m.—Repetition of the 4.30 broadcast amended by any subsequent reports.
6.30 p.m.—Forecast for the following day.

Messages have been clearly received as far as Newcastle in the North and Exeter in the South and it should be possible, by means of these broadcasts, for any place within 200 miles of Heston to have up to date information about the wind and weather all over England.

SURVEYING FROM AIR PHOTOGRAPHS"

By CAPT. M. HOTINE, R.E.

(Constable, 30/- nett.)

Nowhere is there greater need for up-to-date books than in the aircraft and allied interests. Their development is so rapid that the difficulty is not so much to keep pace as to catch up with the latest ideas. This position is well illustrated by air survey work. Once a sub-section of war-time operation of aircraft, it has already evolved into a practical science so important that aircraft are now designed to meet its special requirements.

Although the principles of surveying are well established their adaption to the new conditions has called for much study and, since air survey has proved so useful, it is essential that the results of this study be widely known, so that those who use the original methods may obtain the fullest benefit from this latest application.

Capt. Hotine's book meets all requirements in this respect. The well-balanced views of the relationship of ground and air survey show that a full experience of the former has been brought to the assistance of the newer art. The repeated statement that only practice can bring ability does not lessen the value of the advice given in the book. Theory and practice are treated side by side, and the subject matter ranges from practical details to the mathematics of the principles involved in air survey instruments.

The economic side is also reviewed and estimates of cost are given, together with sound advice which should meet most cases and reduce the expense of many.

It is worth repeating part of the publisher's foreword which states: "Capt. Hotine was for five years the Research Officer of the British Air Survey Committee, and it has been largely due to his discovering and initiating simple methods that surveying from air photographs has become a sound alternative to surveying on the ground." Having appreciated the thoroughness with which the book has been written one is not surprised at such a claim.

No one whose business requires detailed knowledge of large areas of country can afford to ignore the air survey, and no better source of guidance and instruction can be recommended than Capt. Hotine's book.—F.P.

GLIDING AS PRELIMINARY TRAINING FOR POWER FLYING

It has frequently been stated that one of the more obvious practical applications of Gliding is that it forms an excellent (and cheap) preliminary training for would-be power plots. Force is given to this view by the following reports—entirely independent—which we are able to publish by courtesy of the Brooklands School of Flying. A member of a certain Gliding Club, who had never piloted a power-driven aircraft, acting on an impulse, hied him to Brooklands and had three-quarters of an hour dual instruction in a Gipsy Moth. His own account of his experience is given below, together with the report of the Instructor, Mr. S. A. Thorn of the Brooklands School of Flying.

THE PILOT'S OWN STORY

Having lately struggled through to an ab initio "C" certificate, I thought it would be as well to have some dual in a power-plane in order to check any incipient bad habits. The Brooklands School of Flying being benevolently interested, one of their instructors, Mr. Thorn, took me up in a Moth after a couple of minutes of verbal instruction. The flight was so amusing that we subsequently agreed in mid-air to carry on until funds ran out, which occurred at the end of 45 minutes.

It took me about a quarter of an hour to grow accustomed to the new conditions. I was seated at the wrong end of the machine and felt like a hansom cab driver having a bath in situ. The view was extremely limited. Haze obscured the horizon, and it was difficult, therefore, accurately to rest the correct portion of the nose upon the sky-line. The controls were so sensitive that at first I despaired (unnecessarily, it proved) of mastering their microscopic limits of movement.

We deliberately confined our flight to flying straight and level, to turns of varying degree, and, as a luxury, to a few dives and climbs and one glide. At the end of half an hour I was really enjoying myself and pottering about the country, rejoicing in the reliability of the engine—a relief after the limitations of up-currents.

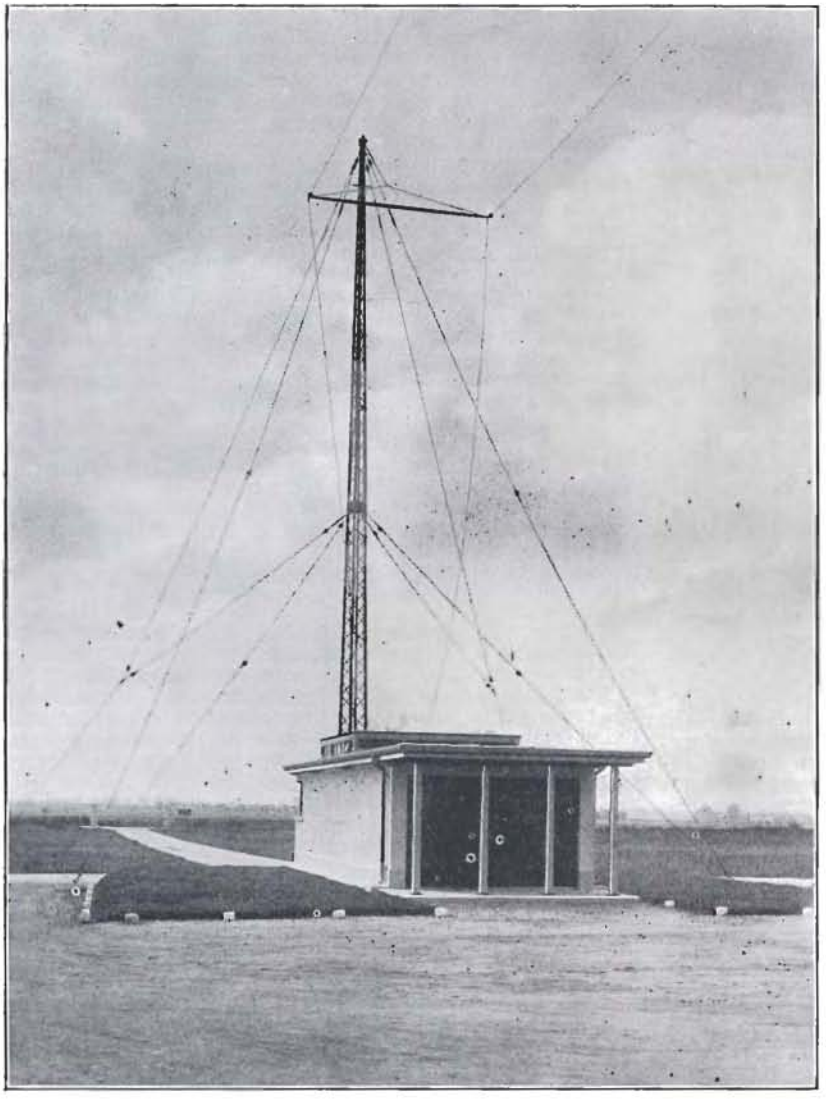
Mr. Thorn took over for a couple of minutes to demonstrate the use of the elevator in steep turns. From the point of view of one's bodily comfort he rather overdid them. My imitations were milder, but he eventually approved. Engine torque was a bit bothering at first, but with the guide of the cowling's position on the horizon, however hazy, one soon acquired the habit of correcting for torque with the elevator.

I am now convinced that a "C" pilot obtains real benefit from dual instruction, simply because the instructor is continually watching, and by means of the 'phone **immediately** confirms correct movements and condemns wrong movements. There may be a large difference in technique between soaring and power-flying, but one is still listening to the sound of the wind, and all other bare principles are broadly identical.

The main value must be instruction in turns. An ab initio pilot is at first shy of nimble turns, and progress is often unduly, sometimes even completely, checked for this reason alone. The most delightful part of the flight was the ability to circle continuously, left and right handed, without losing height. The sensitiveness of the elevator must be good preliminary training for flying PROFESSORS and SCUDS.

It may conceivably be unwise for a glider-pilot to try power-flying before he has obtained his "C," or at least his "B,"; until he has a fairly firm grasp of glider technique he may only be confused by power-plane technique. But, once he is through his "C," a little dual can do nothing but good.

I thoroughly enjoyed my experience, but it will be an immense relief to go back to the comparative silence and peace of engineless flight.—"C" PILOT.



The Automobile Association's Broadcasting Station at Heston.

THE INSTRUCTOR'S REPORT

On the 19th of this month, a Member of the ——— Gliding Club and a recent holder of the "C" Gliding Licence, had three-quarters of an hour dual instruction in a Gipsy Moth with myself, at Brooklands School of Flying, the idea being to ascertain as far as possible how much his Gliding experience would help him in flying a power-driven Aircraft, having never previously taken over control of an Aeroplane.

After about ten minutes in the air I found that he could fly level, climb and glide, carry out perfect turns with and without engine, with precision.

There are various factors that are strange to a Glider Pilot in flying a powered aircraft, such as his bad field of view forward from the rear cockpit, and the effects of engine during the turn, such as torque and gyroscopic action.

The first, and outstanding difference, according to "'C' Pilot" was the sensitiveness of controls as opposed to the Glider.

It is obvious from the foregoing that experience in gliding is of the utmost help to a Pilot intending to fly an Aeroplane.

The average time taken for an ab initio pupil to reach the standard of "'C' Pilot" after ten minutes would be about 2½ to 3 hours.—S. A. THORN.

FROM HERE AND THERE

AN AIRSHIP GLIDES

The petrol and the crude oil engine were each tried in airships before aeroplanes; Giffard drove his airship with steam 42 years before Maxim's flying machine tore up its rails in Kent, while neither electric propulsion nor man power, both used for dirigibles in the last century, have yet been applied to heavier-than-air aircraft with success. Is there, then, any branch of aeronautics where lighter-than-air has not been first in the field ?

Gliding, you say ? Motorless flight ?

Well, listen to this.

On Sept. 4, 1863, a Dr. Solomon Andrews achieved dirigible flight in a motorless airship. He went off against a ten-mile-an-hour breeze, performed spirals over New York, re-crossed his starting point, turned about in all directions, and, in short, did pretty well everything but loop the loop. This amazing performance has just been brought to light by a writer in the January "Popular Science Monthly," who was commissioned by that paper to search "dusty official documents, yellowed newspapers, and long-forgotten letters in public and private files," and has now succeeded in unearthing the whole story. Strange to say, the affair has never got into the aeronautical history books; anyway, THE SAILPLANE claims to be the organ of Motorless Flight, so here it is.

Takes its "A," "B" and "C."

The secret of Dr. Andrews' success lay in the shape of the gasbag. This was triple, consisting of three cylinders with pointed ends, placed side by side. Each was of 13ft. diameter and 80ft. length, stiffened longtitudinally with strips of wood. A long narrow basket, with movable weights inside, hung below, while a rudder was perched behind.

The Doctor, having "taken off," shifted his weights to tilt up the nose (or rather, noses), and threw out his ballast. Up went the airship, but, owing to its peculiar shape, it travelled forwards a great deal faster than it went upwards; in fact, it behaved exactly like a glider, but with the "diagram of forces" turned upside down. When he had reached its "ceiling," the Doctor juggled with his weights, lowered the nose, let out a spot of gas, and slid down again much like a normal glider. During the trip he was seen to be moving both below and above the clouds, which is sufficient proof of its independent air speed.

At a Price.

The whole demonstration, by the way, cost him $10,000; yet there are those who complain of the high cost per launch of present-day gliding! Three years later the inventor built a new model, this time using only two gasbags. Though less like a "flying wing" than its predecessor, in spite of a low L/D ratio it cavorted around over New York and, according to the local press, did everything its inventor claimed for it.

There remains the question of priority. It was in 1855 that Le Bris tried out his "Albatros"; but could it be described as a successful glider ? Anyhow, it is doubtful if he would have obtained his "A," "B" or ... on it; Dr. Andrews, on the contrary, could undoubtedly glide for 30 seconds in a straight line, make S turns, and perform motorless flight ad lib., for more than 5 minutes "above the level of his starting point."

* * *

AND INSECTS SOAR

The cross-country sailplaner, though he looks to the birds to tell him the whereabouts of his "thermals," does not despise the humble butterfly, as Herr Hirth has shown. It appears that even smaller fry may serve him in his quest, for a Dr. Marlatt, in the course of a research into the spread of insect pests in America, found that "an unexpectedly large number of insects are present in the upper air." He catches them in special traps carried between the wings of aeroplanes, and many of them, according to "Nature," which summarises his results, "are species which possess little or no power of flight and have consequently been carried up involuntarily by air currents." No doubt such insects take some time to get down again, so their presence might not indicate the recent arrival of a "thermal" with quite the same certainty as Hirth's butterflies, though a noticeably thick swarm might do so. What they do appear to show, however, is that some "thermals" over there must begin practically at ground level.

BUT WILL HIS DRAGON-FLY ?

Talking of insects: some time back a correspondent of THE SAILPLANE asked if it would be possible to construct a flying machine on the dragon-fly principle. Mr. H. H. Smith, of Vashon Island, Wash., supplies the answer which is in the affirmative. He is building a sort of tandem monoplane, with the front and rear wings almost touching. The rear wings will "vibrate" and, according to Mr. Smith, will pull air backwards over the front ones, which are fixed. Not content with one innovation at a time, he is using a bi-concave wing section, at least in the part between the spars, "to increase lift." A photograph in "Popular Science" shows the machine in an advanced stage of construction, and it is evident that, unless someone can stop him, he will be trying to fly it before long.

Here's to his first Buzz Off!—A.E.S.

LONDON GLIDING CLUB

EASTER GLIDING CAMP

Thursday, March 24—Monday, March 28.

In response to many requests received from persons who live too far away from Dunstable to take advantage of the regular week-end instruction available to members, the London Gliding Club has decided to organise at Easter a special gliding course at an inclusive fee. This will entitle the pupil to temporary membership of the London Gliding Club for the period booked, use of Club machines, first class instruction, and sleeping accommodation on the site.

The course will commence on Thursday, March 24, and will continue until Easter Monday, March 28, inclusive. It will take place at the London Gliding Club Ground at Dunstable, which has definitely proved itself to be one of the finest gliding sites in the Country, and usually has excellent soaring winds at this season. Should wind conditions be unsuitable auto-towing will be available. In addition to primary and secondary training machines, intermediate and high efficiency soaring machines will be available, and every effort will be made to enable pupils to progress with the greatest possible rapidity. Five fully qualified instructors each of considerable soaring experience will be available, and special staff will be engaged to ensure first-class maintenance, and quick repair work if necessary.

Sleeping accommodation will be provided on the site in tents (not more than four persons per tent), and all meals will be available at strictly reasonable prices in the Club House, which is also equipped with a licensed bar. In the evenings lectures and entertainments will be arranged, of which further particulars will beissued later. Official observers will be available to time tests for the Royal Aero Club Glider Pilot's Certificate throughout the period of the camp.

Campers are expected to provide their own bedding, and camp beds if required. The use of tents, lamps, and washing accommodation is included in the fees.

Camp Fees.

Five days, £2 10s.; Four days, £2 8s.; Three days, £2 2s.; Two days or less, £1 10s.

Groups of four persons, sharing a tent, and booking together at the same time will be allowed 10 per cent. discount on these charges.

Groups of eight sharing two tents and subject to the same conditions, 15 per cent. discount.

All fees are payable at the time of booking, and owing to the costs of advance organisation, no money can be returned under any circumstances whatsoever.

The Club accepts full responsibility for damage to machines whilst being flown in accordance with its normal flying rules and regulations, also for damage to third party, but accepts no responsibility for damage or injury to pupils or pupils' personal property.

For obvious reasons the number of pupils who can be accepted under these arrangements is strictly limited, and applications will be accepted in the order of receipt (with remittance).

Forms of application can be obtained from the Secretary, The London Gliding Club, 35 Milk St. London, E.C.2.

Acceleration Test on a Glider.

In the introduction to the article under the above title in the issue of THE SAILPLANE dated January 15, 1932, it should have been stated that the report was prepared by Messrs. J. E. Keeble and G. P. Hebden, who were responsible for carrying out the tests described.

Programme of the German Gliding Schools for 1932

At the Wasserkuppe the following courses have been arranged for 1932:—

For beginners: June 6 to 30; Aug. 25 to Sept. 24.

For **advanced pupils,** including those who have their "A" certificate: May 2 to 31; July 4 to 26; Sept. 28 to Oct. 29 (the last being available also for club members approaching "A" standard).

For **advanced pupils with "B" certificates,** also **power pilots**: March 24 to April 27; June 6 to 30; Aug. 25 to Sept. 24.

Scientific Training Course for "C" pilots: July 18 to Aug. 3.

Courses for **Towed Flight**, similar to those held last year at Griesheim, near Darmstadt, will be held at the same place from March 10 to 20; from June 20 to 30; and, if enough entries are received, from Nov. 3 to 14.

The school at **Rossitten** has greatly extended its facilities in the past year or so. In addition to the ZOGLING and ZINGO types formerly used (the ZINGO is an improved ZOGLING with a fairing from the pilot's back to the tail—i.e., the glider's tail), the FALKE has been introduced for secondary training, and the ALEXANDER DER KLEINE for advanced work. The ALEXANDER is an interesting new type designed to suit the special conditions at Rossitten. Its wing is pure cantilever, and the span has been kept down to 46 feet to facilitate sharp turns.

The school equipment now includes an aeroplane for meteorological flights and for towing instruction; there is a large meadow known as the "Vogelwiese" just South of the school. The school also sports a motor-boat nowadays, so that pilots who make an involuntary "landing" in the lagoon can take their choice between swimming ashore and waiting to be fetched.

The courses at Rossitten correspond to the calendar months, beginning on the 1st, 2nd or 3rd and lasting 4 weeks.

There is a beginners' course every month from April to October inclusive, and the same, excepting June, for advanced pupils, while special courses for ladies are held in June, July and August. "Training courses" for still more advanced pilots are held in April, May, July, August and September, and courses for towed flight in May and June. Special conditions are required of entrants for the towing courses.

The above schools are run by the Rhon-Rossitten Gesellschaft; there is also the independently run school at Grunau in Silesia.

The beginners' courses at Grunau last 3 weeks each and commence on the following dates: Jan. 2, Feb. 26, April 12, May 25, July 4, Aug. 1, Aug. 29, Sept. 26, and Oct. 25. Advanced pupils' courses last 2 weeks and begin on Feb. 16, Mar. 23, April 27, June 9, July 20, Aug. 16, Sept. 13, Sept. 30 and Nov. 9. "Training courses" for "C" pilots: 2 weeks each, beginning Mar. 23, July 4, Aug. 26, Oct. 17. Instruction in Auto-towing is also given, each course lasting a week; commencing dates: Mar. 15, April 19, June 1, July 2, Aug. 8, Oct. 1, Nov. 1.

The following table compares the results obtained during 1931 by the schools of the Rhon-Rossitten Gesellschaft and the Grunau School

	RRG-schools		Grunau
	Wasserkuppe	Rhon Rossitten	School
Total No. of students ...	325	435	446
Number of foreigners ...	21	15	26
No. of courses completed	12	26	27
No. of courses commenced	5,000	12,000	11,400
No. of "A" tests	115	264	244
No. of "B" tests	100	255	235
No. of "C" tests	112	71	102
No. of official licences ...	37	17	44

A "SAILPLANE" COMPETITION

Until further notice a year's subscription to THE SAILPLANE will be presented for the best photograph received during any one month, illustrating any feature of the Gliding Movement such as the activities of Clubs, etc.

Photographs, which must be original, should be addressed, "The Editor of THE SAILPLANE, British Gliding Association, 44a Dover Street, London, W.1." Envelopes should be marked "Competition" in the top left-hand corner. The competitor's name and address, and Club (if any) should be written on the back of the photograph. Descriptive matter, which should be brief, should be written on the back of the photograph or on a separate sheet of paper.

The Editor reserves the right to publish any photograph submitted whether a winning photograph or otherwise. The Editor's decision on all matters will be final.

BIRD FLIGHT

By Capt. C. H. LATIMER NEEDHAM.
(*Chairman of the Technical Committee, British Gliding Assoc.*)

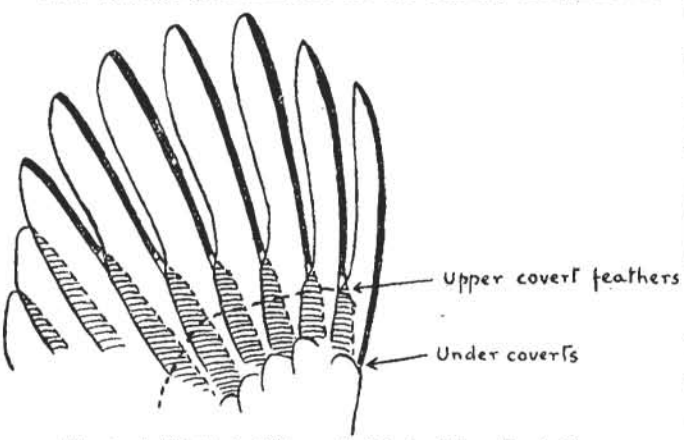
In the January number of the Journal of the Royal Aeronautical Society is a lengthy article dealing with "Safety Devices in Wings of Birds," by Lieut.-Comdr. R. R. Graham, R.N., which has been reprinted from the 1930 edition of "British Birds." All those who are interested in the development of sailing flight, and who realise the possibilities of improving design by imitating still further the bird's wing, should make a point of studying this invaluable work.

The article deals mainly with the slotted wing, explaining how the slots are formed, their "raison d'être," and why this quality is found to a larger extent in some birds than in others, and in some not at all.

Wings are provided with two types of slots: the multi-slot device at the wing-tip caused by the separation of the primary feathers, with which we are all familiar and of which the common crow is a well-known example, and the alula, or false wing, which consists of two or three feathers extending along the leading-edge in close resemblance to the Handley Page slot. It would appear that the opening of the primary feathers is commenced by muscular power, after which the air forces acting continue the movement to the full extent. The clever manner in which overspreading is prevented by thousands of tiny hooks situated over the "friction area" on the rear upper surface of the feathers is explained together with the way in which these feathers, when in the open, or unsupported, condition, twist upwards, forwards and rotationally, due to the air loads and their position of application. In this way the multi-slot arrangement is ensured, lateral stability is improved, each individual feather is unable to stall and the intensity of loading is so regulated that it cannot become excessive.

The action of the alula is entirely automatic, although it is under the control of muscles to some extent, so that the method of obtaining the automatic aeroplane slot is exactly similar. If bird flight had been examined more carefully, an enormous amount of time and money might have been saved!

The unusual performance of the tailless aeroplane is

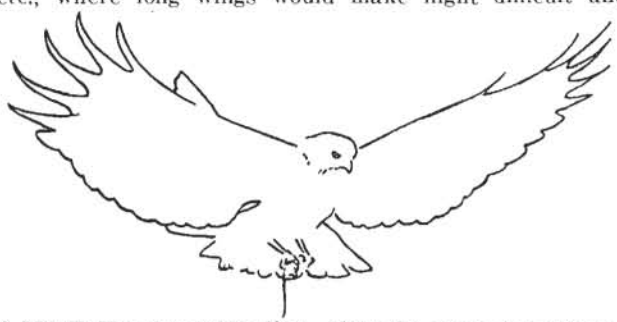


Typical Slotted Wing of Bird: The Partridge.

shown to be due to the floating controllers taking the place, more or less, of the primary feathers owing to their ability to "trail" in the wind, instead of being forced through it in a stalled attitude as with ailerons when the main wing is set at a large angle of attack.

The next consideration concerns the reason why some birds have slotted wings, whilst with others slots are practically non-existent, for which purpose Commander Graham has prepared a diagram showing the wings of 35 birds set out in order of "slottedness." First come the unslotted, tern, gull, swallow, etc; then the semi-slotted, starling, skylark, blackbird; and finally the fully slotted such as vulture, partridge and pheasant.

The feature that becomes immediately apparent is that the unslotted wings are long and pointed, like sailplane wings, whilst the fully slotted are short and square. Two reasons are put forward in explanation of this: first that the long-winged birds almost always fly in the open, whilst the short-winged types live amongst trees, bushes, grasses, etc., where long wings would make flight difficult and



A Marsh-Harrier descending. Note the separated primary feathers, twisted forwards and upwards. Also the alula feathers opened along the leading edge.

would render their capture much easier. The second argument is that short wings allow quick flapping and thus enable the high acceleration that game-birds are known to possess.

Lastly the slotted wing is shown to be of value in flapping flight by enabling the feathers to take up, individually, their position of best efficiency, independent of the angle made by the main wing to the air-flow.

The last paragraph is not altogether encouraging to those who believe in multi-slot wings for soaring craft, as Commander Graham states "that the ideal glider is one that has great span, high aspect ratio, and pointed wing-tips, like the albatross, and that such a glider would probably be but little improved by the presence of any form of anti-stalling device, either on the main wing or on the control surfaces." However, he goes on to say: "But if practical considerations, such as structure weight, housing and handiness for operation, dictate a smaller span, then it is worth while considering the fitting of some form of aid to control and lift."

One or two points of importance that appear to have been overlooked are that slots would enable a sailplane to obtain the maximum height from an up-wind source after which they could be closed to allow a fast forward flight to the next region of lift, and also landing would be made simpler and safer by their aid.

Apart from this, the increasingly large span of sailplanes (the "Austria" has a span of 100 ft) results in excessive weight, makes erecting and housing difficult and requires a higher degree of skill on the part of the pilot. One further point brought out in the paper is the suggested abolition of the rudder, but has the fact that birds use their heads as rudders been overlooked?

There are other lessons that nature will teach us as soon as we are ready to listen. Wings, and other parts too, should be flexible: the trailing-edge must give to the air-flow and thus act as a camber-changing device. Already it has been learnt that sailplanes of cantilever design are, on account of flexibility, more stable and derive greater lift from disturbed air than those with braced wings, although the degree of flexibility **along** the span should be kept within reasonably small limits. Better still is Comdr. Graham's suggestion of mounting the wing roots on springs so that the whole wing can give. Not only would this improve stability but also **excessive loadings cou'd never be imposed and lighter struetures could be designed** with a factor of perhaps 2 in place of the present factor 6.

In conclusion, it would be of tremendous service to the Gliding Movement if Commander Graham would concentrate his attention on soaring birds, not necessarily limiting his field to British types, and then give us the benefit of his observations and experience.

CORRESPONDENCE

In Amplification of a "Leader."

Sir,—I have read and re-read Mr. Thurstan James's letter to you under the above title and am still not sure as to the motive which prompted its production. If it is to protest against any statement from me as Chairman of Council being given more prominence than any other article from a less "official" contributor, I accept his point of view, because as he so well knows during his Editorship under the present ownership of THE SAILPLANE, I was emphatic upon the importance of the paper being free from undue official influence.

No one was more surprised than I that the Editor should have thought what was communicated as an ordinary contribution worthy of the prominence of the leader position. It must be obvious to anyone that it was not written from that angle. I suspect that the Editor was so preoccupied with the labours of the technical production of his splendid new number that he had not had the time to consider a suitable leader. Happily No. 2, Vol. 3, sees a splendid leader from his pen in its rightful place.

If Mr. James's purpose was to indicate that the Movement was being burdened with a terrific and disproportionate overhead in the shape of a central administration devoted to Control, Legislation, Propaganda and "Hospitality," he is surely sadly astray in his conclusions. During the last year the total contributions of **all** the Clubs and their Members both **directly** and **indirectly** to the central administration is under 12% of the total income. That there are no grounds for supposing that had the B.G.A. not existed, the balance of its income would have found its way into the coffers of the various Clubs an examination of the facts will prove.

If the purpose of Mr. James's letter was to point out that I had not returned thanks in my article for the generous action of the Directors of Aeronautics, Ltd., in making a gift of THE SAILPLANE to the Association, may I say that it did not come within the scope or purpose of the article. Further, I have on several occasions, far more appropriate, given full expression on behalf of the Association of our sincere thanks for the generosity of the Proprietors of Aeronautics, Ltd. in making us so useful and handsome a present.

In conclusion, surely no one could, I submit, have obtained the impression from any words of mine that THE SAILPLANE had been a liability to the Association. The paragraph of mine, quoted by Mr. James, makes this quite clear. I regret, however, that it is not yet true in substance and in fact, as the legal gentry have it, to state that the Trading Account shows THE SAILPLANE to rank as an Asset. He would be a bold Auditor who was prepared to certify that on its record so far.

I believe that in the near future we shall be able to congratulate you, Sir, on the fact that from being a border-line case your able conduct of the paper will have turned the scales heavily on to the profit side.

There will be no doubt at all about this if the present subscribers and the Members of the Association will qualify themselves for one of your generous offers.

I am still wondering why Mr. James's letter was written.—E. C. GORDON ENGLAND.

Sir,—I read Mr. Thurstan James's letter in the last issue of THE SAILPLANE with a feeling bordering on disgust. The letter seemed to me so unnecessary that my first impulse was not to trouble to reply to it. On further consideration, however, I decided that there was a possibility of harm being done unless some, at least, of Mr. James's points were amplified.

In the first place, the point which Mr. Gordon England is accused of having omitted would appear to me to be entirely irrelevant to the subject matter and argument of his article. Due expression of appreciation and acknowledgement to Aeronautics Ltd. and to Mr. James for their part in handing over THE SAILPLANE to the B.G.A. have been made on several more appropriate occasions by Mr. Gordon England and others.

The cheque which was referred to by Mr. James as having been presented to the B.G.A. was, in fact, the balance of unexpired subscriptions and was not a gift as Mr. James implied. It was simply a case of handing over the money to the B.G.A. instead of returning it to the subscribers, which would have been the obvious course had the paper been discontinued.

Had Mr. James confined himself to this one paragraph in Mr. England's article, which in my view cannot be regarded in any way as open to criticism, his letter would have been quite bad enough. But he saw fit to make further remarks, some of which appear to me to be ambiguous and open to misconstruction.

For instance, the only interpretation which a reader, not in full possession of the facts, could place on the statements centering round Mr. James's figure of £1,650 would be both misleading and unwarrantable. Mr. James failed to point out that a considerable proportion of the receipts of the B.G.A. is in respect of the financing of such activities as are necessarily involved in running the Gliding Movement, which entails the money passing through the Association's accounts; this money is not "income" in the sense implied in the letter.

There are several further points in Mr. James's letter to which one could draw attention. The reference to "hospitality," for example. What does it mean? It appears to me to be unpleasant, if not libellous, in intent. The suggestion that the "A" pilots are largely power-pilots is surely without foundation. But, in any case, what does it matter, since many ab initios of one or two years' standing are now taking their "A," "B" and "C" certificates?

On one point alone am I in agreement with Mr. James and that is that you, Sir, are to be congratulated on the production of THE SAILPLANE in its new form. May I suggest that everyone, including Mr. James, should read, and take to heart, the last seven lines of your excellent leader in the last number (Jan. 15)?—SEYMOUR WHIDBORNE (Ton. Treasurer, B.G.A.).

Training Sailplane Pilots.

Sir,—The concluding statement of Mr. Moore's letter in Vol. 3, no. 1 of THE SAILPLANE is unanswerable. I agree absolutely that when we have a two-seater with PROFESSOR-like performance, CRESTED-WREN-like dimensions and KASSEL-like price, then the ZOGLING will be finished. So also incidentally will be the PROFESSOR, WIEN, FAFNIR and AUSTRIA, for by that time I can imagine single-seater sailplanes, which will be of SCUD-like dimensions, capable of soaring in light winds, with a cruising speed of 80 m.p.h., being used by the man in the street for a Sunday in the country, instead of a bicycle.

Seriously, though, at the present time both methods of instruction possess their advantages. The ZOGLING's principal attractions are its safety, cheapness and immense strength, quite apart from its efficiency (since my last letter on this subject, the L.G.C.'s total of ZOGLING-trained ab initio pilots has increased to 11). Mr. Moore admits that pilots trained by the ZOGLING method are efficient, in spite of the inefficiency of the means employed. Surely the method cannot be so bad when we can point to such results as have been obtained at Dunstable.

I am quite unrepentant regarding my statements concerning the hair-raising nature of dual instruction on a sailplane, and see no reason why some potential sailplane pilots should be any less ham-fisted than their brothers on power machines. I can assure Mr. Moore that I have had some extremely unpleasant moments with the latter type which would undoubtedly have been more unpleasant in a two-seater sailplane.

Probably a properly-run professional school would use dual control machines but I am quite convinced that for club work, with amateur instructors, the ZOGLING and possibly auto-towed solo instruction, are the best and cheapest methods to adopt.—D.C.

A Plea For Fuller Details of Machines.

Sir,—May I repeat a suggestion which I made to the last Editor namely, to give **extended details** of machines and larger and more detailed drawings of them.

The descriptions should be as detailed as possible including strut connections, controls, construction of planes and body, etc.; in fact, anything about the machines likely to be of interest.

I appreciate that in some cases these details are not obtainable, but surely in other cases the constructors would be only too pleased to give such information and sketches at no cost to THE SAILPLANE.

I should like to thank you for the article on Auto-towing, by Wolf Hirth. This is very valuable to my Club—the Croft Gliding Club.—P. H. Ball.

[*We hope to follow Mr. Ball's suggestion as opportunity offers.*—ED.]

NEWS FROM THE CLUBS

(Club News will always be welcome, but owing to the limited space available, contributions should be confined to items of outstanding interest and irrelevant matter should be excluded. News items should reach the Editor not later than the first post on the Monday preceding the date of publication.)

CROFT GLIDING CLUB.

The members of the Club are now engaged in making a ground training device which we believe to be the first of its kind in this country. This is as near as can be explained an tuto-tow wheeled machine complete with the exception of the main planes and aileron controls. All other controls are fitted and operate. We anticipate that that will make members familiar with elevator and rudder operation before leaving the ground.

Our membership is not increasing much beyond the 50 mark owing, we find, to the present difficult financial position of would-be members. We are still profiting by social functions however and have now a substantial sum in cash at the bank which we intend "splashing" on a machine (or the parts of one) in the near future.

THE FURNESS GLIDING CLUB.

Our efforts in carrying on during the winter months have been well rewarded of late.

During Christmas week-end our dual member, Mr. F. Pilling (also of London Gliding Club), demonstrated the Club's R.F.D. machine, recently presented by our Chairman, Capt. J. Fisher.

In return for this and other services rendered to our Club a special effort was made to secure for Mr. Pilling his "B" certificate, and on Dec. 27 the desired result was forthcoming for after useful and qualifying flights of 46 and 63 secs. duration a last and mighty effort was rewarded with a 2-minute flight, including many twists and turns.

Weather now intervened until Jan. 17, when some useful flights were accomplished including an "A" certificate flight by Mr. G. J. Lock, after one or two attempts.

Our big day came on Jan. 24. The ground captain led off with a flight of 48 secs., in which he successfully detected and negotiated the possibly troublesome "pockets," etc., and incidentally acquired his second qualifying flight before attempting his "B."

Inspired by this, Mr. Foster clocked 54 secs., and recorded his second qualifying flight.

Mr. Stevens now took off for his "B" but although his time was 63 secs., he was not considered to have executed his turns to the satisfaction of the official observer.

The lead now went to Mr. Foster who executed a wonderfully steady flight including graceful turns, and with a time of 62 4-5th secs. secured the Club's second "B."

Mr. Stevens now made another attempt and this time came through with flying colours, recording 64 3-5th secs.

R.C.

IMPERIAL COLLEGE GLIDING CLUB.

Flying was continued at Kingsbury last year, after the damage suffered at Dunstable had been made good. Many members were brought up to the "A" standard. On Dec. 20, the skid was broken, but the damage was repaired and activities continued on Dec. 23; unfortunately our Captain demonstrated the perfect stalled turn — consequently landing upside down.

As only the tail unit remained intact, and a flying meeting had been arranged for Jan. 4, at Balsdean, the Secretary wrapped a wet towel round his head and went into fasting. After trans-continental telegraphing a DAGLING was purchased and two stalwarts disappeared in the direction of Merthyr Tydfil in the Club dustbin. Many adventures befell them including the purchase and subsequent re-sale of an "Avro Avis" for £7. The glider was towed back to London in the dead of night and two days later, Jan. 3, it went down to Balsdean.

During the first three days there was no flying as it was not considered safe under the abnormal weather conditions prevailing. The glider was inspected and some improvements were made.

Fine weather prevailed on Thursday and Friday, and although the wind was still high, one member even seeming to fly backwards, 33 excellent flights were made with no damage. "A" certificates were obtained by Messrs. Bright, McWhinnie and Graham.

LONDON GLIDING CLUB.

Sunday, Jan. 17.

Soaring conditions were good until the middle of the afternoon, when the wind backed until it blew diagonally up the hill-front; but even then Morland found ample lift in PROFESSOR until he was as far out as the hangar.

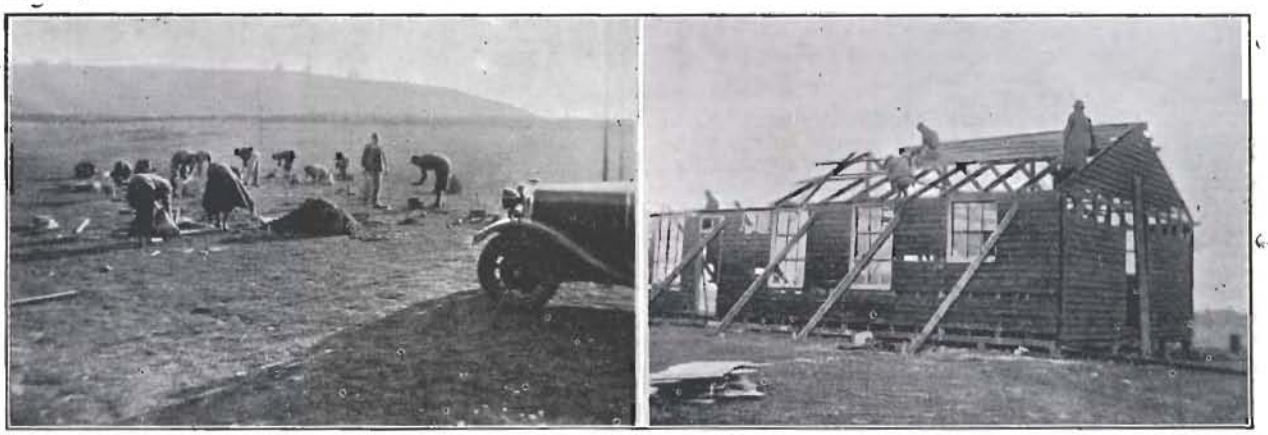
ZOGLING was used for elementary instruction all day; three new members made a start in this machine and in DAGLING. Also in DAGLING, MacClement (power-pilot) flew an "A" of 84 seconds; Grice went the length of the ridge but failed to hold his height.

In KASSEL 20, Dr. Hall (late of seaplanes, etc.) obtained a really stylish "C" in 9 minutes; his landing at the launching point was prevented at the last moment by a puff of lift, causing him to soar away and land in due course at the foot of the hill. A. J. Dent and Cornell also flew the machine.

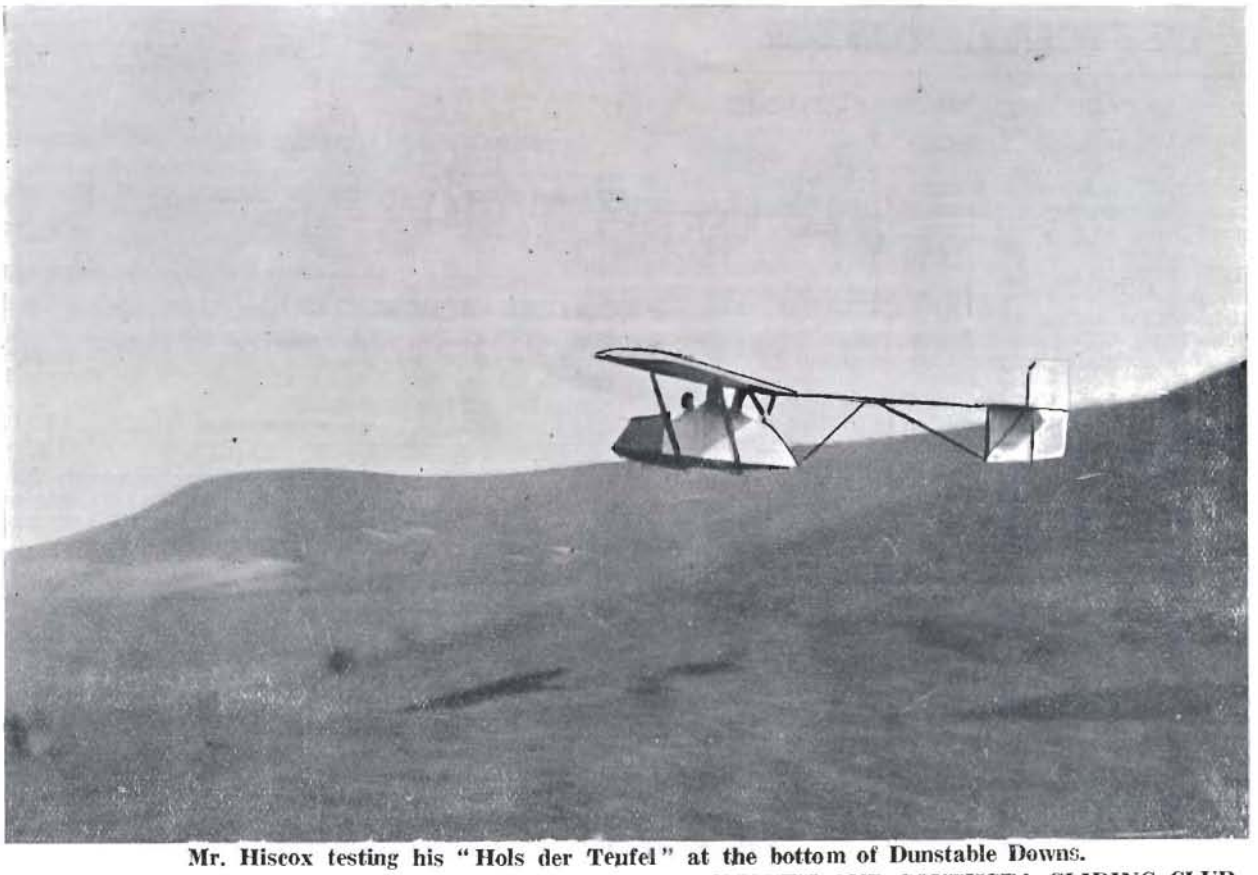
PROFESSOR was soared for long untimed periods by Williams, Symonds and Morland. Their height and range were striking, and this machine obviously needs a valve-line, rip-cord and grapnel before it can be landed safely from such heights by less experienced pilots. Morland demonstrated the value of his recent dual-control power-plane lesson at Reading, his style being rock-steady.

HOLS DER TEUFEL was soared for another long untimed period by D. C. Smith, although the wind was now becoming awkward.

In PRUFLING, Hamilton (ab initio 100 per cent.) flew a completely perfect "C" of 10½ minutes, with a landing, near the hangar, as sedate as the arrival of the Flying Scotsman at its terminus. Michelson (power-pilot) forsook his CLOUDCRAFT for once, and flew a "C" of 11¼ minutes, landing on top of the ridge. Cornell was forced down half a minute short of his "C," and late in the afternoon G. O. Smith celebrated his first flight off the top in PRUFLING with a 4-minute flight, fighting a rear-guard action with poor conditions. These first flights are often stirring, and Hedges crowned his with a landing on the hill-top after a semi-circular flight of approximately 20 secs. This left the machine ready for Lee, who has his ab initio "C," but subsequently a fortuitous dearth of drivers of large cars slowed up the rope-railway effect, and a small number of members were left still earth-bound at sun-set.



The new Clubhouse at Dunstable. Left—**Amateur bricklayers at work on the foundations.** Right—**The Clubhouse under construction.**



Mr. Hiscox testing his "Hols der Teufel" at the bottom of Dunstable Downs.

Sunday, Jan. 24.

A southerly breeze, blowing parallel to the hill, made soaring out of the question, but a spirited show was put up all day by four different machines using three different methods of launching.

A large attendance made it possible to keep PROFESSOR going steadily, from the top of a low ridge in the foothills. The machine was flown by Culver and Scott Hall, and (inconoclastically) by such ab initios as Hamilton, Humphries, Lee and Robertson. Curiously enough, it finished the day intact after about twenty launches.

Alongside, ZOGLING worked all day with seven members, including three new members, one of whom is keen enough to come by road from Matlock. These northerly people are purposeful.

Next along the ridge, PRUFLING rocketed off all day, auto-launched.

Lastly, HOLS DER TEUFEL, fitted with a release-hook, was repeatedly auto-**towed**, taking its owners up into a surprisingly smart breeze blowing at 150 feet.

The idea of the Easter Camp has caught on already, and non-members are making their applications. In addition to this healthy sign, flattering visits are being paid us by members of other Clubs. The Hon. Alan Boyle, who flew the AVIS monoplane in 1910, floated in kite-balloons during the war, and is now chairman of the Edinburgh Club, called in to see how we do it all, and arrived in time to discover one of his 1918 subalterns making a start in PROFESSOR. Hence certain conviviality. We were also visited by members of the Accrington and Isle of Thanet Clubs.

PORTSMOUTH AND SOUTHSEA GLIDING CLUB.

Sunday, Jan. 10.

Strong breeze to moderate gale: South.

Rain all day. We made an effort to get some time in but without success owing to the aileron control becoming defective due to excessive wind pressure when the glider was tail into wind.

Sunday, Jan. 17.

Gentle breeze: South-West. Fine.

In a most sporting manner the members present gave up their turn so that Captain Yates, who leaves us for foreign parts, might get his "B," the conditions seeming to be full of promise.

Their sacrifice was not in vain as after an unsuccessful 57 he succeeded in putting up a 60 and the necessary S turns.

R. E. Clear again showed his skill in the difficult situation produced by a bad launch and a hillside covered with spectators. What he actually did was to fly under some telephone wires and carry on to achieve a very comfortable "qualifying 45" for his "B" of 50 secs.

May we make a humble suggestion that other Clubs would help us to appreciate and understand their club news much more intelligently if they adopted the system of mentioning the wind strength as per the Beaufort scale (see page 96 B.G.A. handbook) in addition to giving the direction. In view of the fact that we know each others' sites quite well, these details are interesting to many of us.

We wish to remind private owners of Sailplanes that we shall be pleased to welcome them on Portsdown Hill any Sunday and give them assistance with launching and rigging their machines. Please communicate with Capt. R. L. Yates, "Falklands," Standford, Bordon, Hants (who will endeavour to arrange for a Southerly wind).

OFFICIAL NOTICES

DIARY OF FORTHCOMING EVENTS.

Monday, at 6.30 p.m.—Council Meeting, British Gliding Association.

Monday, Feb. 22, at 7.30 p.m., in the Library, Royal Aeronautical Society, Albermarle St., W.1.—Annual General Meeting, British Gliding Association.

THE IMPERIAL COLLEGE GLIDING CLUB.
The following Lectures will be held jointly with The British Gliding Association, in Room 15, The City and Guilds (Eng.) College, Exhibition Road, South Kensington, at 6 o'clock. Visitors will be welcome.

Wednesday, Feb. 10.—Mr. F. Entwistle, B.Sc., "Some Aspects of Meteorology in Relation to Gliding and Soaring Flight." Chairman—Col. H. T. Tizard, C.B. (Joint Lecture with City and Guilds Engineering Soc.).

Monday, Feb. 29.—Mr. C. H. Jackson, "Flying Boats on Commercial Air Routes." Chairman—Capt. G. T. R. Hill.

EXTRACTS FROM PROCEEDINGS OF COUNCIL MEETING OF THE BRITISH GLIDING ASSOCIATION, HELD ON JANUARY 18, 1932.

Present:—E. C. Gordon England (in the Chair), P. Adorjan, J. R. Ashwell-Cooke, D. E. Culver, R. F. Dagnall, F. Entwistle, C. H. Lowe Wylde, D. Morland, G. R. Paling, H. Petre, F. Pilling, A. N. Stratton, H. Ward, S. Whidborne (Hon. Treasurer), L. A. Wingfield (Hon. Solicitor) and the Secretary.

Finance.—The Treasurer's Statement of Accounts was approved and accepted. It was decided that the publication of the Journal should be suspended for 1932. A cordial vote of thanks to the Treasurer for his work during the past year was unanimously accorded.

1932 Competition.—The Contest Committee's Report and Recommendations for the 1932 Competition were approved and adopted. It was decided that the Contest Committee should be entrusted with the complete and sole responsibility for the organisation of the Competition, and that they should report progress to the Council from time to time.

It was agreed that the Questionnaire which had been prepared by the Contest Committee, for the purpose of obtaining details of suitable sites, should be distributed to the Secretaries of Clubs and other interested persons with the request that they should be completed and returned to the Secretary of the B.G.A. at the earliest possible moment.

Observers.—Messrs. Coward, Jackson and Keeble were approved as observers to the Imperial College Club.

Membership of the B.G.A.—Messrs. G. E. Hardwick, S. Humphries and T. G. Nyborg were elected.

On **Wednesday, February 24, at 8 p.m.,** the **IMPERIAL COLLEGE GLIDING CLUB** and **CITY AND GUILDS MOTOR-CYCLING CLUB** will hold a joint show of flying (including gliding) and motor-cycling films at the Imperial College Union, Prince Consort Road, S.W.7. Tickets 1/- (including light refreshments).

HOW TO GET YOUR "SAILPLANE" FREE.

It has been decided that in order to encourage Members of the Association and subscribers in obtaining new subscribers to THE SAILPLANE, free issue of the journal will be awarded as follows until further notice:—

To Members of the Association.

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Free issue for 1 year to a member obtaining 2 new yearly subscribers;
Free issue for 1 year and renewal of Membership of the Association on obtaining 4 new subscribers for 1 year.

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Printed for the BRITISH GLIDING ASSOCIATION by the Broadwater Press Limited, Welwyn Garden City, Herts, and Published by THE BRITISH GLIDING ASSOCIATION, at 44a Dover Street, London W.1. Telephone: REGENT 6145

BOOKS TO READ

Gliding and Sailplaning By F. Stamer and A. Lippisch.	An excellent handbook for the beginner. It represents the collective results of the writers' experiences since 1921, related in a clear and simple manner, and is admirably illustrated. 5/6 post free
Gliding and Motorless Flight By L. Howard-Flanders and C. F. Carr.	A practical, up-to-date handbook giving expert information regarding training of pilots, organisation of gliding clubs, construction and repairs, meteorology, etc.; with interesting facts regarding past achievements and pilots and official information regarding Certificates. 8/- post free.
Henley's A.B.C. of Gliding and Sailflying By Major Victor W. Page.	A simple and practical treatise on modern Gliding. It describes the construction, launching and control of the leading types of gliders and sailplanes and gives instructions for building a strong, yet simple, primary glider, including working drawings. 11/- post free.
Gliding and Soaring By Percival White and Mat White.	Especially adapted for those with no previous knowledge of the subject, this book gives a complete review of Gliding and Soaring flight and is distinctly above the average. 13/- post free.
"Gliding" (The Year Book published by The Dorset Gliding Club)	A valuable handbook full of useful information and one that must make a wide appeal, both to those merely interested in Gliding and to the advanced pilot who requires more technical information. Published at 2/6—our price 1/9 post free.
Handbook of the British Gliding Association	A useful reference book for all persons and organisations interested in gliding. It includes a diary, Rules and Regulations issued by the Association, a Glossary, and authorative articles on a number of interesting subjects. 3/- post free.

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