Feb. 6, 1931. Vol. 1. No. 22.

THE SAILPLANE AND GLIDER

Price 3d.

FULL SCALE RESEARCH.



Herr Lippisch's tailless glider does its trials at the Wasserkuppe.

EVENTS OF THE WEEK.

At least three events are likely to make the past week one of the most important in the history of the Gliding Movement in Great Britain. The first of these was the distinguished lecture by Herr Lippisch. It is not often that an eminent designer visits another Country, and not only surveys the history of his subject in his own land, but also discloses the technical secrets of its latest developments.

We of the British Gliding Movement owe a very great deal to our friends of the Rhön-Rossitten Gesellschaft, and this is a good opportunity to place upon record our gratitude for the way in which they have co-operated so fully with our endeavours. They have made it possible for us to start, at any rate as far as technical equipment is concerned, from the point which it has taken them ten years of striving to reach.

The next matter of moment was a demonstration at Radlett Aerodrome on Sunday of Auto-Towing by Mr. Lowe-Wylde and his associates of the British Aircraft Company. Radlett Aerodrome is where all the latest Handley Page products are tried out, perhaps Hannibal, the 40-seat biplane for Imperial Airways Ltd., is most in the public mind at the present time. As may be seen from the account published elsewhere a large number of distinguished R.A.F. officers were present and made flights We are told they were favourably impressed, and if in the future the formation of Clubs within the Service is not looked at askance as a method of economical flight tuition we shall not be surprised. Clubs are already operating at Manston and Eastchurch, where regular tuition in the control of motorless aircraft is given.

Further than this the formation of a Gliding Club within the Handley Page factory seems to be a possibility and its formation would be welcomed within the Movement for a variety of reasons. It seems to us that a Gliding Club operating on a flat aerodrome at first and teaching its mem-

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bers to fly cheaply by Auto-Towing would be an asset to any aeroplane constructor.

Those of us who work in the Aircraft Industry know what a gap there is between those who fly and those who do the routine part of design. The ordinary draughtsman would like to fly, but the costs of joining a Light Aeroplane Club are prohibitive and few have the qualifications for joining the Reserve of Air Force Officers, thereby getting a few hours' flying a year for nothing.

If a Club was formed among the staff of a firm members need have no intention of trying to master the intricacies of soaring flight. Each member need only feel constrained to master the rudiments of aeroplane control. He will then design with greater sympathy for the criticisms of the pilot.

After a short time such a Club would be bound to produce one or two pilots who were anxious to get their F.A.I. Certificates and who could join some Club which had a site suitable for soaring. Such members would be welcomed by existing Clubs as they would have passed the expensive stage of tuition.

When a Club is composed of young men who are not altogether ignorant of design and stressing it does not require a great deal of imagination to look forward to the time when their activities will include the testing of new design features.

To build a glider in a works need not cost much and once built it offers a valuable field of research; the results obtained in wind-tunnels are always difficult to correlate with full-size, but a glider is already a full-size machine and as such offers a valuable means of experiment. Auto-Towing makes possible such experiments over a flat field where stable conditions can be chosen and allows the maximum number of flights in the minimum time with minimum effort.

There is no difficulty in reaching a height of 400 ft. with a glider towed by a car and as a result flights of extended duration are obtained easily without soaring. This makes possible the trying out of various modifications to design with no trouble at all.

The third event was the meeting of Herr Lippisch with the Aeronautical Research Committee on Tuesday. This body co-ordinates all the Aeronautical Research done in this Country and is the final Arbitrator in deciding the way in which research shall be undertaken. In Germany, as Herr Lippisch tells us, much valuable research in new types is done by means of Motorless Flight.

Certain people in this Country are convinced that various problems can be best investigated with gliders. The Powers-That-Be had yet to be convinced. On Tuesday's Meeting hung their decision. If they have decided to utilise the new method of research which lies to their hand, it bodes well for the Movement because we shall at last have behind us that scientific co-operation and assistance which so far has been noticeably absent.

THE B.G.A. ANNUAL MEETING.

The British Gliding Association will hold its Annual General Meeting in the library of the Royal Aeronautical Society, 7, Albemarle Street, London, W.1, on Friday, Feb. 27, 1931, at 7.15 p.m. The business of the meeting will include the election of representatives on the Council of Founder Members, Ordinary Members and Life Members of the Association.

Secretaries of all affiliated Clubs are asked to notify the Secretary of the Association, before Feb. 21, of the name and address of the Club representatives who will serve on the new Council.

DINNERS TO HERR LIPPISCH.

On Jan. 29 Herr Lippisch was entertained to dinner at the Royal Thames Yacht Club by Mr. C. R. Fairey, the President of the Royal Aeronautical Society. Among the guests were Col. The Master of Sempill, Mr. Gordon England, Mr. Handley Page, Sq. Ldr. England, Sq. Ldr. Maurice Wright, Mr. F. T. G. Dawson, Mr. W. O. Manning, Dr. Lachmann, Mr. Dagnall, Mr. Lowe-Wylde, and Mr. Ashwell-Cooke.

The following evening Herr Lippisch was entertained to an informal dinner by the London Gliding Club, where even the menu was redolent of soaring flight for the sole was à la Prufling and the café from Gersfeld! The evening, which was very jolly, became a symposium or rather the multitude sat round the feet of the Master and scrounged all the knowledge they could get.

AUTO-TOWING AT RADLETT.

On Sunday, Feb. 1, Mr. Lowe-Wylde and his associates of the British Aircraft Company gave a demonstration of Auto-Towing on the Handley Page Aerodrome at Radlett. This should be a pretty good spot as the bumps are being taken out of the ground by Hunter, Jnr., son of that Mr. C. P. Hunter whose Hunterised Aerodrome surfaces are becoming famous.

The visibility was not good and the wind, which started at about 2½ m.p.h., freshened considerably and became gusty. The weather was wet and drizzley, but in spite of this some thirty flights were made.

The distinguished visitors present were favourably impressed and the consensus of opinion appeared to be that Auto-Towing offers a safe, cheap and practical method of giving primary instruction in handling the controls of heavier-than-air craft.

The B.A.C. VI has had a special Air Speed Indicator fitted. This shows that the machine will glide nicely at about 37 m.p.h. This is with Goodyear Airwheels.

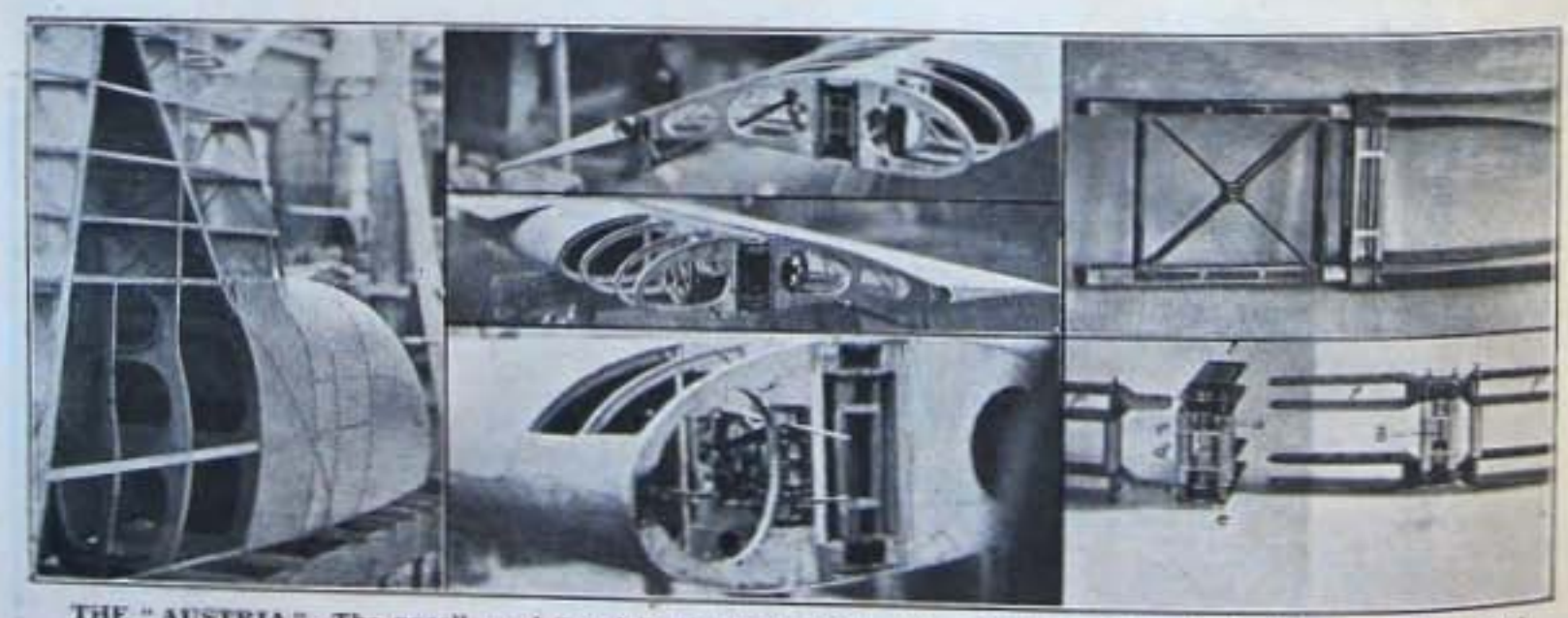
The machine was flown by Air Vice-Marshal Amyas E. Borton, C.B., C.M.G., D.S.O., A.F.C., A.O.C. Inland Area; Wing Cdr. T. E. B. Howe, A.F.C., of the Directorate of Training; Wing Cdr. A. A. B. Thomson, M.C., A.F.C., Assistant Director of Armament; Air Commodore G. E. Rathbone, D.S.O., Chief Staff Officer, Inland Area; Sq. Ldr. Tom England; Sq. Ldr. J. W. B. Grigson, D.S.O., D.F.C., A.D.G.B.; and Flt. Lt. G. H. Stainforth, A.D.G.B.

GLIDING IN AMERICA.

The latest number of the *Air Commerce Bulletin* which is the official half-monthly publication of the U.S. Department of Commerce, Aeronautics Branch, states that there are 169 Glider Pilot Licences active, and 681 Student Glider Pilot Permits active since July 1, 1930. This last figure seems remarkably low when one considers that such a permit is necessary to fly a glider at all.

The G.P. Licence is issued after a medical examination of the candidate who has as well to give a practical demonstration, which consists of three flights with banks and turns to either hand.

In the United States no F.A.I. Certificates are issued and



THE "AUSTRIA."—The nacelle and "neck"; the wing joints and aileron controls; typical joints as described in "The Sailplane" last week. The eyes of the male fitting slip inside the female, the vertical pin "b" in the bottom right picture is then screwed up to lock the fittings together.—(*Courtesy "Flugsport."*)

as remarked in THE SAILPLANE for Sept. 12, 1930, no recognition is made of the ability to soar, which should be the aim of all right-minded glider enthusiasts.

A MUCH-TRAVELLED GLIDER.

The cabin monoplane glider *Texaco Eaglet*, in which Captain Frank Hawkes crossed the American Continent from San Diego, Calif., to New York between Mar. 30 and April 6, 1930, has flown more than 4,000 miles, with a total duration of 570 hours.

This glider is not a sailplane in the usual sense of the word; it was towed behind a power machine and cut loose over the various stopping places *en route*. It was then flown down with suitable manœuvres. It is to be exhibited in The Smithsonian.

WANTED: A LAUNCHING ROPE.

One of the most promising groups in the British Gliding Movement is the Imperial College Gliding Club, which consists of a number of students from the three constituent colleges of the Royal School of Mines, the City and Guilds (Engineering) College, and the Royal College of Science. The activities of these students should be watched carefully not only because they are so far the first as well as the only student group in the country, but because, unlike any other Club, they have definite ambitions in the way of trying-out full-scale new aerodynamic conceptions. Such aims are badly needed within the Movement and from them much good may eventuate.

Like all student bodies this group is not over blessed with hard cash. Their equipment is somewhat scanty. At the moment their activities are curtailed by the lack of a decent launching rope. They are anxious to secure one second-hand and would be glad to hear from any Club who have a spare rope to sell. Offers should be made to The Hon. Secretary, Imperial College Gliding Club, Imperial College Union, Prince Consort Road, S.W.7.

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THE DEVELOPMENT, DESIGN AND CONSTRUCTION OF GLIDERS AND SAILPLANES.

A LECTURE

BY HERR LIPPISCH.

[On Thursday, Jan. 29, Herr Lippisch, who is the famous designer of the Wien, Fafnir, Falke, *and various tailless machines, lectured before* The Royal Aeronautical Society. *As a very large proportion of our readers were able neither to attend the lecture nor to obtain advance copies, we have decided to reprint the substance of the lecture in* THE SAILPLANE *with some of the most interesting illustrations and diagrams. This has been made possible by the kindly co-operation of* The Royal Aeronautical Society.—ED.]



The "Falke" in flight.

Herr Lippisch begins his lecture by showing that although man's ambition to soar is as old as history, and his early experiments have become enshrined in myths and sagas, yet the modern gliding and soaring flight movement had its beginning in the Rhoen Sailplane Contests which were inaugurated after the war. The first part of the paper is then devoted to a rapid survey of the machines whose developments have resulted in the types with which we are familiar to-day.

One of the most successful of the early machines was the *Schwarzer Teufel* (Black Devil) of the Aachen Flying Club, designed by Dr. W. Klemperer, who is now in America. This machine was a low-wing monoplane with two streamlined pants which carried the landing skids. *[A machine of this type was seen at Itford in* 1922, *but was crashed by its comparatively unskilled British pilots before showing what it could do.—*ED.]

The type was extremely light, in fact the *Schwarzer Teufel* only weighed 133 lbs. (61 kg.) empty; the wing loading was 1.86 lbs./sq. ft.



The "Vampyr."

This type was not developed because although the sinking speed was satisfactory, the gliding angle was too great; this was largely due to the low-wing construction.

The sailplane which has to-day become almost a classic is the *Vampyr* of the Flying Club of the Hannover Engineering School. This was designed by G. Madelung, and from it has sprung the modern high-efficiency sailplane.

The essential aspects of sailplane design were for the first time worked out in this machine. A sailplane must have a low sinking speed, good gliding angle, sufficient strength and good manœuvrability; these characteristics are obtained by the use of a high-wing cantilever monoplane with a highly-cambered wing-section together with a large span and high aspect ratio.

For the first time a single-spar wing was used in which the torsional forces were taken by the leading edge. This was built up as a thin-walled tube of plywood closed at its rear by the spar proper. This method had the further advantage, that the most sensitive part of the wing section was kept in its proper shape.

The *Vampyr* had as well a three-piece wing, an all-plywood fuselage, three football-wheels embedded in the fuselage as undercarriage and a "pendulum"-type elevator. The outstanding success of this machine in the Contests of 1921-1922 graphically illustrated the correctness of the way wh was taken.

Espenlaub, who started his career as a cabinet-maker, the first to build a large span cantilever monoplane wit thin wing-section, disregarding the resulting deflection t ding, and although his machines were not a success t



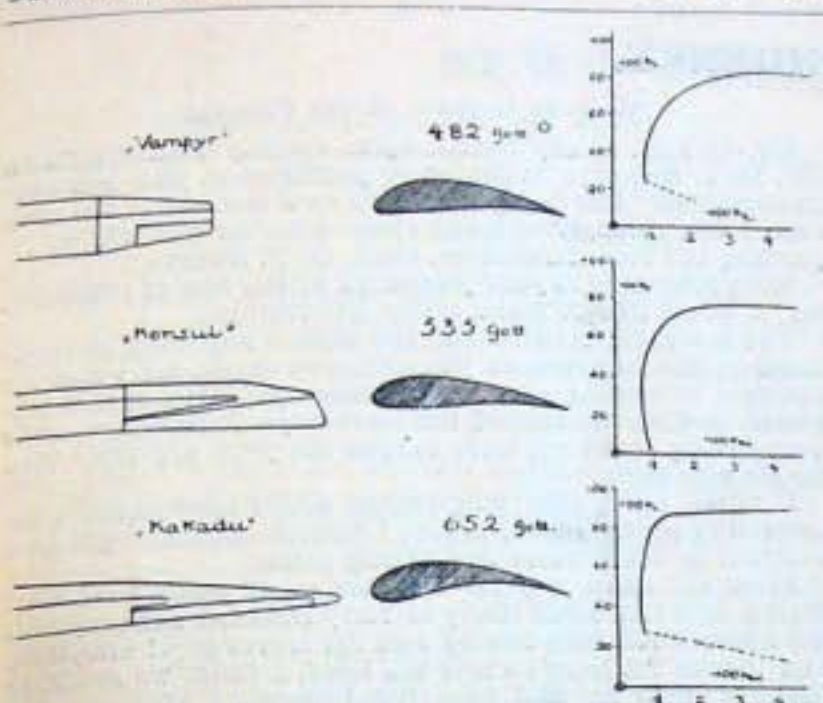
Espenlaub's machine.

set the example for the successful designs of the *Str* and *Konsul*. The former was designed by A. Martens was a development of the *Vampyr* with a lower em weight, increased span and less parasitic drag. Spe attention was given to simplifying and making quicker assembly of the machine as this is a matter of the grea importance during contests.

The *Konsul* was designed by Botch and Spiess and produced by the Darmstadt Academic Flying Club. was the first of the famous series developed by the Da stadt School and had certain unmistakable differences f



The "Konsul."



1921-1928.—The development of the "Kakadu" from the "Vampyr." The semi-spans are to the same scale.

the *Vampyr*. The span was increased, the plan of the wing approached the elliptical, the fuselage was round in section, the tail unit was considerably enlarged and a fixed fin is used. The rudder was differentially coupled to the ailerons. The flying qualities of this machine were considered excellent by all pilots and the *Konsul* may rightly be considered the first long-distance sailplane.

A machine which surpassed the performances of the *Konsul* was also designed by a student of the Darmstadt School. This was the *Roemryke Berge* which was designed by Schatzky in 1924 for the Niederrheinischer Verein fuer Luftfahrt. As the Club had no suitable pilot this machine hardly appeared in 1924 and 1925. J. Nehring was the first to master this craft which was undoubtedly difficult to handle and by his flight to the Milseberg proved the superiority of this machine.

The beautifully streamlined fuselage had the smallest possible cross-section and was attached to the wing by a small streamlined neck which acted as a fairing for the pilot's head. The slightly cambered thin Goettingen 426 wing-section was used which has a remarkably small drag. The centre-section was rectangular in plan and had a flap along the whole trailing edge for varying the camber. This was never used and finally was removed.

In 1927 the Darmstadt Club built the *Darmstadt I* as a development of, and replacement for, the *Konsul*. The influence of the *Roemryke Berge* was unmistakable. This machine was smaller than the *Konsul* and had a lower structure weight. It was sold to the United States and the *Darmstadt II* with a different wing section and span was built. The *Westpreussen* designed by Dipl. Ing. Hofmann,



The Darmstadt II.

and the *Wuerttemberg*, together with the *Lore*, which were designed by Laubenthal, are variations of the Darmstadt design which is not unnatural seeing their designers were members of the Darmstadt Club.

These types all have a three-part single-spar wing with rectangular centre-sections and elliptical extensions. The fuselage is egg-shaped in cross-section with the narrow end at the bottom, small neck, and vertical stern post. The rudder and elevator are attached to small built-in fins, but there are no damping surfaces in the true sense of the word.

Wings of such plan as above are not economical to build after a certain span as enough depth for cantilever spars cannot be obtained. To avoid this difficulty the lecturer designed the *Professor* as a high performance training machine. The machine was designed for construction by Clubs and for training therefore its strength and stiffness had to be great as possible. This is most easily achieved by using a braced wing and long fuselage. The inherent vibration period of the wing is very short, the elevator is not too sensitive and the damping as well as the longitudinal moment of inertia are sufficiently great. The relatively thin Goettingen 549 wing section can be used because of the bracing and the lower drag of this neutralised the added drag from the struts. The fuselage was made six-sided for purposes of simplicity.

The *Wien*, which is a logical development of the *Professor*, is well-known in England. This has increased span, a more deeply cambered wing-section, a rounded fuselage section and faired fittings.

Another departure from the Darmstadt type are the machines designed by Dr. Kupper for the Munich Club. The first of these was the *Kakadu*. A cantilever wing of great span is used, the wing form, the section and spar-design are all original. The latter was a thin-walled box-spar which is only suitable for metal construction and is now no longer used even by Dr. Kupper himself.

Herr Lippisch then traces the development of the *Zogling* and *Prufling* from the early suspension type glider



An early trainer, the "Pegasus."

used by Pelzner in 1921. Characteristically the lecturer describes the flying qualities of one of these early types by saying that it flew like a parachute. There were also the practice sailplanes developed from the *Djaevlat Annama*, of which the Schleicher *Hols der Teufel* and *Poppenhausen* are well known in England.

The *Prufling* may be said to have come from the Darmstadt *Edith* of 1922. It came into existence in 1926 and was of vital importance to the Gliding Movement because before that date it had not been possible to train pupils with no power flying experience as far as the "C" Certificate stage. From the *Prufling* has been developed the *Falke*. [*Next week we intend to publish Parts II and III of Herr Lippisch's lecture.*—ED.]

DRAWINGS OF THE FALKE.

Sets of drawings of the *Falke* are now available to Members and Clubs affiliated to *The British Gliding Association*. This machine represents the latest ideas at the Wasserkuppe of an ideal training machine of the intermediate or secondary type and is a machine for which many British Clubs have been waiting for some time. Owing to some trouble with the block-makers we are not able, as was intended, to reproduce a general arrangement of this machine in this week's issue. But the omission should be repaired next week.

Members and Clubs must agree before obtaining the plans to build the machine for sport and instructional purposes only. The *Falke* must not be commercially manufactured nor must the drawings be sold to another party for commercial manufacture. Clubs and Members who shall buy the drawings are bound by the obligations imposed by *The British Gliding Association*.

The cost of the drawings is £3 per set plus the R.R.G. licence fee of £2.

CORRESPONDENCE.

Replies to "Nomad."

Sir,—Regarding "Nomad's" comments with reference the "Dagnall Prize."

I think the difference in the scores he states and those advertised are due to the fact that although the Certificates were qualified for between the dates mentioned the necessary applications had not been made for the same, consequently it would show this difference.

I am, however, taking this matter up and the exact figures will be advertised.

(Signed) R. F. Dagnall.

Sir,—In answer to your contributor's remarks on the Dagnall Competition I think if he reads his back numbers of The Sailplane he will see the scheme well explained and needs no confirmation other than the Royal Aero Club's list of pilots.

I congratulate Mr. Dagnall on his sporting spirit, and it might be news to many readers that this is only one of his minor aids to the Movement. I could tell of many others, both large and small, which have not come into print.

There is, however, a side to all competitions that needs consideration; that is the flying membership of a Club. We are in an agricultural area, and serve an area within a radius of about forty miles, from Yeovil as centre. We have 74 flying members; that means if we have ten cars turn up at any one meeting something like 500 car miles, whereas a city Club serves only perhaps a ten-mile radius. When an all-England competition is held we are working against tremendous odds, and if only the membership was taken into consideration, on the equation membership over marks gained, it would place smaller Clubs on an equal basis with the larger and more fortunate Clubs. I think we should have come out very favourably indeed in the Dagnall competition on these lines as it is only reasonable that a small Club cannot produce so many pilots as a large Club. Nevertheless we are not grumbling, we are out to try again.

(Signed) Norman W. Wright
(Chairman, Dorset Gliding Club).

New British Sailplanes.

Sir,—In answer to your correspondent, Mr. Geale Dickson, A.M.I.N.A., I should, first, like to extend to him my appreciation of his very far-reaching remarks re Sailplanes.

It may interest him to know that I have nearing completion a Sailplane that I have designed and built with the idea of filling the gap between the Zogling and what Mr. Dickson calls the extreme German type.

With regard to the absence of such a machine I should like to point out that last year was the beginning of the Glider Movement in this country and up till then there was no demand for Sailplanes, and your correspondent will find that his experience gained on a Zogling will be all to the good when he tries soaring.

If we are to produce results in the same class as the Germans they cannot be arrived at without extensive research, and that takes time.

Personally I have been experimenting with various methods of construction since last August and I am still finding improvements that can be incorporated in future machines; it is comparatively easy to produce a design for a single machine, but when spare parts, etc., and Club erection and repairs have to be taken into consideration it is a different problem.

(Signed) J. Denis Timmins.
69, *Western Avenue, London, W.12.*

More in Defence of the Catapult.

Sir,—I wish to say that I agree entirely with everything Mr. H. V. Roe says in his letter published in your last issue and entitled "Pro Catapulta," and as a member of the same club I can strongly endorse every word he has written regarding our Hon. Instructor, Capt. G. N. Stratton.

With reference to your postscript at the foot of this letter, Sir, I would like to make a few observations.

The crash referred to was not due to any want of knowledge of the controls, as you, Sir, well know, for I had the pleasure of making your acquaintance just after it had happened, and myself related the facts to you, and consequently auto-towing could not have taught the pupil any more than he already knew.

I do not agree that auto-towing would have removed the possibility of this crash, in fact I consider that it might have resulted in a far worse one taking place.

After all, when a pupil who has made many good short flights, and had some thirty or forty launches suddenly loses his nerve when only twenty feet up, leaves go of everything and throws his hands above his head, I think we should be thankful that he had been hand-launched with only two each side of the rope instead of auto-towed, when far worse would probably have happened.

As Mr. Roe says, auto-towing may have its uses, but I contend that it is not a method by which we can learn to soar; moreover it introduces two additional human elements, the car driver and the instructor at the winch, and it is very seldom that two minds have but one single thought for long, so what chance is there for three?

Auto-towing may be O.K. for just the first few trials, to learn the use of the controls, and to get used to the sensation of being air-borne, but after that catapult-launching and free flight is in my opinion both safest and best.

(Signed) A. K. Binnloss.

[*We adhere to our original criticism.*—Ed.]

An Indictment.

Sir,—Owing to an outbreak of foot and mouth disease the activities of the Southdown Skysailing Club have been temporarily suspended. As a result two hon. members have spent the last two Sundays, as well as many gallons of petrol and beer visiting gliding sites advertised in The Sailplane.

Last Sunday week, after an interesting though very poorly attended demonstration of Auto-towing at Hanworth, for which they thank Mr. Lowe-Wylde and his assistants, they visited Chilworth, only to be told that the Surrey Club was not using this ground.

Undaunted by this rebuff, last Sunday these enthusiasts again set out. This time for Horton Farm, Smalldole, the venue of the T.M.A.C. Heartened by the sight of two large notices inscribed "Sailplane Club," they ascended a precipitous track for some long way only to be told by shepherds that the Club had not used the ground for some weeks.

Slightly depressed, but still with that "Bulldog Spirit," they headed for the Worthing Club at High Titton. Here on a superb ground they found the Club H.Q. containing two rudders, a broken toy glider, together with cups and saucers innumerable, but still no sign of the human element.

Thinking hard things about The Sailplane and the B.G.A., they consoled themselves with beer and sandwiches and swore to cancel their subscriptions immediately.

Does any one glide except the Southdown Skysailing Club? If so, where? Or are all the Clubs dead? If so, *why*?

(Signed) C. King-Smith.
J. A. Lawford.

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NEWS FROM THE CLUBS.

WHERE GLIDING CAN BE SEEN.

Beds.—The Bedford Gliding and Flying Club. Week-ends at Wilstead Hill, 3 miles from Bedford on Bedford—Luton road.

—The London Gliding Club. Meeting place, Turveys Farm, near Tottenhoe, on Saturdays and Sundays.

Dorset.—See under Somerset.

Edinburgh.—The Edinburgh Gliding Club. Sundays, at West Craigs Farm, between Corstorphine and Turnhouse Aerodrome.

Glam.—Merthyr and District Gliding Club. Sundays, 10 a.m. to sunset. ½-mile left Dynevor Arms, Merthyr Tydfil—Swansea Road.

Herts.—Herts. and Essex Gliding Club. Sunday afternoons. Eastern Roadways Garage, one mile north of Stortford.

I.O.W.—The Isle of Wight Gliding Club. Whitsley Bank, near Godshill. Every Sunday from 11 a.m.

Kent.—Channel Gliding Club. Adjoining Hawkinge R.A.F. Aerodrome, 2 miles from Folkestone, on main Canterbury road. Every Wednesday and Saturday afternoon and all Sunday.

—North Kent Gliding Club. Saturdays 1 p.m., Sundays 10 a.m. Joyce Green Aerodrome, near Dartford.

—Kent Gliding Club. Week-ends above Lenham, on the Maidstone—Ashford road.

—The Isle of Thanet Gliding Club. Saturdays and Sundays from 2 p.m. Manston Aerodrome, Thanet.

Lanark.—The Glasgow Gliding Club. Barrance Farm, Easter Whitecraigs, near Glasgow. Every Sunday from 11.15 a.m.

Lancs.—The Furness Gliding Club, at Gleaston Park Farm, Gleaston, near Ulverston (midway between Gleaston and the Coast road). Sundays 10.30 a.m., by arrangement and weather permitting.

—The Stockport Gliding Club. Every Sunday afternoon at Woodford Aerodrome, Manchester.

—The Preston and District Glider Club. Week-ends at Butler's Farm, Beacon Fell, 2 miles from Inglewhite and 7 miles from Preston.

Notts.—The Nottingham Gliding Club, Mr. Ellis's Farm, Kneeton Road, East Bridgford, Notts. Every Sunday, weather permitting.

Somerset.—The Dorset Gliding Club, Westland Aerodrome, Yeovil.

Staffs.—The North Staffs. Gliding Club. Week-ends at The Downs Banks, Barlaston Downs, near Stone, Staffs.

Warwick.—Rugby District Gliding Club. Cole Hill Aerodrome, Husbands Bosworth, Rugby.

Wilts.—The Wiltshire Light Aeroplane and Glider Club at Easton Hill, Alton Priors Range, Bishops Cannings, near Devizes.

Worcs.—North Cotswold Gliding Club. Every Sunday at Fish Hill, above Broadway Village, from 10 a.m. to sunset. Saturdays and Wednesdays from 2 p.m.

Yorks.—The Bradford Gliding Club, at The Pastures, Apperley Bridge. Saturday 1.30 p.m., Sunday 9 a.m.

—The Huddersfield Gliding Club. All day every Sunday at Bradley Bar, Huddersfield.

—The Leeds Gliding Club. Week-ends at Warfedale with the Harrogate Club.

—The Scarborough Gliding Club. Every week-end at Flixton.

[*Clubs are invited to send in full details as to where and when they can be seen at work. This feature should help Clubs considerably as readers who are not members can go to look at the nearest local Clubs and see which they like.—Ed.*]

THE BEDFORD GLIDING AND FLYING CLUB.

We regret our absence from these pages during the last two weeks, but during this time we have not been unactive, as with the approach of Spring and the longer evenings, much work and reorganisation has had to be done.

Our Engineers are busy replacing the complete fuselage on the "Dagling" as the old one has had a good bumping about. However, we hope to be in full swing again next week-end on our Home Ground at Wilstead Hill, and all beginners are asked to attend for instruction.

Our "power machine" enthusiasts are also busy on overhauls and will soon be making a nuisance of themselves disturbing the peaceful air around the graceful glider with their ear-splitting exhaust.

On Saturday evening (Feb. 7) the Club is holding a dance, and judging by the way the tickets are going, a very pleasant evening is promised.

THE CHANNEL GLIDING CLUB.

In spite of the recent unfavourable weather, the keener members of the Club have been carrying on the usual Club programme. This consists of towed flights on Hawkinge aerodrome on Wednesday and Saturday afternoons, and visits to surrounding slopes on Sundays.

Two machines are now in commission which allows of one being left permanently rigged in the hangar, to be used for towing. The other is packed on the trailer ready for transport to convenient sites. This effects a considerable saving in time.

The question of a really suitable all-round site has been exercising the minds of Members for some considerable time past. It has happened that in every case where a site has appeared to be "just what the doctor ordered," on actual trial it has proved disappointing, chiefly owing to obstructions. At last, however, the ideal site has been found.

Mr. C. M. C. Turner, the Club's chief instructor, who took his "C" at the Wasserkuppe, considers that this site is very little inferior to its German prototype. It will be ideal for preliminary training, as it possesses good nursery slopes. From the higher parts A's and B's can be obtained; and, what is more important for any Club with a progressive policy, the ground is ideal for practice soaring, and it is hoped that, given the right conditions, some "C's" will result.

Negotiations are going forward for the acquiring of this prince of sites, and it is hoped that within a very few weeks those members who have been so patiently waiting for a suitable site and the right conditions will be rewarded with "A's" at least.

THE DORSET GLIDING CLUB.

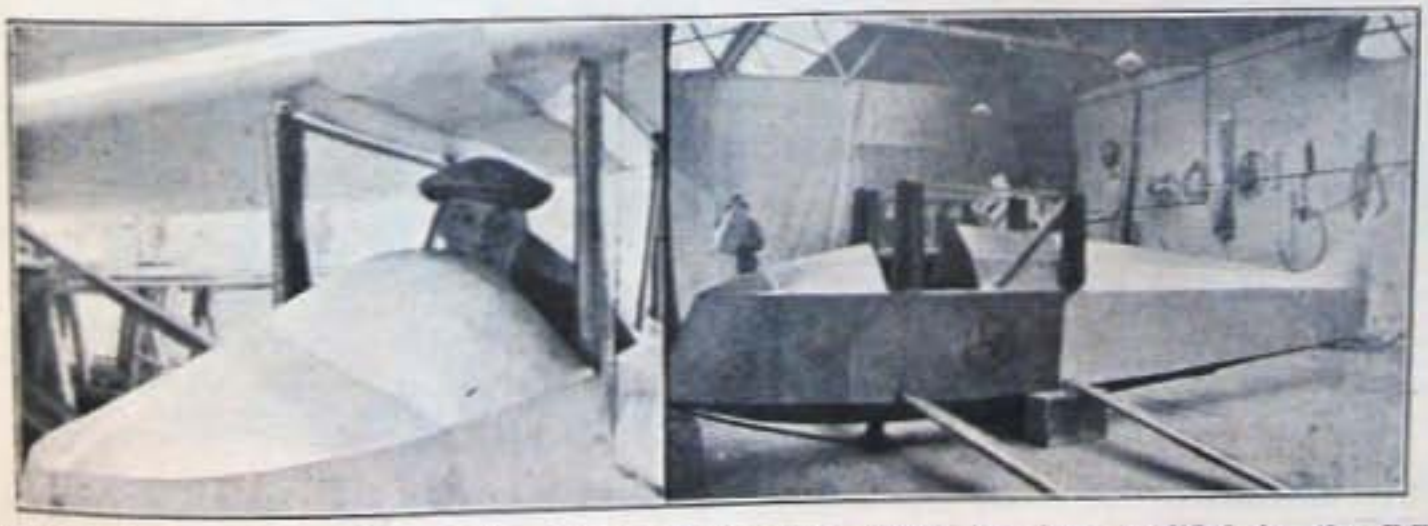
Although Dorset Gliding Club does not finish its first year of activity until April next the rules enjoin that the organisation's annual general meeting shall be held in January. The fulfilment of this event on Jan. 27 instilled members with a perhaps justifiable pride at the Club's rate of progress and present strong position.

The Club starts afresh with a membership of 80, with a sum in hand of over £40, quite apart from annual subscriptions now due, and with a thoroughly reliable R.F.D. machine plus several other assets. Moreover, negotiations are well-nigh complete for the Club to take permanent possession of their central site at Maiden Newton, the "Dorsetkuppe" which is of horseshoe shape and excellent for training and advanced work alike. At the Dorsetkuppe a hangar will be built this year to house our primary, an advanced machine the Club will purchase, and privately-owned sailplanes. Fences, the only drawback (half a mile or so of them), will be pulled down, and it is hoped that in time this Maiden Newton centre will develop into a big gliding school for South-western England. Arrangements are already in hand for a gliding camp to be held there at Easter.

The founders, who met in a spirit of optimism at Weymouth last March, never expected that the Club would attain so soon the prestige it now possesses. The body could well be termed the Wessex Gliding Club, for it has members in Dorset, Somerset, Wilts, Hants, Devon and Surrey. The latest application comes from a Southampton enthusiast who is building a sailplane and wants to fly it with us. Perhaps some of our unexpected and not altogether deserved success is due to the fact that we have never lost an opportunity of spreading interest in gliding. The formation of three Clubs was largely inspired by us: and now we have set people thinking at Bournemouth about forming another.

But to our muttons. Foul weather did not prevent a good attendance at the Three Choughs Hotel, Yeovil, for the annual meeting, at which the chairman, Mr. N. W. Wright, presided. Mr. S. E. Wells (acting secretary), in surveying the year's work, rightly emphasised the care taken to ensure safe gliding. Recalling the appointment of a technical sub-committee which included Capt. G. T. R. Hill, M.C., inventor of the "Pterodactyl" tail-less aeroplane, who was gliding so far back as 1912, and presided over by that cautious and expert Ground Engineer, Mr. V. S. Gaunt, Mr. Wells pointed out that in none of the 461 launches had mechanical trouble been experienced in the air. Repairs, thanks to enormous help by Westland Aircraft, Yeovil, have always been carried out in accordance with highest aircraft standards.

Mr. Wells showed that the flying record, if modest, was one to be proud of. We have had one or two crashes—the price of inex-



STREAMLINING.—The Prufling of The London Gliding Club which has been modified by the R.F.D. Company. The deck fairing has been raised. This is the machine in which the recent soaring flights of 2 hours and more have been made.

perience—but no one has been hurt, and the last 61 flights have been carried out without a hitch of any kind. Training has progressed soundly, and the maximum flight of only 2 min. 52 sec. was due to the use of a primary machine and not the pilot.

Mention was also made of GLIDING, the yearbook which the Club has compiled and which will be on sale all over the country in a few weeks' time. Herr Kronfeld is only one of the expert contributors to the book, which deals with every aspect of the Movement as it affects Britain and which has many valuable reference features. Colonel the Master of Sempill contributes a foreword. All work with regard to GLIDING has been voluntary—and considerable. Otherwise it could never be on sale at half a crown.

The Club balance-sheet was illuminating. The glider cost £55 to buy—and altogether £32 10s. to repair and improve. Hire of premises and rent of fields came to less than £5. Receipts included subscriptions, £94; donations, £4; profit from Kronfeld demonstration, £73; offerings for secondary machine, £3. Our standing assets are put down outside the accounts at £25. Double that figure would not be very far out.

Mr. H. A. Bruce, managing director of Westland Aircraft Works, Yeovil, is our president for 1931. His incessant kindness has been the Club's greatest asset. Mr. N. W. Wright, of Weymouth, otherwise known as Mr. Energy, was unanimously reappointed chairman. The first founder of the Club, he has been its backbone from the outset. Mr. S. E. Wells, Pen Mill Hotel, Yeovil, is the new secretary, and Mr. M. E. Holroyd, c/o "Carisbrooke," Crofton Park, Yeovil, becomes treasurer. The committee includes Mrs. N. W. Wright, so the chairman will certainly be kept in order.

Some disappointment was expressed at the meeting with the workings of the B.G.A., but it was pointed out that the Association has had many hard battles, has evoked splendid voluntary work from its members—and will be expected to prove its worth next year. A very strong appeal was made to all members to subscribe to THE SAILPLANE and to get their friends to do likewise, it being felt that THE SAILPLANE ranks second to none among the vital factors of the Movement.

By the time these notes appear in print gliding will have started again at Yeovil and our first dance (in aid of funds) will be a happy memory. We only hope we shall progress as rapidly in 1931 as we have during the past year.—G.

THE FALKIRK AND DISTRICT AVIATION CLUB.

After much tribulation The Falkirk and District Club resumed operations last week-end, by which time a new and much-strengthened king-post had been built into the B.C.A. II. On Saturday the machine was taken to a new site in Glen village, kindly lent by the farmer, Mr. Reid, of Glen Farm. The wind being rather strong catapult launches seemed dangerous and a new method was adopted which proved highly successful and, as it does away to a great extent with the alarming initial velocity of the ordinary catapult launch for beginners, it bids fair to solve our *ab initio* problem.

One end of the rope is attached by a small loop to the hook and the rope crew (4 or 5) take the rope straight away in front. The tail is not held and by the time the crew have stretched the rope to about double its length the glider gently, but with gathering impetus, leaves the launching spot and rising is partially kited up till it overtakes the rope tension when the rope falls off and the forewarned crew are able to avoid the machine, being almost the full length of the rope away. Every member present, including three ladies and several first flight members, had flights and a number had double flights. The flights were short—an average of 11 seconds each—but fully controlled and much more instructive than catapult launches with several seconds of insensibility to the pilot. It is necessary with this method for the rope crew to be very alert, but in this case they were never in danger (except when the rope slipped off before a start was made and pitched the crew to the ground after wrapping round them in best Laocoon style!).

On Sunday the same successful method was adopted—flights were short because of the very slight gradient, and the same average of about 11 seconds was the rule. Disaster overtook one member on a second flight, however. The machine turned down wind and proceeding at an alarming speed soon passed the launching spot on the return journey. The pilot, faced with a canal, a railway and high-power wires, courageously nose dived from 30 feet and landed in the field 18 seconds after launching. Some extensive nose skid and rudder damage closed the day's activities, but the new king-post stood the shock and has proved its value.

The Club is looking forward to the "At Home" on Feb. 8, when Herr Magersuppe is to address members and visitors. Tea is being served and a musical programme provided. Tickets are 2s. each, inclusive of tea. Members of all Scottish Clubs will be welcomed and we hope a goodly number will avail themselves of this opportunity of hearing so competent an authority. We hope that this function may be the commencement of a programme of social inter-Club functions in Scotland by which we may get in touch with our co-enthusiasts. We want to meet you all, so roll up and meet us!

THE ISLE OF THANET GLIDING CLUB.

The membership of the Club now stands at 93. Two machines are in course of construction locally: Mr. W. J. Baker of Margate has almost completed the one he is building from designs by Capt. C. H. Latimer Needham; and Mr. Mynheer of Ramsgate is at work on a Dickson primary glider. Both these gentlemen are members of the Committee.

Instructional meetings have been held at Manston every Saturday and Sunday, except Jan. 25, when a demonstration was staged at Wingham. The machines used were the Club's B.A.C. Primary and the R.F.D. kindly brought along from Folkestone by some enthusiasts of the Channel Club, including Mr. Turner, a "C" certificate glider pilot, who made several good flights.

Our intention was for one or two of the Club's members to try for their "A's." Flying Officer Phillips made a good flight of 18 seconds. Then Flying Officer Mole (a "C" pilot of the London Club) made a flight of 27 seconds. There was a 40-mile wind blowing and conditions were not too good. The next was Mr. Bicknell, of the Thanet Club, and with a somewhat unequal pull off he gained considerable height. The wind swept him left, with the result he caught telegraph wires which flank the left of the ground. The machine remained partially on the wires and was partly held by trees immediately alongside the wires.

Mr. Bicknell was jerked out down through the trees, fortunately escaping with no more serious injury than shock, and a few superficial cuts and bruises. The port wing was totally wrecked. However, the B.A.C. Co., Maidstone, fixed us up with a new one, and after one or two minor repairs which we managed locally we were able to carry on at Manston on Saturday, Jan. 31. In the opinion of more than one the ground at Wingham is not one of the best.—J. T. H.

THE LEEDS GLIDING CLUB.

The Leeds Gliding Club are hoping to start soaring activities early in the coming summer. The soarplane which the writer (G. Jefferson) has now under construction will be available for the more advanced members when he does not require it, and we are in hopes of the same being ready for about May. In addition other members are building soarers and gliders which will, we think, be ready about the same time.

The new Reynard II training machine, which we tested for the first time on Sunday last, amongst the snow, has proved very satisfactory. Many nice flights were made.

The Club is holding another Dance on Mar. 13. Tickets are 7s. 6d. each, and are obtainable from the Secretary.

The flying membership list is closed until further notice. Those who wish to join may do so as associate members and change over to flying members as soon as the lists are reopened.

THE SOUTHDOWN SKYSAILING CLUB.

Owing to an outbreak of foot and mouth disease in the vicinity the Club has been unable to hold meetings for the last three weeks and as our ground is in the restricted area we are busy looking for a temporary alternative for the next few weeks. Owing to an oversight we neglected to advise THE SAILPLANE and hope that inconvenience has been caused to anyone.

THE SURREY GLIDING CLUB.

Last Sunday it blew and squalled, and trainers of *ab initios* were wise if they carried a personal sedative on their hip.

One striver took off nicely, mistook an embryo soar for a stall, corrected and recorrected à la beer engine, bounced with stick back and ballooned to ten feet above the instructor's head, there stalling dead cold. Just as the sickening drop started he caught sight of the agony on the upturned face. Centralising everything he apologised loudly, fully and intelligibly, while (only by the grace of God) an extra violent squall lowered him gently down, past the instructor's waistcoat, to make an intact landing, nose to wind, ground-speed zero or slightly minus,—thereby turning away wrath.

Same day and place, an *ab initio* "A" man was pulled down into a down-draught until he was diving at 30 m.p.h. into a strong wire fence. His thinking speed being substantially accelerated by the prospect of a wire across his exposed shins and/or neck, he deliberately charged the fence and at the last moment shot up and over, and landed perfectly beyond. This, too, may be defined as stuff to hand out. We may not have much money, but we do live life.—S. H.

THE WILTSHIRE LIGHT AEROPLANE AND GLIDER CLUB.

Six members of our Club journeyed to the Pump Room, Bath, where they much enjoyed the Lecture on Aviation given by Col. The Master of Sempill before The Royal Empire Society.

Our Club was formed in July 1930 and now has 40 members, most of whom reside in or near Swindon. The remainder of Wiltshire are very slow in joining up and paying the very modest subscription of £1 1s. and entrance fee 10s. 6d. Those wishing to join should apply to Hon. Sec., 8, Savernake Street, Swindon.

We have the use of a most excellent soaring site at Easton Hill, kindly lent by Mr. Sempir. Adjoining this hill is a perfect site for primary training, combining unique facilities for "A," "B" and "C" Certificates. A soaring journey of 16 miles return along the Alton Priors range after rising with a S. or S.W. wind, a leap of 8 miles to Cherhill or 4 miles to Olivers Castle and Beacon Hill, near to of Devizes, and triangulating home again to the Black Barn on Easton Hill is found to be a greater attraction to the air-minded men and their good wives in Manchester, London, North Devon and Yeovil than it is to the local inhabitants, who are a little slow in grasping the immense value of the wonderful soaring sites with which the beautiful county of Wiltshire is blessed.

At the moment I am anxious to hear from Wiltshiremen with scientific knowledge of Aviation and *faith* in Gliding and Soaring who are willing to pull their full weight for all that is implied in this project to honour our Club as presidents and vice-presidents.

We hope that with the increasing hours of daylight one of our members will be able to take his A, B, and C certificates on our primary glider, which will indeed demonstrate the excellence of our soaring site and attract the ambitious students from far and wide to join our Wiltshire Club.

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