SAILPLANE AND GLIDER

APRIL 1944

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SAILPLANE and GLIDER

The First Journal devoted to Soaring and Gliding

F/L VERNON BLUNT, Editor
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Phone: CEN. 7081

Vol. 12 No. 3 **APRIL 1944** **Price 1/-**

GERMANY AND SOARING AFTER THE WAR

ONE of the conditions of the Versailles Treaty after the last war was that the Germans were forbidden to build or fly in power aircraft.

This did not abate the national desire to fly, and in *November* 1918, before the ink was dry on the deed of Armistice, they began to lay plans for schools of motorless flight. This was the beginning of German pre-eminence in this branch of scientific and human endeavour. We regret to say that this pre-eminence was never seriously challenged by any nation. The Poles approached nearest to their achievements, and the British were only third in the number of Silver " C " Certificates.

INTER-ALLIED AIR LINES

But that is not the point of this article. It is now reported in the American Technical Flying Press that Aviation is to be shut down entirely in Germany after the war.

MOTORLESS FLIGHT

Whether it is true or not that this is a war aim of the Americans, we know from experience that it is just stupid. It would be just as impossible to keep down the natural aptitude and natural genius of the Germans for flight, as it would be to curb that of the average Britisher. If the Germans are forbidden to fly in power aircraft, they will fly in motorless aircraft, and the result of the proposed suppression will be to force them further in the lead in the region of pure flight as opposed to power flight.

History is full of instances, not least in the story of Christianity, where suppression and martyrdom have had precisely the effect it was intended to avoid.

WON'T WORK

If it is intended to keep every German out of every aircraft in the world, we can only say it won't work. If it is intended to prevent anyone Soaring in Germany it won't work either. The reaction of the Germans would be as violent as would be our own. We should go and do it, if necessary, in other countries where the ban did not prevail, and so will they.

POWERED GLIDERS FOR AIR FREIGHT

If it is the carriage of air-freight by power aircraft which is to be prohibited, those who are thinking in terms of Henry Kaiser's " Mars " flying boat are in for a shock. The Germans have already shown the way to the right solution to the air-freight problem by the use of powered gliders—the Me 323 for example. In these machines the engines are not so much used for tractive power as for taking the aircraft off the ground into the realms of space where its glider characteristics can be put to the most economic use.

FIFTY MILES AN HOUR

If reports are true, the Russians have developed this type of transport even more, and are using quite heavy gliders as transports which they are " sail-flying " long distances at incredible speeds. In this connection Rotters' Berlin-Kiel flight of 203 miles in under 4 hours in the Berlin Olympiad of 1936 against the wind, will be remembered. For long distances he was flying at just under 90 m.p.h. The thing is not impossible, and even if it were to appear so, as we have learnt in this war, that only means that " it will take a little longer."

If it is intended to squash this competition, it will be necessary to forbid rocket-assisted take-off, winching, catapulting, " bunji-launching," and even launching down a slope, artificial or natural.

No. This is not the way to future Peace. One thing that Soaring did before the war was to make friends among nations. It will do so again after the war. The Germans are being punished as a nation for their adherence to a political philosophy which we abhor. Their war criminals will meet the fate they so richly deserve. It will be difficult for us to forget the havoc and pain of war for some time, but Time will heal those wounds, and Spring will follow Winter. A new growth of youth will push its way out of the earth.

SPORT FLYING

Sport flying is one of the easiest ways of cementing international friendships and to try to curb it is to do a dis-service to the generations that are coming after. We look forward to getting to know the best and most courageous minds in the Soaring Community of the world after the war, whether they be Russian, Czech, Poles, German, Turks, Chinese, Persians, Americans or even the unspeakable Japs.

Pioneers of British Gliding—

D. G. O. HISCOX

DUDLEY HISCOX

"DON'T tell me all men are born equal," says Dudley Hiscox, just about to take off in his Gull. "Look at that fool!" he explains, as some inconsiderate follow tows a Primary across the Gull's launching rope, and then stalls the car on it because he has forgotten to fill up with petrol. Meanwhile, the wind sock, whose motions had indicated a passing thermal to Dudley's experienced eye, returns to its original position and sticks there.

It is a source of continual exasperation to the subject of our biography that the vast majority of his fellow-creatures possess neither his efficiency nor his common sense. Don't ply him with this modern psychological stuff; some men are born sensible and some aern't, and that's all there is to it. And that goes also for the female of the species, among whom these desirable qualities are evidently so rare that nobody has yet secured the job of being Mrs. Hiscox. The perfect wife for a sailplane pilot must be ready to act as his ground crew, and in this responsible post there is no room for bunglers.

"FLEW MODELS IN REGENT STREET"

Dudley Hiscox first came into the aviation news in 1913, when he and his present business partner, Mr. Derry, used to fly models up Regent Street at dusk. Then, next year, the war found him in possession of a motor-bike, turned him into a dispatch rider, and whisked him off to Flanders in time for the second battle of Ypres. He was in France again in 1916 as a Signals Officer, with three pips. But at St. Quentin, in March, 1918, his division was almost wiped out, and he was lucky to be among the thousand or so who survived.

Apart from a spell in the Army of Occupation, his first peace-time job was with Desoutters; later, he joined Messrs. Ambrose Wilson, to whom his business acumen proved such an asset that they took him into partnership.

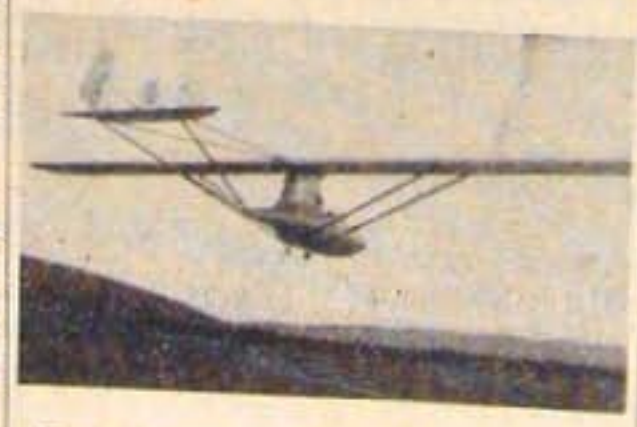
"C" No. 64

Dudley Hiscox joined the London Gliding Club in 1930, the first year of its existence, and secured the "A" Certificate (No. 64) in November, followed by the "B" and "C" in 1931. He is, therefore, one of the "Old Faithfuls," to whom gliding is the passion of a lifetime and not just a passing phase. The latter class are the restless self-expressionists; but in the former, who pursue aviation for its own sake, you often find a certain nostalgia towards their model-flying days, when the thrill of exploration in a new element was at its height.

This may explain why Hiscox started his career as a sailplane owner with a lightly-loaded, slow-flying "Hols der Teufel," specially designed for soaring in light winds. It was acquired in parts and put together in a drawing-room, and first floated on air in May, 1931. It continued to float around for three years at little more than its stalling speed of 20 m.p.h. (some said 18), except in really hearty winds, when it had almost to stand on its head to avoid travelling backwards.

DUNSTABLE DEVIL

Hiscox and his fellow-owner, H. E. Bolton, then set about designing a "Super-Hols," with the same highly cambered wing-section, a larger span, perfectly streamlined bright blue nacelle, and booms going back to a tail with twin rudders, intended for use also as air brakes (but nobody dared put them to the strain). The Club refused to take this machine seriously, and changed its name to "Dunstable Devil" or even "Dudling." It was last heard of in the Midlands where, being unattended for a moment by a new owner, it was whisked up by a gust of wind and slapped against a tree-top.



THE "SUPER-HOLS," ALIAS "DUNSTABLE DEVIL," ALIAS "DUDLING." Designed by Dudley Hiscox.
Photo: A. E. Slater.

SILVER "C"

Meanwhile, Hiscox had learned to fly aeroplanes at Heston, with such effect that he returned to Dunstable a changed man. In the words of the club news-writer, "Something seems to have come over him. When he used to be a Hols specialist, year in and out, he now flies a Moth solo, keeps a stock of rather nice stories, and has completely regained his youth in every way." He acquired a high-performance sailplane, the Westpreussen, formerly used by Messrs. Lyons for demonstrations in 1931. It gave place next year to a Kirby Kite, a new creation of Slingsby's, and in this type Hiscox started his career as a cross-country pilot in 1937 with a fine flight of 57 miles from Dunstable to Althorne in Essex, the most exciting incident of which was being saved by a thermal only 400 feet up when preparing to land at Hatfield. Before the year was out he had secured the international "Silver C" certificate, being No. 560 on the international list and the sixteenth British pilot to get it.

Many other cross-countries followed this first one, and among several duration flights was one of over seven hours at Dunstable

WASSERKUPPE

In July, 1937, Hiscox was one of a team of ten pilots sent over with five sailplanes to represent Britain at the International Contest on the Wasserkuppe; he flew one of the three King Kites. Easter, 1938, saw him taking over the first Gull sailplane produced by Slingsby, to be swapped later for an improved model. In these last few years, especially with the Gull, he has developed a technique of picking up thermals off a winch launch, which earned him such fame that the Royal Meteorological Society demanded to be told how it was done.

Apart from the stalwart example he has set, by flying on every possible occasion, Dudley Hiscox has done no less valuable service

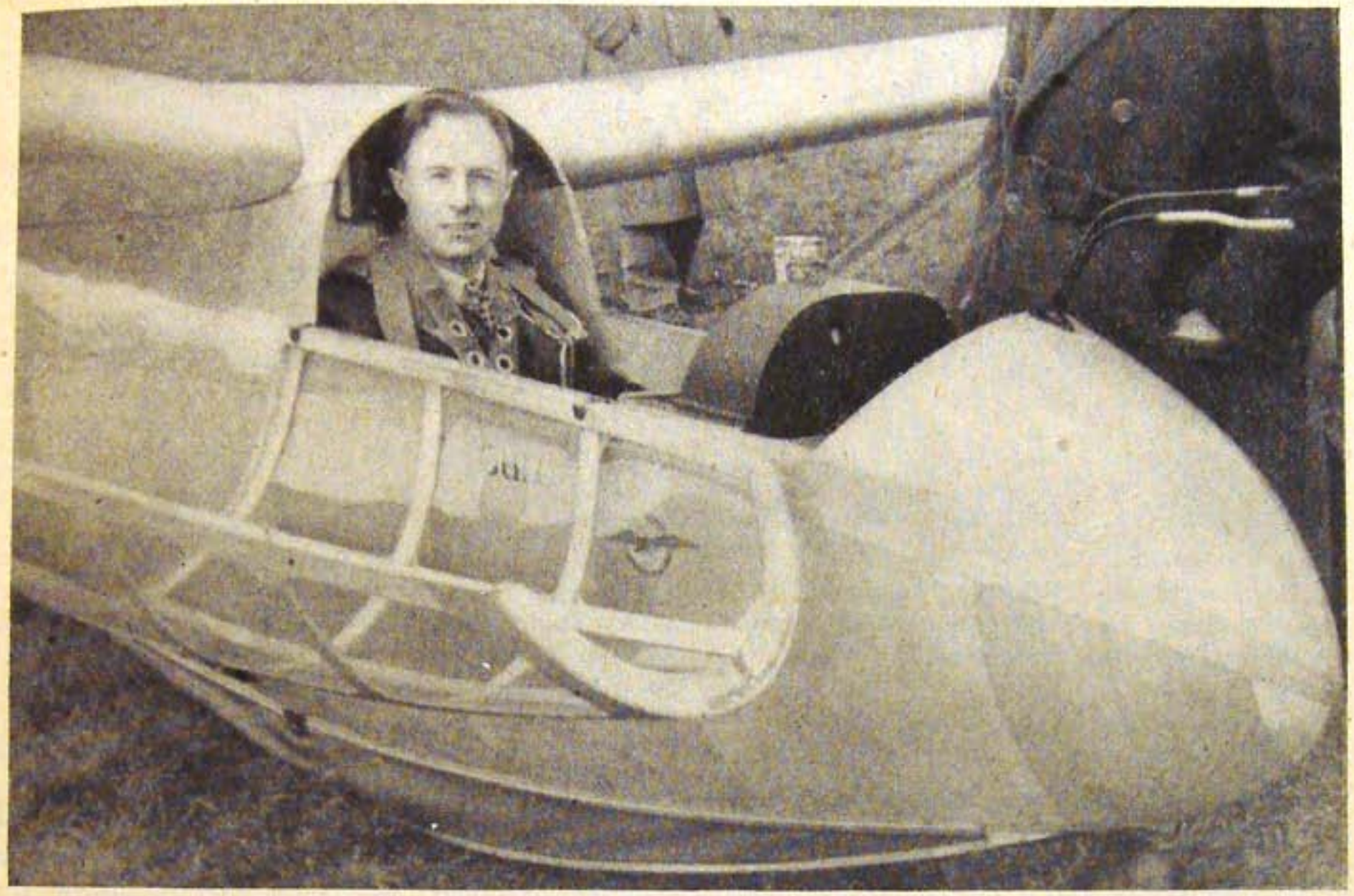


Photo: A. E. Slater

to British Gliding by giving it the benefit of his financial and administrative ability. He has been on the London Gliding Club Committee ever since it was a year old; and for many years was one of a triumvirate with almost totalitarian powers for carrying on the day-to-day administration of club affairs.

"'EAGLE' EYE"

After the British Gliding Association was reorganized in 1935, he was appointed its Treasurer. And in 1937, when he became Chairman of his Gliding Club, the effect was at once noticeable, not only on the social and entertainment side, but in the avidity with which all members did their fair share of the work when they felt his watchful eye upon them. No one will forget his famous Notice explaining that 13 different jobs had to be done before a single member could get a flight, and, "*If YOU do not do all these things yourself, or one of them* 13 *times, for each flight you make, then you are imposing on your fellow members.*"

You can't keep Dudley Hiscox down, even when there's a war on. After an abortive attempt to arrange a soaring camp in Ireland, he saw his opportunity when the Air Training Corps started gliding. He is now spending every spare afternoon helping to run a large gliding school in the Chilterns. So there is reason to expect that, when the gliding clubs re-open, Dudley's famous low-altitude thermal technique will not be found rusty.

FOREIGN VISITORS

"SAILPLANE" understands that parties of Chinese, Persian, and Turkish Air Force Officers are shortly visiting this country in order to train as Glider Pilots. It is understood that they will undergo training in Soaring and instructing in both these arts before returning to their own countries.

We are sure that wherever they may "fetch up" they will receive a hearty welcome from Soaring enthusiasts who will do all in their power to make their visit pleasant as well as profitable.

BACK NUMBERS

OUR thanks are due to those of our readers who were good enough to return their copies of the February issue for the benefit of those who did not succeed in purchasing a copy.

Has any reader got, or know of, a complete set of any year of back numbers of "Sailplane"? We are continually receiving enquiries for them, and need one for the Editor's personal use. Thirty shillings is offered for each year's complete issue except 1940.

SUBSCRIPTIONS

The circulation of *Sailplane and Glider* is limited by its paper quota. This is the reason for the reduction in size, and the thinner and therefore lighter paper. The publishers can dispose of far more copies than can be printed. To be sure of your copy therefore, it is necessary to take out an Annual Subscription of 13/- post free for twelve numbers. Publication date is the 25th of the month dated the succeeding month. Cheques, Money Orders, etc., payable to *Sailplane and Glider*, and crossed.



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In appreciating the gliding movement in Poland, it is necessary to bear in mind the conditions in which this movement was created and developed by the Polish youth. These conditions were totally different from those which accompanied the development of sporting aviation in Great Britain and many other European countries.

The first glider flights were made near Warsaw by Czeslaw Tanski, in 1896, in a glider designed and constructed by himself. In the same year Lilienfeld made similar glider flights near Berlin.

There was, however, a fundamental difference between these two pioneer exploits in gliding. The Pole belonged to a country which, at that time, was partitioned and occupied by three foreign powers; the German was backed by all the industrial potentiality of the German State. This is the reason why the development of the German gliding movement had continuity, whereas in Poland it had a sporadic character until 1928.

ENTIRELY POLISH

Where the constructive ideas and individual Polish enterprise are concerned, they were at this time already completely independent of the German pioneer activities of the gliding movement in Europe; this remained its characteristic feature until 1939, when the war interrupted the normal work of Polish sporting aviation in all its aspects.

The Polish gliding movement owes everything entirely to Polish brains and aspirations and to Polish labour. Neither foreign instructors nor foreign gliders were ever used. The methods of instruction were worked out, put into practice, and improved, only by Polish instructors.

* *

BEGAN IN 1922

The normal development of the gliding movement in Poland, according to a preconceived plan, began only several years after the country having regained its independance, in 1918.



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In the period immediately following, Polish Youth had to exert all its strength and energy in armed conflicts with neighbouring states, and to strive to ensure the integrity and defence of the frontiers of the Republic.

That is why the real beginning of the Polish gliding movement came only in 1922-1923. In 1923 the first Polish Gliding Contests took place near Bialka, in the Carpathian Mountains. Nine gliders of different types took part in this challenge. The second took place near Gydnia, near the sea. The longest soaring flight in these contests lasted 1 minute and 5 seconds, and the greatest altitude reached above the starting level was 23 metres (about 70 feet).

LARGER SCALE

The next contest was in 1928 near Zloczów. It was organized by the students of the Technical High School in Lwów. On this occasion the longest soaring flight lasted 4 minutes and 13 seconds. In 1929 the gliding movement began to be organized on a larger scale. In the same year the Polish gliding centre in Bezmiechowa near Lisko, in Southern Poland, was founded. Bezmiechowa became later the pride of the Polish gliding movement as the centre from which emerged the best designers, instructors, and high performance pilots (*see* photographs).

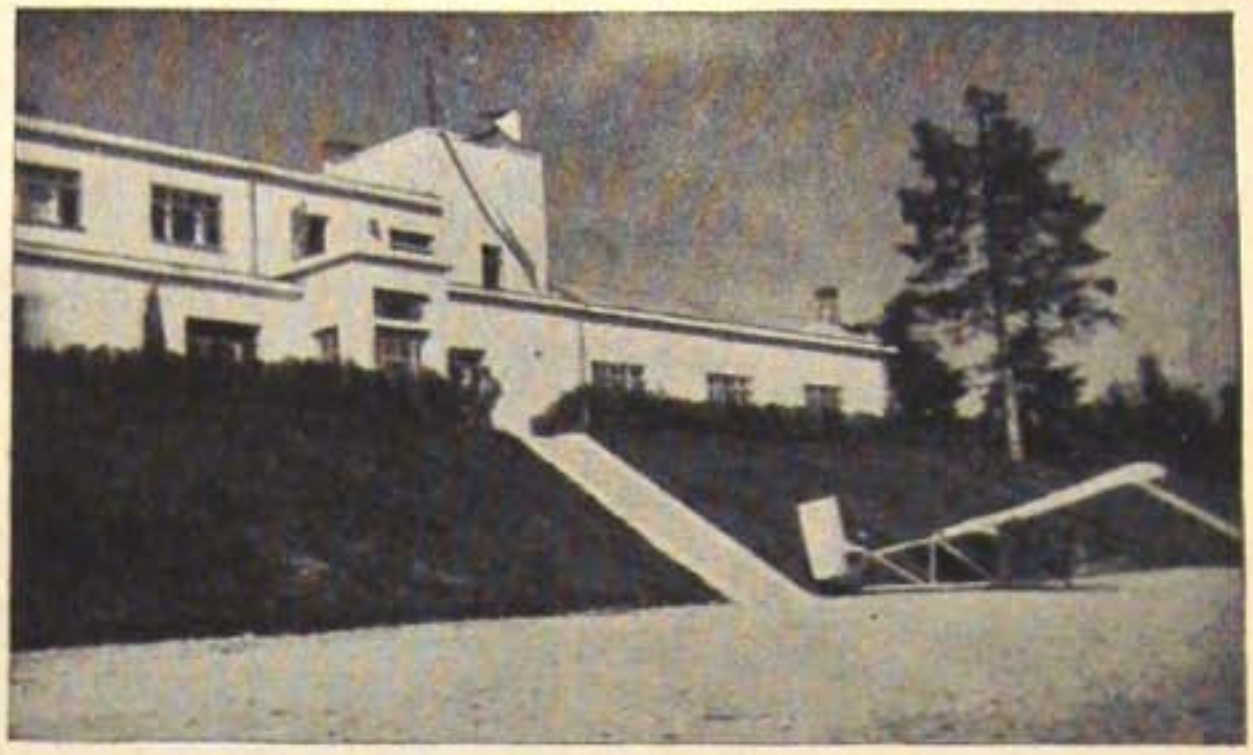
At the same time, a net of glider sites, glider schools, and gliding clubs began to spring up all over the country.

WORKSHOPS

In 1939 the achievements of the Polish gliding movement could be expressed as follows: 7 large gliding and sailing schools complete with workshops; 50 smaller centres and clubs. These schools and centres trained about 500 pilots a year. In the spring of 1939, the general number of glider pilots in Poland was 14,500. This included 159 "Silver C" test pilots.

* *

Later there were a whole series of types of gliders designed and constructed in Poland. These were popular abroad in countries which displayed a friendly interest in the Polish gliding movement. Polish gliders were used in: Belgium, Estonia, Finland, Yugoslavia, Rumania, and in other countries. For training purposes there were 5 Polish types of gliders; for training and pursuit (from the primary up to performance stage), 4 types. Ten high performance types, 2 two-seaters, 1 special glider for test flights, and 1 motor-glider with a 16 h.p. engine. Most of the gliders were built in the Glider Workshops in Lwów, in Warsaw, and in the Aircraft Factory in Biala Podlaska.



AEROKLUB LWÓW—SOARING SCHOOL—BEZNIECHOWEJ.

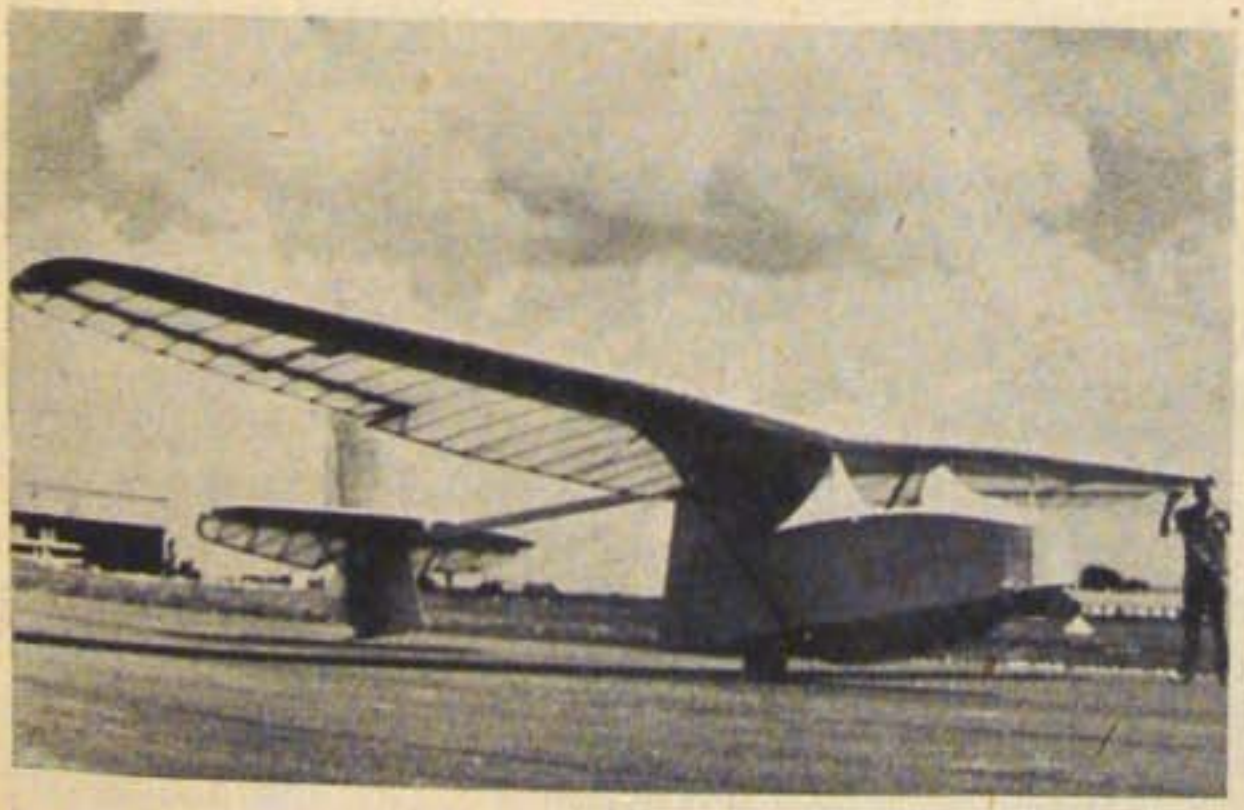
* *

SCIENTIFIC RESEARCH

One may judge the imposing results of the Polish glider movement and its development by the Tables I and II.

These results were the outcome not only of youthful enthusiasm for sporting aviation, but also of the aptitude for scientific research possessed by many young technical engineers, students of Technical High Schools, and glider pilots. They were helped and guided in their efforts by professors of the Technical High Schools in Lwów and in Warsaw.

The Polish glider movement had its own research centres and laboratories in the Institute for Gliding and Meteorology at Lwów, also in the Institute for Technical Aviation and the Institute for Aeronautical Research in Warsaw. One must mention Bezmiechowa as the chief centre for tests and training.



GLIDER "SPARROW" DESIGNED BY W. CZERWINSKI, CONSTRUCTED IN DE HAVILAND'S FACTORY IN CANADA.

METEOROLOGY

Lectures and papers prepared by young Polish scientists on all subjects connected with gliding, ranging from inventions to meteorology, gained much consideration in international cricles, e.g., in "ISTUS" and F.A.I. As to the training methods worked out and tested in Poland, we must mention the tests and the development of a method of directing the pupil flying in a glider by the instructor from the ground, glider night flights, and a systematic development of the method of schooling by instructors who were glider as well as motor pilots of pupils trained to be motor pilots. The best results were achieved by a pupil who, after 9 flights in an aircraft with dual control lasting about

90 minutes in all, became a motor pilot.

SECRET PAPERS

These activities of Polish youth conducted with such enthusiasm in gliding which is the most thrilling branch of sporting aviation, were not entirely interrupted by the war. It continues, but on different lines: in Poland—in the form of clandestine papers on aviation (e.g., "Wzlot") and for teaching this subject in secret, no international prize, but death from the hands of a German may be expected.

On Allied battle fronts, within the organization of the R.A.F., Polish pilots offer their lives as token for their love of friends and their desire to fly. LELIWA.



PARADE OF GLIDERS
Polish National Competition

Table I RECORD OF BEST RESULTS ATTAINED BY POLES BETWEEN 1929-1938

Year	Name	Duration of Flight			Name	Distance klm.	Name	Height m
		h.	m.	s.				
1929	Grzeszczyk	2	11	5				
1930	Grzeszczyk	2	30	15			Grzeszczyk	420
1931	Grzeszczyk	7	52	45				
1932					Lopatniuk	17.3	Stachon	470
1933	Mynarski	11	58	00	Mynarski	84.2	Baranowski	1270
1934	Plenkiewicz	12	06	00	Offierski	210	Offierski	2236
1935	Olenski	20	13	00			Zabski	2540
1936	Dyrgatta	22	15	00	Baranowski	332.3	Antoniak	3435
1937	Modlibowska	24	14	00	Mynarski	351		
1938					Gora	577.8		

Table II

INTERNATIONAL RECORDS

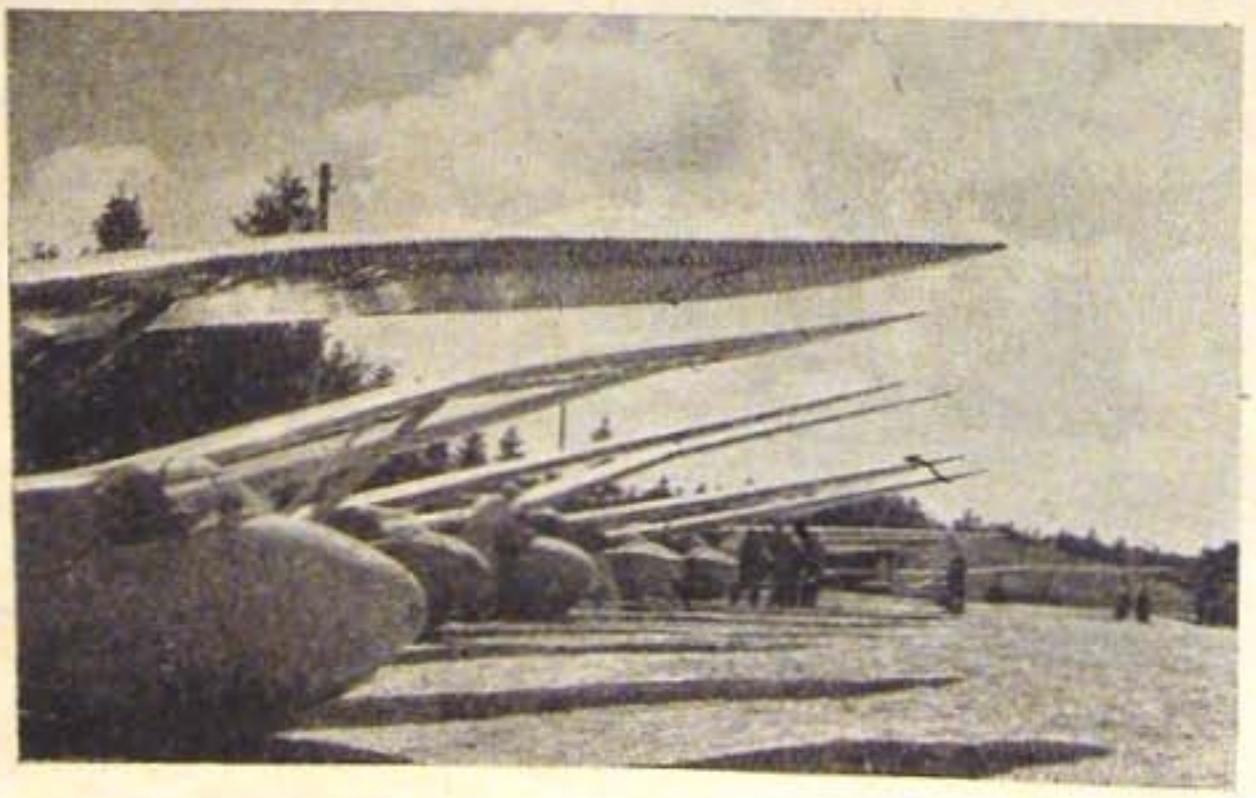
In 1937 Miss Wanda Modlibowska performed in the glider "Komar" a flight lasting 24 hours, 14 minutes, and 00 seconds. This flight was registered by the F.A.I. as the best international result achieved by women pilots in this category.

In 1938 the Istus awarded the "Lilienfeld's Ring" to pilot Tadeusz Gora for the longest distance flight in the glider "P.W.S.-101." The distance was 577.8 km.

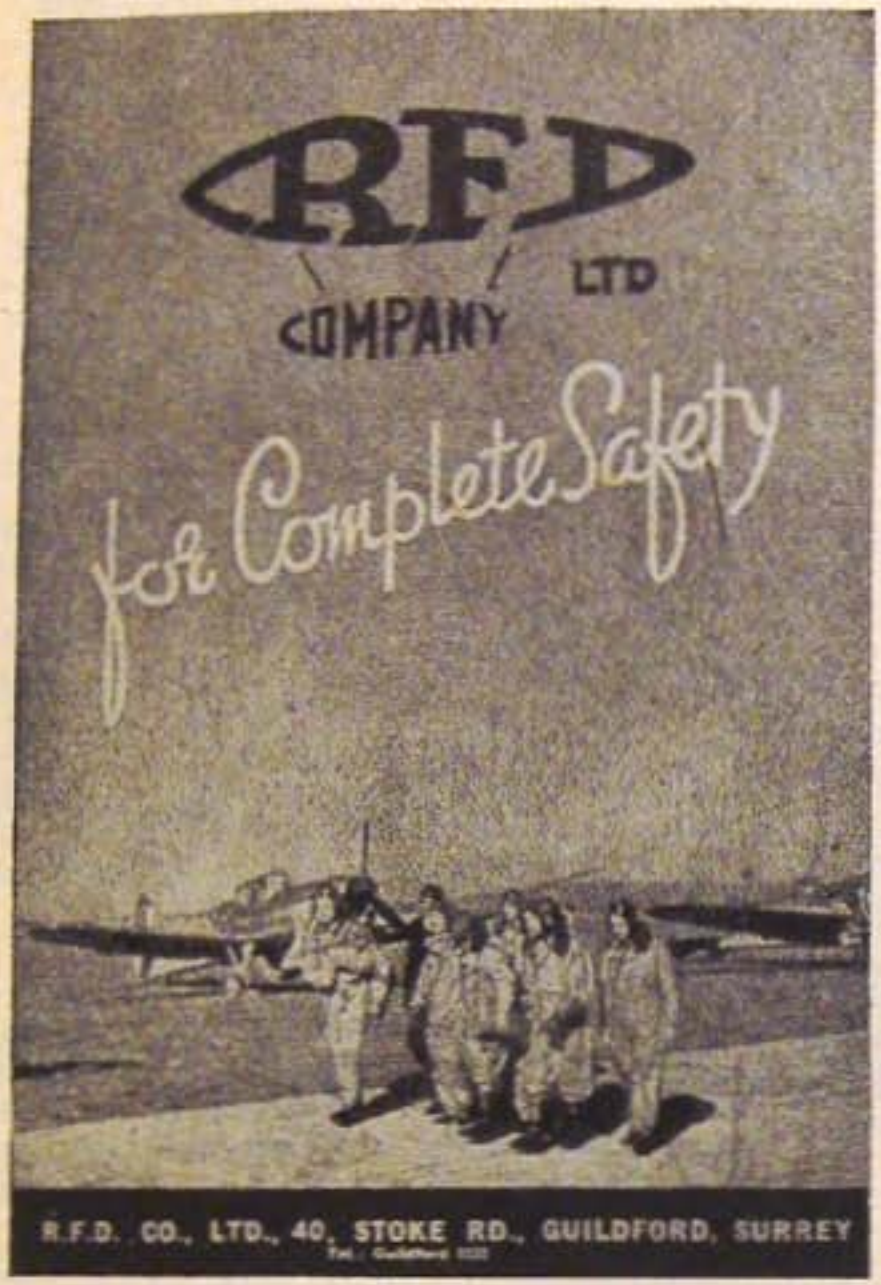
In the international contests in Rhön Polish glider crews took part on two occasions: in 1932 and 1936.

In 1932, among other prizes, the Polish team received the prize for the highest standard of technical efficiency.

In 1936—the next glider contests in Rhön, the Poles were placed second only to Germans "in the realm of motorless flight."



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THE "SILVER C" AND "GOLD C" CERTIFICATES

By A. E. SLATER

THE "A," "B" and "C" gliding certificates, described last month, were first introduced in 1923, a year after prolonged soaring flight had first been shown to be possible. Before that there had been just a single certificate, equivalent to the "A," given for a glide of 30 seconds. For some years after this it was considered a great distinction to be able to soar at all, and even at the end of 1929 there were less than 500 "C" pilots in the whole world.

THE FIRST PIONEER—KRONFELD

In that year, however, one or two experts showed the way to climb beyond the hill currents up to the clouds, and by this means to travel long distances across country. In particular, Robert Kronfeld, now in the R.A.F. as expert adviser on military gliders, broke the world's distance record four times, and altitude record twice, during the summer of 1929, raising them to 102 miles and 8,494 feet respectively.

As more pilots learned the new technique, something had to be done to recognize their ability, and in February, 1931, a new certificate was instituted, for which the requirements were :—

(1) a duration flight of 5 hours ;

(2) a distance flight of 50 kilometres (31.07 miles) ;

(3) an altitude flight of 1,000 metres (3,280.8 feet).

The badge worn by holders of this certificate is a small-size "C" badge (three white gulls on dark-blue background) surrounded by a silver wreath ; hence the name "Silver C," though at first some countries called it the "D" badge. But logically a "D" should have had four gulls, so *The Sailplane and Glider* persistently referred to it as the "Silver C" and this name has now been adopted in most parts of the world where soaring is done. Even the Germans came to prefer the term "Silber C" to their official "Segelfliegerleistungsabzeichen."

AND HIRTH

The first two awards, made on February 15, 1931, went to Robert Kronfeld, at that time an Austrian citizen, and Wolf Hirth, designer of the "Minimoa." The date on a "Silver C," by the way, is that of the granting of the certificate, and not, as in the "A," "B" and "C," the date of the qualifying flight.

In Germany, where the only complete lists were published, Kronfeld's name appeared as No. 1 up till 1934 ; after that the order of the first two names was reversed. No doubt this was done for political reasons, and anyhow Kronfeld was first to make the qualifying flights, so he must be regarded as the legitimate holder of "Silver C" No. 1. The third holder, Gunther Groenhoff, received it two months later, and until his accidental death in 1932 these three earliest "Silver C" pilots formed a triumvirate of skilled experts far ahead of all possible rivals.

FIRST AMERICAN "SILVER C"

First to complete the qualifying flights outside Germany was No. 8, Martin Schempp, an emigrant to America who had not yet acquired citizenship and has since returned to his native country. The first American was Jack O'Meara, granted No. 12 on June 10, 1933 ; while the first woman "Silver C," Hanna Reitsch, received No. 25 on May 16, 1934. On the following day, May 17, Eric Collins became the first British "Silver C" pilot. Three more Englishmen joined the pioneers with two-figure numbers : Philip Wills (No. 25, September 20, 1934) ; R. G. Robertson (No. 75, July 20, 1935), who was first to use a British machine, the home-built "Golden Wren," for the purpose ; and Sebert Humphries (No. 85, August 19, 1935), using that rubicund veteran, the "Crested Wren."

The table below shows how the total number of "Silver C" certificates has increased :—

To end of	*British*	*World*
1931	—	6
1932	—	8
1933	—	18
1934	2	60
1935	6	195
1936	11	324
1937	30	631
1938	50	1,117
1939 (Aug.)	56	1,542

Statistics published in 1939 gave the total as 1,132 up to March 31, distributed among nationalities thus : Germany and Austria, 823 ; Poland, 159 ; Great Britain, 50 ; France, 32 ; Switzerland, 19 ; U.S.A., 17 ; Hungary, 11 ; Yugoslavia, 4 ; Finland, Holland, Czechoslovakia and Africa, 3 each ; Brazil, Sweden, Rumania, Egypt and Lithuania, 1 each.

GOVERNMENT SUBSIDIES

The preponderance of German and Polish pilots can be attributed to the huge Government subsidies to Gliding in those countries ; yet Great Britain, with only a meagre subsidy since 1935, has put up a creditable show compared with the rest of the world. Although soaring was started in several countries in 1922 and 1923, it was then virtually abandoned for several years except in Germany, where a Government-sponsored organization was set up in 1924. This body ran two gliding schools, designed suitable training machines, and carried out meteorological research which resulted in the first deliberate cloud-current flights by Kronfeld in 1938 and thus to the institution of the "Silver C."

ADOPTED INTERNATIONALLY

The new certificate was adopted internationally in October, 1931, but no Polish pilots applied for it until the end of 1935, by which time 19 had already qualified and were granted Nos. 179 to 197. The Russians have never put in an application, although they now hold more international soaring records than Germany. However, it is doubtful whether Russian pilots qualified to obtain the "Silver C" would outnumber the Germans, who have many more hill-soaring sites at their disposal. In Russia, cross-country soaring has to be done almost exclusively from aero-towed launches.

(*To be continued*)



"Rhonbussard" Sailplane Soaring at London Gliding Club in War-time (21.4.40).
Pilot believed to be Terence Horsley.

Photo A. E. Slater.



"Gull" Sailplane Designed and Built by Slingsby Sailplanes.
Dudley Hiscox owner and pilot. Cumulus clouds in picture show presence of thermal up-currents.

Photo A. E. Slater.

A BIT OF HISTORY

By MAJOR SITEK

One of the pioneers of Gliding on the European continent was,Gustav Weiskopf, born at Leutershausen in 1874. At the early age of thirteen he carried out a number of flights in a self-built glider. In 1888 he joined Lilienthal, whom he assisted in the promotion of aviatics. Unsatisfied with the slow progress of work, he left for the United States, where, at Boston in 1895, he began to publish the expert periodical "Glider." At the same time he went on with the building of gliders along the lines established by Lilienthal. Beyond that, Weiskopf occupied himself with the construction of engine-driven planes.

BEFORE WRIGHT?

The first plane with whom he undertook a successful flight had a span of 33 ft. and a length of 30 ft. This historical flight was carried out on the 14th August, 1901. The flying qualities of this plane, taking into account the early stage of development of aviation at that period, were quite satisfactory. A number of photographs and records have preserved this important event in the history of aviation for our days.

TAILLESS

Weiskopf's first glider was a Biplane—to be exact, it consisted of a pair of wings provided with some understructure to carry the body. It had no tail surfaces and was directed solely through inclining the pilot's body and thus displacing the Centre of Gravity. A later glider by Weiskopf was of a more advanced type. Built along the same lines as the earlier ones, it had, however, some kind of tail surfaces in the shape of a conic pyramid with a square base.

"ALBATROS"

Later on Weiskopf constructed a Monoplane named "Albatros," in which he carried out a considerable number of successful flights in the period from 1901 to 1904. The "Albatros" could boast of a proper undercarriage consisting of 4 bicycle wheels, and of tail surfaces governed by a number of controlling gears. The wings were in V-shape and collapsible. On the whole the construction was of a rather sturdy type and contrary to all hitherto accepted principles of plane-building. This, however, did not prevent the "Albatros" from putting up quite a good show.

BUILT HIS OWN ENGINES

In 1906 Weiskopf built another Biplane-Glider and made again a number of successful flights on the slopes of Tunxix Hill, taking advantage of strong winds. Later he fitted the plane with a 4-cylinder two-stroke engine driving two air screws (mounted one beside the other) by means of a transmission belt. Aircraft engines were unknown at that time, and Weiskopf was compelled to build his own engines. His first construction—a 2-cylinder air-cooled engine—proved unsuccessful, and he went over to the construction of a more powerful 4-cylinder water-cooled type.

STEAM ENGINE

Weiskopf also attempted to build a steam-engine intended to drive an airplane, but his experiments failed. In 1911 he built another powered glider with a 4-wheeled undercarriage and a pulling air screw driven by means of a transmission belt.

HORIZONTAL AIR SCREWS REPLACE WINGS

An interesting and novel feature of this plane were 60 horizontally fitted air screws that were meant to take the place of the wing. This type of plane he called "Hubschrauber" (something near to: Lift-Screw Plane). This plane turned out too heavy to take off. There were also constant engine troubles and the inventor had to spend all his time repairing one part after another.

PIONEER

Weiskopf's place is among the first enthusiasts and pioneers of flying both on the European continent and in America. Thanks to the untiring efforts of people like him, aviation developed at a rate of speed hitherto unknown in the field of human progress. If we look back at the ever-increasing speed of progress during the past 40 years, we find it difficult to anticipate what another 40 years' period may bring forth.

PRESENT

The combat planes of to-day—fighters whose speed competes with the speed of sound and who raise themselves to astonishing altitudes, multi-engined bombers of amazing loading capacity and range—are true marvels of technical achievement. Jet Propulsion is a further milestone on the road of aviatic development. Navigational and other auxiliary instruments have been revolutionized.

PAST

Not many years ago, night-flying or flying in dense fog was considered a suicidal and crazy undertaking. Now we witness how night bombers are mastering this obstacle. Let us not forget Radio, whose value and importance cannot be overrated and without whom modern flying could hardly be imagined. One of the masterpieces of human ingenuity is the automatic pilot, or "George," as he is lovingly called by British aviators. George's perfection and stability exceed anything human organism could ever achieve.

FUTURE

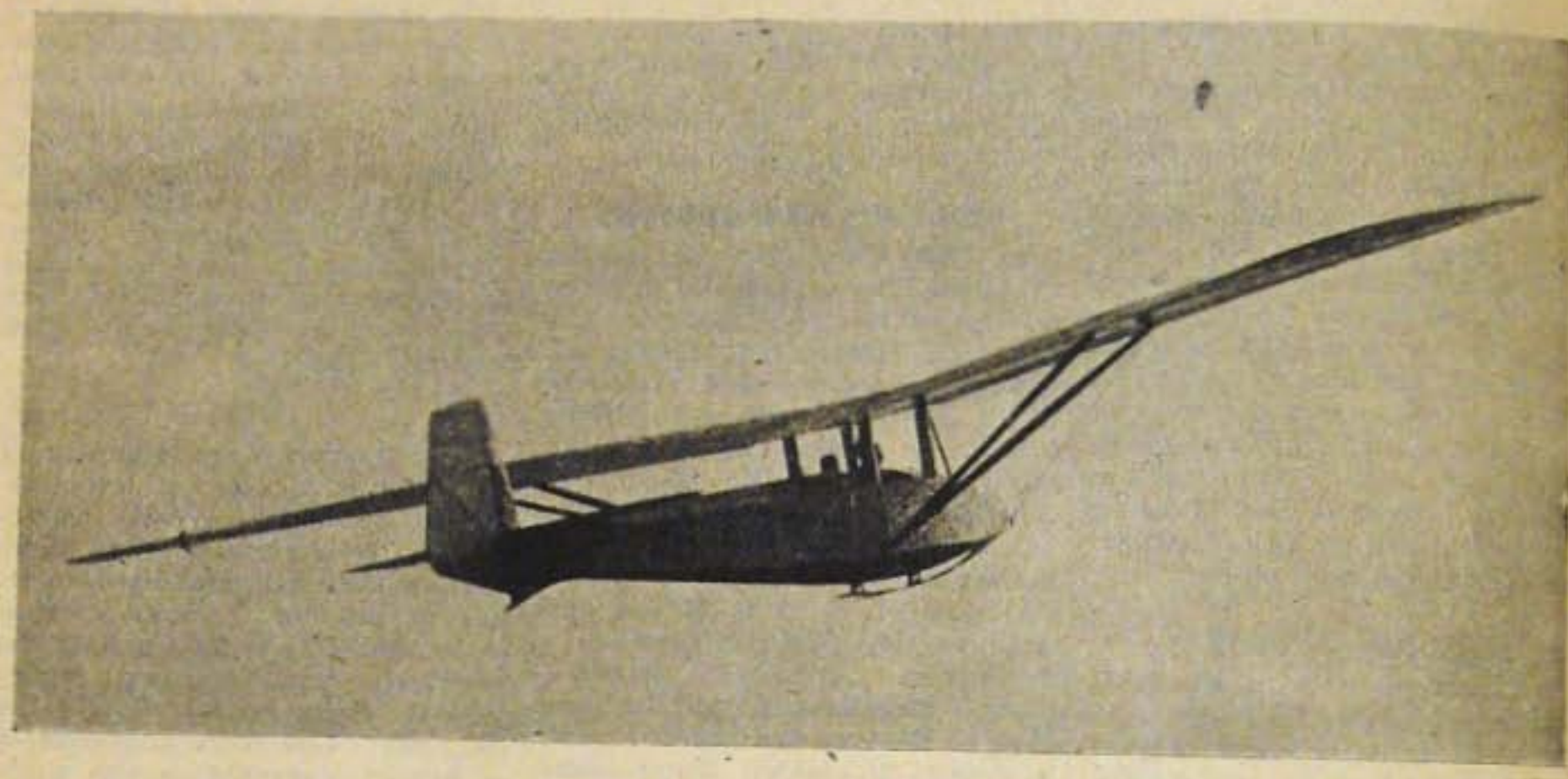
When this war is over, aviation will switch over from military purposes to civilian transport. There is no doubt that the experiences gained in wartime will be of immense value for post-war air transport. Already to-day preparations for this enormous task are in full swing, and the day is not far ahead when we shall see Glider-Trains crossing the seven seas.

AUSTRALIAN RECORDS

On pages 15 and 16 readers will find accounts of recent South Australian Height Record, the Australian Duration Record Flights by E. R. Barratt and Chas. Lambeth respectively. These must have been very exciting efforts and we are grateful for the accounts to cheer the winter of our discontent. Good show and our congratulations to both of them.

WANTED — Sailplane, Intact or Dismantled, or any parts. Condition not important. Offers to Box B.G. Sailplane and Glider.

FALCON III. TWO-SEATER.



THE original shape of the Falcon family was the British version of a single-seater called the Falke, designed by Lippisch early in 1930.

Slingsby took this design and produced a cleaner looking affair as the Falcon single-seater.

The first Falcon III was designed and built by F. N. Slingsby in 1934 to the order of C. E. Hardwick, of Birmingham (who was responsible for the formation of the Midland Gliding Club). The performance exceeded all expectations, and the type was adopted by the leading gliding clubs as the standard two-seater sailplane for soaring instruction and passenger flying. The machine continued to be very popular. Eight machines were built prior to the war and four or five are still giving service with the A.T.C.

APOLOGIES

Our apologies are offered to F/Lt. E. J. Furlong for misprinting his name as E. J. Findlay, in last month's issue. The error was due to the inability of the printer to read the Editor's writing (a fault which the Editor himself is prone).

Also the dimensions on the diagram of the " Kranich " two-seater should have been printed in millimetres—not in inches—as shown.

THERMAL AT KIDBROOK

ON a recent Sunday at Kidbrooke, on one of the coldest days of the year, the new Director-General of the A.T.C., Air Chief Marshal E. L. Gossage, K.C.B., C.B., C.V.O., D.S.O., M.C., visited F/Lt. E. J. Furlong's A.T.C. Gliding School. Also there were S/L. Harkness, who brought Slingsby's latest model of the Cadet, and Dudley Hiscox in his capacity of Central Command Gliding Officer. During the proceedings, Hiscox, noticing that a couple of barrage balloons were at right angles and also a seagull soaring, asked for a winch lift and promptly took advantage of the thermal. With a Kirby Cadet he was not able to achieve more than a delayed descent of nearly ten minutes, but it greatly impressed the onlookers.

A CANADIAN ENTHUSIAST

WE have had a visit recently from F/O. J. W. Campbell, of Alberta, now a bomb aimer in the R.C.A.F., and on the last lap of his tour of operations.

He had many diverting things to tell us about Sailflying and Soaring in America. He and his friends who live about 160 miles South of Calgary, had built a Dagling of their own. In his view Canada is a great country for Soaring. In the East and in the far West, there are vast woods and lakes by the thousand, and in the prairies the custom of half wheat and half fallow make for abundant thermals.

He told two interesting stories of how a friend had sail-flown the Dagling for about 15 minutes above a burning haystack, and how another friend had sail-flown in the thermal generated by the heat of the sun on a line of parked cars. Incidentally he had been stationed on the airfield where Czerwinski was building the Sparrow shown on page 5 and had had many discussions with him.

Flying Officer Campbell has made it his business to visit Kirbymoorside whilst over here, and met one or two of the outstanding British Gliding personalities. He is interested in design and plans to devote his time to glider construction and design after the war.

It was a most refreshing visit, and we hope that other Sailflyers from the Empire who may be in England will follow his example and call and see us.

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ARE WE APPROACHING THE ERA OF THE ALL PLASTIC AIRCRAFT ?—III.

By W. R. SCOTT, A.M.Inst.B.E., A.M.R.Ae.S.

The styrene plastic group do not at present play a very large part in the construction of large moulded or fabricated aircraft parts, but cannot be entirely overlooked, as these particular plastics are playing a very important part in connection with aircraft high frequency apparatus, radio and television parts. They are produced as a raw material in the form of sheets or slabs, extruded rods and injection moulding powder, and can be dissolved in several solvents of which benzene is probably the best.

There are many methods of producing styrene, the chief of which is employed in industry to-day, being from ethyl benzene, which is obtained by the interaction of coal-tar benzene and ethyl chloride in the presence of metallic chloride catalysts. The ethyl benzene is chlorinated to chlorethyl benzene, which then has its hydrochloric acid removed from it by treatment at high temperature to give styrene.

The polymerization of monomeric styrene is catalyzed by being heated with a trace of an oxidising substance, such as benzoyl peroxide, which can take place in moulds under controlled heat conditions to give rods, slabs, bars, etc., or in the emulsion form to obtain injection moulding material. These materials are generally known as polystyrene.

RUBBER SUBSTITUTE

The vinyl group of resins or plastics, have found their way into many parts of the present day aircraft. Polyvinyl chloride is a flexible material, not unlike rubber, although it does not possess the elasticity, as in the case of the latter. It is used for lining tanks and the covering of flexible tubes and cables, having a considerably longer life than rubber, used under the same conditions. It would be an extremely useful material to use where a flexible fairing was required, as this material has the properties of always returning to its original moulded shape, from any distortion to which it may be forced. Its flexibility can be controlled over a very large range from ultra-flexible—equal to that of the softest rubber—to something quite hard and stiff nearly up to the stage of brittleness. A piece of this material in the form of tubing can be rolled up or flattened for days, but will always take up its original form as soon as it is released. Polyvinyl acetate is a somewhat harder material and can be used for various small constructional parts, being used very extensively in industry to-day for making such things as pens, pencils, battery and electrical parts, toothbrush handles, and such like. Having very good moulding qualities, it is not unlikely that it will play a prominent part among the many items that will undoubtedly be moulded in plastic for the aircraft industry of the future.

The polyvinyl plastics are also used as the inner layer of safety glass and in some forms, as adhesives and lacquers.

Casein plastic is, if anything, an inbetween of the thermo setting and thermo plastic group. It is derived from the same source as the casein that is used for making the casein cold-water glue which, until a few years ago, was practically the only type of glue used for wooden aircraft construction.

CASEIN FROM MILK

The casein is obtained from milk, the best quality of which, came from France, prior to the outbreak of war. Milk contains approximately 3 per cent of casein and is a pure white odourless, tasteless, non-chrystalline solid, and as a rule prepared as a fine powder, which is reasonably stable when dry, but when damp, it undergoes putrefactive decomposition. When used as a glue, other ingredients are added for the purpose of waterproofing and preserving. There are many methods used for the purpose of extracting the casein from the milk, the most popular, however, is the rennet process. Rennet is capable of clotting 400,000 times its weight of casein, or about 2,000,000 times its weight of fresh milk, in ten minutes, at about 42 degrees.

The mixing is carried out in large steam-heated vats, which are kept at approximately 100 degrees F., the milk having been freed from all fat (cream). The whole is continuously stirred, while the Rennet is added. When the precipitation is complete, the liquid is run off and the curd is then washed a number of times in warm water, is drained, pressed and dried, at about 115 degrees F.

The casein so produced is a clean, translucent slightly yellowish grain, having very little smell or taste. At this stage, if the powder is boiled in water for a short time, the granules should only swell evenly, but not coagulate.

The casein prepared thus, now undergoes various treatments before it is a solid plastic constructional material, which is so often referred to as " the stuff made from milk."

The raw casein is moistened and pressed in the influence of heat, in which stage, it is a bone-like material and has to be kept in well ventilated stores, prior to grinding, during which operation, the casein is powdered until it will pass through a fine sieve of approximately 40-mesh. After this, it is passed through a magnetic separator, to remove any minute particles of ferrous metal that may have become mixed in with it during the mechanical mixing operation. The powder is then mixed with water in approximately the following proportions: 100 lbs. of casein to 25¼ lbs. of water, it being very important that the water is free from iron salts, preferably being freshly distilled.

COLOURED MILK-STUFF

In the case of the final material being required to be coloured, acid dies are also added at this stage. The whole is then mixed in what is known as a dough mixer. The water is sprayed in over the course of 15 or 20 minutes of the mixing period which continues for roughly an hour. Small quantities of other material are added, such as acids and clycerine, etc. When the mixing is completed, the casein is ready for extrusion and is forced through an extruder under pressure, being heated at the same time. the orifice of the nozzle pre-determining the size and shape of the extrusion. In the case of producing sheets, there are several processes, two of which are as follows: The powdered casein is laid in moulds and put underneath a multi-platen hydraulic press and pressed with the maximum pressure in the neighbourhood of 2 tons per square inch, for a few minutes, during which time the platens are steam-heated and cooled off by passing water through the steam pipes prior to opening the press.

The material thus produced is a soft sheet, but quickly hardens off and becomes somewhat brittle on exposure to the air. The powder can be replaced by rods which have been previously extruded and in the case of mottled sheeting, the colours can vary. They can be laid in the mould in any desired pattern and then undergo the same process as described for the powder.

WATER PROOFING

Casein sheets and sections thus produced, are unfortunately, not waterproof and have to be treated with formaline, which is approximately a 40 per cent solution of formaldehyde, the strength of the solution being varied greater or less, in accordance with the section to be treated. Formaldehyde has powerful waterproofing qualities when in contact with such materials as casein and gelatine.

The treatment is a somewhat lengthy job, the whole having to be immersed and the solution kept in motion during this period. The time naturally varies in accordance with the section taking 3 to 5 days for a 3 mm. sheet, and 7 to 9 weeks for a 30 mm. diameter rod. During this curing period the formaldehyde gradually soaks through the entire section. After treatment, the casein sheets, etc., are washed and dried at about 112 degrees F. This operation takes several days, the sheets being dried out to a moisture content of approximately 12 per cent. Great care has to be taken with extruded sections, to prevent warping and in the case of sheets, they are repressed after curing in a similar manner to that described.

In the case of gelatine, it will be found that after soaking in formaline, it becomes insoluble in water.

Casein thus produced is now ready for the manufacture of various components, and is used for the manufacture of pens, pencils, buckles, brush handles, low voltage insulations, etc.

Although these items have no direct connection with aircraft structure, they do give the layman a picture of the possibilities of such materials in connection with aircraft construction.

(To be continued.)

SAILPLANES WANTED

SEVERAL letters have been received enquiring for news of sailplanes for sale. Most of them have been requisitioned, but it is known that some are stored It may be that their owners would care to dispose of them to A.T.C. Instructors who are capable of soaring but have not the machines. The height restriction on A.T.C. Cadets does not apply to instructors, although they must keep within the perimeter of the field on which the school is held.

SAILFLYING FOR A.T.C. INSTRUCTORS

SAILPLANE understands that it is not impossible that later on in the year one or two short Sailflying Courses for A.T.C. Instructors may be arranged to take place either in Yorkshire or the West Midlands. This would be very welcome news to both old and new Sailflyers, and it is devoutly hoped that it will be confirmed. After the grind of "Mass producing" thousands of boy pilots, in all weathers and for the love of the thing, it would indeed be the best possible recognition of their hard work if this indulgence were to be permitted to instructors. A difficulty, of course, is the lack of instructional two-seaters, and capable sailflying instructors who can be available for this sort of instruction. Most are in the Services and cannot be spared from their martial activities.

GLIDING CERTIFICATES

THE following Gliding Certificates have been issued by The Royal Aero Club during the past month :—

		Gliding School	*Date taken*
"A" Certificates (10)			
1742	Bernard Howard Eldon ..	C.123 E.G.S., Bray ..	26.12.43
1743	Harry Charles Burge ..	C.122 G.S., Harrow ..	6. 6.43
1744	John Holman Valentine Cross	M.47 G.S., Derbyshire and Lancashire	10.10.43
1745	Frederick Campbell Bambridge	C.122 G.S., Harrow ..	1.10.43
1746	Hubert James Gibbs	N.183 G.S., Woodford ..	16. 1.44
1747	John Kelsey Cannon	Ditto	16. 1.44
1748	Donald Frederick Murmann ..	M.44 E.G.S., Rearsby ..	26. 6.43
1749	Dorian Ivor Bailey	Ditto	25. 7.43
1750	Ian Flinn	London Gliding Club ..	29. 1.44
1751	Alfred Hughes	M.44 E.G.S., Rearsby ..	13. 8.42
"B" Certificates (8)			
1726	George Leonard Whitehead ..	N.184 G.S., Woodford ..	6. 2.44
1727	Peter Donald Farquaharson..	Ditto	6. 2.44
1731	Douglas Wellesley Ostle ..	Ditto	6. 2.44
1732	Alfred Richard Verity ..	Ditto	6. 2.44
1748	Donald Frederick Murmann ..	M.44 E.G.S., Rearsby ..	18. 7.43
1751	Alfred Hughes	Ditto	14. 8.42
1680	William Gona Tilleke	M.41 G.S., Knowle ..	30. 1.44
1696	Eric Paul Zander	C.123 E.G.S., Bray ..	12. 2.44
"C" Certificates (2)			
1748	Donald Frederick Murmann ..	M.44 E.G.S., Rearsby ..	25. 9.43
1751	Alfred Hughes	Ditto	20. 9.43



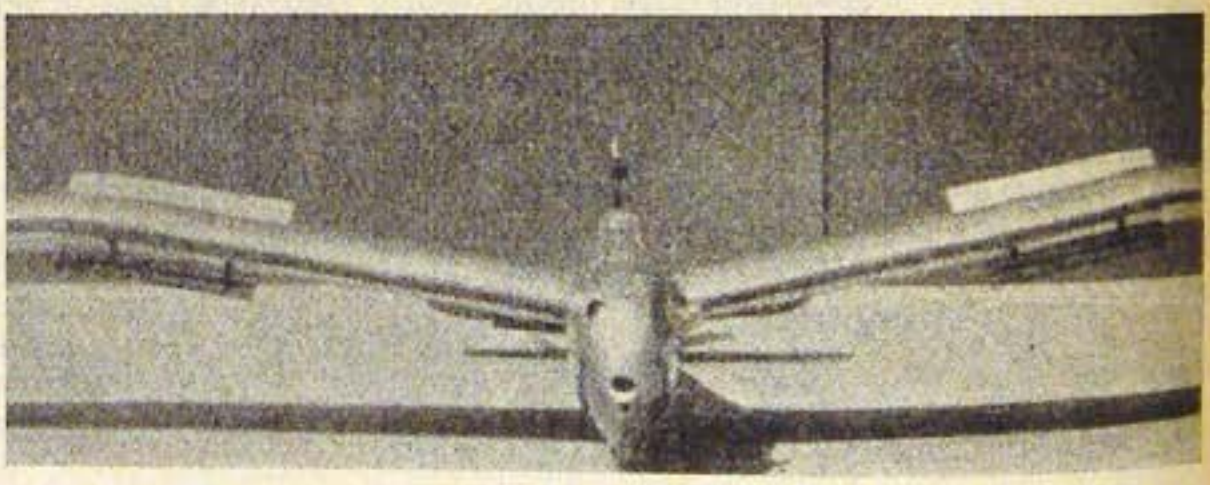
RETRIEVING AT JUNGFRAUJÖCH. *Photo: Chas. E. Brown*

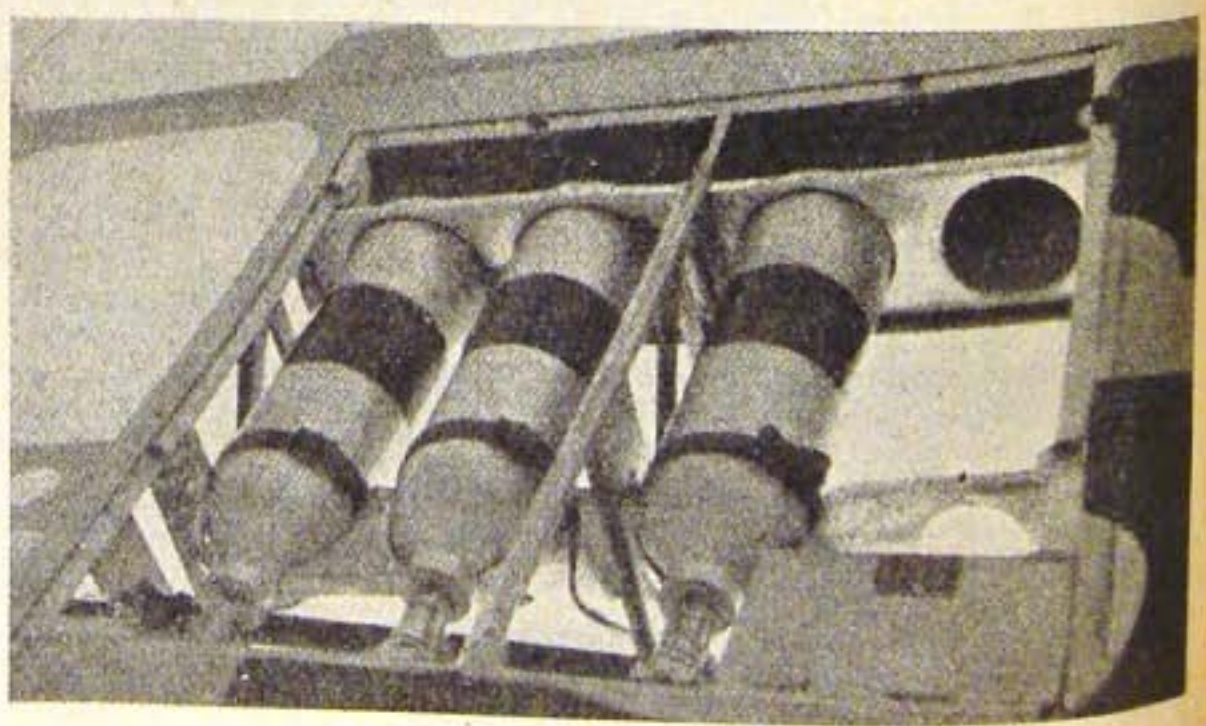
The Kranich High Performance Two-Seater

A diagram of this machine appeared in the March issue of *Sailplane*.

The photograph shows the dive brakes extended, and is a most interesting feature.

The other photographs show the oxygen bottles placed in the wing, accessible from the cockpit. Each bottle has a capacity of 300 litres, enough for 1½ to 2 hours with normal breathing. The Auer high altitude respirator is fitted to the machine. This system has become commonplace during the war, but it can be imagined what an advance it represented when it first came out in 1938. Almost everyone who flies to-day is accustomed to the use of oxygen. So far it is not known whether any British glider or sailplane is similarly fitted.





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AUSTRALIAN GLIDING ASSOCIATION

SOUTH AUSTRALIA

Waikerie Gliding Club, Annual Report for the year ended 30th June 1943 :

" The shortage of labour and petrol has made further inroads on our flying time for this year. During the year, three of our keen youngsters left us for the R.A.A.F.—Max Pennyfield, Max Francis, and Bill Rowe. But we have gained our former foundation member, Jack Moody, who is doing good work in the secondary and also as Secretary. Flying took place on 15 days, 117 launches for a total flying time of 8 hours 12 minutes. The details are as follows : ' Pratt Utility,' 41 launches, 1 hour 41 minutes ; ' Kite ' sailplane, 34 launches, 4 hours 3 minutes ; ' Pelican ' two-seater, 42 launches, 2 hours 28 minutes.

" The ' Pelican ' has been doing good service and has now been fitted up with dual controls and should prove still more useful. Rex Coats flying the ' Kite I,' did the best time and height with a flight to 3,000 ft., being up for 27 minutes. K. Reibe the same day was up for 20 minutes (date not given). E. R. Barrett, flying the two-seater carrying Mr. Moody and his small daughter, climbed in a thermal from 700 ft. to 1,100 ft. before a return to the drome was necessary, due to drifting over the river, there being no retrieving trailer for this machine. The primary was in for repairs and overhaul early in the year, and is almost ready for the air again. A new winch made from a Chandler six, is nearly completed. We hope to improve on our launching on still days when it is going."

The Club's Balance Sheet for the year ended 30/6/43, reveals a sound position, with an excess of £398 13s. 0d. of assets over liabilities. The main assets being " Kite I " sailplane, £120 ; Trailer, £40 ; Pratt " Utility," £95 ; " Pelican " two-seater, £120 ; Primary, £35 ; Hangar, £95.

Cross Country

Waikerie to Moorook, 25 miles. Rex. Coats in " Kite I," 2nd October, 1943. Report : " I left the winch at 900 ft. and got into immediate lift which appeared to be a cool front coming in from W.S.W. This was shortly verified by the fact that the lift was very consistent giving a climbing rate of 2 to 4 ft. per second. The maximum altitude reached was 5,450 ft., after half-an-hour's climb ; I had then drifted about 10 miles. Having sufficient height, and maintaining same, I decided to try for distance. At the time I had in mind Barmera (30 miles) as objective. However, owing to a patch of ' down ' over Kingston (23 miles) when I was at 3,000 ft., and a change of wind to the S.S.W., I considered that there would be no more lift, and as the country towards Barmera comprises mostly polyignum swamp and lagoons, I altered my course and flew upwind to Moorgok, where I arrived with 700 ft., and landed at 4.30 p.m.—(*Signed*) R. COATS."

South Australian Height Record

5,600 ft., from winch launch to 1,000 ft., by E. R. Barratt, in " Kite I " on 31st October, 1943. Duration, approximately 1 hour and three-quarters. Report : " The conditions that day were interesting but not particularly promising, with a hot, overcast sky in the morning. This cleared off at mid-day with a shower of rain. It left it very still and thermals turned the wind sock all around the post, but owing to the skid on the ' Kite ' a launch would have been difficult, so J. Moody was given some top gear launches in the ' Utility.' By mid-afternoon puffs of cumuli were forming, especially in the south-west, and these were slowly coming closer indicating a swing in the wind from south to south-west. It was in this change I was launched. I dropped the wire at 1,000 ft., and immediately flew into lift of the order of 4 to 6 ft. per second. I went up in this without a break to 5,400 ft., when I flew into the shadow of the cloud I was circling under. I thought surely I can get enough out of this to raise Rex's height record. After a bit of fumbling, I managed to get to 5,600 ft.

Flying Upwind

In the climb I had drifted very little from the drome, so I decided that in preference to going off up river, I would see how long I could stay up over Waikerie. I also had an opportunity to try out the ' Pelicans ' thermal methods of always flying directly upwind to gain height. It worked very well this time, but that may have been the day—not the method. After the first climb to 5,000 ft. the thermals became very rough and quite short turns were needed to keep in them. Most of the time was spent between 3,000 and 4,000 ft., and I was able to tour the district almost at will.

Very Cold

I noticed on my subsequent climbs I drifted north, which indicated a swing back to the south in the wind, and at that height it became very cold, especially when flying between thermals. I noticed that soon after the cold had become most pronounced that the thermals became fewer, whether this was due to the time of the day—5.30 p.m.—or perhaps due to the southerly swing in the wind. After getting the last decent lift which took me back to 4,000 ft., I steadily sank, and so returned to the drome and landed pretty stiff and cold. I soon lost the coldness though, as it was pretty hot still on the ground. We had no watch when I took off. We only knew that I landed at 5.45 p.m., and think took off at about 4 p.m., so no official record of time for S.A. could be claimed. Next time when a good flight promises I am not going up in clothes that are comfortable on the ground.—E. R. Barratt."

Rudder Cable Breaks in Flight

11th June, 1943. Report by pilot : " I was launched in the ' Kite ' sailplane into a strong N.W. wind, mainly to see if the air was too rough for dual instruction in the two-seater. Dropped the wire at 1,300 ft. and flew straight up wind, keeping the speed at 38. Flew into lift and when the green ball showed a steady rise I circled. I was down to 900 ft. by this time, and it took a good many circles to get back to 1,300 ft. At 1,500 ft. the thermal brightened up to 4 ft. per second, and at 2,000 ft. the climb had gone up to 6 to 8 ft. per second. I said to myself—Barmera for me to-day. The next instant my left foot (I was doing left turns) sagged forward limply and the machine came out of the turn into wind. I put my hand down and pulled the wire, it had broken behind the seat, so I could not work it with my left hand.

There was a big long paddock beneath me and the drome looked rather small some way up wind. I thought I would have a go at the drome and save a 2 mile retrieve.

Landing Danger

I had plenty of height to practice flying without a rudder—flying up top did not worry me so much, as that moment the machine touches down and the chances of a gust slewing it round—I had to make a long straight approach to save turns near the ground. Had a nervy moment at 400 ft., as I got a nasty down gust, but the next I got an up and cleared the trees easily and made a good landing in the middle of the first part of the drome. It was the most promising thermal I had been in for the year, and to think that I had to leave it !

Note This

The wire broke right at the thimble at the lower toggle arm. This arm had been bent at an angle to the vertical motion, which when the rudder was used bent the wire back and forth until all the strands at the double part had broken. So now we know that a wire can bend through as well as rub through. We have now altered the fitting. *It helps to point out the need for thorough inspection, especially looking in the most unlikely places for trouble.*—(*Signed*) E. R. BARRATT."

VICTORIA

Australian Duration Record

raised to 9 hours 51 minutes by Ch[illegible] Lambeth, on Saturday, 20th November, 1943. The following is an account of the flight by the pilot: "Had breakfast and was shock-corded into south wind (strong) in the Gliding Club of Victoria's 'Granau' at 9.15 a.m. I rose to 600 ft. above the hill in light rain with low cloud swirling about the machine. The lift for the first two hours was limited to the hill, but as soon as the low cloud rose and broke up, I was able to fly upwind about 3 miles at from 800 to 1,400 ft. above the hill along cloud streets and generally tour the countryside stall turning the while to relieve the monotony.

Hawks and Eagles

After 1 p.m., a patch of rough thermals developed and by watching the many hawks and eagles I managed to get some thermal soaring for a while. The members on the ground then got out the 'Merlin" two-seater and kept me company for 13 minutes, and soon after the 'H.17' came up for 30 minutes, and we went thermal hunting together, but I was the luckier and climbed to 1,600 ft. above the hill, where the lift gave out.

Alas, Poor Bunny

In front of me there was a very large eagle with a fully grown rabbit in his claws devouring it while he circled. I tried to follow him but missed the thermal and he was soon lost to sight above. This would be about 5 p.m., when thermal conditions finished and I flew in hill lift until 7.6 p.m., when I landed near the Club hangars thinking that I had done 10 hours. However, it was a very pleasant flight and one I shall always remember. I think that if it had not been for the genuine Kraft cheese which I ate during the day I would not have been able to last it out.—(*Signed*) C. LAMBETH."

BEVERIDGE

"On the Rocks"

The "H.17" was damaged on 20/11/43, when K. Davies (part-owner) landed on the south-east end of the hill on rocks, after a flight of 15 minutes (not 30 minutes as stated in Lambeth's report). The skid was torn off and fuselage damaged.

The "Merlin" two-seater was also landed on the rocks the same day (piloted by Hyde with C. Trescowthick as passenger) after a flight of 13 minutes, and the skid torn off. On the next day N. Hyde made a flight of 1 hour 45 minutes in the "Grunau."

NEW SOUTH WALES

Association secretary and assistant secretary (J. H. Kelleher) visited N.SW. clubs between 13/11/43 and 21/11/43.

Sydney University Soaring Club.—Dr. G. A. M. Heydon's Slingsby "Gull" is being repaired. Viewed on 14/11/43 in the company of Mervyn Waghorn (International "C" pilot) now living in Sydney (late of London Gliding Club) it was noted that the broken spar had been repaired and ribs replaced.

Sydney Soaring Club are preparing a two-seater side by side primary for training purposes (at Beecroft). Technical Gliding Club of Sydney's primary is being used for this purpose.

Beaufort Glider and Sailplane Club (D.A.P.) Chullora, N.S.W.—Club workshop at garage, 125, Liverpool Road, White's Corner, South Strathfield, was visited on 20/11/43. The Hon. Secretary, Mr. C. Springall, states that the two-seater primary ribs, constructed of bollywood, have all been completed, metal fittings complete, and air speed indicator made. Spars are under construction. Tail surfaces have been made up but not covered. Fuselage not yet started. "Dagling" type primary under repair was inspected; wings being almost ready for recovering.

QUEENSLAND

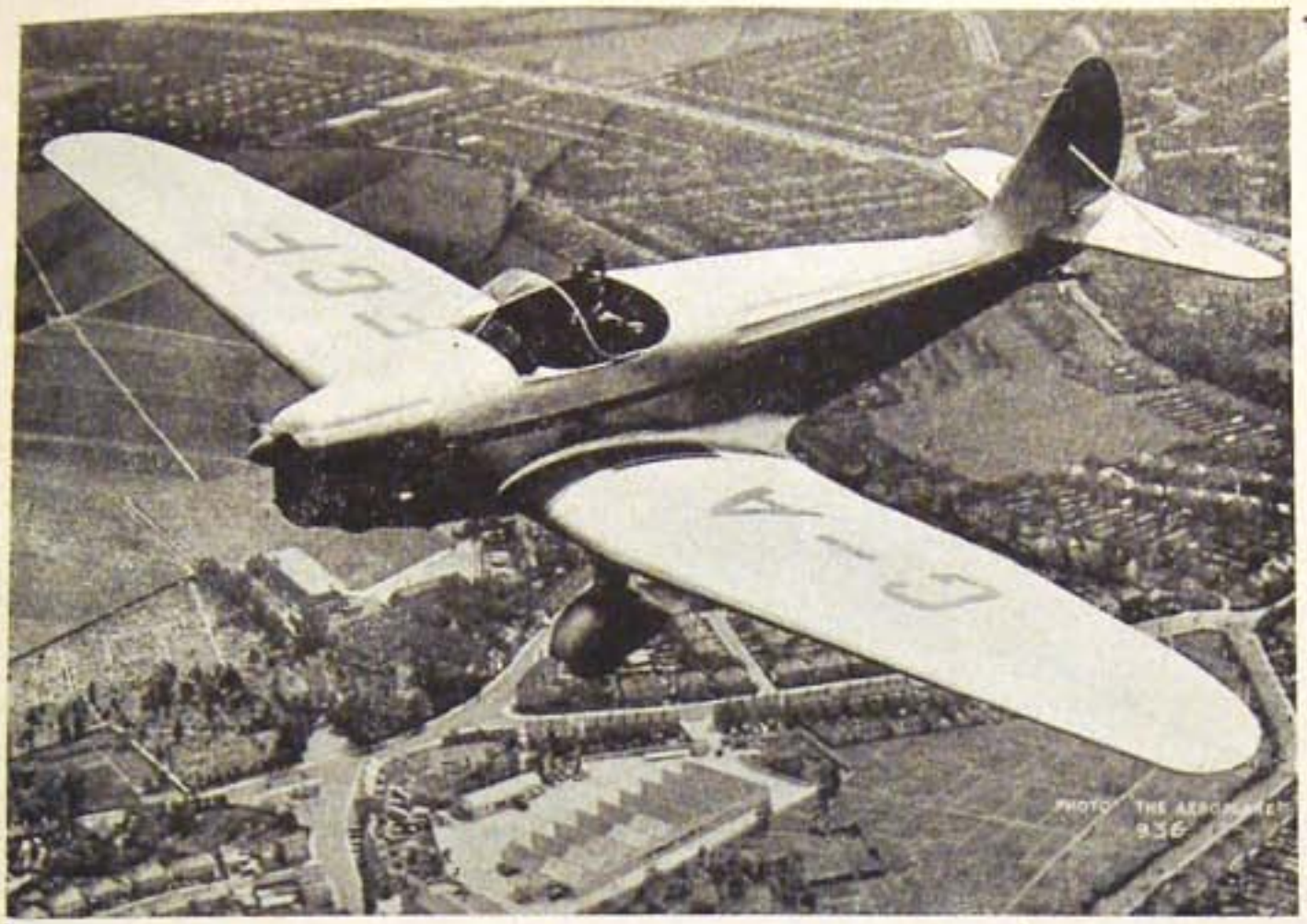
Brisbane Gliding Club was visited on 6/11/43, 7/11/43, and 8/11/43, and co-operation with the Association arranged. The Club's president and instructor, Mr. Harold Bremerman, is a holder of International "A," "B," and "C" Certificate No. 1029, gained as a member of the London Gliding Club in August, 1938. He has a private machine of his own design—the "Constance"—46 ft. span by 4 ft. 6 in. chord tapering from 6 ft. to wing tip—fitted with variometer—first flown 3/8/41.

"Flying Times"

The Club has been without a flying ground since early in 1942. The Club's "Pegasus" two-seater (designed and built by Jack McDonald in 1932) is under repair. The "Robin," 40 ft. span by 4ft. 6 in. chord (designed by E. Parr, D. Henderson, and J. McDonald) is reported to be in flying order. The last flying was carried out between 4/5/41 and 11/1/42—details are as follows (timed from moment of release): "Robin," 196 flights, 6 hours 59 minutes; "Constance," 9 flights, 17 minutes 36 seconds; "Aeschna," 11 flights, 20 minutes 26 seconds; "Pegasus," 84 flights, 2 hours 21 minutes 22 seconds; Total, 300 flights, 9 hours 58 minutes 24 seconds.

Structural Defect

The "Aeschna" crashed on 23/11/41, owing to structural defect. The owner pilot, Gordon Knipe, escaped serious injury. Because of the local custom of building houses up about 7 ft. from the ground, members of the Brisbane Gliding Club are well served with workshop space.



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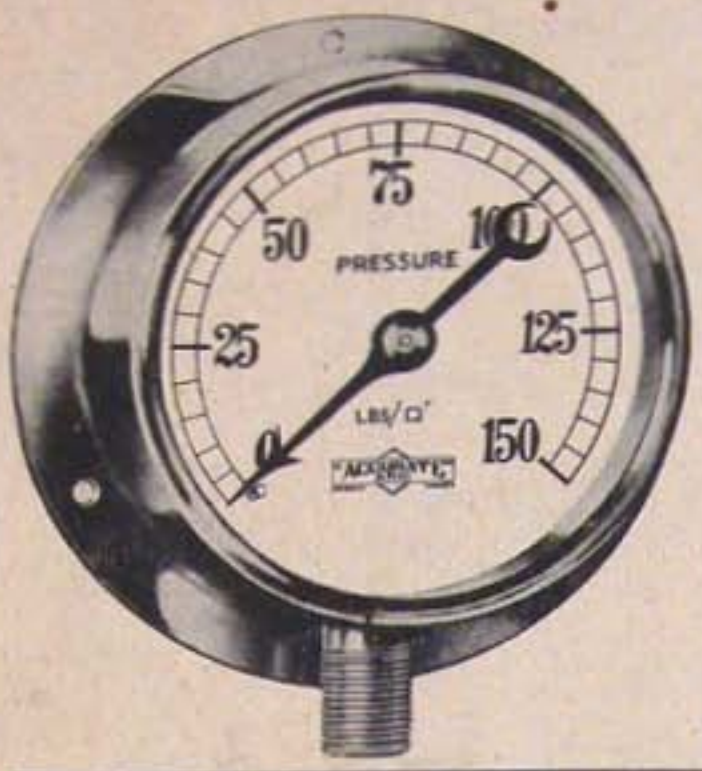
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