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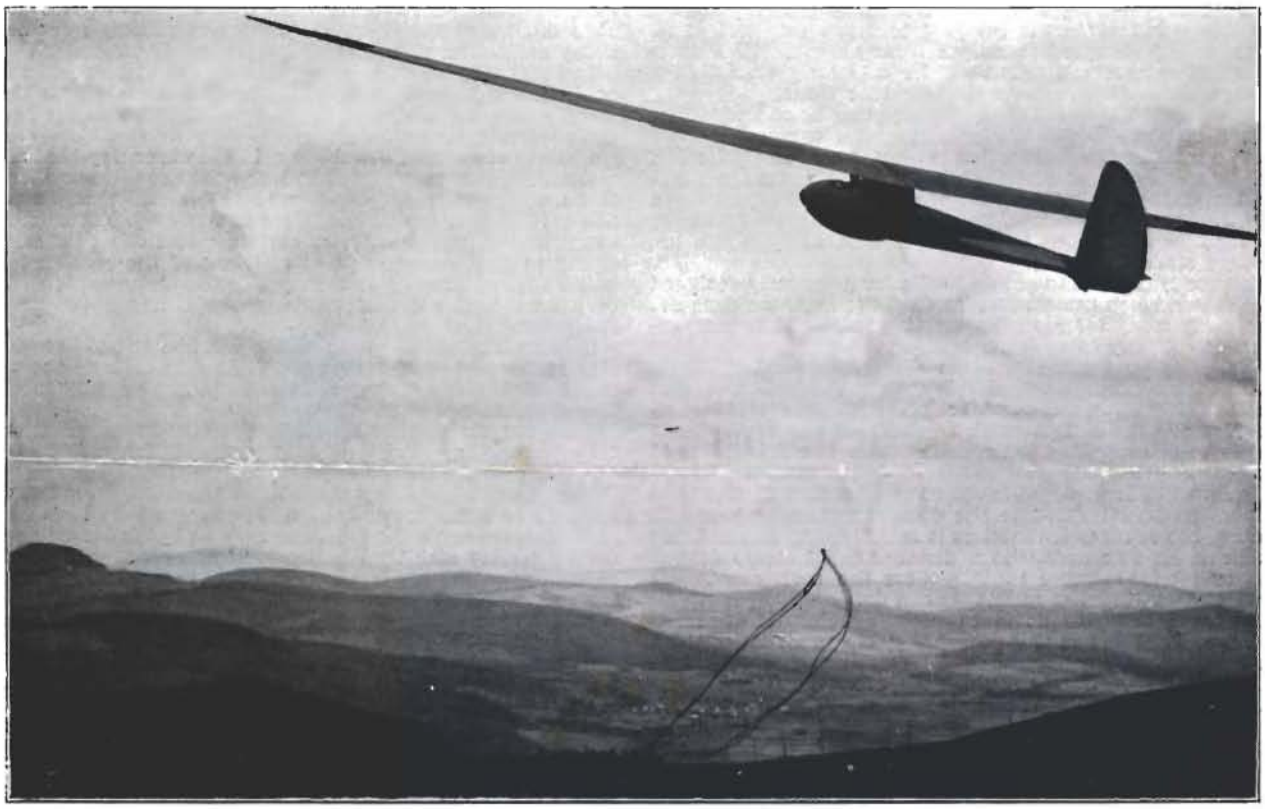
THE SAILPLANE AND GLIDER

Price 3d.

"SO MUCH ONE MAN CAN DO,
"THAT DOES BOTH ACT AND KNOW."—(MARVELL—*Horatian Ode.*)



WELL AWAY.—The sailplane Kakadu, which is owned by the Munich University Gliding Group. This machine was considered by many to be the best machine in the 1929 Competitions. It did well again this year.

THE "DAILY MAIL" COMPETITION.

In the early part of this year, towards the end of April, *The Daily Mail* announced that it would institute an important competition for Gliders in the Summer of 1931. Since then not much more has been said about it in print, though various people are beginning to make plans and lay schemes for going after the various prizes. For this reason the rules and regulations which govern the Competition will soon have to be published, otherwise people will not be able to complete their designs in time for their machines to be flown before the competition. This will result in the usual crop of snags that eventuate when pilots have not had time to study the peculiarities of their mounts. We do not want to see the worn-out comedy of machines being finished on the starting-line.

If the Competition is to help forward the British Gliding Movement the prizes must be offered for such achievements as will best illustrate the possibilities of the new sport. The way to do this is to induce the best soaring pilots from all over the World to compete together and so show what really can be done with machines which are the result of long experience.

This can be done by offering a big international prize for some specific achievement. Such a prize must be big enough to make worth while the bringing to this country of pilots and specially designed machines from abroad. This background of experienced talent will be extremely valuable for showing up our own efforts at their true value.

For what achievement shall the big prize be offered? The longest distance flight made during the competition has most to commend it. Duration leads nowhere in particular, and, as amply demonstrated at Itford eight years ago when the last *Daily Mail* prize was won by M. Maneyrol on a tandem monoplane, can be won by a machine whose design is of no practical significance. The tandem type has got nowhere since that date.

Altitude is difficult to get and calls for a properly designed machine and has the advantage that the machine does not necessarily stray far from its starting-point. It is not particularly thrilling to watch.

Neither is an attempt on the distance record. Though this is of the most practical value, as it shows how a man can actually fly from point to point without an engine, and if won with a flight which breaks all existing records, will force the man-in-the-street to notice the actualities of the new sport.

The most difficult flight is the out and return flight round a specified point; this has the disadvantage of necessarily limiting the achievement unless it is made impossible, when it defeats its own ends. So a distance flight seems best, if even only on the score that it offers the most convincing demonstration of what sailplanes can do.

The next thing to do is to encourage local talent. So when you have shown them what they are really up against, the next big prize should be for British pilots flying British-built and designed machines. This, for much the same reasons as stated above, should also be for distance. For although no British pilot has yet beaten the record made by M. Maneyrol at Itford in 1922, there seems no reason why a British pilot should not exceed this figure without the inducement of a prize for duration.

Thirdly, the value of the Clubs as training schools should be marked by giving a prize to that Club whose *ab initio* trained pupils put up the highest aggregate flying time during the competition. The giving of such a prize would encourage clubs to acquire machines and train as many pupils as they can before the Competition. This would be very valuable to the Movement as a whole and would mean that Clubs instead of concentrating on getting one super-pilot and machine up to competition point would concentrate, as they should, on training as many pupils as possible.

After this one must obviously have daily prizes to keep up the interest as is done at the Wasserkuppe. These depend upon the weather and are so designed that pilots always have some inducement to fly. This is good for public interest. These daily competitions should be divided into two classes, one of which should be international and open to all classes of pilots, the other should be limited to Club-trained *ab initio* pilots. These daily contests in the senior classes would be a further inducement to entries from abroad, as they would have a chance of picking up some of these daily prizes for distance, duration or altitude.

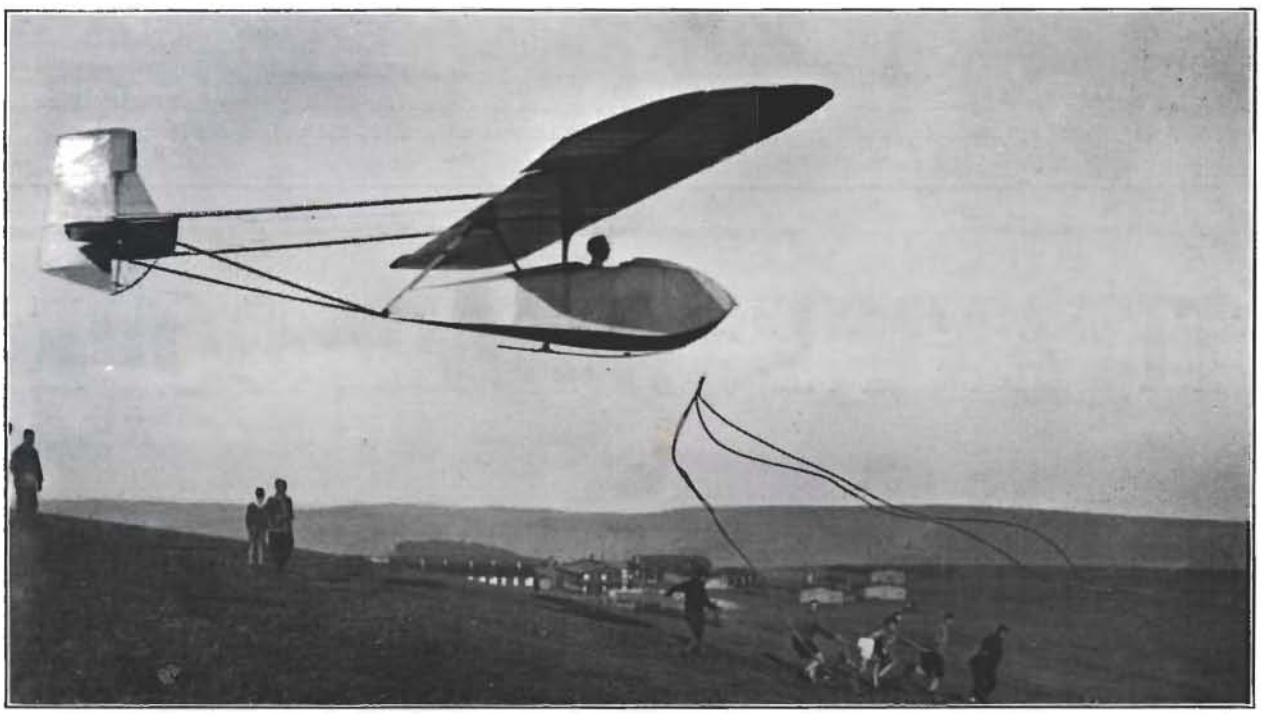
In this connection we must insist on the value of duration contests for juniors. Novices have an inducement in these daily prizes for duration to go up and learn much about the control of their machines.

Talking of control, somebody said the other day that after watching pilots carefully stall over what the pilot considered to be an up-current, he felt sure people still thought that one got lift from the undersurface of the wing. There seems something in this theory, as certain pilots can be observed trying to stay over one point oblivious of the fact that the whole aim of soaring is merely to glide downwards at the very best L/D ratio of the machine inside a column of rising air.

Club instructors would do well to rub home that the whole aim and object of one who would soar is to keep the machine within the rising column of air with full control. The forward speed of the machine does not have much bearing on its sinking speed. In fact, up to a point, the faster a machine goes forward the slower it sinks.

If prizes are given solely with the view to encouraging British design, construction and pilotage the results are not likely to be much better than those of the earlier meeting at Itford. However encouraged we may be by such results, we shall probably lack that background of experienced foreign endeavour without which we shall find difficulty in evaluating our efforts at their true value.

As the sites which will be chosen for the Competition will presumably be the very best that can be found in the country, this competition will afford a good opportunity for flying-off the various contests for all the prizes and prize-money which the B.G.A. has collected since its inception.



A slow-speed sailplane for soaring in light winds. This particular type is not much used, but a somewhat similar type, the Hols de Teufel, is very successful.

DOPE FOR GLIDERS.

Manufacturers and builders of gliders will be interested to learn that the well-known firm of Titanine-Emaillite Ltd. have recently placed a special dope for Gliders on the market. This is known as Titanine Glider Dope and can be had either transparent or coloured.

This material has already been adopted by a number of glider manufacturers, who speak very highly of it. Three coats only give an excellent result, as the covering is made taut and durable with remarkably slight increase in weight. Durability and resistance to rough treatment are essential features for a satisfactory covering for training gliders, as those of us who have trained in the pouring rain and wind know very well. Another point is that this dope can be very satisfactorily used for the protection of plywood surfaces. As remarked above, the dope can be had in any desired colour, so Clubs and individuals can have their machines doped in their own pet colour schemes.

Titanine aeroplane dope has a most amazing record. The machines on which Lindbergh and Chamberlain crossed the Atlantic, and those which took Cobham, Hinkler, Barnard, Pinedo and Franco on their most famous flights were all doped with Titanine, as was the machine in which Byrd flew to the North Pole. The wings of the largest aeroplane in the world, the great flying-ship the Do.X, were also doped with Titanine. So the constructor of gliders who uses Titanine Glider Dope is in excellent company.

Inquiries should be sent to Titanine-Emaillite Ltd., 175, Piccadilly, London, W.1.

AN ENTERPRISING PARTNERSHIP.

Two enterprising young men have recently gone into partnership under the name of ADJAC, from the first letters of their names, which are Adorjan and Jackson. Their address is 17, Hanover Square, London, W.1. They have the agency for the machines which are built by Herr Schleicher, of Poppenhausen. This firm make a variety of machines, which are improvements on the earlier standard types. There are, for instance, the Anfanger, which is a development of the Zogling, the Hols de Teufel, and the Poppenhausen two-seater, which has already created an impression in this country.

The Hols de Teufel is an interesting development of the Zogling with an enclosed nacelle. It is used as a single-seater soaring machine and is remarkably cheap. Its performances were very favourably commented on by the British contingent to the Wasserkuppe this year.

TELL YOUR FRIENDS ABOUT "THE SAILPLANE."

One of the reasons why THE SAILPLANE has gone ahead so quickly is because of the good work that has been done by its well-wishers who have so energetically roped in their friends and fellow-enthusiasts as subscribers. We hope that the good work will go on and when the friends of readers show interest in the paper that readers will promptly tell them to send a subscription to this office to ensure their getting a copy regularly.

At the moment with the limited circulation and advertising revenue we cannot distribute the paper through the normal channels of the Trade, as we cannot afford the necessary discount, therefore copies of the paper can only be had from THE SAILPLANE, 175, Piccadilly, W.1.

A CHANGE OF ADDRESS.

The Cloudcraft Glider Company announce that their head office and works are now at Osborne Road, Southampton. They invite those who wish to see their machines in course of construction to visit the Works, where they will be welcomed.

FROM VANCOUVER.

This is from a Vancouver paper:—

Members and others have occupied themselves by making various bright suggestions with a view to improving gliding in general and the club in particular. One is for having a definite gliding "uniform." In connection with this, we suggest that the pilot wear one of those folding opera hats with a lead weight on the top. Thus the fact that he has made a poor landing will instantly be communicated to the pilot, and the instructor, who has to run up and down the field, can save his breath for locomotion.

Another suggestion was to paint any new part of the glider red—it is now black and silver—and hold a sweepstakes on the time it takes to get a complete red machine. Our only objection to this is that in their eagerness the members might put the operators "in the red."

SOME TECHNICAL OBSERVATIONS ON THE 11th RHOEN COMPETITION.

C. H. LATIMER NEEDHAM, M.Sc. (Eng.), F.R.Ae.S.

The two most outstanding features concerning the machines flown in this competition were their exceptional portability and the comparative ease with which repairs were made after the many crashes which they unfortunately suffered.

PORTABILITY.

The facility with which dismantling and assembly are possible is rendered essential by the many forced landings which take place when soaring is difficult, and after distance flights so that the machines may return to the starting point with the minimum of labour and time.

It may be mentioned in passing that each sailplane has a trailer specially designed for transport purposes and these trailers are considered important accessories and receive almost as much attention in design as the sailplanes themselves.

The units into which each machine is readily dismantled are the fuselage; wing (generally in three parts); two elevators (fixed tail planes being unusual); and the rudders. The fittings, which are designed for quick detachment, combined with simplicity, show considerable ingenuity.

Space does not permit full descriptions of these various fittings, but it is worth mentioning that they are in nearly all cases welded up from sheet steel.

REPAIRS.

The number of crashes that were witnessed during the sixteen days of the competition was rather disheartening, but the manner in which the members of each team worked on the repairs was most encouraging, and, generally speaking, the aircraft were flying again within one or two days.

Plywood is very extensively used in the construction of all units. This acts as a stiff covering over light formers, and repairs are effected by removing the damaged material, splicing new strips to the formers, and re-covering with ply, this also being well feathered at the joints to ensure a smooth surface, and the whole is then varnished. The standard of workmanship is very good and it is difficult to distinguish the restored parts from the original, besides which there is certainly no lack of strength.

This marks a step in the advancement of flying when the pilot of an aircraft, without being an expert carpenter, is able to carry out his own repairs without the necessity of being vetted by some Government official.

TYPES OF SAILPLANES.

The great similarity that existed in nearly all the machines was slightly disappointing, since more variety would have proved of much greater interest and would have suggested more lines along which progress could move. As it is, one might be tempted to conclude that finality of general design is in sight, but perhaps conservatism is responsible for a wrong impression in this respect.

The following outline description holds good for practically all the high-performance types, the only real exceptions being the tailless craft and the *Austria*.

A high-wing monoplane, generally of cantilever construction but semi-cantilever in a few instances, supported on a monocoque fuselage of oval cross section with the pilot's cockpit just in front of the leading edge, balanced elevators without fixed tailplane and balanced rudder. Slight variations from the above are a fuselage of hexagonal cross-section, for cheapness; a "neck" separating the main plane from fuselage, and in some cases very small fixed surfaces in front of rudders and elevators to allow better hinge positioning.

The main plane has an area of from fifteen to twenty square metres, with a span of fifteen to twenty metres and tapering in chord over the outside thirds.

It is said that two types of machines prevail, one, the *Darmstadt* type, having wings of elliptical plan form, and the other, or *Rhon* type, having a centre section of parallel chord, with a straight taper towards the tips on the outer sections, the latter, of course, being cheaper to construct, but the difference seems hardly sufficient to warrant too rigorous a division into two categories.

METHODS OF CONSTRUCTION.

Wing structures are fairly equally divided into two groups, employing in one case only one main spar, situated at about one third the chord distance from the leading edge, and the other two main spars, as in normal aeroplane practice, although in some cases the rear spar is very light and is not built to transmit bending loads.

In all cases the leading edge from the front spar forwards is covered with plywood for torsional resistance and acting also as drag bracing.

One of the latest machines, the *Fafnir*, employs three spars, the main spar being the centre one with auxiliary spars in front and behind, but this appears unnecessarily heavy, whilst the *Meiningen*, with an unsupported span of seventy feet, employs five spars, more or less on the multi-spar principle, and in this case the amount of deflection at the wing tips seems excessive.

The main spars are of orthodox box or "I" sections, mostly with plywood webs, the remaining wing details also following usual aeroplane practice.

Fuselages are mostly built up of ply covering over formers of oval shape with a few small section longitudinal members, but in a few instances four or six longerons are employed with wood struts and diagonal bracing members, these having either plywood or fabric as the covering material.

One outstanding feature of German glider construction is the complete absence of screws and nails, all joining being done entirely with glue.

NEW TYPES OF SAILPLANES.

The new machines, entered for the first time in the competitions of this year, were the *Austria*, *Meiningen*, *Fafnir*, and *Aachen*, and, although these machines possess a certain amount of originality, their performances showed little, if any, improvement over the more standard types.

The *Austria* was designed to supersede the *Wien* for Herr Kronfeld by Dr. Cooper, a young designer on the staff of Junkers, and one who shows great promise of becoming one of the world's leading designers.

This is certainly a remarkable craft, but as no flight tests have as yet been carried out it is impossible to discuss its performance, though it may be mentioned that a gliding angle of at least thirty to one is expected.

The main plane, of one hundred feet span, is of pure cantilever construction and is built in four separate units, the outer two of which have slight anhedral. Ailerons run the entire span and are divided into six lengths with differential control so that the movement of each pair can be more or less than that of the adjacent pair, according to the results indicated by tests and the position along the wing at which stalling first takes place.

A nacelle housing the pilot and all controls, with the base acting as the main skid, is hung well below the main plane and is connected by a long "neck." Just below the wing the neck extends backwards in tubular shape of small section supporting a fixed tail plane at the rear and which in turn supports fixed vertical fins at both ends. One elevator hinges behind the tail plane and is supplied with mechanism connected to the pilot's cockpit for setting its normal position and thus relieve the pilot to a certain extent of control loads in flight.

Rudders attach to both fins and form air brakes, to facilitate landings in small spaces, when operated in opposite directions.

The main wing is wonderfully rigid for so great a span, but torsional movement of the complete tail unit appears uncomfortably excessive.

The *Meiningen* is of more normal design, but possesses a span of seventy feet, the largest of any sailplane yet flown. The wing is, as mentioned before, of multi-spar construction and flexes considerably in flight so that it was prohibited from flying during the competition in wind velocities of over eight metres per second. Apart from this the fuselage seems unnecessarily large in cross section and the main skid of too small dimensions to support the weight of so heavy a machine.

It was unfortunate that the *Meiningen* suffered a bad crash, during a side wind landing, before it had been properly tried out, but its soaring qualities had been somewhat disappointing.

The *Fafnir* was designed by Herr Lippisch as an improvement on the *Wien*, and it certainly is a remarkably sound machine. It resembles largely the *Wien*, but is a cantilever machine and has practically no "neck" between the fuselage and wing. In order to lift the wing well clear of the ground the central half of the main plane has considerable dihedral, after which the wing remains horizontal to the tips, giving the appearance of a seagull, and making it the prettiest sailplane yet produced.

The pilot is entirely enclosed and is provided with two small windows in the side of the head fairing. Despite the fact that the total weight of the *Fafnir* is decidedly on the heavy side, it has already shown itself a remarkably efficient machine with high manœuvring qualities. Its pilot, Herr Groenhoff, is the official test pilot at Wasserkuppe and seems very much at home in the machine.

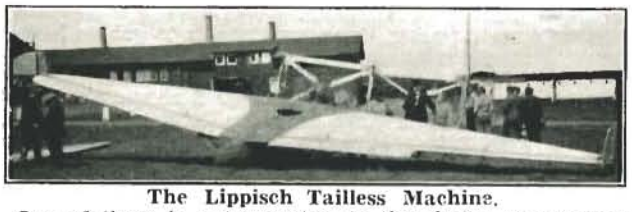
The *Aachen* showed almost as good a performance as any machine in the competition. For the most part this machine follows normal design for the high efficiency sailplane, but the fuselage is of hexagonal section and fabric covered, this being, of course, a much cheaper method than the "monocoque."

The wing and tail unit are also of simple construction,

the main plane being semi-cantilever and of large area and span.

TAILLESS MACHINES.

Tailless machines, although not actually participating in the competition, excited as much interest as any, and are well worth mentioning, as they indicate a definite avenue of progress for sailplanes.



The Lippisch Tailless Machine.

One of these is a two-seater, to the design of Lippisch, which has successfully progressed through the model stage to the glider and will later be fitted with a small engine, and as such should prove a first-class machine.

The span is about forty-five feet, with a central chord of approximately nine feet, tapering to two feet at the tips. The leading edge sweeps back whilst the trailing edge is in one straight line, and both ailerons and elevators are situated along the rear of the main plane. It is a high-wing monoplane with a deep-wing section at the centre forming the top part of the housing for pilot and passenger.

Flights as a glider were successful and showed a remarkably fine gliding angle, even downwind. An aspect ratio of eight on this machine is claimed to be equivalent to twenty in an orthodox type.

The Cooper Tailless sailplane is a very small, light, single-seater sailplane, with an aspect ratio of about thirteen and is a development of previous tailless designs by Dr. Cooper. It is fitted with ailerons and elevators along the trailing edge, but, instead of vertical fins and rudders at the tips as in the two-seater, the rudders are continuations of the main plane at the tips and actuate by opening, like pods, in a similar manner to the aileron-rudders on the Westland-Hill tailless machine.

Unfortunately, because of faulty workmanship, in which the main bulkhead supporting the wing was deficient of certain members when delivered from the manufacturers, a fracture occurred while the machine was being towed to the starting-point for testing, and, in consequence, this machine had not been flown by the end of the competition.

THE FIRST INDIAN ZOGLING.

To make a statement that a modern glider is the first in India is somewhat dangerous, as ancient Indian tales and legends tell of men flying with wings. Various people have recently suggested that these early flights were attempts at soaring in hot-air currents by the Indians themselves. Anyhow, the Zogling or primary training type which has been built by various enthusiasts at the R.A.F. Aircraft Depot at Drigh Road, Karachi, must certainly be the first of its kind in India.

This machine has been built from scrap material in spare time by some half-dozen very keen airmen under the guidance of Sq. Ldr. Leask. The wing has a span of 31 ft. and 5 ft. chord. The wing section is R.A.F.34. The covering is Indian cotton. The glider was built on a few rough calculations and photographs. It has been made particularly robust to withstand the shocks of teaching the "young idea." Although the lateral control is not particularly good the machine otherwise is very satisfactory. The addition of balances to the ailerons is expected to improve matters.

The enthusiastic builders of the *Desert Fowl* are now anxious to build a sailplane so that they can emulate the Kites that manage to soar for hours in the rising currents of hot air. Sq. Ldr. Leask says if someone will give him particulars of suitable wing-sections for sailplanes, together with a rough idea of the most suitable construction, he can do the rest. Perhaps some of our readers would be interested to send him this information.

One gathers that the Germans find it necessary on their monoplanes with high aspect-ratios to use a highly cambered wing-section for the middle portion, flattening this out to the tips, also that the ailerons work better if the wing section is thinned out in front of them. Herr Lippisch's latest ideas on the subject may be gained from the fact that three separate sections are used on the *Fafnir*. Gottingen 652 is used in the middle, then Gottingen 536, and our old friend Clark Y outwards to the tips.

THE COMMITTEE FOR STUDY OF MOTORLESS FLIGHT.

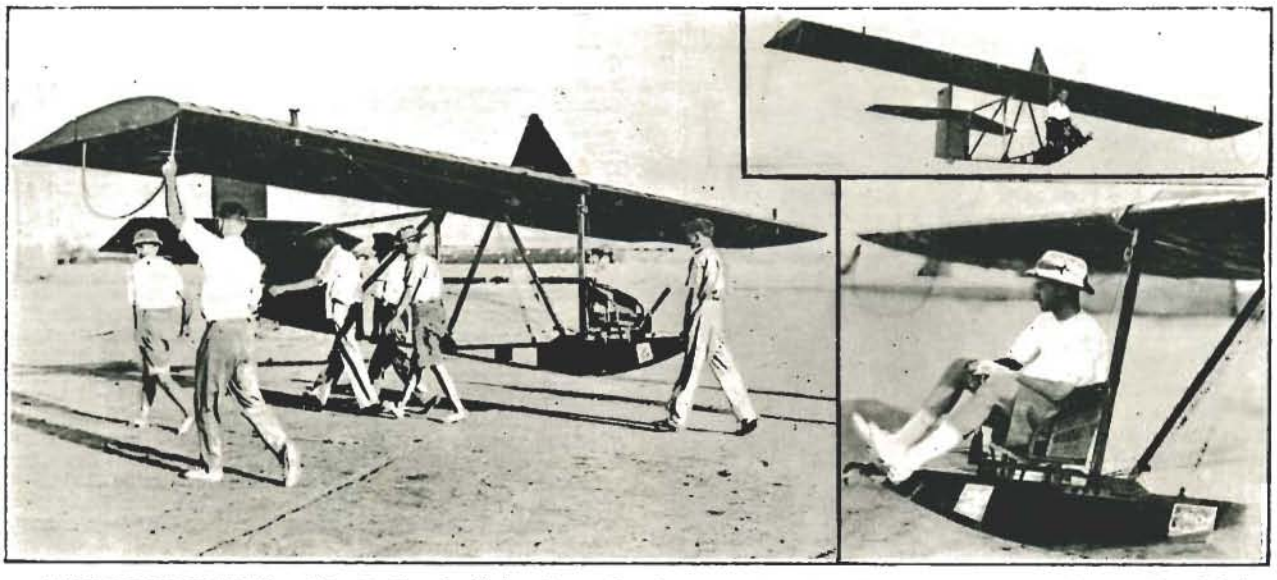
The Committee for the Study of Motorless Flight was formed on June 14 at Frankfort at a meeting of which the Chairman was Herr Dr. Georgii. Eight nations were represented, Belgium, France, Austria, Italy, Hungary, Holland, England and Germany. The formation or constitution of this Committee had been prepared at the Darmstadt Congress in last March (1930).

After the constitution had been approved, an executive committee was elected. The president was Prof. Georgii (Germany); vice-presidents, MM. Massaux (Belgium), Master of Sempill (England), Massenet (France); secretary-general, assuming for the time the job of treasurer, Count Ysenburg (Germany); the treasurer is ultimately to be selected from among the Italian delegation.

After this Prof. Georgii presented a very interesting programme of work, comprising scientific research, the establishment of design factors for gliders, and the organisation of the sporting side of motorless flight.

Four commissions have been formed to deal with the Scientific, Technical, Sporting and Propagandist aspects of the subject. The first work of these commissions and their constitution will be prepared by the R.R.G. A motion was passed by the Committee to be addressed to the F.A.I. to the end that in each country the central motorless flight organisation shall have its own body of control, which shall deal with all questions of licences and records of motorless flight.

The annual subscription has not yet been definitely fixed. It was simply decided that each participant should pay a sum of 200 marks (£10), the R.R.G. taking certain monies to its account for rent, etc. When the agenda was closed Prof. Georgii thanked the nations present for their help and collaboration.



THE DESERT FOWL.—The Zogling built by the enthusiasts at the Aircraft Depot at Karachi. On the right Sq. Ldr. Leask in gliding costume.

THE ASSOCIATION OF NORTHERN GLIDING CLUBS.

The following letter has been received from the Chairman (*pro tem.*) of the Association of Northern Gliding Clubs:—

Sir,—I must first of all congratulate you on your enterprise in publishing THE SAILPLANE AND GLIDER, and take this opportunity in wishing it every success. The first issue is certainly very interesting and I feel sure that in time it will grow in size as the movement expands.

Your reference to the conference at Harrogate appears to be somewhat misleading, mainly because you have apparently been given the wrong title. This should be *The Association of Northern Gliding Clubs* and you will doubtless agree gives rather a different aspect than the name *Northern Gliding Association*, which latter at once suggests antagonism to the B.G.A. This is the one thing I personally desire to avoid and was, I think, the general opinion of most of the delegates present. It is quite true, of course, that there are certain points on which we do not see quite eye to eye with the B.G.A., but I feel certain that these can be overcome.

The objects of the Association are to foster the movement of gliding and soaring, and to protect the interests of the clubs in the North. Clubs joining the Association can be affiliated to the B.G.A. or not as they wish. One of the main points is to keep the cost of gliding down to the lowest minimum.

It was the opinion of some of the clubs that the fee for affiliation to the B.G.A. was too high. Also the levy per member is applied to all classes of membership: flying, associate and junior. This hardly seems fair. This movement will largely depend in the future for its membership on the youth of this country and in many clubs junior members are being enrolled at subscriptions as low as 5s. per annum. These youngsters have all the benefits of the club except flying and can attend lectures and meetings, etc., thereby getting thoroughly airminded and feeling that they are helping the movement. I think you will agree that it is hardly fair to include these members on the same basis as flying members when paying affiliation fees.

This is just one little point and there are many others which I cannot mention at the moment, but which will be fully considered at the next meeting of the Northern Clubs.

I fully agree with you that there can only be one central organisation, especially where international relations, gliding certificates, and rules for airworthiness are concerned. But the procedure for obtaining the latter and the costs thereof appear to the writer to be a great handicap, especially to newly-formed clubs with small memberships, building their own machine.

The airworthiness costs, even of an approved type, will amount to over 25 per cent. of the cost of materials. This is ridiculous in a primary type. If local inspectors were available the cost would naturally be much less.

Anyway, these are just a few points which I think will need clearing up in due course. I must point out that the views expressed are my personal ones and not necessarily those of the *Association of Northern Gliding Clubs*.

The Association will certainly do all it can to promote healthy inter-club competition and would no doubt consider your suggestion of a North v. South match; but personally I think that such matches are at present rather premature. By next Spring the various clubs will be in a better position as regards machines and experience to make these really worth while.

At present the craze in many clubs is to get as high a duration of flight as possible, out of a Zogling type, instead of aiming at short, steady flights and good landings, with the wings parallel to the ground. I should think that over half the crashes have been due to this cause alone. In an endeavour to extend the flight and gain altitude flying speed has been lost and the machine stalled into the ground. It is for this reason that I am against inter-club events at the present time.

I hope, therefore, that I have made the position of the *Association of Northern Gliding Clubs* somewhat clearer and wish to assure you that I, personally, will always endeavour to do all I can to further gliding and soaring in this country. (Signed) ROBERT F. L. GOSLING.

A reminiscence of the Royal visit to Ivinghoe.

GLIDING LICENCES IN THE U.S.A.

The position of Gliding in the United States is not altogether comparable with the state of the Art over here, but the Movement has spread rather further and has had more money spent on it over there than here, so information about their licences is definitely worth while.

Gliders are classed as aircraft, and as such fall within the laws and regulations which apply in the various States. These regulations are now being enforced. Such regulations make licences necessary, so the U.S. Department of Commerce which deals with such things as the licensing of aircraft has got out licences for gliders and their pilots.

Licences for gliders are for three classes. The first is for machines which are manufactured under an Approved Type Certificate. Such gliders shall be exactly similar in specification, in design and workmanship to the approved type.

The second licence is for gliders which shall meet the minimum requirements for an Approved Type Certificate which shall not be required as the glider is not to be produced in quantity. The third licence only holds good for gliders manufactured before Oct. 1, 1930, and is only a temporary measure. Gliders shall be eligible for a licence of this class if they pass a visual inspection by the Department of Commerce for design, materials, workmanship and flight characteristics.

The Department of Commerce will also licence privately constructed gliders, presumably in the first category, if they have been built in accordance with the specifications and design of a type which has previously been approved.

Damages to the glider affect the airworthiness, and therefore there are regulations about the repairs. If the machine is damaged less than 50 per cent. the repairs can be done by a licensed mechanic. When the glider or a major component thereof is more than 50 per cent. damaged, the repairs must again be done by a licensed mechanic, but the repairs must also be approved by the Department of Commerce. This is probably sound, but when one thinks of conditions here such a restriction would prevent many clubs from operating. The supervision of a qualified ground engineer is not available at many places yet.

In the United States the F.A.I. regulations for Gliding Certificates are not used. The Department of Commerce has produced its own. The first is a licence for a Student Glider Pilot. For this no physical or written examination is required. The licence is issued on application to the Inspectors of the Department of Commerce or to the Divisional Offices of that body. The licence authorises the licensee to receive instruction and fly gliders solo while under the supervision of a licensed glider pilot.

The second licence is for a Non-commercial Glider Pilot. No written examination is required, but the candidate has to have the same medical examination as is required for private owners in the United States. The candidate also has to give a practical demonstration and make three flights with banks and turns in either direction. The licence can be obtained in the same way as the first, but authorises the licensee to glide for sport without the supervision of a licensed glider pilot.

The third licence is for the Commercial Glider Pilot. The physical examination is as for the second licence, but the candidate has also to pass on oral test in Department of Commerce Air Regulations and Air Traffic Rules. The candidate also has to give a practical demonstration as above and further has to make complete 360 deg. turns and precision landings.

These three categories are very different from those approved by the F.A.I. and issued by our own Royal Aero Club. The amazing thing about the American certificates is that no recognition is made of the ability to soar which should be the aim of all right-minded glider enthusiasts.

NEWS FROM THE CLUBS.

WHERE ARE THEY GLIDING?

From time to time, and especially on Saturday mornings, the telephone rings incessantly and eager inquirers want to know where is the gliding nearest to so and so this afternoon, and all that kind of thing. Flattered as we are by such attention, which presumes a kind of godlike omniscience, we cannot always give the information that is required because of the retiring habits of some Club Secretaries.

We therefore propose to have a feature in THE SAILPLANE telling our readers where and at what time there is gliding in their neighbourhood. This will only be possible if Club Secretaries keep us informed. As we go to press on Thursday this information must arrive on Wednesday.

If this promising idea fails to materialise it will be from lack of support, so send along the times and places of your performances. Such announcements are excellent publicity for the Clubs and are likely to rake in new members when interested people are able to come along and see how well you train—or otherwise.

DISAPPOINTING.

With one or two notable exceptions, Club Secretaries so far have failed to send along news of the activities of their own Clubs. THE SAILPLANE cannot afford to have a staff hard at work getting news items, and if the Clubs want their doings to get into the paper they must write up their meetings themselves and send their copy along to this office. Such copy must arrive at 175, Piccadilly, by Wednesday.

GLIDING CERTIFICATES.

The following Gliding Certificates of the *Fédération Aéronautique Internationale* have been issued by the Royal Aero Club:—

No.	*Name.*	*Certificates.*
1.	C. H. Lowe-Wylde (Kent Gliding Club),	A. and B.
2.	C. H. Latimer-Needham (London Gliding Club),	A., B. and C.
3.	Marcus D. Manton (London Gliding Club),	A., B. and C.
4.	M. L. McCulloch (London Gliding Club),	A. and B.
5.	Geoffrey M. Buxton (London Gliding Club),	A., B. and C.
6.	Flg. Off. E. Lucas Mole (London Gliding Club),	A.
7.	Colin Aubrey Price (Portsmouth and Southsea Gliding Club),	A.
8.	Denys Max Thomson Morland (London Gliding Club),	A.
9.	Col. The Master of Sempill (London Gliding Club),	A., B. and C.
10.	John R. Ashwell-Cooke (London Gliding Club),	A.
11.	Alan Goodfellow (Lancashire Aero Club),	A.
12.	Mrs. Joan Bradbrooke (London Gliding Club),	A.
13.	Thomas Graham Humby (London Gliding Club,	A. and B.
14.	Leonard Charles Williams (London Gliding Club),	A.
15.	Harry Amein Abdallah (London Gliding Club),	A.
16.	Percy Michelson (Lancashire Aero Club),	A.
17.	Frederick B. Tomkins (Lancashire Aero Club),	A.
18.	Eric Christopher Stanley Megaw (London Gliding Club),	A.
19.	Basil Alfred G. Meads (Lancashire Aero Club),	A.
20.	Robert Gidner Spencer (Driffield and District Gliding Club),	A.
21.	John Cecil Weale (Lancashire Aero Club),	A.
22.	Reginald G. Robertson (London Gliding Club),	A
23.	Thomas Eaton Lander (London Gliding Club),	A.

The Wirksworth Meeting.

On Sept. 6 and 7 a Gliding and Soaring Demonstration was given at Carsington Pastures, near Wirksworth, in Derbyshire. This meeting had been organised jointly by the Nottingham and Matlock Gliding Clubs. The ground was selected by Herr Magersuppe as being the most suitable for his purpose, but for elementary gliders it called for great skill on the part of the pilots because of the steepness of the land and the presence of large boulders and rocky projections. The ground was somewhat inaccessible. The main approach was a long, narrow lane up from Wirksworth, the greater part of which was uphill with gradients of 1 in 7 in several places, which made it extremely difficult for large charabancs and 'buses to reach the ground.

On Sept. 6 over 1,500 people paid for admission. This number included some 10 or 12 'bus loads from Nottingham, Derby, Ashbourne, Sheffield, Matlock and Buxton. Rain started at 14.30 hrs. when the roads were thick with traffic and as the downpour soon became a deluge and lasted for the rest of the day, large numbers of people turned back, consequently the gate was greatly affected.

The first flight was made by Mr. Spaight of the Nottingham Gliding Club on the Club's R.F.D. Training machine. With a light South-west breeze he made a splendid straight glide of 500 yards, making a perfect landing. This was followed by a similar flight in the same machine by Mr. F. Lee of the same Club.

Herr Magersuppe then made his first flight on his Professor Sailplane. He took off from almost the crest of the hill, which was about 300 feet above the valley, and made a circular flight of nearly 3,000 yards, landing practically at his starting point.

The S. and H. Derby machine, which belongs to the Matlock Club, not having arrived in time, further flights were then made by Mr. Spaight. One of these was a very fine effort for an elementary glider (R.F.D.) consisting of an excellent S bend, which had it been officially observed would have earned the Pilot his "B" Certificate. Great applause greeted this flight, which showed that the public, who probably knew little of gliders and sailplanes, appreciated this performance, which from a spectacular point of view was almost equal to that of Herr Magersuppe on his sailplane. Although only in the air one minute, thirty-five seconds, Mr. Spaight flew two thousand yards.

Herr Magersuppe then made a further attempt and succeeded in making a complete tour of the valley in sight of the spectators, and was in the air for nearly 10 minutes, and covered some 6 or 8 miles. A perfect landing was made within 100 yards of his taking-off point.

Mr. Lee then made another attempt to gain his "A" Certificate and was observed by Mr. Gordon England and Mr. Waplington of the B.G.A., but unfortunately he was forced to land on a rocky projection which slightly damaged the machine.

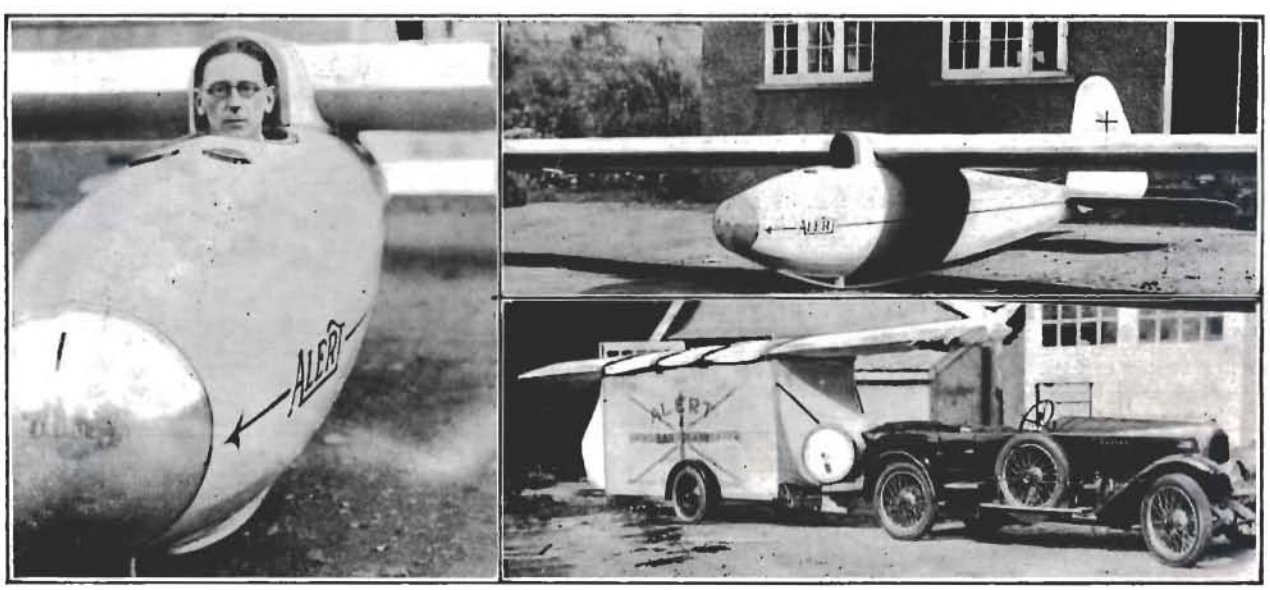
Rain then started and soon after the meeting was abandoned owing to poor visibility.

On Sept. 7 better weather conditions prevailed, but unfortunately the wind had changed around to N.W., making flight extremely difficult because take-offs had to be made over rugged, rocky ground. In the ordinary way no Club would attempt flights from such a ground on any elementary or training type of glider. Even an expert like Herr Magersuppe had to exercise the greatest skill both in taking off and landing—in fact he was unable to make any landing anywhere near his starting point, not only on account of the wind which blew in gusts of 25 to 30 miles per hour, but also because of the nature of the ground.

Herr Magersuppe was the first to take the air on the S. and H. Derby Glider, and made several spectacular glides. On his third flight he made a good landing on the opposite hill, but before any of the launching crew could reach him a gust of wind caught the machine and turned it over on its back, badly damaging its tail and controls, putting it out of action for the rest of the day.

Mr. Searby of the Nottingham Gliding Club then made a short trial flight in his Searby Special, designed and built by himself, but the nature of the ground and the wind made a long flight almost impossible on a glider.

Herr Magersuppe then went up in his Professor and in marked contrast to the previous day it could be seen that only by the most skilful handling could he keep a steady control, and soon had to seek



The Alert, which has been built by E. D. Abbott Ltd.

the shelter of the valley, remaining in the air only a matter of 3 mins. 25 secs.

The next was a very successful flight by Mr. Spaight on the Searby Special, who succeeded in gaining his "A" Certificate under the observation of the B.G.A. Official.

This machine has warping wings of special design, and was quite unsuitable for a flight on such a day, control being extremely difficult, and Mr. Spaight afterwards admitted it was rather a terrifying experience to control the machine on such a day and over such precarious ground.

A demonstration was then given by Mr. Barber, Instructor to the Derby Aero Club, of the Anti-Stall device invented by one of the members of the Club, Mr. E. D. Wynn. He flew a Moth over the ground low enough for the crowd to hear the siren come into operation when the speed of the machine fell below 50 miles per hour. He purposely allowed the machine to stall in order to demonstrate what the stall was, and then cleverly corrected the machine. As soon as his air speed had increased sufficiently one could hear the siren cut out. He then proceeded to give a display of trick flying which was greatly appreciated.

Herr Magersuppe's next flight lasted 6 mins. 20 secs., and was a wonderful display of soaring right around the valley.

Then Mr. Searby made a very sensational flight in his Searby Special. After being successfully launched and gaining 50 ft. of height he made several terrific swoops, when suddenly the wind caught him and turned him almost completely round facing a large portion of the spectators. In attempting to avoid them he turned his machine too sharply and crashed on one wing, but fortunately without any personal injury.

Next was Herr Magersuppe's attempt to make a long, sustained flight, and it was explained by Mr. Gordon England that he would do the best he could under the prevailing wind conditions, but his landing would probably be made well out of sight of the ground. It was a beautiful flight lasting some 9 mins. 32 secs., the machine landing over five miles away.

This brought the meeting to a close. The events were broadcast, loud-speakers being posted at various parts of the ground. Explanations of the various flights and the difference between gliders and soaring planes were made.

Attendance on the Sunday was over 8,000, nearly 1,000 cars were parked and some 20 or 30 'buses and charabancs. Considering the inaccessibility of the ground, the weather and the difficulty of making successful flights on elementary gliders on such a ground, the meeting was a great success. The financial result was satisfactory.—L. B.

Gliding at Driffield.

In one of the announcements that appeared in the local Press about the then forthcoming display at Driffield, Mr. R. G. Russell Taylor was described as the only English certified instructor. This statement is misleading. Firstly, as far as this paper knows there are no English "certified instructors" of gliding and presumably that is what the phrase is meant to convey. Some people certainly are "certifiable," but Mr. Russell Taylor appears not to be that.

Secondly, according to the latest sheet of Certificated Glider Pilots, which has been issued by the Royal Aero Club, Mr. Russell Taylor's name does not appear as even possessing an "A" licence. A statement of this kind can only annoy those who have gained their certificates after much hard work.

The meeting at Driffield was organised by the Bradford and Driffield Clubs in conjunction. The programme was to have included displays by the Alert, by the Clubs' machines and displays by a D.H. Moth. After one short flight a wing of the Alert was damaged and when this had been repaired a bad landing again damaged the machine. According to the *Yorkshire Post* Mr. Russell Taylor said: "I did not consider it safe to go up, but some of the spectators were getting rather nasty about it, so I thought I would take the risk. But I discovered I could not control the machine, so I stopped it." And, as Beachcomber says, there the matter rests.

The bulk of the demonstration fell on the members of the Driffield Club, who were able to keep people interested in the flights of their training machine. From the few photographs available the site which was used does not seem particularly suitable for soaring, but this impression may be due to the photographs not showing the steeper slopes.

Clubs should always realise that their displays are very important to the Movement as a whole. To stage a show is to assume a big responsibility and the organisers must do everything to ensure that the crowd goes away impressed with the possibilities of soaring. That is why, as pointed out in THE SAILPLANE last week, clubs must try and give demonstrations with machines of a more advanced type than a training machine.

The Driffield Club has a big membership and should do well, and if they feel that this account does not do justice to their efforts they must remember that they sent no account of it to this office and we have had to rely on reports in the local Press.

The Surrey Club.

The Surrey Gliding Club, formed Mar. 20, 1930, is fortunate in having His Grace The Duke of Sutherland as president. The Club has a strong, active membership totalling sixty-five, and has made rapid progress since its first Flying Meeting held on May 24. A total number of 750 flights have been made to date on the Club's R.F.D. type AT Training machine.

Co-operation among members, coupled with fine weather, produces an average of sixty flights per week-end, which are equally divided between those present so that everyone is assured of receiving their respective number of trips. Those in training receive two trips to one of experienced pilots, who, of course, take off from the top of the hill.

Careful training is proved by the fact that only two crashes have occurred, which in each case were slight, accounting for a broken centre strut on the fuselage. These two occasions are the only time meetings have been disbanded owing to damage.

Two of the members have just made flights under difficult conditions which qualify them for their A Certificate. The site used is rather limited for duration. These flights have only been possible since the harvest, by clearing a 20 ft. hedge, thereby gaining extra ground in the adjoining cornfield, which has now been reaped. But for the crops, a number of the members were ready to qualify for their A Certificates two months ago.

Some of the Surrey Club.

The Club proposes to carry on flying during the Winter, and also to get down to constructional work on advanced type machines as we hope to be able to secure a very good soaring ground for next season.

There is the right talent in the Club for constructional work, and with the Committee's ever watchful eye on finance a good reserve is in hand to support the constructional group.

Details may be obtained from the Hon. Secretary, G. H. Taylor, 24, Woodbridge Hill Gardens, Guildford.

The Bedford Gliding and Flying Club.

The Bedford Gliding and Flying Club, which is under the distinguished patronage of Her Grace the Duchess of Bedford, has been in operation for more than a month now. This Club has built a most excellent shed for its machine which we hope to illustrate at an early date. This effort shows great keenness on the part of Club members and is to be commended.

The Club has a mixed membership of over 90 and includes a good proportion of experienced flying men. Gliding and Soaring are at present being concentrated on, but it is hoped in due course to form a flying section.

Aerodrome Headquarters are at Wilstead Hill, 5 miles from Bedford, on the Bedford-Luton Road, where the Club members themselves have built a very fine hangar some 80 feet long by 50 feet wide, and gliding is in progress every evening and during week-ends.

Most of the members have already gone through their elementary ground classes and practice tests on dummy controls, and now show great promise on the training Gliders. Some of the ladies have made fine glides.

A Constructional Group has just been formed and the Club are about to commence work on constructing their own Soarplane.

It will be remembered that in June last, through the kind assistance of local Flying Clubs, manufacturers and the Press, the Club was enabled to open up by holding a very successful Air Rally at Bedford.

The Ilkley Club.

The Ilkley Club had a spot of bother on Sept. 7 when a Club member stalled their primary training machine. The machine was damaged and the pilot broke his leg. This question of personal injury is becoming serious. We think that the British Gliding Association should investigate the accidents which have so far happened and issue recommendations. Such a course would be to everybody's benefit.

FORTHCOMING DATES.

Gliding in the North.

On Sept. 13 and 14 the Bradford and Cononley Clubs are arranging to hold a demonstration at Robin Hood, near Silsden. The Clubs hope to have their Dixon type gliders on view. Mr. Russell Taylor should also be there with his Alert sailplane.

A Meeting at Lenham.

The Kent Gliding Club have organised a Flying and Gliding Meeting for Sunday, Sept. 21. This will be held at the Club's licensed aerodrome, the Old Race Course, Lenham, Kent. The first event is timed to start at 11.00 hrs. There are to be inter-Club Gliding Competitions, and similar events for visiting aircraft owners. Particulars may be obtained from the Secretary, 14, King Street, Maidstone.

The Scarborough Club Meeting.

The Scarborough Gliding Club are holding a meeting on Sept. 20 and 21 at White Horse Cliff, Sutton Bank. Particulars may be obtained from the Secretary: Scarborough Gliding Club, Royal Hotel, Scarborough.

A Wiltshire Meeting.

On Oct. 4 and 5 the Wiltshire Light Aeroplane and Glider Club proposes to hold a Glider Meeting. There are about 65 acres of landing-ground for visiting aircraft and a car-parking space of about the same area. Particulars can be obtained from Mr. C. J. Cuss, Church Place, Swindon, Wilts.

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