SAILPLANE

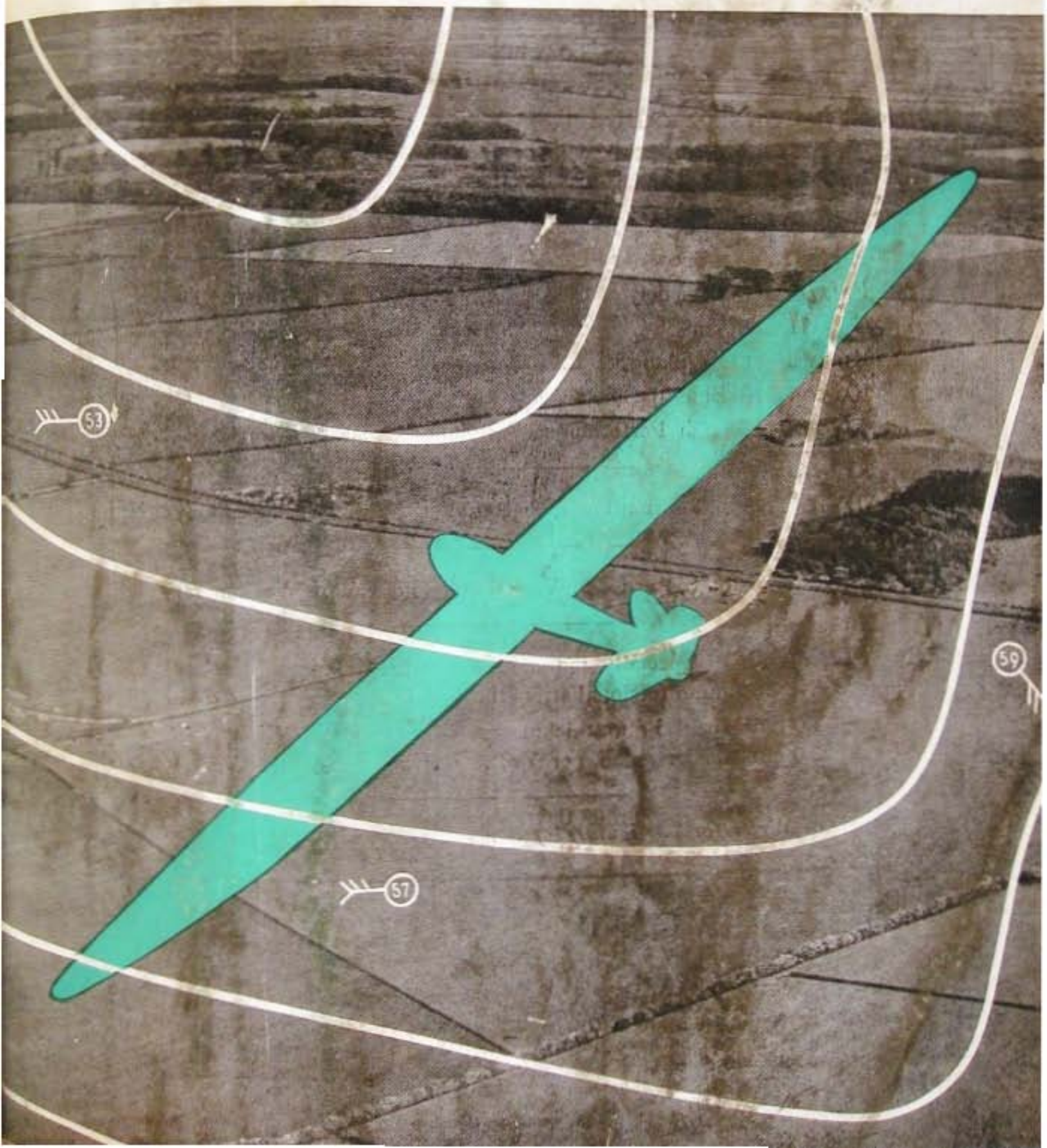
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Official Organ of the British Gliding Association

EDITED BY ALAN E. SLATER



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THE SAILPLANE *and* GLIDER

Official Organ of The British Gliding Association

Editorial Offices: 13, VICTORIA STREET, LONDON, S.W.1 Telephone: ABBey 2615-6-7

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A Glimpse into the Future

WHEN the International Soaring Competitions were over, and the British team had returned to their native country towards the end of last July, every member of the team, pilot or helper, was asked to write down his or her impressions and recommendations based on experiences at the Wasserkuppe—that is, in so far as these related to gliding.

From the resulting twenty-eight letters a Report was drawn up by the Committee of the British Gliding Association which organised the British participation in the Competitions. A meeting of the B.G.A. was held on November 19th to discuss this Report.

What it amounts to is, in the first place, that the technical side of the British gliding movement is now inadequate, and steps should be taken to improve it. Secondly, the time has come when the clubs should raise their standard of training to the "Silver C" level.

In the past the Technical Committee of the British Gliding Association have drawn up a pretty comprehensive set of regulations on paper. Up to the present, however, these regulations have been administered on a largely charitable basis. Inspectors and stressmen get a small token payment; designers and members of technical committees get nothing, or even have to work at their own expense.

It can at least be said that this system has proved economical in practice. But the movement has grown so much in the last three years, and is likely to grow so much more in the next three, that it is clear that something must soon be done to extend it. And, much as the movement has expanded, the British manufacturer cannot hope to sell a sufficient number of machines of one kind to enable him to recover the costs of the design of a new type before that type has become obsolete—at least, if these costs were paid for at their true market value.

With regard to the second recommendation—that concerning the extension of club training up to "Silver C" standard, this is really a logical outcome of the essentially democratic basis of the gliding movement.

Up to the present, the clubs have had to concentrate on training their members to the standard of the "C" soaring certificate, and no further. There has of necessity been "one law for the rich and another for the poor." Generally speaking, any pilot wanting to go further than this has had to raise enough money to get into a private owners' group. This is evident from the fact that the larger proportion of British "Silver C" pilots are private owners of sailplanes.

The proposed increased level of club training will, of course, involve the clubs in considerable expenditure. Advanced sailplanes, instruments, parachutes, trailers, and retrieving cars will be needed, and these are all expensive things. They will have to be regarded as an investment, which their addition to the club equipment will eventually compensate for in the resulting influx of new members and increased keenness to advance the standard of flying in the club.

The report may be regarded as a good dividend from the time and money spent on the Wasserkuppe expedition.

Coming Events

December 16th.—Lecture by Squadron-Leader G. M. Buxton to the Royal Aeronautical Society, subject: Development of Sailplanes.

December 17th.—Midland Gliding Club Annual Dance.

January 22nd, 1938.—Derbyshire and Lancashire Gliding Club Annual Dance.

April 15th to 24th, 1938.—Midland Gliding Club 10-day Camp (see advertisement in this issue).

British Gliding Association

Annual General Meeting

The Annual General Meeting of the British Gliding Association will be held at 119, Piccadilly, London, W.1, on **Friday, February 25th, 1938, at 6 p.m.**

From Here and There

R.I.B.A. Exhibition.—The Airways and Airports Exhibition, which includes a gliding section, will be at the Hull Municipal Museum until December 30th, and at the Leicester Museum and Art Gallery from January 15th to February 15th.

* * *

"Pilots Only."—A small book of drawings on the less serious side of flying, with the above title, is to be published this month. The artist is Ann Edmonds, of the London Gliding Club, an example of whose work appears on another page in this issue.

* * *

"Silver C" Numbers.—In the list of British "Silver C" pilots published last month, the numbers in international sequence of the two who qualified in Poland were not given. We have now ascertained that Mr. E. E. H. Collins has No. 594 and Mr. J. L. Wordsworth No. 595.

* * *

Wasserkuppe Extensions.—The German Government has allotted a grant of RM. 1,200,000 to be spent within the next two years on the extension of boarding accommodation, the erection of a "Lilienthal hangar," and improvements in the landing facilities for aeroplanes at the Wasserkuppe soaring centre.

* * *

Arthur Martens.—We regret to record that the German gliding pioneer, Arthur Martens, lost his life in the aeroplane disaster at Ostend on November 16th. It was on August 18th, 1922, that Martens made the first soaring flight in the world of over an hour's duration. An account of his career as a soaring pilot will appear in the next issue.

* * *

Correction.—In last month's editorial article "Training in Sail," were two numerical errors. The present British Gliding Movement was started eight years ago, not nine; and only one occupant was thrown out of the aeroplane which got into a down-current at Scarborough during the King's Cup Race; the other was still in the machine when it crashed.

* * *

Prevailing Winds.—Gliding clubs which carefully choose a slope facing the prevailing wind, and then spend a lot of money developing a soaring site thereon, fondly imagine that prevailing winds are as old as the hills against which they blow, and will last just as long into the future. But recent research has shown, according to *The Observer's* meteorological correspondent, that "even England's prevailing south-westerly to westerly winds—once considered to form part of the immutable general circulation of the atmosphere—are displaced at intervals by winds blowing predominantly from the north-eastern quadrant for a few decades. The last such period was from about 1794 to 1810." When is the next one due?

Youth at the Controls.—Fräulein Sassmannshausen, a schoolgirl, has become the youngest glider pilot in Germany by passing her "A" test, says a Press message from Cologne—which, however, omits to mention her age.

* * *

Another Woman Flight Captain.—Fräulein Hanna Reitsch, the German soaring expert, is no longer the only woman Flight Captain in the German Air Force, for the same rank has now been bestowed upon Frau Melitta Schueller, who is stated to be the only woman in Germany to possess pilot's licences for every kind of aeroplane stunt flying, gliding, and sailplane aerobatics.

Correspondence

Midland Club's Appeal

SIR,

Following the report of the Midland Gliding Club "Building Appeal" which appeared in the November issue of THE SAILPLANE, I have now to report that the local response has not yet been up to expectation. At the time of writing we have barely 25% of the amount required.

During this campaign we have been much impressed by the ignorance of the public in general on gliding matters as a whole, particularly the advances which have been made in the last three years, and I feel it is in the interest of us all, from every point of view, to broaden the basis of the public interest in our sport.

One way of doing this, I think you will agree, is to make the various sites as attractive as possible, while at the same time keeping the cost of amenities as low as possible. It is with this in mind that I am writing you in the hopes that some of your great-hearted readers will be sufficiently interested in the full development of the Long Mynd site to give us a helping hand with the financing of the new extensions which we have in hand; no amount will be too small to be gratefully received.

I think it is now generally agreed that the site has distinct possibilities, both for cross-country and altitude, and it is, therefore, the urgent desire of our committee to have adequate accommodation to offer to our visitors from a distance, as well as for our own members.

To those of your readers who have not yet been to the Long Mynd: we are organising an advanced camp for the early spring, as advertised in another portion of this issue. We shall be delighted to see members from all clubs at this camp, and they can be assured of a hearty welcome.

For the moment, however, it is to providing warm and dry accommodation for them that we are turning our hands, and it is for this I earnestly appeal for financial support.

ESPIN HARDWICK,
President, Midland Gliding Club.

[Cheques, made payable to the Midland Gliding Club, should be sent to the Hon. Treasurer, F. Leslie Felton, at 131, Edmund Street, Birmingham.—ED.]

National Contest in Poland

INOWROCLAW, AUGUST 5th to 15th, 1937



A Polish sailplane of the latest type, "PWS-101," launched at the international competitions last July.

[Photo courtesy Aero Club of Germany.

[The following extracts from a report on the Polish National Soaring Competitions have been translated from the French version of the report sent by Lt.-Col. A. Chramiec, Secretary-General of the Aeroklub Rzeczypospolitej Polskiej, to Professor D. Brunt, who has kindly forwarded it to THE SAILPLANE.*]*

THE Fifth National Sailplane Contest had for its aim the investigation of the possibilities of flat country for soaring flight, as well as the special conditions which the north-west part of Poland presented for this sport.

The results obtained, shown in the daily bulletins, demonstrated that the flat regions of Pomerania and of Posnan lend themselves admirably for this purpose, and that the work of the pilots is much easier than over the mountainous country at the foot of the Carpathians.

The rules of the contest attached most importance to distance flights, and put a premium on distance flights with the landing place announced in advance. The choice of landing place was left to the pilot, with the condition, however, that this must be either an aerodrome or a landing field registered by the State.

By allotting a high number of points for flights to an announced goal the competitors were encouraged to use their best intelligence. That this aim was realised is proved not only by the great number of successful flights, but also by all those where the pilot, though not reaching his goal, nevertheless landed on the correct course.

If one considers that the greater part of the competitors were young glider pilots with but little experience, the results obtained appear to us very satisfactory. The results given in the accompanying tables are the best illustration of the work done during the contest.

Rules.

MINIMUM PERFORMANCE.—Points are awarded for distance flights exceeding 50 km. and altitude flights exceeding 1,000 m. Fractions of points are ignored, the nearest whole number being taken.

GOAL FLIGHTS.—For flights to a previously announced goal, 30% is added to the distance flown in kilometres, and points are awarded on this increased figure.

GROUP FLIGHTS.—Pilots desiring to take part in a group flight must announce their intention before starting. A group can consist of two or three sailplanes. A group flight is considered to have been effected if all the sailplanes land in such a way that the distance separating each sailplane from the other two does not exceed 2.5 metres. [This is too good to be true, and must be a misprint for kilometres.—ED.]

Additional points are awarded for group flights: for a group of three sailplanes, 25% addition to the distance flown is attributed to each pilot; for a group of two, 10% addition. If only two pilots out of a group of three fulfil the conditions, 10% addition is attributed to each successful pilot. The flight of the unsuccessful one, or of each of a group of two which fails to fulfil the conditions, is reckoned as a solo flight.

ALTITUDE FLIGHTS.—In awarding points for altitude, the altitude attained by the sailplane in independent flight is considered; if it loses height after casting off

from an aero-tow, and subsequently climbs, the altitude is reckoned from the lowest point from which the climb is made. Altitudes attained during distance flights are taken into consideration and points are awarded. A pilot taking part in an altitude contest is not held to be making a distance flight.

COMPETITORS AND ORGANISATIONS.—After the contest the Sporting Commission classifies the competitors according to the number of points obtained, separately for the distance and altitude contests.

Prizes.

Challenge Prize of the Minister of Communications for the sporting organisation whose pilot made the best distance flight: Aeroklub Lwowski; gained by the pilot, Adam Dziurzynski, who flew 313 km. (194½ miles) from Inowroclaw to Ozarowo on August 9th.

Challenge Prize of the League of Aerial Defence for the sporting organisation whose pilot made the best altitude flight (minimum 1,000 m.): Aeroklub Pomorski; gained by Eugniusz Makowski, who climbed 2,180 m. (7,152 ft.) on August 7th.

Challenge Prize of the Polish Aeronautical Industries' Union for the constructor of the sailplane which achieved the greatest distance: to Ing. Waclaw Czerwinski, constructor of sailplane P.W.S.-101.

Individual prizes for points earned on distance flights: Tadeusz Gora, 493 points; and seven other pilots with totals ranging from 472 to 296 points.

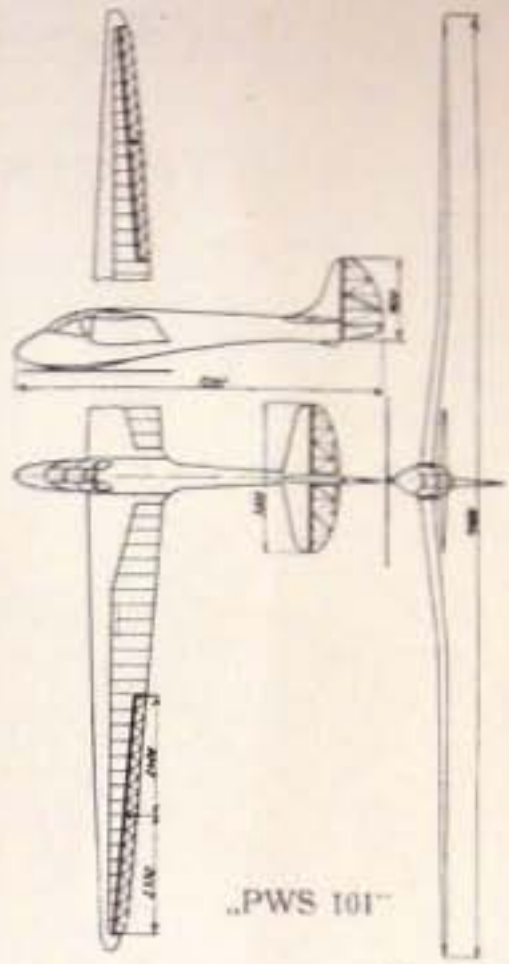
Individual Prizes for the best altitude flights according to points earned: E. Makowski, 40 points; and seven others with totals from 35 to 13 points.

Prize of Honour for the academic sporting organisation whose member, being a student in the Faculty of Aeronautics at one of the national Polytechnic Schools, gains the greatest number of points: Aeronautical Section of the Warsaw Polytechnic School, whose member, M. Urban, gained 464 points.

Aero-Towed Starts.

All launches during the contest were made from an aero-tow; the casting-off heights on the different days were:—

August 5th, 6th, 7th, 10th, 12th and 15th.—500 m. (1,640 ft.).



(From "Flugsport."

August 8th.—700 m. (2,300 ft.) before 2 p.m.; 800 m. (2,625 ft.) after 2 p.m.

August 9th and 11th.—600 m. (1,970 ft.).

August 13th.—950 m. (3,120 ft.) before 11 a.m. 800 m. after 11 a.m.

Machines and Competitors.

The number of machines of each type entered was 2 PWS-101; 6 ORLIK; 3 CW-5; 6 SG-3BIS; 1 SG-3 1 SG-7; 2 WOS; 8 KOMAR; 1 MEWA. Total, 30 sail planes.

Of the 30 competitors, 12 were from Aero Clubs i Warsaw, Poznan, Lwow, Cracow and the Pomorsk Club, and the remainder from four different gliding schools. (Two of the competitors had also taken par in the international meeting in July on the Wasserkuppe: Zbigniew Zabski and Capt. Stanislaw Brzezina. Two were women: Wanda Modlibowska and Maria Szczecinska.)

Summary of Contest.

Date. (Aug.)	Launches.	Total Flying Time. h.	min.	Total Distance. (km.)	Distance flights.	Goal flights.	Group flights.	Group-goal flights.	Flights of distance, exceeding in km. 50	100	200	300
5	36	70	56	2.400	19	10	—	2	—	17	—	—
6	15	11	51	177	5	—	—	—	1	—	—	—
7	37	88	08	2.420	28	3	—	2	11	4	5	—
8	24	62	19	1.926	18	—	—	—	6	3	3	—
9	18	84	32	3.495	17	3	—	—	1	5	10	1
10	12	37	33	1.634	10	1	—	—	2	3	4	—
11	21	52	59	1.989	16	3	3	—	1	12	1	—
12	30	65	02	2.675	4	—	1	—	2	5	7	—
13	18	35	11	724	13	1	1	—	8	2	—	—
14	—	—	—	—	—	—	—	—	—	—	—	—
15	21	Altitude flights only.										
Totals ...		508	—	17.440	140	21	5	4	32	51	30	1

Polish Sailplane "PWS-101"

THE PWS-101 is the latest of Polish sailplane types, and probably has the best performance. It put up the longest distance flight at the Polish National Contest this year, and at the International Contest tied with two German machines for the distance prize, all three being flown from the Wasserkuppe to Hamburg on the first day of the meeting.

The letters stand for "Podlaska Wytwornia Samolotow," for this, like all other sailplanes and gliders used in Poland, has been designed and constructed in that country. The designer is Czerwinski.

A general arrangement drawing is shown on the opposite page. The machine has a "gull" wing, of single spar construction with a short diagonal auxiliary spar, and the leading edge is of plywood arranged diagonally. The ailerons are each in two parts, and are "dynamically" balanced. They are actuated differentially in such a way that the outer parts move upward to a greater extent than the inner, giving good manœuvrability in spite of the large-span wing. There are air brakes on both the upper and lower sides of the wing, about half way along each; when they are fully out there is a gap between them and the wing surface. The wing section is one evolved by the designer.

The tail surfaces are cantilever; they include fixed fins. There are tabs on the elevator which work in the same sense as the elevator, and can be adjusted during flight so that the machine can be flown "hands off" at any desired speed.

The span is 19 m. (62ft. 4ins.); wing area 19 sq. m. (204.5 sq. ft.); empty weight 220 kg. (485 lbs.); flying weight 304 kg. (670 lbs.); wing loading 16 kg. per sq. m. (3.28 lbs. per sq. ft.). Safety factor 10 with stick back, 5.5 upside-down, and 1.7 when diving at 300 km. (186 miles) an hour. Minimum sinking speed 0.6 m. (2ft.) per sec. at 55 km. (34 miles) per hour, or, with water ballast, 0.65 m. per sec. at 60 k.m. per hour flying speed. Gliding angle 1 in 26 at flying speeds of 61 to 66 km. (38 to 41 miles) per hour.

Variometeritis

By "ERMYNTRUDE"

IT had been a stiff climb to the summit of the hill and the unexpected view of a modern type of building on the edge of the ridge warranted a closer inspection.

As I approached the entrance to this building I was met by a man wearing an air of authority who, on my request to be allowed to look round, hesitated and explained that as the wind was blowing from the east it was perhaps not wise to disturb his patients.

The word "patients" aroused my curiosity, and in reply to my queries I learned that this was an institution for those suffering from the mental malady known as "Variometeritis." Now, in common with most folk, I have a horror of mental derangement, and so prepared to beat a retreat; whereupon my companion hastened to explain that none of the inmates was really dangerous —in fact they were all allowed to play outside when a west wind was blowing; it being only when it blew from other quarters that this mysterious ailment overtook them.

Eventually the promise of a cup of tea and a certain curiosity allowed me to be led by my escort into an inner room. Here were a dozen or so men of all ages and types seated at a long bench engaged in the most extraordinary activities. One was playing with a length of glass tube bent into the shape of the letter U. He had half filled this with some coloured fluid and was blowing down one arm of the tube and deriving evident satisfaction from seeing the level of the liquid rise and fall.

Another had an electrical contraption before him into which he also was blowing, accompanied by sounds of contacts making and breaking and flashes of light from electric bulbs.

One young man, otherwise apparently normal, had a block of some transparent material in which two holes had been bored. A small ball could be seen in each of these bores and the whole outfit was connected by a rubber tube to an enormous thermos flask. First, he would lay the apparatus on the floor, then, with almost feline grace, would dive towards it and hold it aloft at arms' length. This procedure was repeated again and again in a tireless manner.

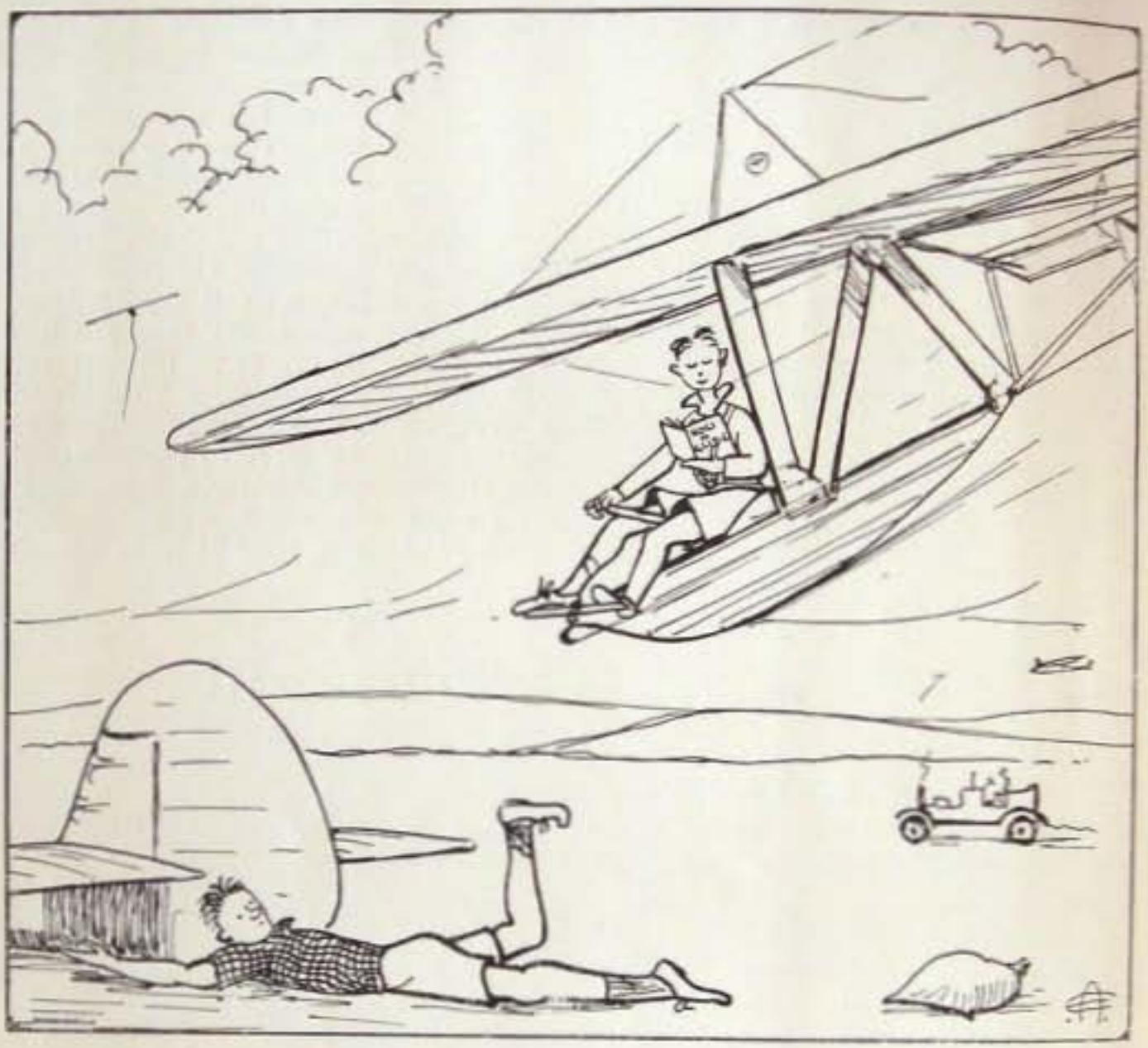
Time does not permit me to describe the antics of all these poor fellows, but one young man with long hair had constructed such a fine piece of apparatus that I could not help feeling that, had his brains been directed along normal channels, he would have been almost a genius.

A large box lay before him, and the familiar sight of a loud speaker facia made me think at first that he was merely an ordinary wireless fan. Seeing my evident interest, he invited me to blow down a length of rubber tube to which the box was connected; this I did, and from the loud speaker, in the unmistakable tones of a Selfridge's lift girl, came the words: "Going up—Going up." I was then asked to apply suction to the rubber tube; I again obliged, and the familiar voice repeated with monotonous regularity: "Going down—Going down." It was explained to me that, as an alternative to the above parrot-like utterances, the machine could, when blown into, render the well-known melody of "Nearer my God to Thee," and when sucked deliver the time honoured recitation of "Don't go down the mine, Daddy."

I left with the uncomfortable feeling that, in spite of the extraordinary mental state of this little colony, they were perhaps getting just as much fun out of their life as I—perhaps more—who knows?

Among the Books

III—BOOKS ON GLIDING



(*Drawing by Ann C. Edmonds.*

MANY people have a greatly exaggerated idea of the number of text-books published on gliding. This is the sort of enquiry we are liable to get: "Kindly recommend some *good* books giving full instructions for designing and building a sailplane"—as if hundreds of such books have been published, and the enquirer will be satisfied with the best dozen or so. Actually, no book has ever been published in England giving full instructions and drawings for building a sailplane of specified type. An author who sets out to write such a book might make enough in royalties to keep himself alive for three days, and as the average man can only live without food or drink for 11 days, this only gives a bare fortnight in all—hardly enough for writing a really *good* book.

The following list includes only works of the text-book type, designed to instruct. It does not include books in narrative form, designed to amuse, of which there is practically none outside Germany, anyway.

Gliding and Sail-Planing. A Beginner's Handbook. By F. STAMER and A. LIPPISCH. Authorised translation by G. E. STARTUP and FRANCES KINNEAR. With 84 illustrations and diagrams. John Lane, The Bodley Head, Ltd., London, 1930. Price 5s.

The authors were pioneers in the art of teaching people without previous aviation experience to fly on gliders; the book is particularly useful for those who are learning to fly gliders without the help of an experienced instructor.

Gliding and Motorless Flight. By L. HOWARD-FLANDERS and C. F. CARR. Sir Isaac Pitman & Sons, Ltd., London. Revised Edition, 1931. Price 7s. 6d.

Mr. Howard-Flanders is a former secretary of the British Gliding Association and was on its Technical Committee for some years. The book gives advice needed by the inexperienced, and gives particular attention to the running of a gliding club and the choice of a flying ground.

Kronfeld on Gliding and Soaring. The Story of Motorless Human Flight. By ROBERT KRONFELD. Translated by J. MANCHOT. John Hamilton, Ltd., London, 1932. Price 21s.

The author was the first pilot in the world to make deliberate use of clouds for soaring, and has more than once held the world's distance and height records for motorless flight. The book deals with the whole subject of soaring flight very thoroughly, including the history of its development, descriptions of well-known sailplanes, personal accounts of cross-country flights, and much advice on the art of soaring.

Sailplanes: Their Design, Construction and Pilotage. By C. H. LATIMER NEEDHAM. Chapman & Hall, Ltd., London. Cheap Edition, 1937. Price 6s.

The author was for several years Chairman of the Technical Committee of the British Gliding Association, and was the first British pilot to obtain the "C" soaring certificate. The book, which originally appeared in 1932, is devoted to the technical side of motorless flying. A review will appear shortly in THE SAILPLANE.

Motorless Flight. Edited by J. R. ASHWELL-COOKE. John Hamilton, Ltd., London, 1932. Price 7s. 6d.

The book is by eight different authors, each specially qualified to write on his subject. It has chapters on instruction (elementary and advanced), construction and maintenance, mechanical towing, aerodynamics and meteorology.

Gliding and Soaring. By C. H. Latimer-Needham. The Sportsman's Library. Philip Allan, London, 1935. Price 5s.

This is the most recent book on gliding and soaring, and deals with the subject comprehensively in 250 pages. There is much technical information on the construction, rigging, maintenance and repair of gliders, and the flying side is dealt with from elementary training to advanced soaring, while there is a chapter on choice of a soaring site. In an appendix are the various B.G.A. technical regulations.

It is an event for gliding to be included in a series of books on sport. The Sportsman's Library is divided into two sections, and it is interesting to note that Gliding and Soaring comes under "Pastimes and Athletics," while Grouse Shooting, with which it is alleged to be incompatible, is included in "Field Sports," which is the larger section, and includes the various methods of killing animals.

American Books.

Henley's A.B.C. of Gliding and Sailflying. Edited by Victor W. Page. The Norman W. Henley Publishing Co., New York, 1930. Price 9s. 6d.

Gives all-round useful information, including detailed instructions for building a Dickson primary training glider.

Gliders and Gliding. By Ralph Stanton Barnaby. The Ronald Press Co., New York, 1930.

The author is now President of the Soaring Society of America. His book gives good information on every aspect of gliding and soaring, including construction.

Sailing the Skies. Gliding and Soaring. By Malcolm Ross. The Macmillan Company, New York, 1931. Price 10s. 6d.

All-round general information is given, including a long historical section.

Gliding and Soaring. An Introduction to Motorless Flight. By Percival White and Mat White. McGraw-Hill Book Company, Inc., New York, 1931. Price 12s. 6d.

Like the previous books, this work gives all-round information.

Books in German.

For those who can read German there is a large number of gliding books to choose from. Below is a selection of the best of them, and lists of other books will be found advertised at the end of each of these.

Die Hohe Schule des Segelfluges. By Wolf Hirth. Verlag Klasing & Co., Berlin, W.9. Third Edition, 1935. Price RM. 2.80.

This is *the* book on high-performance soaring, by the world's expert. It tells about all the different methods of soaring in thermals and cloud currents, and includes many personal accounts of notable soaring flights. No sailplane pilot should be without it, and if he can't read German he will shortly be able to buy an English edition, which is just about to go to press, and will, we understand, probably be published by Pitman's.

Die Praxis des Leistungs-Segelfliegens. By Dipl.-Ing. Erich Bachem. C. J. E. Volckmann Nachf., Berlin-Charlottenburg. Second Edition, 1936. Price RM. 7.50.

This very useful text-book on the practice of high-performance soaring flight covers similar ground to Wolf Hirth's, though more briefly. It also deals with more elementary soaring, and includes a useful chapter on first-aid in accidents.

Gleit- und Segelflugschulung. By Fritz Stamer. C. J. E. Volckmann Nachf., Berlin-Charlottenburg, 1931. Price RM. 2.

A text-book specially written for gliding instructors. The author was director of the Wasserkuppe Gliding School for many years. Instructing glider pilots is a skilled job, for the learning of which the book can be highly recommended.

Werkstattpraxis für den Bau von Gleit- und Segelflugzeugen. By Hans Jacobs. Verlag Otto Maier, Ravensburg, 1932. Price RM. 2.75.

Segelflugzeug: Anleitung zum Selbstbau. By H. Jacobs. Spiel und Arbeit Bd. 138. Verlag Otto Maier, Ravensburg, 1935. Price RM. 3.50.

These two books, by the designer of the famous Rhönadler, Rhönbussard and Rhönsperber sailplanes, give more fully detailed instructions for building gliders than any books yet published in English. To some extent they overlap, though the first contains more reading matter, while the second includes detail drawings for building a machine of "nacelle" type. In working from these books it should be remembered that German woods have not necessarily the same strength properties as the corresponding varieties in other countries.

Der Segelflug und seine Kraftquellen im Luftmeer. By Prof. Dr. Walter Georgii. Third Edition revised by Dr. F. Höhndorf. Verlag Klasing & Co., Berlin, 1935. Price RM. 1.80.

Dr. Georgii is almost the only professional expert on the meteorology of soaring flight, with which this book deals. Dr. Höhndorf is on the staff of the German Research Institute for soaring flight, of which Dr. Georgii is Director. The title means "Soaring flight and its sources of energy in the atmosphere."

Periodicals.

We are occasionally asked what foreign periodicals deal with gliding, so here is a short list:—

Soaring. Official Organ of the Soaring Society of America. Founded in January, 1937. Editor, Lewis B. Barringer. Published by the Soaring Society of America, Room 502, 1500 Locust Street, Philadelphia, Pennsylvania. Subscription in the United States: $2.00 per year, which includes Associate Membership of the S.S.A. Subscription in other countries: $3.00 per year. Published monthly.

Apart from The Sailplane and Glider, this is the only journal exclusively devoted to motorless flying. Readers will find it extremely interesting. We are

never able to give as much space as we should like to American soaring, so here is a chance to make up the deficiency. *Soaring* gives full details of what is going on in America, with illustrations, and contains some foreign news in addition, with occasional articles by British pilots.

The following foreign journals give space to motorless flying activities in each issue, though other forms of aviation are also dealt with:—

Flugsport. Edited by Oskar Ursinus. Frankfurt am Main, Hindenburg-Platz 8. Fortnightly; price 80 Pfg. Subscription (inland and abroad): RM. 4.50 per three months.

The editor started the German gliding movement which has led to the development of soaring flight throughout the world. Technical articles, and detailed descriptions of new sailplane types, both German and foreign; also short items of news.

Luftwelt. Deutsche Luftwacht. Verlag E. S. Mittler & Sohn, Berlin. Monthly; price RM. 0.50 in Germany, RM. 1 abroad.

Der Deutsche Sportflieger. Leipzig, C1, Petersteinweg 19. Monthly; price 50 Pfg.

Both these journals give general news and often include first-hand accounts of notable soaring flights. *Luftwelt* is, on the whole, more scientific, and *Sportflieger* more "popular" in style.

Luftsport und Jugend. Formerly *Der Segelflieger.* Delius, Klasing & Co., Berlin. Monthly; price RM. 0.30.

Published mainly for young people. Space chiefly devoted to gliding and soaring and to model aircraft, especially model sailplanes.

L'Air pour les Jeunes. Ligue Aéronautique de la France, 40, Rue de Colisée, Paris VIII^{e}. Monthly; price 2 fr.

Scope similar to that of *Luftsport und Jugend.*

Skrzydlata Polska. Warsaw. Monthly, price 1 Zloty.

Samolet. Moscow. Monthly. Subscription 9 R. per year; 2 R. 25 k. for three months.

Both in Poland and in Russia gliding and soaring have been intensively developed in recent years. These two journals give news and frequent technical articles.

The simplest way to order foreign books and periodicals is through a bookseller.

G. E. Collins on Thermals

BY the kindness of Mrs. Collins we are able to publish extracts from some notes written by the late G. Eric Collins, who, during the last two years of his life, took a leading place among British sailplane pilots, and did notable pioneer work in enlarging the scope of soaring flight in Britain. Some of these extracts were published by Sir Gilbert Walker in the *Quarterly Journal* of the Royal Meteorological Society last January.

After describing the physics of the formation of thermal currents and of the condensation of water vapour within them to form cloud, Mr. Collins continues:



G. E. Collins at Sutton Bank, 1934.
[Photo by W. W. Liddell.

"In this connection I will mention a phenomenon which has proved useful to me on a great many occasions as an almost infallible proof that a cloud is still in process of formation, or, more directly from a soaring point of view, maintains a rising current of air beneath it.

"I have found that the under surface of most 'active' clouds often has a milky white vapour extending downwards, in places as much as 100 ft. from the true base, and this vapour, where it is patchy, can actually be seen to be riding into the cloud proper. I consider that this observation agrees very well with the above theory of cloud formation, and the milky white vapour merely represents the transition stage from the first visual condensation and supersaturation to the actual cloud drop.

"Provided lapse rate conditions are favourable, the air inside the cloud will still continue to rise, and at this stage a further factor comes into play—the liberation of latent heat. The process of absorption of heat on evaporation is entirely reciprocal, and, therefore, on condensation this heat is again liberated and, in the case of clouds, goes to augment the already rising current. The phenomenon explains the violent ascending currents sometimes to be found in clouds and the considerable altitudes they attain; the height of cumulonimbus reaches upwards of 25,000 ft., while the ordinary well-developed cumulus reaches 10,000 or 12,000 ft.

"The fact that air is rising means that air is also falling somewhere, and a continuous circulation is going on in the atmosphere. The intensity of down-currents is usually not so great as that of the up-currents, as they are distributed over a much larger area. In the immediate proximity of clouds, however, one sometimes encounters quite a marked down-current. This is in the form of a narrow tubular belt round the cloud which is descending earthwards again; rather analogous to a fountain, viz., a rising stream in the centre and falling drops on the outside. The fact that the down-current has to be outside the rising column forming the cloud means that it has to be larger in area, and this means a reduction in speed, so that we

can be almost certain of finding a stronger up-current after crossing this belt.

"Far from indicating that the cloud is in the process of dissolving, it shows that it is still active and the pilot should fly fast through it (in order to shorten its adverse influence on his sinking speed).

"Peter Riedel has mentioned this phenomenon as a certain indication of rising currents to come, and I have also found it to be true."

On this Sir Gilbert Walker comments :—

"The account of milky white vapour is noteworthy. It might appear that this sudden reversal of vertical motion at the edge of a cloud, which has been frequently observed by gliding pilots, is inconsistent with the continuity of the motion within a cell of unstable air as observed in the laboratory. But in the sky the central portion of the cell, namely, the cloud, consists of ascending air in which latent heat is being set free, while in the descending current immediately outside the cloud no latent heat is produced and the temperature conditions become suddenly different. Thus the discontinuity is a thermal, not a hydrodynamical affair."

The following notes by Mr. Collins on the technique of thermal soaring may also be of interest, since, though much of what he writes is now common knowledge, this was by no means the case at the time it was written.

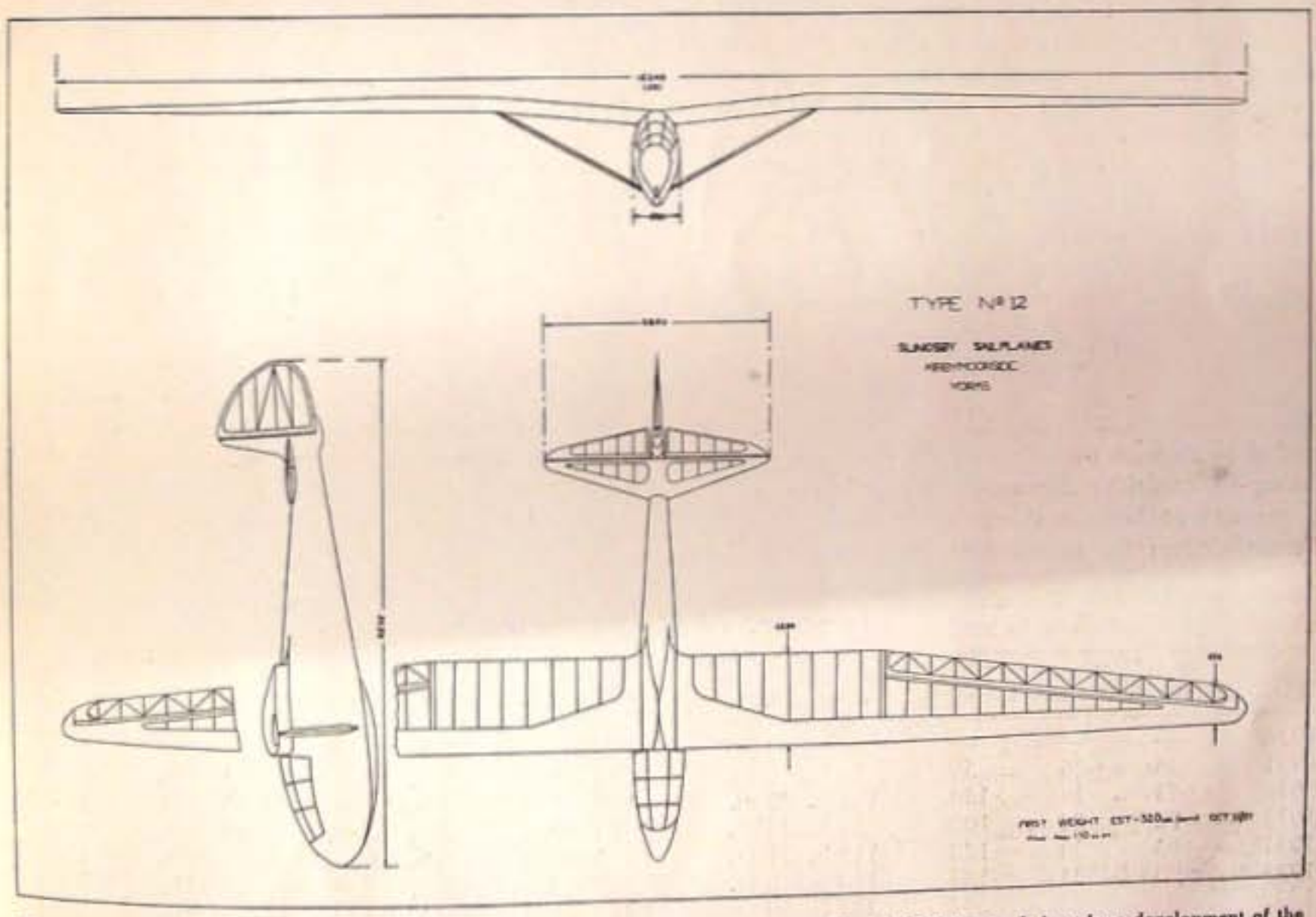
Thermic Soaring.

Convection currents do not, as a general rule, extend to a very great area, and are usually roughly circular in cross section, as is shown by the clouds formed at the top of them.

The diameter of such rising masses of air varies from probably less than one hundred feet to several thousand in the exceptional case of summer thunderstorms, and at the summit of such rising masses huge cumulo-nimbus form.

Nature has many exponents of the art of convection soaring; in this country, the buzzard in particular, rooks, gulls, hawks, etc. Abroad there are further varieties, including the many species of vulture. A study of the tactics of these birds soon reveals the salient feature of their methods—that they fly in continuous circles when soaring. It is interesting to note, also, that a great initial altitude before soaring commences is unnecessary, and they can frequently be seen to start soaring from fifty feet or less above the ground.

Since the soaring area, as produced by a convection current, is comparatively small, it is impossible to utilise it for soaring by flying in a straight line, as obviously the machine would soon emerge from its influence. Therefore, the only courses which can be steered must be circular or figure-of-eight. The latter can be used only when the convection current is large in extent, such as under a large cloud.



These general arrangement drawings show the new "Super-Kite" now being built by Slingsby Sailplanes. It is to be a development of the popular "Kirby Kite" into the high-performance class. The wing loading is to be kept low, for light-wind soaring.

The Eighth Elmira Contest

THE Elmira soaring site lies 180 miles inland from New York, and 80 miles south of the shores of Lake Ontario. Here the American National Soaring Contest has been held every year since 1930, when the site was first discovered by Dr. Wolfgang Klemperer and first soared over by Jack O'Meara, America's earliest "Silver C" pilot.

Elmira town lies in the Chemung valley at the point where a tributary joins the river, and is thus surrounded by hills, many of which provide soaring slopes in a variety of wind directions; but the headquarters are now concentrated on only one of these, Harris Hill. By a stroke of luck last year, American soarers reaped the benefit of a Government appropriation of $100,000 for the relief of unemployment in Chemung County, all of which was spent in building roads to serve the site, clearing woods for camping grounds, and in putting up a hangar, 10 huts to hold 10 beds each, and an administration building containing an assembly hall, dining hall, kitchen, offices, meteorological station, and rooms for radio, barograph, and first aid services.

The table which accompanies this article gives an interesting resumé of the series of eight annual meetings held at Elmira. It will be seen that this year's meeting, which was held from June 26th to July 11th, far exceeded all previous ones in the number of competitors, of machines entered, of flights made, and the total distance flown across country. The reduction in total flying time, as compared with last year, may be attributed to an unusual dearth of soaring winds during the meeting. This meant that on many days aero-towed launching had to be resorted to, and as secondary machines are not licensed for aeroplane tow, a large number of competitors remained earth-bound on these days.

The Rules.

The contest was only open to "C" pilots, though this included pilots who passed their "C" tests during the meeting—a useful privilege for those without a good soaring site at home. Pilots were not divided into different classes for competition purposes, nor were



A view looking south from "Hill No. 6" over Chemung Valley, with Chemung River on the left and part of Elmira on the right. Fourteen sailplanes were soaring when this photo was taken, but all are too far off to show.

(Photo by Oswald Barry, Montreal.

their machines. Launches were chiefly by auto-tow or by winch (descriptions of winches will appear in a later issue); bungy launches were only allowed in special cases. Two aeroplanes were provided for aero-towed launches, to be used when the Contest Board determined, and on other occasions only on payment of $5, and with permission.

The principal awards were for distance, altitude, duration, and out-and-return flights. There was also a system of allotting points, and $2,000 of prize money was set aside for distribution among all those who earned points, in the proportion of points earned.

The system of awarding points had many unique features. A pilot could gain points only for his best flight in each of the four categories (distance, height, duration, out-and-return); this was to encourage all the pilots in a group to fly the machine—not merely the most expert. The minimum performances to earn points were 7 miles distance, 1 hour duration (except "C" certificate flights), and 1,000 ft. altitude. An out-and-return flight counted as three times the single-way distance, provided the landing was made within 1 kilometre of the take-off. Additional points were to be given for new national or international records, and "for the development of a new and useful soaring technique, including the pioneering of a new route and the advancement of the use of radio and the like."

A special effort was made to encourage pilots to reach the northern end of the Alleghenies and of Blue

Summary of Elmira Contests.

Year.	Pilots Entered.	Aircraft Entered.	Total Launches.	Total Duration.	Total Distance.	Best Performance — Duration.	Altitude.	Distance.
1930	—	—	—	—	109 miles	7 h. 43 m.	2,928 ft.	21 miles
1931	36	26	59	26 h. 0 m.	58 miles	7 h. 30 m.	3,130 ft.	15 miles
1932	45	18	153	194 h. 25 m.	189 miles	8 h. 18 m.	5,370 ft.	67 miles
1933	72	22	100	54 h. 28 m.	18 miles	3 h. 16 m.	4,334 ft.	18 miles
1934	63	30	128	117 h. 31 m.	330 miles	6 h. 8 m.	6,224 ft.	155 miles
1935	96	31	185	160 h. 0 m.	330 miles	7 h. 11 m.	4,980 ft.	120 miles
1936	82	23	337	353 h. 49 m.	1,283 miles	8 h. 48 m.	6,516 ft.	146 miles
1937	147	54	669	242 h. 4 m.	2,224 miles	6 h. 32 m.	5,890 ft.	133 miles

Ridge in westerly winds, and thence carry on southwards by slope-soaring, which it should be possible to do for an immense distance. Special maps for this purpose were to be prepared for the pilots, with suitable slope-soaring routes marked on them.

The points for performance were awarded on a semi-logarithmic scale arranged so that, as performance increased, points were added at a decreasing rate—just the opposite to the system in use at the international competitions in Germany. The reason was the great variety of machines taking part in the contest; it was desired that the pilots of secondary machines should not be unduly handicapped in competition with high-performance sailplanes.

Points were also awarded to machines, their total performances being taken into account, though they only earned points half as fast as pilots. But they could get additional points for "outstanding construction merits."

Construction and design were further encouraged by generous prizes of $1,000, $500 and $300 given by Mrs. Warren Eaton. Machines entered for this competition were given marks for various qualities on a percentage basis: thus, performance counted for 40%, ease of construction 25%.

The Flying.

Although the contest was officially open only at 3 p.m. on June 26th, some of the pilots were tempted by promising weather conditions to start earlier, though unofficially. One of these was Peter Riedel, the German "ace" who recently got a job with the Scadta Company in South America. He brought with him a SPERBER SENIOR in which, on this day, he flew 108 miles to Elizabethville, Pa. Chester Decker also started early, and flew 60 miles in his Bowlus-DuPont ALBATROSS.



Two prize-winners in the design competition. Above, Art. Schultz with his "A.B.C." sailplane; below, the Schweizer all-metal Utility Sailplane, with Ernest Schweizer, one of its designers.

[Photo by Fred T. Loomis, Elmira.

The next good day was July 2nd, on which two of the three best heights of the meeting were attained, both in MINIMOAS. Richard DuPont, in the course of a flight of 109 miles to the edge of Lake Ontario, climbed 5,890 feet, thereby winning the trophy and altitude prize of $500 offered by his father, Felix DuPont. Levin Barringer, Manager of the Soaring Society of America, reached 5,440 feet. Both these climbs were made by the use of blind-flying instruments inside cumulus clouds. Another good flight on this day was one of 61 miles by Emil Lehecka in a RHÖNSPERBER.

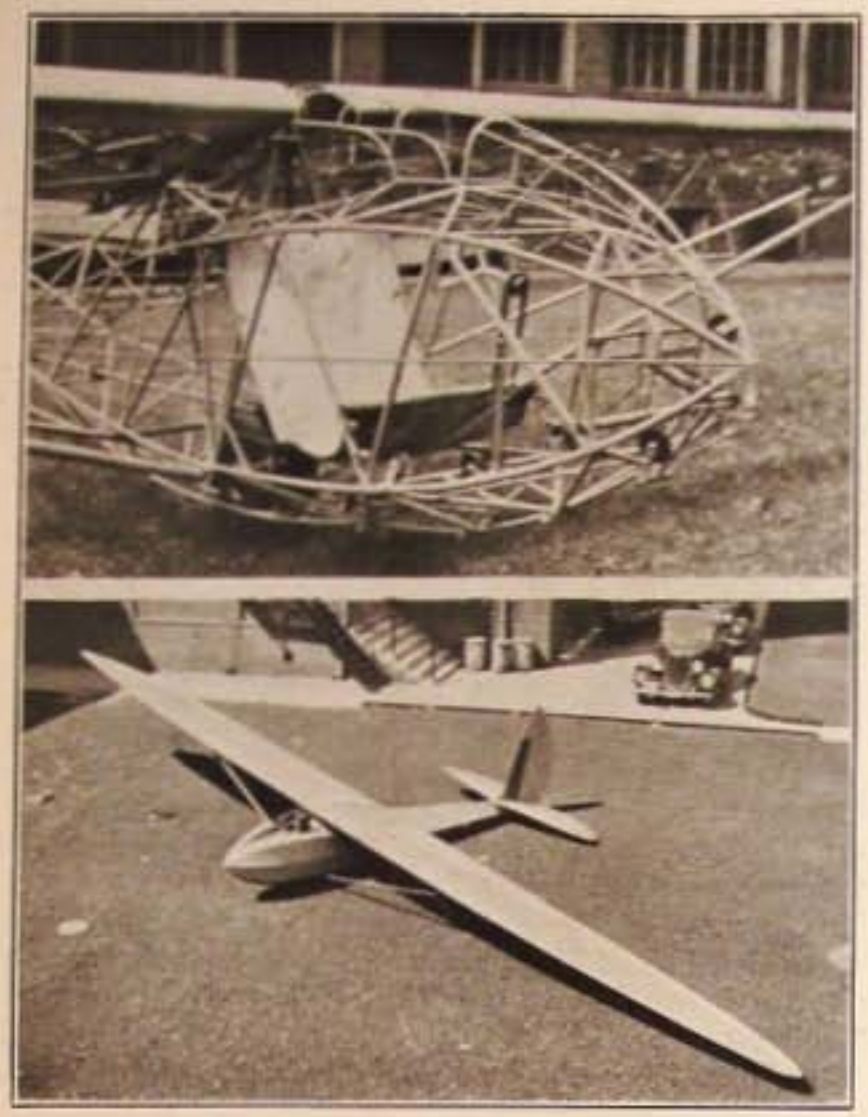
July 3rd was a difficult soaring day, with thermals weak and hard to find, and a cloud base less than 1,000 feet above the hill-tops at times. Nevertheless five cross-country flights were made; Harland Ross, the first pilot to qualify for the "Silver C" during the meeting, went 91 miles in the ROSS-STEPHENS sailplane, a new machine which won a prize for design. Peter Riedel went 77 miles, and Chester Decker won a prize for being first to reach the Allegheny Mountains, 73 miles to the S.S.W.

On July 4th only two cross-country flights were made, Riedel going 76 miles and Lehecka 17 miles, while Barringer stayed up for nearly 4 hours in weak thermals near the site, having been aero-towed to 1,000 feet to begin with.

July 5th was a good day, with 30 hrs. 50 mins. total flying time, and an aggregate distance of 334 miles. The best flights were by Riedel, 113 miles to Sandy Creek on Lake Ontario, and Lehecka, 109½ miles to Richland near by.

Emil Lehecka describes this flight in detail in *Soaring* for September. Thunderstorms had been predicted to the north-west, but he decided to avoid them and go north-east. Though this was his average direction, his course was very irregular, for at one point he encountered a north-east wind, later a south wind, and finally no wind at all. The north-east wind blew off Cayuga Lake, depriving him of thermals and forcing him to turn south to get round the southern end of the lake by Ithaca. The south wind was when he saw some cumulus clouds 5 miles to the west, reached them with only 2,000 feet of height left, and climbed back to 5,000 feet beneath them. During a final straight glide of 20 miles, Lehecka found that his RHÖNSPERBER seemed to perform best at 50 to 55 m.p.h.; when he slowed up to 40 m.p.h. it apparently sank faster, which was odd, because theoretically it should sink slowest at this air speed.

The advantage of having a meteorologist permanently on duty was shown on July 7th, when Dr. Lange advised everyone to try to get away to the S.W., where better conditions would be found. Dr. Lange's method of investigating upper air conditions during the meeting has not been published, but we understand, from conversations he had with gliding men during his recent visit to England, that he employed pilot balloons fitted with simple apparatus to send out wireless signals which could be translated into readings of the register-



The "A.B.C." sailplane, showing, above, the welded steel tube framework of the cockpit, and below, the completed machine.

(Gaton Photo Co.

ing instruments carried. Although the balloons were never recovered, the total cost was much less than that of sending up a single aeroplane to take readings of upper air data.

The promised better conditions to the south-west were there all right, but the difficulty was to reach them. Peter Riedel took over two hours to get away from the site, but when at last he did so, his reward was the honour of making both the best distance and the longest duration of the meeting—133 miles in 6 hours 32 minutes, landing at Tidioute, Pa. This won him the Bendix Trophy and $500 distance prize.

Decker took 3 hr. 32 min. to get 51 miles, and Barringer, after an aero-tow 12 miles to the west, ran out of thermals 25 miles further on.

The best day of the whole contest was July 8th, when aggregates of 566 miles in distance and 47 hrs. 48 mins. duration were piled up. There was a fresh N.W. breeze in which 7 "C" certificates were taken.

The distance flights were 28 miles by Schultz, 97 by Barringer, 100 each by Lehecka and Decker, 117 by Riedel, and 121 by Harland Ross, who was in the air 5 hrs. 42 mins. and thus completed his "Silver C."

Ross's flight is described by him in the October issue of *Soaring*. He cast off from an aero-tow to 1,900 feet at 11.50 a.m., and his first thermal took him up at 6 feet a second. It was three-quarters of an hour before he got away from Elmira at 3,500 feet and found that the wind, at that height, was blowing straight for New York City. Before long he caught sight of Riedel some way ahead, so, thinking "Here is my chance to follow a German expert," he put his Ross-Stephens sailplane's speed up to 70 miles an hour, causing it to sink at 6½ feet per second, and reached Riedel's cloud at 2,500 feet just as Riedel was disappearing into its base at 5,000 feet.

The cloud broke up before he could follow Riedel, and a trying time followed. Ross had to fly round an overcast area, and four clouds in succession broke up just as he reached them. A thermal off a wheat field saved him. Finally, to prolong his flight to the utmost, he did a straight glide of 16 miles across wooded country with possible landing grounds about five miles apart. On one of these, a small clearing 5 miles from Milford, Pa., he landed, fortunately finding it free from stumps.

On July 9th some good altitudes were put up, and Arthur Schultz finished his "Silver C" with a height of 4,210 feet and a distance of 51 miles to Binghampton. Like Ross, he flew a sailplane of his own design which gained a prize in the design competition. Schultz may be remembered by readers of last year's Sailplane for his description of soaring flights over Sleeping Bear sand dune on the shores of Lake Michigan; the site has now become very popular, and a most successful meeting was held there this September, which will be described in a later issue.

July 10th was a poor soaring day, although Riedel managed to go 65 miles in an easterly direction. DuPont soared, above and below the ridge-top alternately, for 4 hrs. 53 mins.

Whenever soaring conditions were poor during the contest, two Lithuanian pilots, Bronius Oskinius and Jonas Pyragius, would give aerobatic demonstrations in their sailplane to amuse the public. And the total attendance of the public at the meeting was estimated at 49,500.

Points Awarded.

The following pilots received the greatest number of points, exclusive of special pioneer awards:—

Peter Riedel, 186; Richard DuPont, 179; Chester J. Decker, 175; Emil Lehecka, 173; Harland Ross, 172; Lewin Barringer, 171; Robert Auburn, 148; Arthur Schultz, 137; Charles Tubbs, 101; Bronius Oskinis, 88; Youston Sekella, 55; Floyd Sweet, 47; Theodore Bellak, 47.

In the number of points allotted to sailplanes, the following machines were in the lead:—

Sperber Senior (Riedel), 151; Albatross (Decker), 136; Minimoa (Barringer), 127; Minimoa (DuPont), 126; Ross-Stephens (Ross), 124; A.B.C. (Schultz), 106; Utility (Auburn), 81; Minimoa (Aero Club of Lithuania), 64; Utility (P. and E. Schweizer), 50.

The Design Competition.

Three machines won prizes offered by Mrs. Warren Eaton for the best designs of sailplanes which had not previously been flown at an Elmira Contest.

The first prize went to Art. Schultz for his A.B.C. sailplane, built by members of the A.B.C. Glider Club of Detroit. It had first been flown at Sleeping Bear Dune the previous autumn. A plan and some photos are given herewith.

The wing section is NACA 6212 at the root, for high lift, and NACA 2412, washed out at the tip, for low drag and for controllability at the stall. The fuselage



Henry Stephens (left) and Harland Ross with their Ross-Stephens sailplane which won second prize in the design competition. Below, Harland Ross flying it.

(Photos by Fred T. Loomis, Elmira.

and tail surfaces are built up of welded steel tube, and the horizontal tail surfaces are hinged so that they can be folded up alongside the rudder. The aileron controls, in which needle and ball bearings are employed, are operated by a wheel through chain and sprocket and cables. A push-pull tube operates the elevators. The landing gear includes a wheel fitted with a brake. Actual flight tests have shown the machine's sinking speed to be 2.8 feet per second, and gliding angle 1 in 18.

The ROSS-STEPHENS sailplane, which won second prize, might have got the first if flights after an aeroplane tow had been taken into consideration in judging performance.

Harland C. Ross, its designer, states: "In order to get high cruising speed, the N.A.C.A. 24 series wing curve was incorporated. I investigated the 230 series but discarded them, due to bad discontinuity in the lift curve and poor characteristics at low Reynolds number. By using a 2.66 to 1 taper ratio, only 3½° twist was required for lateral control at the stall."

He makes some interesting comparisons. The ROSS-STEPHENS has a wing loading of 3.78 lbs. per sq. ft.; the RHÖNSPERBER 3.35, and the MINIMOA 3.2. But the span-loading is only 10.2 lbs. per sq. ft. for the ROSS-STEPHENS, as against 11.0 for RHÖNSPERBER and 11.7 for MINIMOA. A low span loading, he says, is one of the main criterions of the design for minimum sinking velocity.

Spoilers are fitted, and change the gliding angle from 1 in 23 to 1 in 10 at 38 m.p.h. The best gliding angle is about 1 in 24 at 48 m.p.h., and minimum sinking speed 2.5 ft. per sec. at 38 m.p.h. At 70 m.p.h. the sinking speed increases to 6.5 ft. per sec.

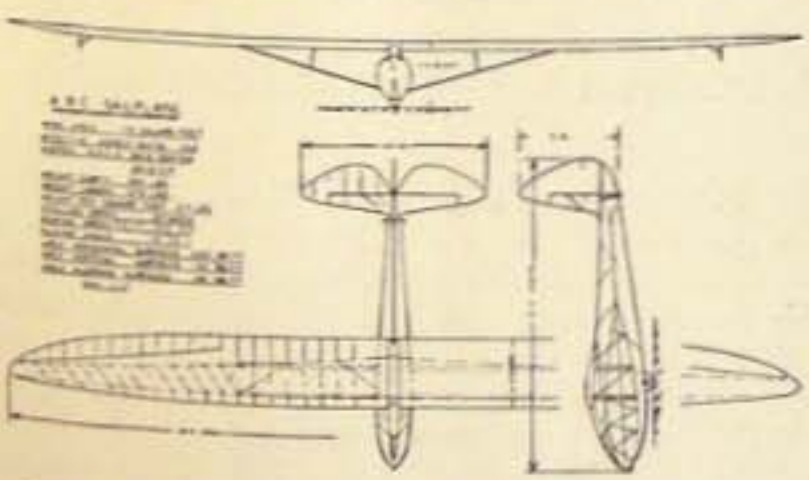
The above particulars of the machines are taken from *Soaring* for May and October. It is interesting to note that A.B.C. sailplane construction drawings are now on sale for $35.

Lessons of the Contest.

There has been some discussion in American soaring circles as to whether the Elmira contests have been held at too early a date in the year. It is thought that perhaps stronger soaring winds would be more likely a month or two later. Another suggestion is for two contests at different periods of the year in different parts of America.

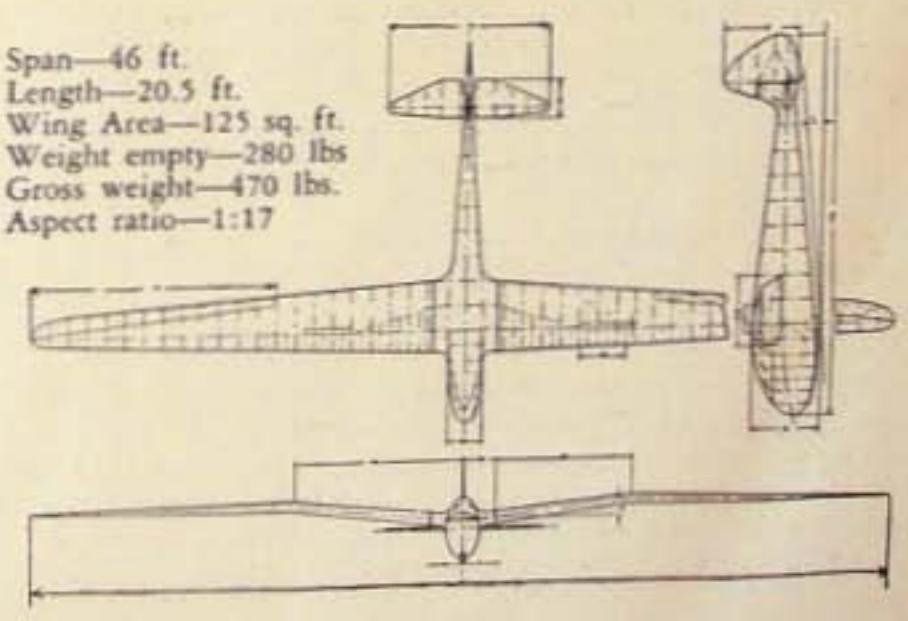
Another subject of discussion is the possibility of holding an International Contest in the country. The high standard of hospitality and organisation set by the Germans at the Wasserkuppe this year has given food for thought, and it is uncertain whether the Soaring Society of America will feel themselves ready to hold such a contest as soon as next year. The general opinion seems to be that a postponement till 1939 will give the best chance of doing full justice to such an occasion.

There were four crashes during the contest, all due to stalls, though in only one were bones broken. One machine, however, unfortunately stalled on top of Barringer's MINIMOA, Lehecka's RHÖNSPERBER and the ROSS-STEPHENS sailplane, damaging all three severely as well as itself. The lesson has been drawn that the regulations for glider pilot licences must be tightened up, and it is suggested that in future all applicants for commercial glider pilot licences must have had at least one hour of light aeroplane instruction in recovery from stalls and spins.



Plans of the prize-winning sailplanes: above, the "A.B.C."; on the right, the "Ross-Stephens."

(From "Soaring."



Gliding Certificates

The following gliding certificates, for which qualifying flights were made on the dates given, have been granted by the Royal Aero Club at the October and November committee meetings.

"A" Certificates

No.	*Name*	*Club.*	*Date*
804	D. Campbell	London	18.7.37
805	H. J. S. Beazley	London	28.3.37
806	F. S. Matthews	London	18.4.37
807	W. R. Horsfield	London	25.7.37
808	H. G. de Wolf	London	18.8.37
809	R. K. Potter	Derby and Lancs.	19.9.37
810	H. J. Parham	London	3.8.37
811	F. Morat	London	14.6.37
812	J. A. C. Pearson	London	20.8.37
813	I. G. F. Harris	Derby and Lancs.	20.7.37
814	C. M. Cass	Derby and Lancs.	19.9.37
815	H. N. Peake	Cotswold	19.9.37
816	G. Renwick	Yorkshire	19.9.37
817	F. W. M. Ruck	Newcastle	20.7.37
818	A. C. Emmett	London	8.9.37
819	F. Jewitt	Newcastle	3.10.37
820	R. H. H. Brown	Cambridge Univ.	24.9.37
821	L. H. Heath	Yorkshire	4.7.37
822	S. A. Bee	London	10.9.37
823	J. C. Rice	London	12.9.37
824	G. H. King	London	29.8.37
825	J. Peacock	London	14.9.37
826	V. M. Waugh	London	14.9.37
827	H. R. Sharman	London	14.9.37
828	J. J. Stuart	London	18.9.37
829	K. H. Lee	London	12.9.37
830	T. B. Prickman	London	18.9.37
831	B. R. Faunthorpe	London	12.9.37
832	Miss A. Johnson	London	12.9.37
833	A. Parker	Derby and Lancs.	2.10.37
834	G. U. Strawbridge	Midland	3.10.37
835	C. D. Hartness	Yorkshire	7.2.37
836	E. O. Withrow	Derby and Lancs.	13.6.37
837	R. W. Pearson	Yorkshire	8.8.37
838	W. D. B. S. Davis	Cambridge Univ.	2.10.37
839	S. R. Hancock	Derby and Lancs.	25.9.37
840	W. P. Waid	London	12.9.37
841	E. Lavington	London	3.10.37
842	H. W. E. Huxley	London	3.10.37
843	P. H. R. R. A. Terry	London	3.10.37
844	G. L. Harrison	London	18.9.37
845	E. Mahon	Southdown	9.10.37
846	J. H. O. Chadderton	Midland	3.10.37
847	H. C. Baker	Midland	3.10.37
848	J. Stewart	Newcastle	10.10.37
849	T. R. T. Carr-Ellison	Newcastle	28.7.37
850	D. L. Amlot	London	3.10.37
851	R. J. Bevington	Yorkshire	1.8.37
852	E. S. Hadley	Midland	10.10.37
853	A. R. Lucas	Newcastle	10.10.37
854	E. Ganz	Cambridge Univ.	7.11.37
855	R. C. R. Savage	Newcastle	7.11.37

"B" Certificates

No.	*Name.*	*Club.*	*Date.*
591	H. Leach	Yorkshire	12.9.37
583	J. Quinn	London	20.8.37
789	M. M. Waghorn	London	10.9.37
722	R. E. Smith	London	18.9.37
808	H. G. de Wolf	London	20.8.37
807	W. R. Horsfield	London	24.8.37
806	F. S. Matthews	London	12.9.37
805	H. J. S. Beazley	London	18.4.37
804	D. Campbell	London	29.8.37
813	I. G. F. Harris	Derby and Lancs.	12.9.37
816	G. Renwick	Yorkshire	19.9.37
797	Miss Z. Paddon	London	12.9.37
763	G. E. J. Reynolds	London	3.10.37
832	Miss A. Johnson	London	13.9.37
830	T. B. Prickman	London	18.9.37
824	G. H. King	London	12.9.37
823	J. C. Rice	London	14.9.37
822	S. A. Bee	London	12.9.37
821	L. H. Heath	Yorkshire	17.7.37
818	A. C. Emmett	London	10.9.37
833	A. Parker	Derby and Lancs.	3.10.37
835	C. D. Hartness	Yorkshire	1.5.37
809	R. K. Potter	Derby and Lancs.	10.10.37
836	E. O. Withrow	Derby and Lancs.	10.10.37
837	R. W. Pearson	Yorkshire	10.8.37
838	W. D. B. S. Davis	Cambridge Univ.	10.10.37
844	G. L. Harrison	London	3.10.37
828	J. J. Stuart	London	17.10.37
849	T. R. T. Carr-Ellison	Newcastle	21.10.37
848	J. Stewart	Newcastle	17.10.37
815	H. N. Peake	London	24.10.37
851	R. J. Bevington	Yorkshire	3.8.37
853	A. R. Lucas	Newcastle	10.10.37
817	F. W. M. Ruck	Newcastle	6.11.37
729	P. S. Taylor	Newcastle	7.11.37
544	R. C. S. Allen	Cambridge Univ.	10.10.37

"C" Certificates

No.	*Name.*	*Club.*	*Date.*
803	W. C. Sharpe	Yorkshire	15.9.37
591	H. Leach	Yorkshire	15.9.37
589	F. W. West	London	12.9.37
818	A. C. Emmett	London	15.9.37
821	L. H. Heath	Yorkshire	18.7.37
830	T. B. Prickman	London	3.10.37
832	Miss A. Johnson	London	15.9.37
717	J. Duthie	Derby and Lancs.	10.10.37
752	G. A. Hinchcliffe	Yorkshire	10.10.37
835	C. D. Hartness	Yorkshire	22.6.37
540	F. J. Hardy	Derby and Lancs.	10.10.37
785	J. Benemann	Ulster	20.9.37
837	R. W. Pearson	Yorkshire	15.8.37
794	T. T. Davies	London	16.10.37
844	G. L. Harrison	London	16.10.37
793	J. R. Gardiner	Yorkshire	10.10.37
816	G. Renwick	Yorkshire	28.9.37
625	W. M. Taylor	Newcastle	24.10.37
650	A. C. J. Burningham	Newcastle	24.10.37
661	E. L. D. White	London	24.10.37
824	G. H. King	London	24.10.37
789	M. M. Waghorn	London	24.10.37
808	H. G. de Wolf	London	24.10.37
851	R. J. Bevington	Yorkshire	7.8.37
686	N. J. Massey	Newcastle	24.10.37
655	D. Hobson	Derby and Lancs.	24.10.37
833	A. Parker	Derby and Lancs.	14.11.37

Concerning Advertisements

The Editor is in no way responsible for the advertisements appearing in THE SAILPLANE AND GLIDER. Application for advertising space must be addressed to the Advertisement Manager at 13, Victoria Street, London, S.W.1. On reading the last issue we found that an apology for a wrong advertisement, implying an admission of negligence, appeared over the signature "Ed." This statement was neither written nor signed by the Editor, who does not know what the advertisement columns contain until the paper has been published.

List of British Gliding Clubs and their Secretaries

This list is intended as a guide to those who wish to join a gliding club, or to see gliders and sailplanes in action. Not all the clubs mentioned are active, though it is hoped eventually to confine the list to active clubs. The list will be published as often as space permits, and club secretaries will oblige by helping to keep the particulars up-to-date.

For information as to the running of a gliding club, apply to The British Gliding Association, 119, Piccadilly, London, W.1. (Tel.: Grosvenor 1246-7-8.)

England.

BEACON HILL (ESSEX).—W. P. Harris, 22, Hamlet Road, Southend, Essex. Primary training ground at Canewdon, Essex. Workshop at Southend. Subscription, 10s. 6d. p.a.

BILLINGHAM.—J. Tunstall, Nth. Mt. Pleasant Street, Stockton-on-Tees. Primary training. Subscription, £1 p.a. (10s. for those under 21).

BRYANSTON SCHOOL.—F. W. Armitage, Bryanston School, Blandford, Dorset. Two-seater sailplane under construction. Subscription, 3s. 6d.

CAMBRIDGE UNIVERSITY.—J. W. S. Pringle and P. M. Thomas. Club rooms at 1, Benet Street, Cambridge. Flying ground at Caxton Gibbett (Tel.: Caxton 39); winch launching. Subscription, 3 guineas p.a. Flying charges, per launch: 8d. in primaries, 1s. 4d. in sailplanes. Limited number of non-University members admitted.

CHANNEL.—F. G. Whitnall, 16, High Street, Cheriton, Folkestone. Auto-towing at Hawkinge Air Station; soaring at Arpinge, 2 miles N.W. of Folkestone. Hangar at Arpinge.

CORNWALL.—J. W. Graham, Red House, Tywardreath. Flying ground at Rosenannon Downs. Primary training; soaring possible.

COTSWOLD.—J. D. Pether, Culver's Close, Burford, Oxon. Primary training at Minster Lovell, near Witney, or Pewit Farm, Wantage, Berks.

DERBYSHIRE AND LANCASHIRE.—C. Kaye, 63, Clarkhouse Road, Sheffield. (Tel.: 62463.) Primary training and soaring. Headquarters at Camphill, Great Hucklow, Derbyshire (between Buxton and Sheffield), adjoining flying grounds at Bradwell Edge and Eyam Edge. Clubhouse (Tel.: Tideswell 207) and hangar. Subscription 3 guineas p.a.; non-flying £1 1s. (both include 5s. subscription to Royal Aeronautical Society, Manchester Branch); no entrance fee. Flying charges: from 6d. per flight; soaring flights from 2s. 6d. Resident instructor-manager.

DEVON.—S. G. Tolman, Journal Office, Exmouth. (Tel.: 76.)

DORSET.—L. A. Lansdown, The Portman Arms Hotel, East Chinnock, Yeovil, Somerset. (Tel.: West Coker 61 Y4). Primary training and soaring at Maiden Newton; soaring also at Kimmeridge, Isle of Purbeck.

EAST GRINSTEAD.—G. J. Smith, "Tolskity," Sackville Lane, East Grinstead, Sussex.

ESSEX.—W. Webster, 113, Coombes Road, Dagenham. Primary training.

FURNESS.—J. S. Redshaw, 18, Fairfield Lane, Barrow-in-Furness, Lancs. (Tel.: 803). Training sites at Hawcoat, Birkrigg and Gleaston. Soaring sites at Moorside (near Ireleth) and Bootle Fell, Cumb. Hangar at Moorside. Subscription, £2 p.a. and flying fees.

HARROGATE.—E. T. W. Addyman, The White House, Starbeck, Harrogate.

HEREFORD.—See Midland Gliding Club.

HULL.—R. E. Havercroft, 216, Park Avenue, Hull. Flying ground, Hedon aerodrome (auto-towing).

IMPERIAL COLLEGE.—L. S. Holt, Imperial College of Science, South Kensington, S.W.7. Members use London Gliding Club's machines and flying ground at Dunstable Downs; also a sailplane for club's exclusive use.

KENT.—Miss R. H. Sinclair, Lady Place, Sutton Courtenay, Berks. (Tel.: Sutton Courtenay 46.) Primary training ground at Lenham, near Maidstone, Kent.

LONDON.—Tring Road, Dunstable, Beds. (Tel.: Dunstable 419.) Flying ground, Dunstable Downs (1¼ miles S.W. of Dunstable). Primary training and soaring. Clubhouse and hangar; sleeping accommodation; 13 gliders and sailplanes for members' use. Subscription, 3 guineas p.a. (non-flying, 1 guinea); entrance fee, 1 guinea; flying charges, from 3s. per day. Resident full-time instructor; flying on Sundays and every week-day except Thursday.

MIDLAND.—M. F. Barnes, 100, Holly Road, Birmingham 20. (Tel.: Smethwick 1181.) Resident Manager: J. B. Keeble, Whitcott, near Norbury, Bishops Castle, Shropshire. Primary training grounds at Handsworth (Vernon Avenue), Northfields and Hereford. Soaring site at Long Mynd, 3 miles W.S.W. of Church Stretton, Salop. Clubhouse and hangars; 10 gliders and sailplanes for members' use. Subscription, 3 guineas p.a. (10s. 6d. junior membership); entrance fee, 1 guinea; flying charges, 3s. per week-end for primary or secondary training; 6s. per hour for soaring.

NEWCASTLE.—A. P. Miller, 25, Holme Avenue, Walkerville, Newcastle-on-Tyne, 6. (Tel.: Wallsend 63320.) Soaring sites at Chillingham. Auto-towing at Cramlington Aerodrome. Workshop in Newcastle.

NORFOLK.—"Ivy Cottage," North Walsham, Norfolk. Primary training at Skeyton, also at Mundesley (soaring possible).

PENRITH AND DISTRICT.—F. E. Kieser, Princes Street, Penrith.

PORTSMOUTH AND SOUTH HANTS.—R. E. Clear, York Cottage, London Road, Purbrook, Hants. Flying ground: Portsdown Hill.

PRESTON AND DISTRICT.—L. E. Falla, "Lendor," Lawrence Road, Penwortham, Preston. (Tel.: Preston 2301.)

ROCHDALE.—A. Claypole, 17, Agnes Street, Castleton, Rochdale. Primary training at Shuttleworth; hangar. Subscription, £2 p.a.

SHROPSHIRE.—G. B. Muir, "Ireland," Halford, Craven Arms, Salop.

SOUTHDOWN.—A. York Bramble, 7A, First Avenue, Hove 3, Sussex. (Tel. Hove 4335.) Primary training and soaring grounds at Devil's Dyke, Brighton. Clubhouse and hangar, ½ mile S.S.W. of Devil's Dyke Station.

STAFFORD (Gliding Section of Stafford Aero Club).—J. H. Simpson, 38, Newport Road, Stafford. (Tel.: 138). Primary training; two gliders.

STOKE-ON-TRENT.—H. N. W. Goss, 36, Crewe Road, Alsager, Cheshire.

TEES-SIDE.—T. Anderson, 49, Wellesley Road, Middlesbrough, Yorks.

WORKINGTON AND WEST CUMBERLAND.—W. L. Foster, c/o The United Steel Co., Moss Bay, Workington, Cumberland. Primary training at Siddick, Workington (hangar and clubhouse). Soaring possible at The Hay, Cockermouth.

YORKSHIRE.—H. T. Blakeston, Spellowgate, Driffield, Yorks. Primary training and soaring. Flying ground, Sutton Bank, between Thirsk and Helmsley. Clubhouse and hangar. (Tel.: Sutton under Whitestone Cliff 19.) Resident Steward; full residential facilities. Full range of machines for members' use.

Scotland.

ELGIN.—D. M. McRae, Park House, South Street, Elgin.

FIFE.—Alex. M. Aitken, 14, Kinnear Street, Buckhaven.

INVERNESS.—F. Oliver, 13, Leys Drive, Inverness.

PERTH.—R. Mackelvie, View Cottage, Union Road, Scone, Perthshire.

SCOTTISH GLIDING UNION.—J. W. Gardner, Journal Office, Alloa.

Northern Ireland.

ULSTER.—N. P. Metcalfe, c/o Ulster Spinning Co., Ltd., Belfast. Flying centre and hangar at Downhill, Magilligan Strand, Co. Londonderry. Auto-towing and soaring.

Channel Islands.

JERSEY.—A. J. Scriven, "Quainton," Samares, Jersey. Primary training and soaring at Les Landes, at north end of St. Ouen's Bay. Subscription, £3 p.a. Flying on Sundays and Thursdays.

News from the Clubs

Derbyshire and Lancashire Gliding Club

The competitions and closed season over, Camphill has now settled down to normal again, and our notes are resumed. We must say that Bradwell Edge looks comparatively empty with only half-a-dozen or so machines in the air on a soaring day, and what soaring days we have had! The first four Sundays in October provided us with winds from the west, three of them preceded by Saturdays on which an east wind was blowing. What times we live in! Also a certain amount of thermal activity has been reported, so that all pilots from our latest "C" to the more seasoned variety have had no cause for complaint, except perhaps of the daylight, which is rapidly becoming more limited.

Saturday, October 2nd.—Wind 5 m.p.h., E.S.E. Primary training. Edmondsen, from the *Daily Mail*, with five hours' dual, had three four-a-side bungies, and one winch pull-across—good.

Sunday, October 3rd.—Wind 15 m.p.h., W. (less earlier on). Phenomenally early start due to official visit of Subsidy Committee, which included H. E. Perrin, C.B.E., Secretary of Royal Aero Club. Unfortunately Philip Brown, on one of his attempts at five hours in his FALCON I, got below the Edge and wiped off the nose of his machine in trying to land down-wind on the N.W. slope; this happened five minutes after the arrival of the visitors.

Developed into nice soaring day. Two other visitors whom we are always pleased to see were the Bergels from Dunstable. The thinner one had half-an-hour in the RHÖNBUSSARD, and was soon doing vertical banks at 1,000 ft. out of sheer *joie de vivre*, and he later relieved our hard-working pilots of the FALCON III, as is his wont whenever he visits us. Parker finished "B" test in a convincing manner.

At 5.15 p.m. the evening thermal arrived; FALCON III and RHÖNBUSSARD went up, and were still going up at 1 metre per sec. at 2,000 ft. anywhere over the valley, but had to descend owing to darkness. R.A.F. Instructor Geary from Cranwell presented himself for ground-hops, and passed on to the winch the same day.

Saturday, October 9th.—Wind 10 m.p.h., E. Primary training. Parkin, R.A.F. Flying Officer, had three strong bungies—perfect—and passed for winch.

Sunday, October 10th.—Wind 15 m.p.h., N.W. Smooth and steady lift made very pleasant soaring, except for a dirty haze up to 2,000 ft., which made it easy to lose one's bearings at times. Two "B's" and two "C's" were obtained, the latter by Hardy and Duthie. Hancock hopped one of our few remaining walls and hit the next.

Saturday, October 16th.—Wind 20 m.p.h., W. Strong wind, but no lift, and big "holes" over the Edge. These conditions always seem to be associated with a permanent cloud which forms over the valley, at about 600 ft. above the Edge, and disappears when it gets to the Edge. RHÖNBUSSARD and Slingsby GRUNAU did about 20 minutes each at 200–300 ft. before giving it up in disgust. Primary training. To-day saw the passing on of numerous hoppers to the winch.

Sunday, October 17th.—Wind 15 m.p.h., W. Good thermal soaring in the morning; Neilan visited the club, and was given a flight in the WREN (which lasted three hours!). About mid-day lift died away, and the sky emptied, leaving Neilan peacefully meandering up and down at 100 ft., self-confidence personified; but he soon found a thermal which took him up to 2,000 ft., the wind picked up again, and everything resumed soaring.

Saturday, October 23rd.—Wind 15 m.p.h., E.S.E. Continuous rain until 2 p.m., then fine. An impressive front could be seen travelling northwards over Stannage Edge most of the afternoon—low ragged rain clouds surmounted by tremendous towering cumulus. Primary training.

Sunday, October 24th.—Wind 20 m.p.h., W. Fifth soaring Sunday in succession. Heavy rainstorms in the morning, with bright intervals in between; cleared up in the afternoon, and the soaring was about the smoothest ever experienced; wind gradually died away to nothing, and the machines slowly came in, one by one, the RHÖNBUSSARD last. KADET optimistically tried soaring at 20 ft. above the Edge, and went to the bottom. D. Hobson obtained his "C" in the GRUNAU BABY.

Saturday, October 30th.—Wind 15 m.p.h., W., gusty. J. Parker did half-an-hour in the long-wing KADET in the twilight.

Sunday, October 31st.—Wind 3 m.p.h., E., fog. Ground hops with two Instructors—one to watch the launch, and one to watch landing! Too thick after lunch.

The taper-wing KADET in the hands of the Verity Bros. and Johnny Parker has now had a thorough trial, and is proving itself to be a nice medium soaring machine, and very controllable too. The club FALCON I is being rigged for the third time (hopefully).

B.A.C. two-seater is being stripped and re-covered by the club construction group working at Freddie Colman's house. Rumour hath it that there are complaints from his neighbours at the stream of strong language issuing therefrom, three nights a week, and that one old lady of 80 was found listening at her front door! What has Mrs. Colman to say?

The club's badly needed workshop is being fitted up at last, and a floor is being put in the barn to give a store room above or bunkhouse, if necessary, and to facilitate heating of workshop.

Congratulations to Alan Davies, who has been promoted to Senior Instructor and two-seater pilot. He has taken the place of R. G. Robertson, whom we are very sorry to lose, and who has taken up a Government appointment in India in connection with the rebuilding of Quetta. We hope to hear accounts of soaring in India.

It should be noted by members that Saturday afternoon, although short at this time of the year, provides trainees with more opportunity of flying than the usually busy Sunday, whilst if those with leisure during the week will make arrangements with John Noble by 'phone, instruction or soaring can always be had, weather and wind permitting.

This Month's Story.—An old lady took up a very prominent position on the site, one Sunday afternoon, to watch our activities. On being informed that it was rather dangerous on that particular spot, she replied: "Oh, that is quite all right, I'm sitting on a newspaper."

Summary of flying during October.—Bungy launches, 254; Winch launches, 198; Flying time, 43 hrs. 5 mins.

Certificates: 1 "A," 3 "B," 3 "C."

November.—Although soaring winds have not visited us so frequently as last month, training is proceeding apace. With regard to primary training, considerable increase is being made in the use of the winch-cum-bungy method of launching hoppers. This provides much longer and smoother flights, apart from the fact that a much smaller crew can operate this method.

Great activity has been observed of late amongst the groups of private owners. Sailplanes are being thoroughly inspected, reconditioned and polished, whilst trailers are being re-covered and painted so as to be fit to stand the rigours of the winter.

The Annual Dance is to be held on January 22nd, 1938, at the Marquis of Granby, Bamford. Visitors will be very welcome, but please let us know if you are coming.

Saturday and Sunday, November 6th and 7th.—Wind 10 m.p.h., E.S.E. Fog and intermittent drizzle, visibility poor. John Noble enjoyed himself at the winch, giving launches to telephoned instructions, and then switching off and listening for the landing. Later on Sunday, when conditions improved slightly, Hughes obtained his "B."

Saturday, November 13th.—Wind 15 m.p.h., N.N.W. Primary training, and very nearly successful attempts at soaring by A. Parker in the NACELLE, and Orme in his FALCON. Unfortunately the ring came off at the start of a launch of the KADET, when it was just in front of a deep gulley running across the field, with the result that it suffered damage to the nose.

Sunday, November 14th.—Wind 20 m.p.h., N.W. This day opened with bright frosty weather, and looked promising from the beginning. By 11.30 B. Thomas in FALCON I set the ball rolling, and gradually worked his way up to 1,600 ft. in a flight of just over an hour. He was soon followed by E. Taylor in a NACELLE for 45 mins. By this time KITE, KADET and RHÖNBUSSARD were in the air, and for an hour hill lift was excellent. A short lull followed.

By 14.00 hrs. the valley became filled with mist which we had seen earlier in the day as a haze over in the Manchester direction, and soon afterwards all the machines in the air were seen to go up considerably, and visibility on the ground was not too good. Navigation was carried out by flying in vertical echelon, machines

taking up their position according to performance: Nacelled Dagling near the ground, long wing Kadet, Grunau Baby, Falcon, Kite and Rhönbussard. The last two reached 2,400 ft., and the Kadet was not dissatisfied with 1,800 ft. The Kite and the Bussard couldn't see the ground through the haze at times, but the lower machines could, so they followed them, and flew towards the sun when lost, except the Kadet, which flew a mile downwind in the belief that it was beating along the Edge, and only just scraped home again. Smooth steady lift extended all over the valley up to a mile from the Edge, but no thermals were noticed. By 16.30 hrs. visibility was becoming very poor, and the back wall was a most unsafe place for the next few minutes, with a heap of machines scurrying to get down, some taking from five to ten minutes to lose the last 1,000 ft.

To-day Parker made no doubt about his "C," the Nacelle reaching 700 ft. at times, and he was quickly followed by Harris, Hughes and Bowler, all of whom received full marks for their first soaring flights. An entertaining afternoon, in which 16½ hours' flying was recorded.

Saturday, November 20th.—Wind 10 m.p.h., W.N.W. Clear sky, hazy, and two inches of snow on the ground. Grunau Baby at 1,000 ft., and Kadet at 800 ft. Orme in his Falcon went up later just as the lift was dying, and scraped in over the back wall, to get his "C" by 5 secs.

Sunday, November 21st.—A clear sky, and snow on the ground, not quite soarable. The club Falcon was brought out after its second rebuilding, and all Instructors were hauled out and made to fly it, and they enjoyed it too. Kendal, Woollas and Benton gained very steady "A's," following the new policy of taking these in the Nacelle, and Phillips a well-deserved "B."

Saturday and Sunday, November 27th and 28th.—Primary training all the week-end. Several hoppers were promoted to the winch. Mills was given a launch to 350 feet and, with this grand height, set out on a cross-country over the moor. He landed safely amidst the hillocks.

Summary of Flying during November.—Bungy launches, 147; Winch launches, 133; Flying time, 18 hrs. 46 mins.
Certificates: 3 "A," 2 "B," 5 "C."

Hull Gliding Club

The weather has been particularly kind to us during the summer, with the result that the Primary—complete with "L" plates, and finished, or perhaps we should say unfinished, in a peculiar shade of pink and blue—has had 500 launches since July. Both the "nits" and old-timers have done many hair-raising things with it, but no damage beyond a burst tyre and a little torn fabric can be recorded.

Walker, one of our youngest members, flies with extraordinary aptitude. Paris, Beedham, Anson and Havercroft are performing turns, and five others are hopping.

Congratulations to J. Peacock on obtaining his "A" at the Dunstable camp in September.

Training has continued every week-end with such regularity that only a few days are worth mentioning.

Sunday, September 12th.—A total of 54 launches. Beedham instituted a private spot-landing competition with the hangar as the spot. He came in very fast from 200 ft. and finally stopped about 2 ft. from the open iron door. Rodmell finished the day off by bouncing heavily while landing, and finally came to rest in an inverted position.

We were pleased to have a visit from E. J. Magnin, a Swiss "Silver C" pilot, who is staying in the district. From what we hear he thinks nothing of being launched from the top of the Jungfraujoch, 15,000 ft. high, and once was able to soar for 12 hours continuously.

Sunday, September 19th, was rather cold with a fresh north wind, but the Hon. Treasurer succeeded in warming us up considerably when he was forced to make a very low turn to avoid crossing the railway line. When the machine came to rest one wing was actually overlapping the hedge which borders the line.

Many readers will learn with interest that we have recently purchased, from members of the Derbyshire Club, the veteran Kassel two-seater which, we believe, still holds the British distance record for two-seaters set up by the late G. E. Collins in 1934 when he flew from Dunstable to Chelmsford, a distance of 46 miles. Considerable renovations to the wings are necessary before she can be flown, but work is proceeding, and it should not be long before she takes the air again after a long period of stagnation.

Newcastle Gliding Club

The National Competitions have been fully reported elsewhere, but we may perhaps be excused for referring to them since this was the first occasion upon which we have entered a team and we are pleased with the placing (seventh in a field of nineteen) which O'Grady, Smart and Hick secured for the Kite. In addition, O'Grady has completed his "Silver C," and Smart has made both distance and duration flights.

After the Derbyshire meeting O'Grady took the Kite to the Long Mynd where, in fact, he made the altitude flight for his "Silver C" certificate, and returned with an enthusiastic account of his friendly reception there.

Since our previous report reorganisation at Cramlington has proceeded apace: the new lighting equipment has been installed in the club house, a workshop section erected in the hangar, and the revised rota for the ground staff brought into force. Payment of flying fees by ticket has simplified matters for instructors, and 340 training launches were made by the end of October, nine certificates being obtained. These are set out below.

On **October 10th** we organised a spot-landing competition in the nacelled Dagling. There were eight entries, and the winner was John Allen, who made two perfect landings right in the centre of the circle.

On **October 24th** we took advantage of a fresh N.W. wind to send an expedition to Corby's Crags, Northumberland, for a trial of this site. The beat is short, and would probably not be a great deal of use if the wind were not fairly strong and straight up the slope, as it was on that day. The site, however, is comparatively near to Newcastle, and, on suitable occasions, it is a very convenient spot for "C" certificate aspirants.

The Grunau was rigged by the roadside and carried into position in little over half an hour. Spectators were "pressed" on to the shock-cord crew, and O'Grady was launched for a test. The lift proved quite steady, so Taylor, Massey and Burningham were launched in turn, each taking his "C" certificate with half-an-hour's flight. At the end of his flight Bill Taylor picked up his first thermal, but gallantly left it after ten minutes and brought the machine in to give somebody else a turn.

We are pleased to record the formation of a group from King's College, Newcastle-on-Tyne. These new members are putting in a lot of training and should be able to boast a few certificates by the time these notes appear in print.

"A" certificates: Jewitt, Stawart.
"B" certificates: Vernon Green, Lucas, Cair Ellison, Stawart.
"C" certificates: Burningham, W. Taylor, Massey.

November.—Some of the developments at Cramlington were mentioned in our previous report. In addition the necessary repairs to the buildings have been carried out and the redecoration scheme completed except for the tea-room. The custom of Saturday and Sunday evening gatherings developed under these stimuli just in time to let us celebrate the return of Peter Cochrane-Carr from Spain. No doubt the Secretary's impressive new office and even more impressive arm-chair were a material help in the enrolment of 18 new members this month.

On the flying field things have been "pepped up" considerably by the working out of a time-table a month in advance, by which winch-drivers, instructors, etc., know exactly when they are to do their stuff. This section of the club's organisation is now in the hands of Mr. Savage, late of the Sydney Gliding Club. The effectiveness of our method of giving only comparatively long launches on the winch at every stage of flying up to actual soaring stage was demonstrated in his case most definitely. He had literally hundreds of bungy hops in New South Wales and nothing to show for it. He had half a dozen long flights on our winch and promptly collected "A" and "B" tickets.

The habit of getting "B's" in open Daglings from a winch launch on our perfectly flat site at Cramlington is spreading. In addition to Savage, Ruck, Phil Taylor and Jewitt succeeded in doing this. "A" tickets were taken by Savage and Dr. Pete, the latter, a power pilot, being at once promoted to the Nacelle Dagling in which he collected his "B." Only Angus disappointed his backers, his efforts at a "B" qualifying him to join the growing band who are dissatisfied with the landing facilities on the aerodrome and try other fields instead. A new member has demonstrated that one need never have flown before to fly an open Dagling at an unsteady 20 feet. The port wing was a little bent after it, but congratulations to the winch driver, who flew and practically landed the machine from the winch-car.

One day last month the combination of John Allan piloting and a strong wind in the right direction resulted in a height of 750 feet from rather less than 1,500 feet of cable.

The recent influx of new members made the acquisition of an auto-towing car imperative, but so far no car yet seen is up to specification. However, we have acquired a new winch car.

Soaring.—There has been one soaring expedition this month. On November 21st both KITE and GRUNAU were taken to Chatton Hill, Chillingham, where a little soaring was done under mediocre conditions. Unfortunately John Allan took the GRUNAU too close in to the hill after the first launch, cracked three ribs in the port wing, and demolished both skids and Wood's chance of a "C" certificate. Smart flew the KITE for about 15 minutes and O'Grady for half an hour before we packed up for the day.

London Gliding Club

Saturday, November 13th.—Three new machines turned up; the club's RHÖNBUSSARD, which has been named "Tony" after the late R. A. C. Evans; an H-17 built by Roy Scott, with woodwork painted orange; and M. Toth's KASSEL 25, which is not entirely new, since some of it is his original KASSEL which he brought over from France years ago, but much of it needed replacing by new material, which has now been done at the Brooklands College of Aeronautical Engineering. The BUSSARD, by the way, has been waxed all over since its arrival. Charges for flying it are to be 9s. for the first half-hour and 2s. every subsequent 10 minutes, plus £1 1s. extra annual subscription, and the first £5 of the cost of repairs after "errors of judgment." The Passold brothers, by the way, have ordered a BUSSARD, so there will soon be three in the club.

Sunday, November 14th.—At mid-day a west wind sprung up sufficiently for a few hours' soaring. Some bits of fracto-cumulus appeared, and pilots reported lots of thermals about, with lift up to 3 ft. per second, but all very small, and not more than 200 feet could be climbed in each.

Captain Phillips came with his "Avro" and did 11 tows, including three tows of the RHÖNBUSSARD, with Cooper, Bergel and Wills as pilots. Later, he forsook his aeroplane and took a soaring flight of 25 minutes in Hiscox's KITE, which its owner had previously landed on the hill top so that the launch wouldn't be a mechanically-towed one.

Of the new machines, the BUSSARD soared well and high, but was found to float rather far on landing. Rattray took up Scott's H-17 for 55 minutes and showed what an excellent performance the type has if really well flown by a light pilot; he was about level with the GRUNAUS most of the time. The KASSEL 25 was glided down cautiously by Bolton in the calm of the evening.

At 3.55 p.m. a daylight meteor, the first we have ever seen, shot across the sky high up towards the west. For a few seconds it flared up a bright green, no doubt owing to inefficient streamlining and attempting to fly faster than the speed of sound. Astronomers allege that meteors do their gliding about 80 miles high, so no one was in danger of being hit.

Sunday, November 21st.—A sunny but hazy day, which nevertheless produced a few weak thermals which at times reduced a machine's sinking speed to only 2 or 1 ft. per sec.; some were over the field where the "queer soaring" was done last January. A very light wind moved round during the day from S.S.W. to S.E., so only the winch was used.

Hiscox bravely volunteered to take up the KASSEL 25 on the winch. Before long he was shouting down instructions to cut the cable, and preparing to do tight circles over the winch to keep it loose. The trouble was a badly-designed release hook, which wouldn't let go of the cable till it became slack. He said the machine flew very nicely. No doubt what we used to find in the KASSEL 20 is even more true of the "25"—that the wings absorb all gusts and so prevent them ever reaching the pilot.

Wordsworth and Haslinger, each wearing a "Silver C" badge acquired outside his native country, visited us from Yorkshire; Haslinger being off to Germany in three days but hoping to return to England next year. Eustace Thomas took his CONDOR away home, after trying it on the winch yesterday.

Another failure of the cable to release happened the following Sunday, when Withall, in Hiscox's KITE, trailed it over the power cables and put the club lights out.

We forgot to mention last month a most interesting lantern show on November 30th by Greig, who showed a number of Leica photos of gliding at Sutton Bank, Derbyshire, and Dunstable, taken by the Kodak and Agfa colour processes. He got some striking effects, especially with Hanna Reitsch's red jacket.

The BLUE WREN was taken away in its trailer, early one morning, to the East India Docks to be shipped on board S.S. Durham Castle for Cape Town.

Summary of Flying.

Date.		Ground-hops.	Winch launches.	Hilltop launches.	Flying Time. h.	m.	s.
Nov. 3,	Wednesday ...	36	—	—	—	—	—
,, 6,	Saturday ...	19	—	—	—	—	—
,, 7,	Sunday ...	67	11	—	—	25	0
Nov. 9,	Tuesday ...	28	—	—	—	—	—
,, 10,	Wednesday	—	4	1	4	2	0
,, 12,	Friday ...	—	1	—	—	10	0
,, 13,	Saturday ...	28	4	—	—	22	30
,, 14,	Sunday ...	37	14	31	9	58	30
,, 14,	,, aero-towed launches		11	—	6	54	0
Nov. 19,	Friday ...	—	2	—	—	57	0
,, 20,	Saturday ...	—	20	14	3	0	6
,, 21,	Sunday ...	53	23	16	1	18	54

Certificate Flights.

November 14th.—Dixon, "A"; Naylor, "B"; Campbell, "C."
November 21st.—Baker, "A."

Totals.

Week ending	*Launches*	*Flying Time*	*Certificates*
November 7th ...	133	25 mins.	–
November 14th ...	159	21 hrs. 27 mins.	3
November 21st ...	128	5 hrs. 16 mins.	1

Totals, January 1st to November 21st: 11,128 launches, 1,030 hrs. 10 mins. flying time.

Yorkshire Gliding Club

October 31st and November 7th.—Light east wind both days; training and circuits only. On November 7th, Wareing disappeared into the mist on a circuit in KADET, but came out in the right spot and landed safely and well.

Saturday, November 13th.—North-west wind, 20 m.p.h. Shaw flew the KITE for an hour in turbulent conditions, followed by Wordsworth. Furlong, Miss Edmonds and Sproule, arrived from London and flew KADET. Following a circuit, Furlong landed in a spot hitherto untrod by human foot and was retrieved with difficulty. The famous White Horse, whose territory was thus invaded, is not a friendly beast.

Sunday, November 14th.—Wind N.N.W., 5 to 10 m.p.h. Memorable as the Morning After the night we bade farewell to Rudolf Haslinger. Flying began at mid-day. At the gathering on the previous evening, Haslinger presented the club with a silver mounted ash tray as a memento of his visit to Yorkshire, and also provided welcome refreshment to the full capacity of the Yorkshire Cup on several occasions. The said cup has, of course, been won by him this year for the longest distance. He joined the club in June and has spent a goodly portion of time he has been in England at Sutton Bank, and has done a lot of flying, apart from being a most useful and popular member. We hope to see him here again next year, and we are all sorry that he has to return to his home in Germany so soon.

Soaring became possible at half-past four, and it was generally suggested that Haslinger should fly the KITE for the last quarter of an hour, which he did, thereby bidding farewell to the countryside in the proper manner.

Saturday, November 20th.—Raphael, being launched by winch in GRUNAU, had the cockpit cover blown off and break in two parts! He flew over the valley for five minutes or so, casting lumps of wood earthwards. Afterwards, Shaw flew for 40 minutes in the same machine.

Sunday, November 21st.—Light S.W. wind. Soaring was possible at times throughout the day. Hastwell, Neilan, Drummond, and Shaw made soaring flights, and Norman Sharpe flew the FALCON III S solo for an hour.

Saturday, November 27th.—In the evening a dinner and dance was held at the Golden Fleece Hotel in Thirsk, very well attended and voted a huge success.

Sunday, November 28th.—South-west wind, very light. Circuits in the KITE, KADETS, and HOLS. KADET I suffered a damaged fuselage in striking the fence on overshooting. Squadron-Leader J. Wallis and a party of Air Force officers from Thornaby were introduced to the club by Shaw and displayed great interest. It is hoped that they will pay another visit when soaring conditions prevail.

Tailpiece.—One of our members was tackled by an acquaintance who had read, in a newspaper, of a cross-country flight of forty miles. Like this:—

"Did you say he was launched by catapult . . .?"

"Yes."

". . . and he went forty miles?"

"Yes."

"Gosh! What a catapult!"

New Gliding Clubs

Wirral.—The Birkenhead and Wirral Flying Club decided, at a meeting held on November 6th, considered plans towards reorganising the club on the lines of a gliding club, owing to the heavy cost of maintaining an aeroplane. Captain H. I. Hughes, the chairman, announced that a building programme would be embarked upon, and search for a suitable site made.

Helensburgh.—A group of eight gliding enthusiasts in Helensburgh, 20 miles from Glasgow, are forming a gliding club. Two of them are said to possess gliding certificates and to own sailplanes, which they will allow the club to use.

To Club Secretaries

The latest time for sending club news to appear in any particular issue is immediately after the last week-end of the previous month. Even then we cannot guarantee insertion, unless we know the exact amount of space needed for advertisements, which is not always the case. Writers who do not know the conventions for underlining are requested to leave out underlines altogether, rather than cause trouble by putting in the wrong ones with the idea of being helpful. The conventions are: Single straight underline, italics. Double straight underline, small capitals (as for names of sailplanes and gliders). Single wavy underline, heavy type (as for dates, etc., at beginning of a paragraph). The convention for dates in this journal is to write them thus: "December 25th"; *not* "25th December" or "December 5." Manuscripts should be written or typed with double spacing, and on one side of the paper only.

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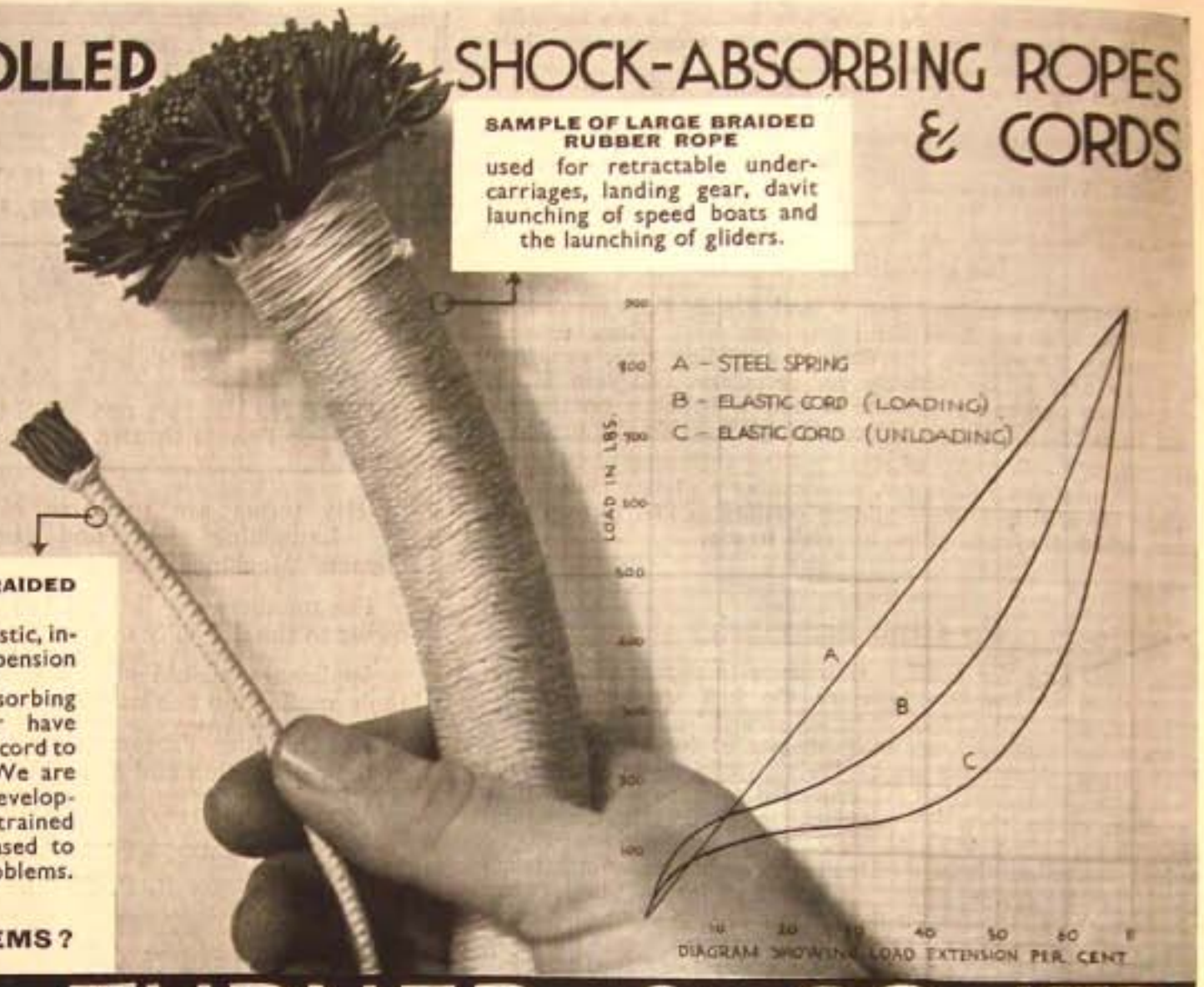
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