Sailplane and Glider

The First Journal devoted to Soaring and Gliding

MAY 1952

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Sailplane and Glider

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THE FIRST JOURNAL DEVOTED TO SOARING AND GLIDING

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Lenticular of the Bishop Wave over the Sierra Nevadus, March 18th, 1952
Photo : Veronica Platt

Editorial

AN interesting if unexpected result of our recent competition was the heartfelt cry of the beginners for less technical articles 'for the pundit.' Now that puts us in an awkward position because gliding is a game where one is continually advancing. The beginner of today is no longer a beginner a month hence, and 'my first ten minutes in a glider' is the kind of article he will skip at sight. On the other hand he has a long way to go before he can plunge into graphs and mathematical symbols.

But gliding is an international sport and this magazine has a world-wide list of subscribers. Wherever soaring pilots gather together it is read, translated, and discussed. It is the medium by which pilots of half a hundred nationalities hear of the exploits of their fellows ; and we are proud to be able to bring them that knowledge, whether it treats of new designs or new experiences. Our difficulty is that we just don't have enough pages. We have to try and produce what will interest the greatest number of pilots in the smallest possible space and it's quite a problem. You yourself may never meet a standing wave or a cold front or a typhoon—but if you know what kind of flight to expect under what kind of conditions, you are half-way towards being a better pilot because you can anticipate intelligently and prepare accordingly. Gather round the experts and listen. It will help a lot. What you ought not to do is to discuss much with fellow beginners. That way danger lies. Their advice may be fatal to you, literally fatal. Every instructor has met the kind of pupil who delights in telling his fellows all about it though he knows no more than they do. They are as unhelpful as the general round-the-table end-of-the-day talk pests of the Club are invaluable. What this paper tries to be is a kind of Sunday night at the Gliding Club in print, something for everyone and as accurate as possible—get us ?

Which brings us to the latest topic, the Olympics in Spain. You can't afford to go ? Of course you can't—nor can anyone else but that won't stop them. All over the world gliding people are consistently and gloriously broke. Added to that there are currency restrictions, passport difficulties, language problems, and a host more. Even the Americans are having one hell of a time trying to raise the money—and they've got dollars ! Nevertheless there will be a grand international gathering of stalwarts who have scraped up enough somehow. They may mortgage the family homestead, bump off the rich aunt, win the football pools, get a state subsidy, or even—oh horrors !—work a little harder, but they'll get there and we'll get there with them. Only what about a spot of help for our own team as well so that we've somebody to cheer on ? Have you chipped in with a contribution ? Good for you ! We haven't got as far to send them as the Finns or the South Africans or the Americans, but they'll still need money for their tickets. And they're a good team. Wish them luck and send along whatever you can afford to the B.G.A.

IN SEARCH OF SAILPLANES

I ALTERNATE between being surprised at the world-wide interest in gliding and being astonished at the distance one can travel and never see any. This last trip was beginning to look like a dead loss. I was in Bombay but didn't get to Poona; I was in Kuala Lumpur but couldn't get to Ipoh. In Tokio there was reported to be a man who was building an 'Olympia,' but by the time I'd tracked him down I was already packed to leave. But an unexpected two days in San Francisco justified all the hunting, for on the Sunday I saw the 'Humming Bird,' and on the Monday I went to Bishop.

First things first. Ray Nelson, Harry Perl, and the 'Humming Bird'—that 'horrid hybrid.' In actual fact it is a very handsome machine with good lines and a remarkable glide of 1 in 23 in spite of the engine. The fuselage is of natural mahogany and the cabin unusually roomy, but the real joy lies in the way they have put it together. Two men and a boy took it apart and secured it firmly to its special trailer in fourteen minutes flat, and that was without hurrying at all.

The mechanism for raising and sinking the motor is exceedingly neat, and it certainly is an advantage to be able to fly one's self home without having to wait for a retrieving team. What really counts against it, of course, is the cost of building, but this is the fifth powered glider built by this team since the war and they are improving their performance every time. They have finally been granted the right to compete in all events on equal terms with sailplanes, so we may be hearing of some most interesting flights from them.

I was able to spend a couple of hours in their office and workshop. They are experimenting on a new line by packing the leading edge full of one of these new insulating materials—a super-light block that can be cut and sand-papered, that looks slightly flexible and porous but is in actual fact exceedingly strong and resistant. They have also a new idea in elevator balance on which Harry Perl is working.

On the following day I was flown up to Bishop. It had been snowing hard there, and we left San Francisco on a nasty grey overcast morning. But over the first range of hills the weather cleared and by the time we came to cross the Sierras Nevadas the sun was shining brilliantly. Part of the runway had been cleared of snow for us to land but even so we came in with a nasty skid, kicking up slush all round us. We were met by George Deibert and Alan Langenheim.

Deibert is quite a character. He didn't start flying or gliding till he was over fifty, and now at 62 he has just climbed to 36,000 feet. He is the boss of the airfield and originator of most of the excitement around Bishop, including the ski-ing.

There is at present a research team there consisting of a group of pilots and meteorologists, all standing-wave specialists. Of these I met Dr. Keuttner, Ray Parker, Alan Langenheim, John Robinson, and—its only woman—Betsy Woodward, holder of single and 2-place (17,800 ft.) height records for America.

The machines they use on the project are a 'Pratt-Read' and a 'Schweizer I-23.' Since the unfortunate crash of last December it has been decided that high-altitude experimental flying must be done dual, for reactions are slow at those heights and it takes two brains to keep sufficiently alert. Heights of anything up to 35,000 feet are considered routine from a release height of about 10,000 feet. After that the problems increase sharply. The cold is intense—about minus 94°F. outside, even with the sun's heat the cabin stays around 20°F. It is of course heavily taped and lined with insulating material. All the glass of the canopy is 'floating' in its frame to allow of expansion and contraction in the extremes of temperature encountered; on the ground in summer it can reach 110°F., while at 40,000 feet it is a couple of hundred degrees cooler. The pilots wear special clothing which can be heated, though at present the weight of the battery is too

Trailer with the 'Humming Bird' in San Francisco.

George Deibert, Alan Langenheim and Ted Wilson.

With Ray Parker and John Robinson.

Awkward Flying Country.

much to make heating practicable. The main problem at these altitudes is that of baling out. With such extremes of cold or with unexpected clear air turbulence it is possible that a machine may fly apart. The pilot must be protected against the intense cold as well as against the lack of oxygen, so that gloves and boots and helmet must be firmly tied on to cover as much skin as possible, and a small emergency supply cylinder of oxygen forms part of the harness. Their aim is to fall free to about 20,000 ft. or to keep inside the fuselage as long as they possibly can before baling out, aiming to avoid cold burns and inoxia.

In charge of the project is Dr. Keuttner of the Harvard Research Group. He is a standing wave meteorologist and is in constant touch with others throughout the world. On the day I was there he was predicting a particularly strong wave for the morrow. By that time I was en route for New York, flying at 21,500 feet by T.W.A. It was most interesting, for the wave was visible from Bishop to the Great Salt Lake. We came up through broken cumulus into turbulent air, to see a very beautiful lenticular end-on to the South of us. I began to take pictures but to my astonishment the wave went on and on, so I took notes as well.

10.5 *a.m.* Quite the most wonderful lenticular cloud formation possible to imagine. The waves extend for miles, gradually increasing in width. We have been flying alongside now for half an hour (in a ' Stratocruiser '). They were close together and in three layers over Bishop but now there is a

Ray Nelson, Harry Perl.

' Pratt Read ' with special fluorescent paint for research.

Lenticulars from 21,000 ft.

nearly level layer of solid cloud very gently undulated on the upper surface (lower not visible) with a knot of lenticulars every few miles.

The layer of cloud continues as far ahead as I can see, with the lenticulars roughly evenly spaced but steadily diminishing in size and number. (Over Bishop they were much fatter, shorter, and nearer together).

10.15 *a.m.* Gradually breaking down into stratus with very slightly waved surface. Loose clouds on top are very thin lenticular and very long. The end is just South of the Great Salt Lake. I can now see the base and it consists of separate lenticulars varying from short fat ones to very long thin ones. Oddly enough, the fat ones are under the *lower* curves of the top and vice versa.

10.45 *a.m.* Over Salt Lake. The end is very sudden—a wild ripple like driven sand and then clear blue sky ahead.

Later we saw signs of another wave over Cheyenne, Wyoming—a succession of lenticulars in clear sky to the East of the mountains and rather far south of us, but breaking off suddenly.

That wave was the one of the 18th March, in which Larry Edgar of 29 Palms and Harold Klieforth of Sacramento climbed to a new record of 44,000 feet.

VERONICA PLATT.

SOARING IN FRANCE

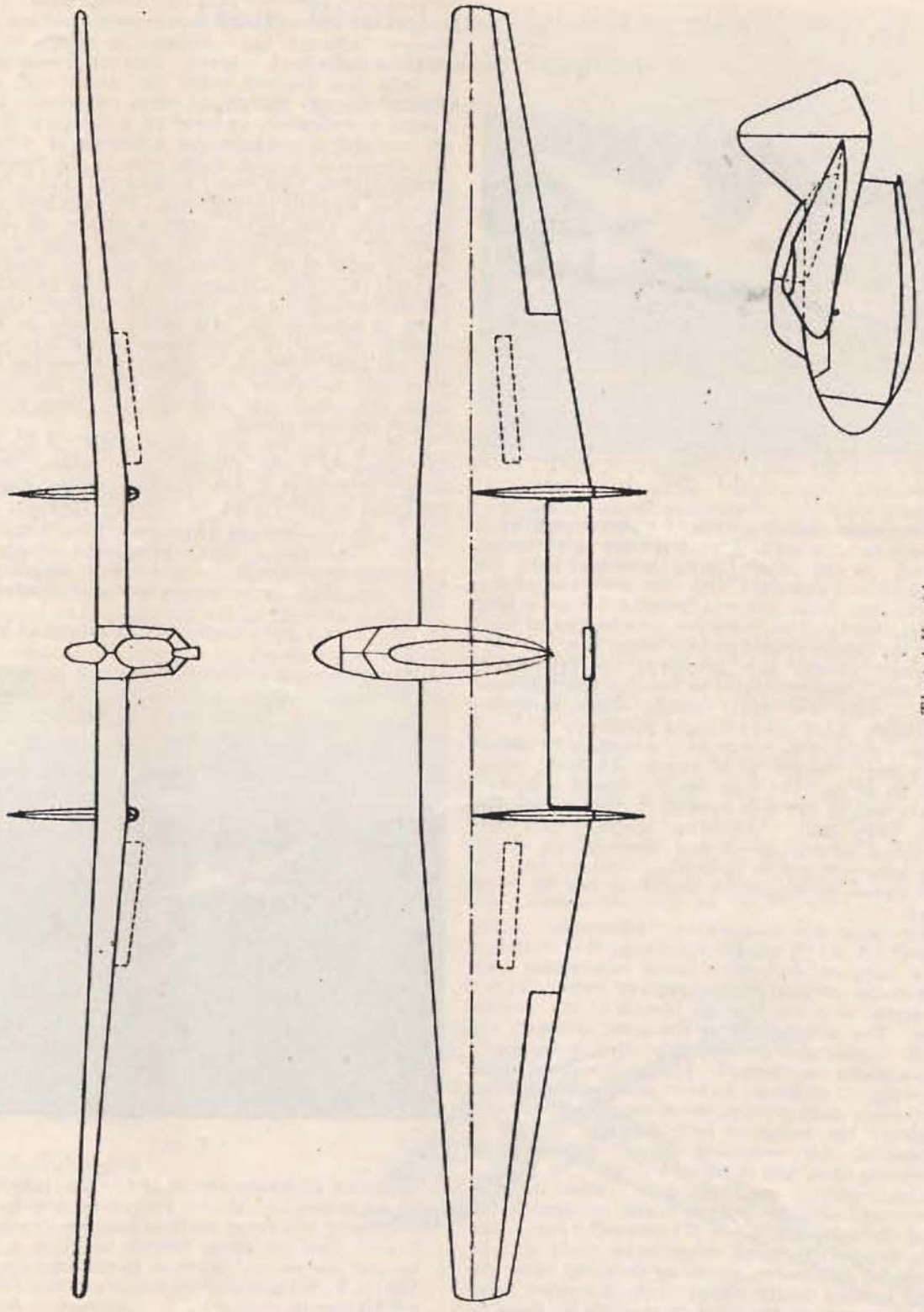
A Revolutionary Tailless Sailplane

The Fauvel 'A.V. 36'

By GUY BORGÉ

M. CHARLES FAUVEL is a French engineer who for nearly twenty years has devoted his efforts to study of tailless planes. Generally speaking the best known formula of tailless machines includes a wing which is given a certain amount of sweepback and a wash-out of the incidence for ensuring stability; good results in this way were achieved by Lippisch, Hill, Horten, Northrop and so on. But this formula makes the construction of the wing very complicated, needing extreme care, supplementary weight for ensuring rigidity, and expensive cost. The solution adopted by Charles Fauvel in his tailless machines seems the simplest possible. A straight wing without sweepback, a constant airfoil without wash-out, the controls being the normal ailerons and elevator. The special airfoil has a double arc, called ' autostable ' by its properties of a negative Cm.; (the well known airfoil ' Raf 34 ' is ' autostable ').

Along these lines Fauvel built a training sailplane in 1933, the ' A.V.3,' which gave excellent results at Arcachon and La Montagne Noire; a small touring plane, the ' A.V.10,' engined with a 75 h.p. ' Pobjoy ' which broke in 1938 a world altitude record but disappeared in 1940, removed by German troops. In 1948, the engineer's son, Jean Fauvel, a student in a technical school and also a sailplane pilot, wanted to build his own glider; his father advised him to choose the tailless formula, extremely simple to build and transportable on roads without de-rigging. Charles Fauvel designed the general proportions of the projected machine, and Jean during his holidays drew the ribs, beginning the construction at the Challes les Eaux joinery. The SALS interested by the remarkable possibilities of such a machine gave a small subsidy and construction proceeded at Cannes where the Fauvel family was living. All workers on the plane were sailplane pilots, and for amateur builders made a good job.



The 'A.V. 36'

'*A.V.* 36'

After a night and day work (4 effective months of construction, a very short delay for a prototype indeed), on the night of 30th December, 1951, the sailplane was extracted with care from the joinery on the first floor, and was brought out on a long ladder. On the 31st December, Charles Fauvel tried it on the Cannes airfield and the brand new' A.V. 36' executed without any difficulties the first winch launches. Tests proceeded at Fayence where Messrs. Eric Nessler and Max Gasnier made numerous convincing flights and extensive soaring in it.

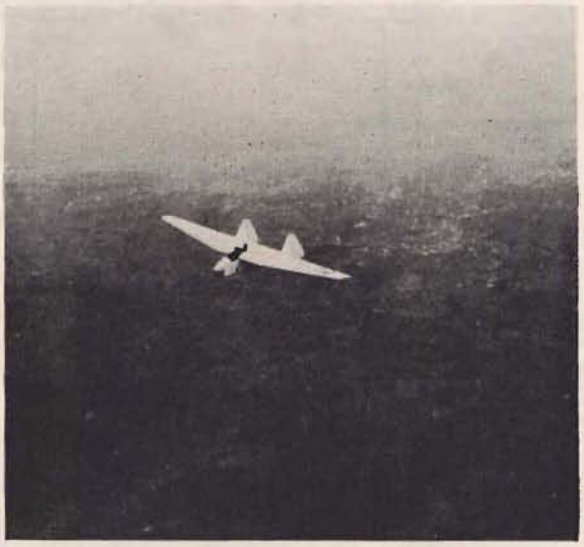
Description of the ' *A.V.* 36' ; wingspan 12 metres (39.3 feet) ; length 13.10 metres (43 feet) ; wing area 14.20 m. (152.8 sq. feet) ; aspect ratio 10 ; empty weight 110 Kgs. (242 lbs.) ; full weight 190 Kgs. (418 lbs.) ; maximum gliding ratio 20 ; minimum sinking speed 0.85 metre/second at 56 Km./hour (2.8 feet at 35 m.p.h.) ; sinking speed of 2.50 metres/second at 100 Km./hour (8.2 ft. at 62 m.p.h.).

The wing has a constant ' autostable ' airfoil Fauvel F.2 of 17% relative thickness ; it is composed of a complete covered plywood rectangular part of 3 metres (10 feet) of span and 1.60 metres (5.2 ft.) of depth, with the elevator control at the trailing edge. The outer parts of the wing, tapered, are fabric covered and given a dihedral of 2 degrees 5. The ailerons are classical. The spoilers open under the wing ; their action does not cause any oscillation and only a small pitching movement. There are two rudders ; the action of both direction controls is differential for increasing their efficiency and decreasing their drag in turns.

The fuselage is extremely short ; when the nose is removed and the rudders folded up against the wing, the total length is 2.37 metres (7.8 feet). The machine can be towed sideways in roads without de-rigging and trailer, merely by disposing under the wing a small undercarriage built of welded tube. The incidence of the wing is then nil in front to prevent an accidental ' blow off ' by side wind. The controls are classical. The instruments panel has an airspeed indicator, a variometer, a compass, an altimeter and a bank indicator. Two cases, accessible in flight, are disposed inside the wings and are destined to carry barographs, maps and so on. The cockpit is completely enclosed by a canopy ; there are two sliding windows and a system of airing. The absence of a hook in the nose of the fuselage avoids unwished for winds to cool the pilot's feet, as in the majority of sailplanes. For winching and aero-towing twin lateral hooks, 3 metres (10 feet) apart are disposed under the leading edge of the wing in front of the rudders and near the centre of gravity ; traction is insured by a wire of 16 metres (52 feet) sliding in a ring fixed to the ordinary cable. Even in aerotows the twin hooks are always half opened ; in case of a too abrupt winch launch or of a too great difference of altitude between the tow plane and the glider or at the end of the winch climb, the release acts automatically. There is also a hand operated release.

I think that the new tailless glider ' A.V. 36' (AV meaning ' aile volante,' in English ' flying wing ') introduces a new machine to the soaring field, very interesting for the following reasons :

1. It is a training sailplane in the ' Grunau ' and ' Emouchet ' class with some *absolutely classical* properties in flying, excellent stability in yaw and pitch, performances improved in relation to the ' Grunau.'
2. It is a light machine of 12 metres of wing



' *A.V.* 36'

span with an empty weight of 110 kgs. (242 lbs.), taking little space into the hangars, easy to handle on ground, to tow on roads *without any de-rigging*. Fauvel tows his plane behind his little 4 h.p. Renault car on the Provence mountainous roads. The ' A.V. 36' would be the dream machine for the soaring groups wishing to *Continued on page* 9.

From Behind the Iron Curtain

A New Russian Sailplane

By R. A. G. STUART, M.A. (Cantab.).

STRESSED FOR AEROBATICS

THE existence has been revealed of a new high-performance sailplane designed specially to take advantage of the thermal conditions in the U.S.S.R. Although its exact designation is unknown, it was designed by A. Pietsukh, a new name in Russian sailplane design. The new sailplane is a cantilever high-wing monoplane of all-wooden construction and is stressed for full aerobatics.

The wing has an I-section main spar and is in two parts, each attached directly to the fuselage without an integral centre-section. There is also an oblique auxiliary spar of C section.

Covering is of 2 mm. plywood on the wing leading edge as far back as the main spar, while the part between the main and auxiliary spars is covered with 1.5 mm. plywood, giving great rigidity in torsion. Both leading and trailing edges have taper and the wingtips are swept downwards, as on the pre-war ' RF-3,' to prevent the ailerons from being damaged by contact with the ground.

The latter have a nose torsion box formed by the aileron spar and the 1.5 mm. plywood leading edge. The part of the ailerons aft of the aileron spar is fabric-covered.

Control is by cable and the controls run on ball-bearings, as do all the other controls in this sailplane. There are also spoilers on the upper surface of the wing, with Bowden cable-control.

COMFORTABLE VENTILATED COCKPIT

The fuselage is of oval section and has T-section longerons, bulkheads, and stressed-skin covering. The cockpit is very comfortably fitted out and has ventilation. There is a hinged transparent canopy which is entirely within the lines of the fuselage and does not have the usual ' step ' for the windscreen. The seat is designed for use with dorsal parachute.

The tailplane is set on top of the fuselage, slightly forward of the fin, and has most of the taper on the leading edge. It is attached to the fuselage at four points and has a leading-edge longeron, a spar with ribs attached to it, and 1.5 mm. plywood covering for the whole.

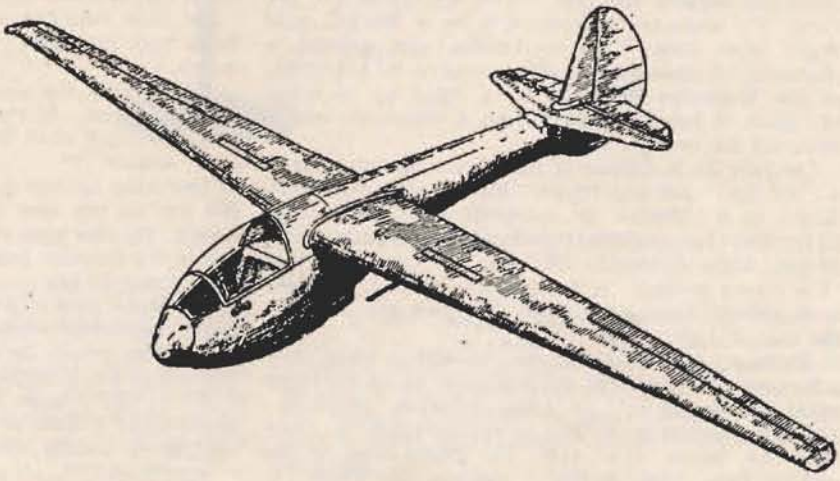
Each elevator is hinged to the tailplane at three points and has cut-out for rudder movement. The covering, like that of the rudder, is of fabric and control is by cranks. The fin is integral with the fuselage. Rudder control is by cable.

WELL ARRANGED PANEL

The well-arranged instrument panel includes A.S.I. variometer, inclinometer, compass and altimeter. There is a radio set behind the pilot's seat. The electrical installations have an easily replaceable accumulator located almost at the CG of the aircraft. signal lamps, compass lighting, cockpit lighting and a removable night-flying light on the port side. The Pitot tube is electrically heated.

DATA

Span 12.4 m. (40 ft. 8¼ in.), length 6.2 m. (20 ft. 4 in.), height 1.35 m. (4 ft. 5in.), wing area 11.8 sq. m. (127.015 sq. ft.), aspect ratio 13, aileron area 1.58 sq. m. (17.007 sq. ft.), tailplane area 0.88 sq. m. (9.472 sq. ft.), elevator area 0.75 sq. m. (8.073 sq. ft.), fin area 0.17 sq. m. (1.83 sq. ft.), rudder area 0.85 sq. m. (9.149 sq. ft.), wing profile ' R-III 15.5%. Weights : empty 193 kg. (425 lbs.), load 90 kg. (198 lbs.), loaded 283 kg. (623 lbs.). Performance : optimum finesse 1:24, minimum rate of sink 0.7 m./sec. (2.296 ft./sec.), cruising speed 85 km./h. (52¾ m.p.h.), landing speed 55 km./h. (34¼ m.p.h.), length of take-off behind ' Po-2 ' 75-80 m. (82-87½ yds.), landing run 65-70 m. (71-76½ yds.).



New Russian Sailplane

POLES' SUCCESS

LAST year was a very successful one for Polish gliding. In the period from May to July no less than 6 National records were broken.

First of these was set up on June 21 by R. Bitner of the Warsaw Aeroclub, who flew a ' Mucha ' intermediate type on an out-and-return goal flight Warsaw-Lublin-Warsaw (314 km.). This flight was remarkable in that it was made in formation with clubmate A. Zieminski, also flying a ' Mucha,' but the record was credited to Bitner because he landed 2 minutes before Zieminski.

This record, which was 93 km. better than the existing one, did not stand for long. It was beaten on July 29 by Rudolf Kopernok of the Silesian Aeroclub who flew Katowice-Lodz-Katowice (370 km) in a ' Mucha.' This distance was only 20 km. short of the world record.

Z. Zajac took off in a ' Zuraw ' at the same time but had to land on the return journey at Czestochowa, 60 km. short. Kopernok very nearly had to land too but succeeded in regaining height.

His flight lasted 9 hrs. Wanda Szemplinska beat the women's goal flight record by flying 285 km. from Warsaw to Krosno and on July 1 Lucyna Wlazlo beat the out-and-return record by her Warsaw-Lodz-Warsaw flight (250 km.).

INTERNATIONAL TWO-SEATER GOAL

On July 19 A. Pawlikiewicz of the Wroclaw Aeroclub with passenger Z. Pakielewicz flew from his home aerodrome to Warez (515 km.) in a ' Zuraw ' (' Kranich '), taking 7½ hrs. This is also an International record for goal flights in the Two-seater class.

Finally Wanda Szemplinska beat her own goal flight record when she flew from Lisie Katy to Czestochowa (305 km.) in a ' Mucha ' on July 23.

Another remarkable flight was that by E. Makula who was attempting a Katowice-Szczecin goal flight but had to land after 470 km., which was 30 km. short of his goal.

FIRST POLISH WOMAN GOLD ' C '

On July 1, Barbara Dankowska of the Pomeranian Aeroclub became the first Polish woman to get her Gold ' C,' when she completed it by a 300-km. goal flight from Lisie Katy to Lublin, also gaining a diamond. A diamond was also gained by S. Ackerman of the Kujawian Aeroclub by a flight up to 6,675 m. (gain of height 5,525 m.) in a hailstorm which smashed his cockpit cover.

On July 31, S. Cetner of the Kielce Aeroclub made a 301-km. out-and-return flight Kielce-Krosno-Kielce in a ' Mucha ' to celebrate the Berlin rally. In the May-July periodal together 8 altitude diamonds, 18 goal flight diamonds, 26 Gold ' C's ' and 24 Silver ' C's ' were gained. A further 27 Silver ' C's ' had been gained during the year, bringing the total at the end of July to 51.

These are remarkable figures, especially when they are compared with the total gained in all previous years up to the end of 1950 inclusive, which is : altitude diamonds 8, distance diamonds 7, Gold ' C's ' 14, Silver ' C's ' 418. The grand total at the end of July, 1951, is thus : altitude diamonds 16, distance diamonds (all with fixed objective except for one) 25, Gold ' C's ' 40, Silver ' C's ' 469.

LAMINAR FLOW WING TESTS

The Instytut Szybownictwa (Gliding Institute) of Bielsko, Poland, has designed a laminar-flow wing for a new high-performance sailplane. The wing has been tried out on a modified ' IS-2 Mucha ' (' Fly ') which is renamed ' Osa ' (' Wasp ') when fitted with the experimental laminar-flow wing.

The ' Osa ' made its first flights at the end of 1950 and these were highly satisfactory and confirmed in every way the designers' calculations. In addition to the high-performance sailplane mentioned above, a performance 2-seater is also being designed.

On August 28, 1951, the first Czechoslovak sailplane with laminar-flow wings made its first flight at Prague. It has good flying qualities and controllability and its actual performance has not fallen below the design figures. Test flying continued during Autumn, 1951.

The Czechoslovak glider pilots under training in Poland have been flying the ' Wazka ' (' Dragonfly,' Polish name for ' Weihe ' (' Kite ')), ' Olympia,' ' Mucha,' ' LG-125 Sohaj,' 'LF-107,' ' Lunak,' 'IS-1 Sep,' ' Komar ' and ' Salamandra ' gliders. The ' Slohaj ' and ' Lunak ' are of course Czech designs.

One of the piots, Bohumil Krivanek gained his distance diamond by a flight from Grudziadz to his goal at Bialystok, 307 km. away. During the flight his compass went wrong, but luckily he was able to navigate visually for the rest of the way.

AUSTRALIAN GLIDING CLUB—(*contd. from p.* 13)

In Adelaide a tug on the winch wire means—' Give her the gun, ready to take off.'

At Waikerie the same tug means something more complicated. It means that the driver shall take up the slack when he thinks a thermal is coming ; then wait while the wing-tip man puts the canopy on. (It has to be put on at the last minute because in Waikerie's heat the pilot would roast if he sat too long under the canopy).

When the wings are levelled then the winch driver takes the machine off.

On this occasion an Adelaide man who hadn't been told the facts of life at Waikerie was on the winch.

He took in the slack, and I walked over to put the canopy on. At the same time the driver gave her the gun—and that really means something with a ' V8 ' engine.

The wing hit me in the middle of the back and I fell flat on my face with a fair amount of forward speed. By this time the pilot had located the release under the thermos bottle and released.

The morals are :

1. Make sure exactly what the launching signals mean, especially when two clubs get together.
2. The winch driver should always check that the wings are level before take-off.
3. If the release is on the floor of the cockpit, don't cover it with iron rations, maps, water bottles, etc., while taking off.

REMEMBER, all accidents are avoidable.

Danish 2-Seat Sailplane

Home Design

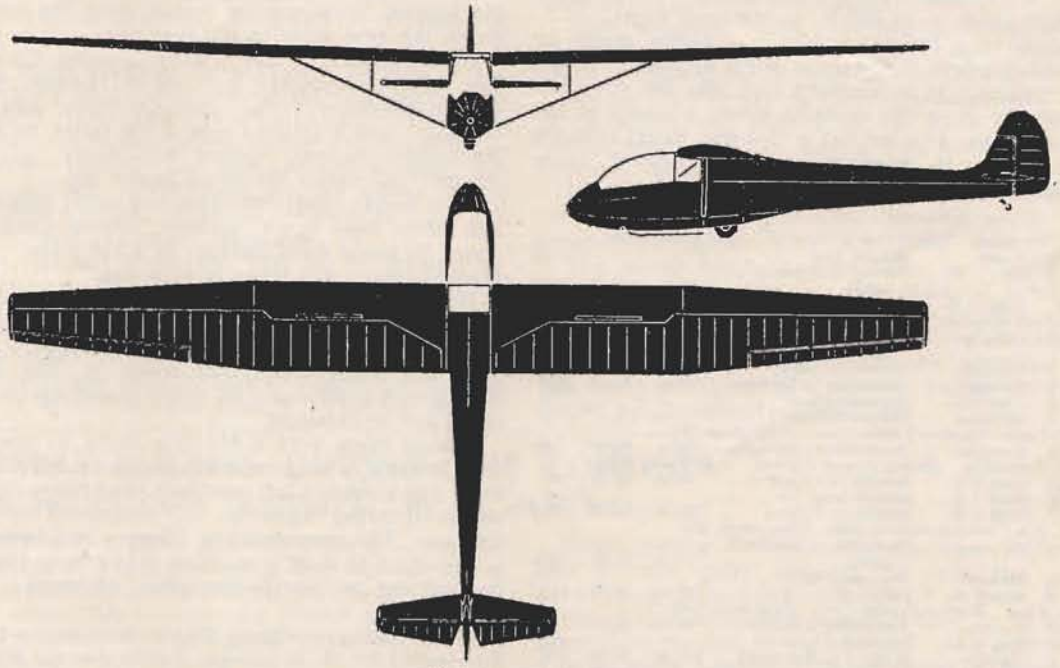
The Polyteknisk Flyvegruppe (Polytechnic Flying Group), one of the foremost Danish flying clubs, is constructing a new 2-seat training sailplane of home design.

The ' Polyt III,' as the new sailplane is called, will have a span of 14.8 m. (48 ft. 6¼ in.), length 7.8 m. (24 ft. 7 in.), height 2.3 m. (7 ft. 6½ in.), wing area 19 sq. m. (204.516 sq. ft.). Empty weight will be 220 kg. (485 lbs.), all-up weight 400 kg. (882 lbs.), safety factor 8. It is calculated that it will have a best gliding ratio of 1.20, a minimum rate of sink of 0.9 m./sec. (2.952 ft./sec.), minimum flying speed 60 km./h. (37¼ m.p.h.), maximum permissible speed 200 km./h. (124¼ m.p.h.). The wing has a parallel-chord centre-section, tapered outer sections and square-cut tips.

The ' Polyt III ' is a high-wing monoplane with the wings braced by single I struts which are in their turn braced to the wing near their upper ends. The ailerons occupy about three-quarters of the outer-section trailing-edge. Spoilers are fitted on the centre-section.

Fuselage is of polygonal section and the accommodation is for two pilots in tandem under a long transparent canopy. In addition to the usual ventral skid there is a landing wheel just aft of the wing strut lower attachment point, also a cantilever tailwheel.

The single fin and balanced rudder are vaguely reminiscent of the early marks of ' Spitfire ' in their appearance. The tapered, square-cut cantilever tailplane is mounted fairly high on the fuselage, and the elevators have cut-out for rudder movement.



New Danish 2-Seater

SOARING IN FRANCE—*continued from page 6.*

execute some prospecting flights or to visit airfields in the country.

3. The machine is inexpensive, easy to build and takes less time than a classical training sailplane. It is likely that drawings will be spread shortly in the French clubs for promoting amateur building of the ' A.V. 36.'

In a few weeks, Charles Fauvel will bring his ' A.V. 36 ' to the Chavenay airfield, near Paris, and it will be loaned to an Inter-Clubs Centre to be flown by young pupils in circuits and attempts on Silver ' C ' legs. It would then be proved that the ' A.V. 36 ' easy to build, in beginners' hands is also easy to fly and soar.

Australian Gliding

RECORD DISTANCES FLOWN IN AUSTRALIAN COMPETITIONS

Full Details of Flights

AUSTRALIAN glider pilots flew the record number of 2,493 cross country miles in the first Australian National Gliding Competitions, held at individual State centres between December 22 and January 8.

Competition centres were at Wakerie (South Australia), Benalla and Berwick (Victoria), Narromine (New South Wales) and Caversham (West Australia).

Best flight of the competition was the record-breaking 259 miles from Narromine to Jerilderie on Christmas Day by Keith Colyer, of the Sydney Soaring Club.

Mervyn Waghorn broke the Australian out-and-return record on December 29 with a flight of 126 miles, Narromine to Parkes and return. He also made the best climb to 17,200 ft. on the same flight.

Below is a list of competition flights made by individual pilots, in the order of the number of points they gained. It is stressed that the list does not necessarily show the order of pilots' placings in the competitions. It is set out in this way to get as much information as possible into the limited space available.

1. *E. Desmond. Gliding Club of Victoria. Total points* 464½						
Dec. 26	Kadet	Benalla local				4½
Dec. 27	Grey G.B.	Benalla to Seymour and return	61 m.	4h.36		347½
Jan. 3	Grey G.B.	Benalla to Albury ..	62 m.	3h.07		112½
2. *Mervyn Waghorn. Sydney Soaring Club. Total points* 427						
Dec. 29	Olympia	Narromine to Parkes and return	126 m.	5h.45		243½
Jan. 3	Olympia	Narromine local ..				9
Jan. 4	Olympia	Narromine to Boorawa	155 m.	4h.20		172
Jan. 6	Olympia	Narromine local ..				1
Jan. 7	Olympia	Narromine local ..				2
3. *K. Colyer, Sydney Soaring Club. Total points* 291						
Dec. 25	Olympia	Narromine to Jerilderie	259 m.	8h.00		291
4. *D. Darbyshire. Gliding Club of Victoria. Total points* 265½						
Dec. 24	Grey G.B.	Benalla to Longwood	43 m.	2h.53		81
Dec. 29	Grey G.B.	Benalla local				3
Jan. 2	Grey G.B.	Benalla to Tootool ..	105 m.	4h.05		181½
5. *R. Ash. Hinkler Soaring Club. Total points* 250						
Dec. 25	Olympia	Narromine to Condoblin (goal)	86 m.	5h.51		130½
Dec. 28	Olympia	Narromine local ..				7
Jan. 2	Blue G.B.	Dubbo to Gulah ..	63 m.	3h.00		112½
6. *R. Krick. Hinkler Soaring Club. Total points* 246						
Dec. 12	Olympia	Narromine to Moreeba	45 m.	2h.30		55
Dec. 29	Blue G.B.	Narromine local ..				15
Jan. 3	Olympia	Walgett to Narromine	152 m.	6h.00		176
7. *R. Muller. Adelaide and Hinkler Soaring Club. Total points* 244.						
Dec. 26	Golden G.B.	Waikerie to Renmark ..	45 m.	2h.30		66
Jan. 2	Olympia	Dubbo to Walgett ..	156 m.	5h.05		176
Jan. 6	Olympia	Narromine local ..				2
8. *A. Ash. Hinkler Soaring Club. Total points* 210						
Dec. 27	Blue G.B.	Narromine to Trundle	56 m.	2h.30		99
Dec. 29	Olympia	Narromine to Bundaburrah	92 m.	4h.55		111
9. *R. Roberts. Victorian Motorless Flight Group. Total points* 206½						
Dec. 31	Golden Eagle	Berwick to East Sale (goal)	98 m.	3h.54		206½
10. *L. Beck. Gliding Club of Victoria. Total points* 184½						
Dec. 25	Grey G.B.	Benalla to Bondure ..	92 m.	7h.59		184½
11. *E. (Jock) Barratt. Waikerie Gliding Club. Total points* 158						
Dec. 26	Olympia	Waikerie to Mildura ..	120 m.	6h.35		146
Jan.	Olympia	Waikerie local				12
12. *R. Slusarev. Hinkler Soaring Club. Total points* 148½						
Dec. 25	Blue G.B.	Narromine to Bogau Gate	66 m.	5h.48		135
Dec. 28	Blue G.B.	Narromine local ..				13½
13. *L. Schultz. Sydney Soaring Club. Total points* 145						
Dec. 28	Olympia	Narromine to Lake Cowell	110 m.	5h.35		133
Jan. 3	Olympia	Narromine local ..				12
14. *F. van der Kreek. Hinkler Soaring Club. Total points* 87						
Dec. 27	Olympia	Narromine to Trundle	56 m.	2h.39		66
Jan. 6	Blue G.B.	Narromine local ..				21
15. *Dr. G. A. M. Heydon. Sydney Soaring Club. Total points* 80						
Dec. 27	Olympia	Narromine to Parkes ..	63 m.	4h.23		80
16. *J. Day. Victorian Motorless Flight Group. Total points* 79						
Dec. 27	G. Eagle	Berwick to Trafalgar ..	47 m.	1h.33		79
17. *D. Reid. Victorian Motorless Flight Group. Total points* 78½						
Dec. 29	G. Eagle	Berwick local				1½
Jan. 1	G. Eagle	Berwick to Narbethong	37 m.	2h.30		68
Jan. 3	G. Eagle	Berwick local				6
Jan. 6	G. Eagle	Berwick to Lysterfield ..	8 m.	.30		3
18. *C. Bond. Adelaide Soaring Club. Total points* 34½						
Dec. 28	Golden G.B.	Waikerie local				30
Dec. 27	Golden G.B.	Waikerie local				4½

All other pilots scored less than 25 points.

Excellent Conditions Bring RECORD FLIGHTS IN NEW SOUTH WALES

The first and last weeks of the New South Wales competitions saw excellent soaring conditions at Narromine, State contest centre, with the only dull patch the first week of the new year.

Four members of the Sydney Soaring Club with the ' Silver Olympia,' and seven Hinkler Soaring Club members with the ' Blue Olympia ' and ' Blue Grunau ' flew a total of over 2,200 miles, broke two Australian records, gained two Gold ' C's ' five Silver ' C's,' and a Diamond height leg.

Two flights over 200 miles and eight flights over 100 miles were made, Sydney Soaring Club flying about 70 hours for a distance of 1,158 miles, and the Hinkler club 1,179 miles in 85 hours.

Record flights were Keith Colyer's 259 miles to Jerilderie, and an out-and-return record of 126 miles to Parkes and back, set by Mervyn Waghorn.

It was unfortunate that some of the longest flights were carried out on non-competition days and could not be counted.

Among these were a 210-mile flight to Wagga by Len Schultz, who completed his Gold ' C.' On the same day Hinkler Club president Fred Hoinville made an outstanding flight of 132 miles in the ' Blue Grunau.' He completed the distance in 5 hours after a late start at 1.30 p.m. Bob Krick flew 115 miles to Bathurst in the Hinkler Club ' Olympia ' on the same day.

Other non-competition flights included :—Sydney Soaring Club, M. Waghorn, Narromine to Alectown and return, 100 miles; Dr. Heydon, Narromine to Coonamble, 70 miles; and Mervyn Waghorn, Narromine to Gulah, 63 miles.

Hinkler Soaring Club—Ray Ash in the ' Grunau,' 56 miles to Trundle; Allan Ash 50 miles to Alectown in the ' Olympia.'

Both clubs made a number of flights between Narromine and Dubbo, a distance of 20 miles. Good heights were also recorded during local flying. Len Schultz reached 13,200 ft.; Bob Krick missed Gold ' C ' height through barograph failure on a flight to 12,000 ft. in the ' Blue Grunau.'

Sydney Soaring Club pilots Keith Colyer and Len

Schultz completed their Gold ' C's ' and Mervyn Waghorn got his Diamond height leg with a climb to 17,200 ft. on his record-breaking out-and-return flight to Parkes.

The five Silver ' C's ' gained went to Hinkler Soaring Club members Bob Krick, Bob Muller, Bob Slusarev, Ray Ash, and Allan Ash. Frans van der Kreek gained Silver ' C ' height and distance, but narrowly missed duration.

Allan Ash also reached Gold ' C ' height with a climb to 11,000 ft.

Three competition flights of better than 150 miles were made by Mervyn Waghorn, of Sydney Soaring Club, and Bob Krick and Bob Muller of the Hinkler Club.

Muller flew 156 miles from Dubbo to Walgett on January 2. The following day, to save a retrieve, Bob Krick flew the ' Olympia ' back from Walgett to Narromine, 152 miles. Waghorn flew 155 miles Narromine to Booroowa.

Shortage of tow-pilots in the Hinkler club resulted in Fred Hoinville being full-time tow pilot, unable to compete.

The Oldest Inhabitant Whinged

POOR CONDITIONS MARRED WAIKERIE COMPS.

The worst fourteen days' flying weather in the memory of the oldest inhabitant coincided with the South Australian competitions at Waikerie this Christmas, according to our special correspondent.

Waikerie Gliding Club and Adelaide Soaring Club held combined competitions at this centre, flying only three aircraft—Waikerie's ' Olympia,' and the ' Gull 1 ' and ' Grunau ' from Adelaide.

Best distance flight was 120 m. to Mildura by Jock Barratt, of Waikerie, in the Olympia ' Yellow Witch,' in which he reached Gold ' C ' height with a climb to 12,350 ft.

Only other cross-country was over 45 miles to Renmark in the Adelaide club's ' Golden Grunau,' in which R. Muller reached 8,000 ft. This trip started interestingly, with the ' Grunau ' and ' Kite II ' vie-ing for a position in a thermal at 200 ft.

Colin Buckley (Waikerie) completed his Silver ' C ' with a five hour duration flight in the ' Olympia,' to become the fifth Silver ' C ' in the club, and in the State.

Charlie Bond (Adelaide) gained the first leg of his by sitting out 5 hrs. in the ' Grunau,' and Alan DeLaine clocked 5 hours 35 min. in the ' Gull I.'

In the last week of the contests flat conditions kept all aircraft virtually grounded, except for a three hour local soaring flight by Jock Barratt.

LOSS OF TOW-PLANE CANCELS QUEENSLAND'S COMPETITIONS

(From Nial Hart of The Toowoomba Soaring Club)

The loss of Dr. Mervyn Hall's ' Tiger Moth,' which had been used for all launches, caused the cancellation of the National competitions at Toowoomba.

Flying here stopped about the middle of November, when the ' Tiger ' and several trees ended their careers simultaneously.

The winch had fallen into mild dis-repair during the previous year of aero-tow, and it has taken some time to put it into service again.

This, combined with bushfires, heat waves, and the cooler conditions of the Pacific coast, persuaded most to leave flying go until a more suitable time.

So our activity during Christmas consisted mainly of widening our experience of wave conditions, submarine approaches, and up and down, and cross currents—all at the seaside.

Had we not had the unserviceability, heat conditions prevalent should have ensured many good competition flights.

The winch has now been taken to Oakey—our country location—the aero tow fitting is being put on another ' Tiger,' and we will soon be flying again.

Before the end of flying the ' H-17 ' and ' Grunau' had been flying well—2½ hours in the ' Grunau ' and two hours in the ' H-17 ' were the longest durations logged by Toowoomba Club pilots.

NOTABLE FLIGHTS DURING THE CONTESTS

96 MILES IN A 'KESTREL' IN W. AUSTRALIA

By C. R. New.

AFTER some fruitless attempts to leave Caversham Airstrip, it was decided to shift this Christmas Camp to the Dowerin district, as this was in the heart of the wheat belt country and offered opportunities for 200 mile flights in nearly any direction.

On the Saturday I made a few tows off the Dowerin airstrip; however, it was difficult to gain height and stay in the lift.

I was launched on Sunday at 1.15 p.m., and came down to 1,000 ft. before a patch of lift was found. The first thermal took me to over 4,000 ft., and I checked the drift and found that it was in a N.W. direction, so I decided to continue N.W. and strike the railway line which ran on a N.N.W. heading. The first 1½ hours was difficult, as the thermals were small and fierce. I was pleased to sight Wongan Hills, which is on the railway line, as I had not had any experience in air navigation, and this wheat belt country does not offer many landmarks.

After passing Wongan, the thermals improved, and it was quite pleasant to see the small towns pass underneath. At about 4 p.m. I was thinking that solid ground would be a much better place than the seat of the ' Kestrel,' so I picked out a large farm house which appeared as though it might have all the comforts I needed. However, as I circled the area, I discovered strong lift again and unwillingly went up to 6,000 ft. There was another small town a few miles away, so I pushed the nose down and came over it at 4,000 ft.

I couldn't see another settlement ahead, so I picked out a large field, and circled down for a landing.

My troubles then started, as Sunday in the wheat belt area is definitely a day of rest, with telephone exchanges, etc., all closed. I was 3 miles away from the exchange, and unfortunately, the car was away from the farm. Mr. Dinnie (*Continued on page* 15)

Wings over the Navy

FIRST AUSTRALIAN SERVICE GLIDING CLUB BEGINS FLYING

By Lieut. Harold Kent.

THE first service gliding club in Australia has begun regular flying at the Naval Air Station at Nowra, New South Wales—H.M.A.S. Albatross.

Known as the Albatross Gliding Club, it is flying a ' primary,' building a ' GB,' and completing wings for an imported ' Kranich ' fuselage.

The Albatross Club is now functioning full time, or at least it is as long as our ' primary ' remains serviceable. It is absolutely first-class for training, being very stable, with a sink of six to seven feet a second, which is a very great improvement on earlier types.

The membership totals 24, eighteen Naval Airmen, three Petty Officers, and three Officers, with myself as secretary and instructor.

Training takes place at 05.30 every morning, as we have found this to be the only time of the day conditions are ideal, or at least almost ideal. Then there is no wind, and we can do ground slides, air slides, and low hops—in both directions of the runway.

We are severely handicapped through not having any level grass launching sites. Our main runway is about 6,000 feet, which provides ample practice in take-offs and landings.

Usually there are about twelve take-offs and landings on each tow, for which we use a three-ton truck, and instructor standing on the flat top, facing the glider, which is towed on a 3-ton, 100 ft. wire rope.

By using a pair of deck landing bats, the trainee can be controlled up or down when doing air-slides. Being compelled to steer to one side of the truck he learns the use of all controls much quicker than by the long-distance out of sight winching method.

We have this year begun the assembly of our ' Grunau ' parts, and the construction of a pair of ' Kranich ' wings, the fuselage of which I brought from the U.K. three years ago.

Club members will join N.S.W. Gliding Association.

LEN SCHULTZ TAKES SYDNEY SOARING CLUB ' OLYMPIA ' 210 MILES

Len Schultz, of Sydney Soaring Club made an outstanding flight of 210 miles from Narromine to Wagga during the club's Christmas tour—but unfortunately the flight was made after the end of the National competitions.

He was towed off on Thursday, Jan. 10, into a 10-knot north-westerly wind, which with good thermals, resulted in 3 good flights that day. Fred Hoinville's is described on another page. The third was Bob Krick's flight of 115 miles to Bathurst in the Hinkler Club ' Olympia.'

Len Schultz' take-off was at 11 a.m. when he climbed quickly to cloudbase at 6,000 ft., and set off south. Good cloud lift resulted in a high ground-speed, and within an hour Peak Hill—35 miles— was reached.

In one cloud he climbed to 11,000 feet and took the opportunity to test the oxygen equipment.

He found—as others have—that stable air near Lake Cowal reduced his speed, but after passing this area lift remained good.

During the flight he contacted Wagga control tower and announced an E.T.A. of 6 p.m.

The airport controllers were probably vaguely surprised when he again radioed them at exactly 6 p.m. to tell them he had just arrived over the drome, at 4,000 feet. They asked him to delay his landing to allow an airliner to take off, so he soared over Wagga for half an hour before finally getting the O.K. to land. Use of radio also enabled the air retrieve to be made much quicker.

HINKLER CLUB TRIES DOUBLE TOWS

The Hinkler Soaring Club, of Sydney, which pioneered the Low Tow method of aero-towing, has now added a new ' first ' to its accomplishments by carrying out the first double aero tows in this country.

Although it makes a spectacular act for any pageant or demonstration, the Hinkler Club developed the double tow primarily to reduce retrieving and transport costs for the Christmas gliding tour. Moving two gliders behind on ' Tiger ' halves the cost.

The first experimental tows at the club's home airfield at Camden provided some problems, but they were all solved after a little experimentation.

The tow rope was made by joining two ropes (160 feet and 220 feet long) on to a 10-ft. length in the form of a ' Y '.

The short length was connected to the tail of Fred Hoinville's gallant Moth ' Brolga '; the twin ropes were connected to the two gliders.

The ' Grunau,' piloted by Kelvin Moloney was hooked on the shorter rope, and the ' Olympia,' with Bob Krick at the controls connected to the longer one. The ' Grunau ' was to fly above and to the right of the slipstream, the ' Olympia ' below and to the left.

Weather conditions were not the best for experimenting, as a gusty S.W. wind of about 15 knots and odd bits of lift and sink made the air rough.

On the first take-off Kevin climbed a little too high, and at 100 feet he decided to release and try again.

The ' Olympia ' continued the circuit then landed, and the machines were lined up for a second attempt.

This time all went well until the ' Tiger ' turned cross wind at the end of the field, and at 150 feet encountered a big area of sink. With all three machines sinking rapidly Bob Krick cast off in the ' Olympia ' and made a smooth down-wind landing.

Released of a large part of its burden the 'Tiger' climbed away until the ' G.B.' was high enough to make a safe circuit.

Then it was decided to defer the double towing until later in the afternoon when the air would be calmer.

At 5 p.m. the wind eased off and a short flight was made in the towplane to check conditions.

The air was dead smooth, and at 6.50 the three machines swept off the runway into the setting sun. The ' Tiger ' climbed at 150 feet a minute to 5,000 feet, where the two machines released to put on a show of aerobatics.

Everyone was confident about the twin tow now, and a 200-mile tow from Camden to Dubbo was almost routine. The same three pilots flew the machines on this tow, which took them over the 4,000-ft. Blue Mountains.

The tow to Dubbo took 3 hrs. 20 mins., and the machines arrived there with less chance of damage than if they had been in trailers on the roads.

The machines landed at Dubbo to let the pilots meet members of the Dubbo Gliding Club, their destination was Narromine.

On the tow off from Dubbo one of the tow ropes broke, so both pilots released, climbed away in a thermal, and soared the rest of the way to Narromine, about 20 miles.

Cross-countries which club pilots carried out on the last day of the Christmas camp found both machines at Bathurst aerodrome, and the double tow home was made from there.

Once again Bob Krick flew the ' Olympia ', and on this tow Ray Ash flew the ' G.B.' finding no difficulty in the new form of towing.

CUSTOM—ARY DELAY

The fuselage of Waikerie's new Slingsby ' Austral ' has arrived at Port Adelaide, but they can't pick it up yet.

The authorities are holding it while they make a weighty decision—whether the fuse is aircraft parts, or parts of an aircraft. ' Evidently there is a difference,' says Waikerie Secretary, Bob Rowe.

FULL-TIME GLIDING TRAINING MOOTED FOR WAIKERIE

Club Plans Residential Clubhouse, Vast Expansion.

Waikerie Gliding Club, in South Australia, plans to begin Australia's first full-time gliding training courses this year.

The club is increasing its fleet to six machines, including two dual gliders and will erect a new hangar and clubhouse, with residential facilities.

Secretary Bob Rowe said :

' We hope to organise the first training course—lasting a fortnight—about next October.

It would be open to anyone wishing to learn to fly, or to advance on to better machines than are available in their own club.

The single-seater machines available will be the ' Olympia,' ' Kite II,' ' Grunau,' and ' H-17.' The two-seaters will be the locally designed and built ' Pelican II,' and the Slingsby ' Austral.'

The ' Pelican II,' now almost complete, is a pod and boom side-by-side dual two-seater. Its estimated glide ratio at 45 miles an hour is 1 : 22.5, and hoped-for minimum sink 2.75 feet a second.

The Slingsby ' Austral ' is a ' T 31 ' fuselage, with better wings than the original ' T 31,' and we expect it to have a better performance.

The fuselage, bought in kit form, is being assembled in Adelaide by the newly formed Adelaide branch of the Waikerie Gliding Club.

This branch of the club is separate from the Adelaide Soaring Club, which will still fly from Gawler airstrip.

But it comprises mainly former members of the Adelaide Club, who have bought a passenger bus to travel to Waikerie on alternate week-ends.

When the clubrooms are completed a branch will also be formed at Renmark, 45 miles away, and they also, will fly at Waikerie on alternate week-ends.

These ideas are still in the planning stage, and most of them rest on the completion of the clubrooms. However, we have leased the land and should be starting work soon.'

TASMANIA HAS ITS PROBLEMS

The Gliding and Soaring Club of Tasmania is claiming two world records—about neither of which the club members are very happy.

It is claimed that Hobart has the Southernmost gliding club in the world. This, members say, is not so much of a claim to fame as excuse for a limited soaring season.

They also claim the 500 tons of stones on their flying field as a world record for size, weight, and general inconvenience in flying field obstructions.

Club President Howard D'Alton says the club is now moving from a field at Ralph's Bay to Tea Tree, 17 miles from Hobart.

Despite extensive drainage Ralph's Bay field became too wet in winter for tow cars.

The new site is suitable in many ways except that up to 500 tons of stones will have to be removed before it is really safe. However, three runways can be made serviceable by moving only about 80 tons, when the red ' H-17 ' can operate.

If finances will permit, a hangar will be erected during the year.

The club is also building a Briegleb ' BG-6 ' utility, which can be converted to the ' BG-7 ' (similar to ' Kadet-Tutor ' system).

LAUNCESTON CLUB

The Tasmanian Glider Club, with headquarters at Launceston, has temporarily ceased flying due to a shortage of instructors.

The club has a ' Dagling,' and is rebuilding ' Currawong,' damaged 14 months ago.

Accident Report.

A WARNING TO WINCH DRIVERS

Cliff Gurr, of the Adelaide Soaring Club, was recently injured when he was hit by a glider during the early stage of a launch.

His own account of the incident may help other clubs avoid such accidents.

Cliff Gurr said :

' It happened because of a misunderstanding between winch and aircraft crew while Adelaide Club was flying at Waikerie. *(continued on page 8)*

INTERNATIONAL COMPETITIONS, 1952

Spain—how to get there

THE Olympic Gliding Contests are to be held from the 30th June to the 13th July *not* at Huesca, as first announced, but in Madrid. This adds a lot of extra miles but is actually much easier to manage for most people—even hitch hikers.

The quickest way, by air, is very expensive, but there are two alternatives—by train or by car. A 3rd class return will cost you about £20 and be definitely uncomfortable, especially on the Spanish section. In fact, I would advise changing to 2nd class in Spain, for expresses often have no 3rd class. The journey takes roughly 48 hours and is better arranged through a reliable agency. Anyway, take your own food.

A possible alternative is by motor coach right through, and it is probably well worth while hiring a private coach if enough support could be arranged. But by far the most attractive and often the cheapest way is by private car, lorry or motor cycle, either carrying tents or getting hotel rooms en route (very cheap if village hotels are chosen), and preparing your own food, because all meals are expensive. We have done two trips by car at an average of £20 per head including cross-Channel fares, petrol, hotels, and food but we travel very cautiously and try to keep a small reserve fund for possible breakdowns (though we usually spend it if we can get at it !).

Petrol is expensive in both France and Spain (and in Spain petrol pumps are often very many miles apart, so fill up whenever you can find one—they are usually pale grey and wildly inconspicuous.

In our experience Spanish hotels are always clean and the food is plentiful. ' Pension completa ' terms in Madrid are well worth while ; you should be able to find a nice little place for about 10/- a day all-in. Mealtimes are very different—a light coffee and rolls breakfast, lunch from 2 p.m. to 4 p.m., dinner from 9 p.m. till midnight or later. Odd coffees or teas are costly so if you must have them take your own. Wine is wonderful and very cheap—you can buy a quart for a shilling. It pays to carry your own bottle and refill at the local pubs en route.

If you do decide to go by car get in touch with the A.A. immediately and book your sailing dates. They will send you all the necessary forms, and you will be well looked after by the A.A. men at each port. We go Newhaven-Dieppe but the Dover-Calais crossing is much shorter (though it means more mileage in France). Go via Bordeaux and cross at Irun—and don't forget your Spanish visa. You can cash travellers' cheques at the frontier or in Madrid, and you may still have to buy your petrol vouchers there. The Spanish people are charming but they often don't speak English ; it might be a good idea to put a sticker on your windscreen saying ' CONCURSO DE VUELO SIN MOTOR—MADRID ' (Gliding Contests—Madrid). So good-luck, and if you see a green Vanguard HKV66 that will be me.

VERONICA PLATT

Will anybody with or without car who would like to go as passenger or could take passengers please let us know—Ed.

Argentine Team

THE three best classifications in the ' A ' category of the Fourth National Contests recently held at Trenque Lauquen will figure on the team as follows : Jose Cuadrado, Jose Ortner and Ricardo Bazet, all three from the club Albatross. The delegation will be completed by the two best from the category ' B ' Marcelo Garcia and Francisco Rossi, of the Esperanza and Trenque Lauquen clubs, respectively. Further, Claus Haberle of the Club Condor was picked as co-pilot for double-seater. Reinaldo H. Picchio of the Cordoba club and Rodolfo Patallo from the Albatross club from the ' A ' category, and Dario Lestani of the Bolivar club and Carlos White of the Tucuman club will accompany the team in a supplementary capacity.

THE German entry for the World Championships in Spain is : Ernst Gunther Haase, Miss Hanna Reitsch, Heinz Kensche, Max Beck, Dr. Erst Frowein. Crewleader is Seff Kunz. The types flown are 3 new two-seaters ' Kranich III,' ' Mu 13 E,' ' Bergfalke ' und ' Condor IV ' and the well-approved one-seated ' Weihe.' The German crew is to undergo a 14 days' training camp in first half of May.

(Hubert Zuerl, Editor of AERO.)

U.S.A.

THE Soaring Society of America recently voted against financially sponsoring an American team of sailplanes and pilots to enter and compete in the forthcoming International Soaring Contest which is to be held in Spain during the latter part of May, 1952.

Despite this disappointment of sponsorship by the S.S.A., several pilots are making an effort, on their own, to organize a team to go to Spain. Under the able and noteworthy efforts of our own Doctor Klemperer and Wally Setz of Philadelphia (a good old friend and active soaring pilot, well experienced in Continental soaring as well as American), a promising start has been made in organizing a team. At this writing, the following pilots have been lined up and have expressed their intentions to form an American team ; they will pay their own way and will be in this contest to compete for world championship :

William Beuby, Van Nuys, Calif., entering a ' Pratt Read ' sailplane ; Emile Lehecka, New York City, N.Y., type of entry not yet known ; Ralph Scott Royce, U.S.A.F., Europe, entering a European sailplane ; Paul McCready, Pasadena, Calif., entering a Swedish ' Weihe.'

At present, each pilot is securing his own sponsor or paying his own way. It is estimated that transportation of both pilot and sailplane, plus living expenses en route from California to Spain and return, will involve a six-to-eight week period of time, the cost of which will be considerable. These costs will undoubtedly be whittled way down if these pilots decide to rent European sailplanes, hire local crews, pool their expenses, etc.

GERMAN SOARING

TEAM FOR SPAIN

ON the occasion of the Third Soaring Conference held at the Ziegenhain site, nr. Kassel, Seff Kunz, President of German Aero Club Soaring Committee put down an impressive balance report on motorless flight activities in Western Germany. The Deutscher Aero Club has at the moment 31,000 members, 134 gliders and sailplanes and 540 holders of the Silver badge.

Evidence of the excellent preparatory work before the lifting of the ban in April last year is the fact, that preliminary operation regulations were out two weeks later and that only 2 accidents and 11 minor crashes happened in 1951.

According to individual reports of the Soaring Delegates of each country a total of 535 sailplanes are in operation or construction and expected to be ready by the autumn.

The German National Soaring Competitions will be held from August 3-17 at the Klippeneck site near Tuttlingen in Wurttemberg, in the south-west of the country. Up to now 25 entries have been placed by the groups of the German Aero Club.

U.S.A.

Dr. Raspet writes ' Dick and I both felt that if a compromise had to be made it should be made toward fostering the American movement rather than the internationals. Now since the times are not conflicting it should be possible for Dick to compete both against the Europeans and against the ' Horten IV.'

Wally Setz gives us some information on the Internationals as follows—' Jose Ortner writes Argentina will be there with bells on (he's a Golden ' C ' plus 1 diamond now). The ' Gauchoes ' are practising like mad men. This is their soaring season. Wolf Hirth says Germany will enter 2 ships, new ' Condors,' old pilots, unnamed.'

Possibility of at least two auxiliary powered sailplanes in the 1952 National is in the offing. Mr. Ted Nelson of San Leandro, California, designer and builder of the two-place ' Hummingbird ' will fly in the August soaring tournament. Also Nelson and his chief Engineer, Harry Perl, are in the finishing stages with a new auxiliary powered ship, a single place high performer. They expect to finish this new machine and have it here with the ' Hummingbird.'

The 1952 Nationals will see the inclusion of at least one additional championship category, two-place ships flown with a passenger. Competition for the men and women single-place championships will be continued as in the past.

The test to include ten days of actual competitive flying (weather of course permitting). The dates of the American National Contests, being held in Texas are Tuesday, August 19th to Saturday, August 30th, the first contest day to be Tuesday, August 19th, then 20th, 21st, 22nd, and 23rd, Sunday, August 24th to be a rest and a time for technical sessions, etc., Monday, August 25th back to the contesting, then 26th, 27th, 28th and 29th. Saturday, August 30th, will be a final day for technical sessions, social events and the Awards Banquet in the evening.

POT-LUCK DINNER MEETING

THE Annual Pot-Luck Dinner Meeting of the South California Soaring Association was held on Friday, the first of February at Griffith Playground. The affair was very successful, largely due to the efforts of Alice Rodenburg. Alice was responsible for seeing that everyone did not bring the same kind of food, and for her fine work she was presented with a bouquet.

After the fine food had been disposed of, Vic Saudek reported on the Sierra Wave Project. A great deal of interest was shown when Vic demonstrated a preliminary layout of the proposed two-place pressurized cabin sailplane to be used in the exploration of the Sierra wave at very high altitudes. This ship would have a span of about 100 feet, or roughly that of a ' B-17 Flying Fortress.' If such a ship were headed downwind from the altitude for which it is to be designed, it could conceivably exceed the 545-mile international distance record in one straight glide. Keep an eye on this project !

John Loufek gave a short talk on cross-country soaring possibilities out of Torrey Pines. He illustrated his talk with a blackboard sketch of the area, indicating approximate locations of airports, mountains, farms, etc.

Mr. Wilbur Zepp of Zepp Aerobreathing Company gave a short speech on the facilities and services of his company, and issued an invitation to interested S.C.S.A. members to visit his plant. It was a pleasure to have Mr. Zepp attend our meeting and we appreciate his kind offer to aid us with our oxygen problems.

The evening was climaxed by the showing of some very fine coloured slides on Cuba and Guatemala by Mr. David A. Matlin.

Notable Flights during the Contests—*contd. from p.* 11.

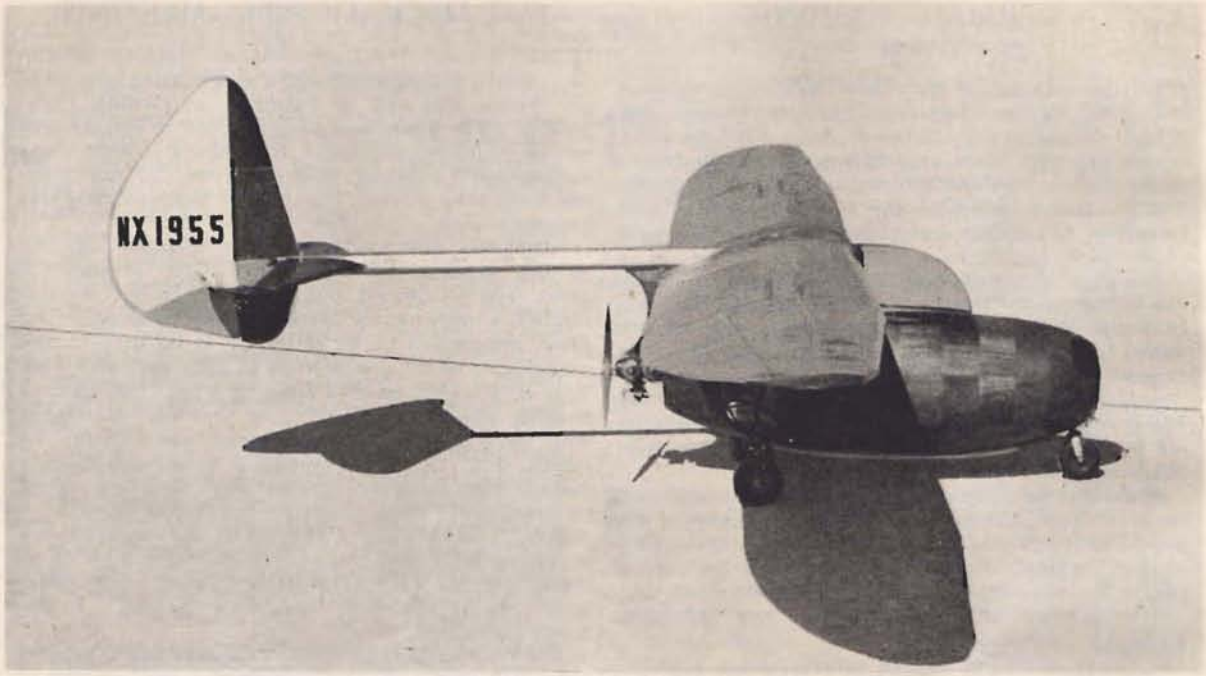
(the farmer) apologised and offered me a push-cycle. After flying over the ground, this push-cycling was definitely not good. However, after contacting the Postmaster, I found he was most obliging and I was able to telephone my wife.

I would like to take this opportunity to thank the Club members who set off at 9 p.m. that night, without any evening meal, to retrieve me. There was not a complaint, although it was 5 a.m. before we arrived back at base.

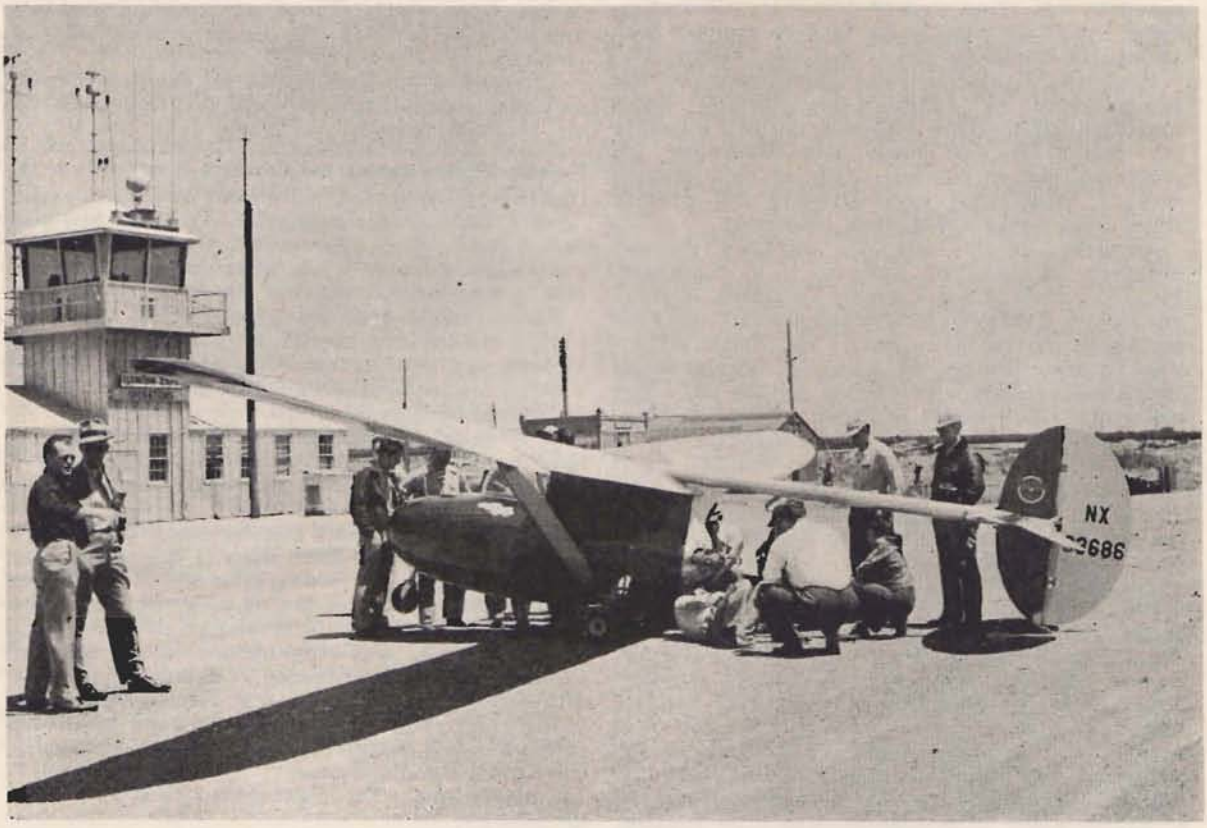
It is quite apparent that this wheat country is ideal for gliding, as perfect landing fields continue for hundreds of miles, and a landing decision can be left to the last few hundred feet.

In conclusion, I cannot help but say that it grieves me to realise that we have some of the best gliding country in the world, yet so little official interest in the obvious possibilities that it presents. I am sure that gliding centres could be started in most of our country towns, and any money spent by our Government in this manner would pay handsome dividends by supplying a semi-trained reserve of young, eager pilots, while at the same time Australian aviation would benefit by the scientific knowledge derived during this process.

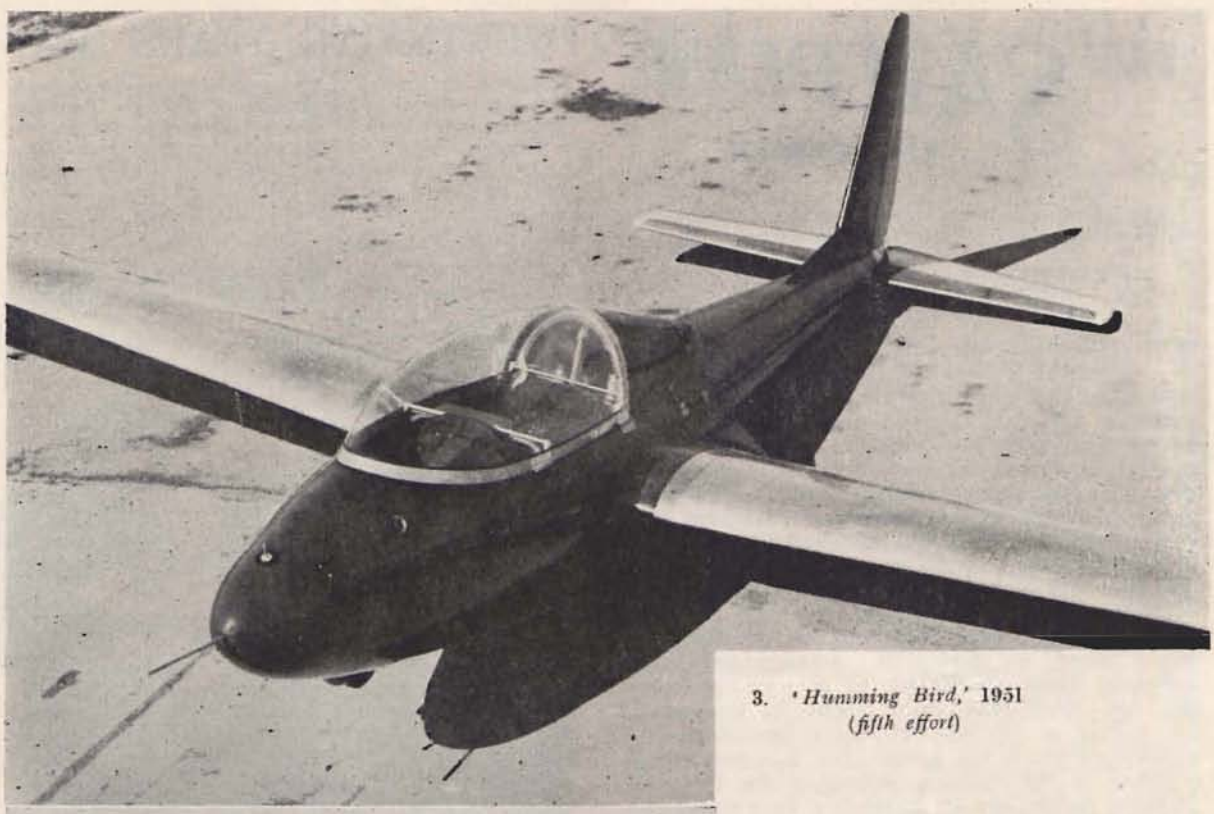
(*Editor's Note.*—This flight set a new State Record for distance).



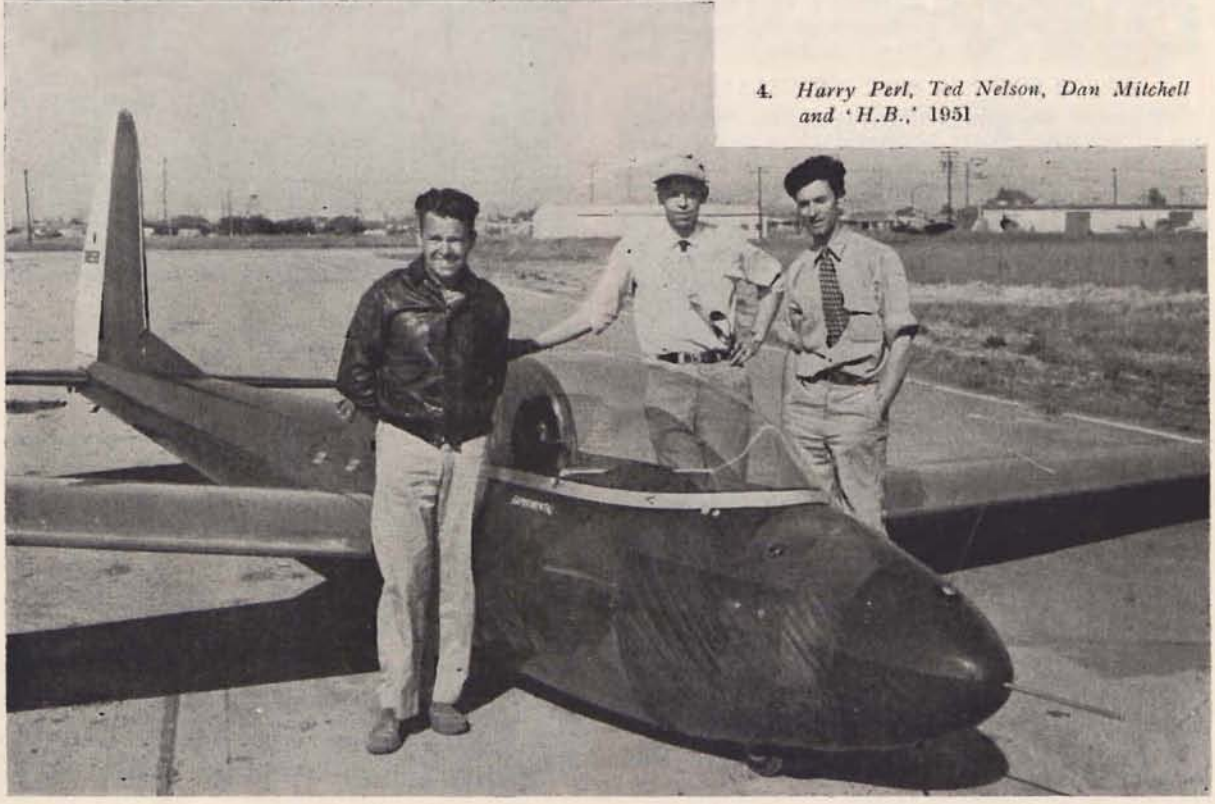
1. '*Bumble Bee*,' *late* 1945



2. '*Dragonfly*,' 1946



3. *'Humming Bird,'* 1951
(fifth effort)



4. *Harry Perl, Ted Nelson, Dan Mitchell and 'H.B.,'* 1951

THE SAILPLANE AND GLIDER

TWENTY-ONE YEARS AGO

Throughout the coming year we are publishing in each issue under the above heading items from the pages of 'Sailplane and Glider' twenty-one years ago. This month the feature is devoted to items which appeared in the May issues of 1931.

(The following extracts appeared in the Automotor Journal for Jan. 27, 1906, and Feb. 10 of the same year. The editorial comments on Auto-towing should prove instructive as well as amusing.—Ed.)

EXPERIMENTS BY TOWING WITH A MOTOR-CAR

TO experiment with an aeroplane by having it towed by a cord from a motor-car going at high speed is a form of tackling the problem which naturally appeals to a good many people, and we have ourselves, on one occasion, at least, suggested it as worth trying. We are not now at all convinced that it is a good method to adopt, because the towing cord, which represents the string of a kite, not only gives propulsive force, but also stability, and the problem, of course, is to accomplish stability while provided with propulsive force only.

However, the experiment has been tried on the Ormond-Daytona beach, which is just the place one would select for trying it. Unfortunately, the aeroplane broke either itself or its rope—probably the rope—when raised to a height, by the motor-car towing it, of 200 feet above the beach. It accordingly fell to the ground, but it is remarkable evidence of the excellent nature of the Ormond-Daytona beach, and its suitability for experiments of this kind, that the experimenter did not suffer any more injury than a severe shaking.

RECKLESSNESS NOT NECESSARY.

Of course the experimenter had no business to go up to 200 feet. What (if anything) he would have learned about the controlability of an aeroplane under such circumstances, would have been provided by keeping at a much lower altitude. If he was unable to do so, it would have proved that his control was imperfect. He should have been able to keep his machine from going up so high; that is to say, if it was nearly as controllable as it ought to have been. Instead of rising to a dangerous height like this he ought to have been able to maintain himself at from 20 ft. to 40 ft. in the air with a diminished pull on the motor-car.

WHERE GLIDING CAN BE SEEN

Beds. The Bedford Gliding and Flying Club. Week-ends at Woolley Hill. On the Huntingdon-Thrapston Road, between Spaldwick and Ellington.

The London Gliding Club. Meeting place, Turvey's Farm, near Tooternhoe, on Saturdays and Sundays.

Dorset. See under Somerset.

Edinburgh. Sundays at West Craigs Farm between Corstorphine and Turnhouse Aerodrome.

Essex. South Essex Aero Club. Week-ends, Wheaton's Farm, Laindon (L.M.S. Southend Branch).

Glam. Merthyr and District Gliding Club. Sundays 10 a.m. to sunset. ¼ mile left Dynevor Arms on Merthyr Tydvil-Swansea road.

Hants. The Southampton Gliding Club. Every week-end at Red Lodge Farm, Bassett.

Surrey Gliding Club. Saturdays 2.30 p.m., Sundays 10 a.m., weather permitting at Stock's Farm, Meonstoke (Old Winchester Hill).

Hereford. The South Shropshire and North Herefordshire Gliding Club at Dinmore, ½ mile from Hereford-Ludlow road. Every Sunday and Thursday from 2 p.m.

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

I.O.W. The I.O.W. Gliding Club, at Bowcombe Down, 1½ miles West of Carisbrook on main Newport-Freshwater Road. Sundays at 11.0 a.m.

Kent. North Kent Gliding Club. Saturdays 1.0 p.m., Sundays 10.0 a.m., Joyce Green Aerodrome, nr. Dartford.

Kent Gliding Club. Week-ends above Lenham on the Maidstone-Ashford Road.

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

Lanark. The Glasgow Gliding Club. Barrance Farm, Easter Whitecraigs, nr. Glasgow. Sundays 11.15 a.m.

Lancs. The Furness Gliding Club at Raikes Moor Farm, Hawcoat, Barrow-in-Furness. Saturdays 2.20 p.m., Sundays 10.30 a.m., weather permitting.

The Stockport Gliding Club. Sunday afternoons. Woodford Aerodrome, Manchester.

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

Notts. The Nottingham Gliding Club. Mr. Ellis's Farm, Kneeton Road, East Bridgeord. Sundays, weather permitting.

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

Staffs. The North Staffs. Gliding Club. Week-ends at the Downs Banks, Barlaston Downs, nr. Stone, Staffs.

Sussex. Southern Soarers Club. Newmarket and Balsdean, between Lewes and Rottingdean, nr. Brighton. Week-ends by arrangement for soaring.

Southdown Skysailing Club. Every Sunday. Ditchling Beacon Sailplane Club. Every Sunday at Small Dole.

Warwick. Rugby District Gliding Club. Cote Hill Aerodrome, Husbands Bosworth, Rugby.

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

Worcs. North Cotswold Gliding Club. Every Sunday at Fish Hill, above Broadways Village, from 10.0 a.m., to sunset. Saturdays and Wednesdays from 2 p.m.

Yorks. The Accrington Gliding Club. Wednesdays, Saturdays and Sundays. Hambledon Hill. One mile along Burnley Road.

The Bradford Gliding Club. Saturdays 2.30 p.m., Baildon Moor, Sundays. Various alternative sites are being tested with a view to permanent use.

The Huddersfield Gliding Club. All day Sunday near the Flouch Inn, 11 miles from Huddersfield, beyond Newmill on main Sheffield road.

(How nonchalantly these glider meets were arranged. 2.20 p.m., on Saturdays forsooth. Who was to know that gliding would become the intricate and highly organised science it has now become. Who sighs for the carefree days of yesteryear?—Ed.).

BRITISH INTERNATIONAL TEAM TRIAL AT LASHAM

'Beryl,' (Mrs. G. H. Stephenson) talking to—Map in hand she follows her husband's progress

AT Lasham Airfield, Hants, on Easter Saturday, members of the British team who will compete in the International Contests at Madrid this summer had the opportunity of testing their new equipment. Other leading pilots took part and it was they who obtained the leading placings.

RESULTS.

1, Major Deane Drummond, of the Army Gliding Club, who flew 116 miles from Lasham to Irnham, Lincolnshire; 2, Lt.-Commander A. Goodhart, Royal Naval Gliding and Soaring Association, 108 miles to Sutton Bridge, Lincolnshire; 3, Mr. Lorne Welch, Surrey Gliding Club, 103 miles to Peterborough, Northamptonshire; 4, Sqdrn.-Ldr. D. Sanders, R.A.F. Gliding Association, 94 miles to Upwood, Huntingdonshire; 5, Mr. C. Dowdall, Surrey Gliding Club, 73 miles to Biggleswade, Bedfordshire; 6, Mr. S. Morison, London, 65 miles to Cranfield, Bedfordshire; 7, Mr. Frank Foster, London, 63 miles to Stony Stratford, Buckinghamshire; 8, Mr. D. Ince, Birmingham, 58 miles to Henlow, Bedfordshire; 9, Mr. P. Wills, Maidenhead, 52 miles to Dunstable, Bedfordshire; 10, Mr. W. Kahn, Surrey Gliding Club, 52 miles to Dunstable; 11, Mr. M. Laurie, London, 23 miles to White Waltham, Berkshire.

Best flight of the day was made by G. H. Stephenson who made an out-and-return flight to Dunstable—a total distance of 104 miles, and the best height was achieved by Mr. Dowdall, who reached 6,000 ft. during his flight to Biggleswade.

'Steve's' flight came about in this way. The car he was using for retrieving was only doing ten miles to the gallon. To economise he decided to do an 'out-and-return' although the latter half was against the wind. The task flight for the day was a declared 'Goal' flight. As the results show, Deane Drummond and Tony Goodhart flew further, but there was little doubt that 'Steve's' flight was the more meritorious and so he was given the Daily Prize. That was the only effective flying day during the Meet. But it demonstrated the merits of the new two-way Pye Radios for air to ground speech and thus helped both crews and pilots enormously.

—'Steve'

Our picture shows the stall of the Scottish Gliding Union at the Scottish Festival of Youth recently held in Edinburgh. A valiant effort to get new members and tell the public about gliding meant a deal of hard work for all concerned.

REORGANISATION OF R.A.F. GLIDING AND SOARING ASSOCIATION

AFTER two years' growth it has been found necessary to reorganise the R.A.F. Gliding and Soaring Association so that its equipment and facilities may be made available to the greatest possible number of people and its expansion may continue on a sound basis.

The aim of the Association is to bring gliding and soaring within reach of all members of the Royal Air Force, especially those normally employed on the ground. It comprises all R.A.F. gliding and soaring clubs formed in the United Kingdom. Similar R.A.F. clubs formed overseas may join as associate clubs.

So that the best use may be made of the funds and resources available the Association has selected seven clubs to be known as area clubs, which R.A.F. units in the vicinity will be encouraged to join.

The seven area clubs have their headquarters at the R.A.F. Stations at Compton Bassett, Wilts. (where the club is known as the 'Moonrakers'); Boscombe Down, Wilts.; Watton, Norfolk; Scampton, Lincs.; Bridgnorth, Shropshire; Pitreavie Castle, Dunfermline, Fife (H.Q., No. 18 Group, Coastal Command, and of the Balado Gliding Club); and Middleton St. George, near Darlington.

Although only seven Area Clubs are contemplated at present, it is recognised that there are other clubs whose function is to provide gliding facilities for their own unit personnel or for certain special categories of personnel (such as the Royal Aircraft Establishment) as distinct from serving a wide area as Area Clubs do. These unit clubs will not be subsidised by the Association but will be assisted in every other way possible. They will be known as Associate Clubs.

REFUSED LUNCH WITH A KING TO GLIDE AGAIN

WE hear that Philip Wills' first flight at the Easter Meeting at Lasham ended in a deer park from which, we are informed, he had considerable difficulty in escaping, as the fences were some 12 feet high.

The adjoining mansion was occupied by ex-King Michael of Rumania and his wife and family who assisted Wills to de-rig the 'Weihe.'

Operation completed Philip Wills declined ex-King Michael's invitation to lunch as he wished to make a second flight during the day. He did. See page 19.

Letters to the Editor

SIR,

Re ' 4,500 *ft. on a Winch Launch* '—*February issue of Sailplane.*

If Mr. Verling were asked to sit in the cockpit of his ' T.21 ' and hold the control column while somebody placed a ½ cwt. (distributed) load upon the elevator one imagines he would be duly concerned, and yet—unless the reasoning below is at fault—that is the equivalent of the load imposed by 4,500 ft. of hanging cable.

Viz —Wt of 6 ft. × 20 cwt. cable : 0.246 lb.

$$\therefore \text{ Wt. of 4,500 ft. cable} = \frac{0.246 \times 4{,}500}{6} =$$

184 51 lb. approx.

(Neglecting wt. of parachute, weak link etc.)

Distance release-hook to wing spar : 4 ft. 9 ins. approx.

Distance wing spar to elevator : 17 ft. 9 ins. approx.

Taking moments about front spar :—

184.5 × 4.75 = 17.75 × (down-load on tail) from which down-load on tail $= \frac{184.5 \times 4.75}{17.75} = 49.38$ lbs.

∴ Direct load on elevator,

—at 25 degrees ' up ' (say) $= \frac{49.38}{\text{Cos.}25} = 54.51$ lbs.

the aircraft being assumed to fly ' hands off ' (i.e. no load on elevator) for two persons of normal weight, which means that 54.51 lbs. tail load is due entirely to the weight of cable carried.

Without knowing elevator king-post dimensions etc., one would imagine this to represent a pull in the elevator-to-cockpit cable of the order of 100 lbs. or more. It would be interesting to have Messrs. Slingsby's comments on exceptionally high cable launches.

It has been argued that the weak link would fail before any dangerous loads were imposed upon the aircraft, which raises a point one would like to have cleared up :—The failing load of 10 cwt. for the weak-link has presumably been calculated with a knowledge of the maximum permissible stresses to which the aircraft may safely be subjected ; a weak-link failure at take-off (or early in the launch) when a direct forward pull is exerted, and most of the cable is still on the ground anyway, or at least a fair proportion of it is carried by the winch, is a very

(*continued on page* 22)

ACHIEVEMENTS AT THE MIDLAND CLUB

A CAMBRIDGE undergraduate flew 80 miles by glider from the headquarters of the Midland Gliding Club, Long Mynd, Church Stretton, on March 22, and another reached a height of 13,100 feet in a two-seater glider.

They were in a party of fourteen undergraduates who spent a week at the club with three machines.

R. H. Prestwick recently reached a height of 13,100 feet on a standing wave. A. A. MacDougal (Cambridge) who was on a five hour duration flight reached 9,100 feet on the wave.

S. R. Wiltshire flew to an R.A.F. Station in Buckinghamshire and gained his Silver ' C .' The deputy chairman of the Midland Club, also completed his Silver ' C ' with a flight of 40 miles to Defford, near Pershore.

NEW BADGE FOR R.A.F.G.S.A.

MR. CLIFFORD PEMBER, an artist and architect living in Gloucestershire, has designed a new letter-head and badge for the R.A.F. Gliding and Soaring Association.

Mr. Pember's first attempt after many designs had been submitted, pleased the Association's chairman, Group Captain G. J. C. Paul. It represents a glider rising on an air current over a heavy cumulous cloud.

GLIDING COURSES AT LULSGATE

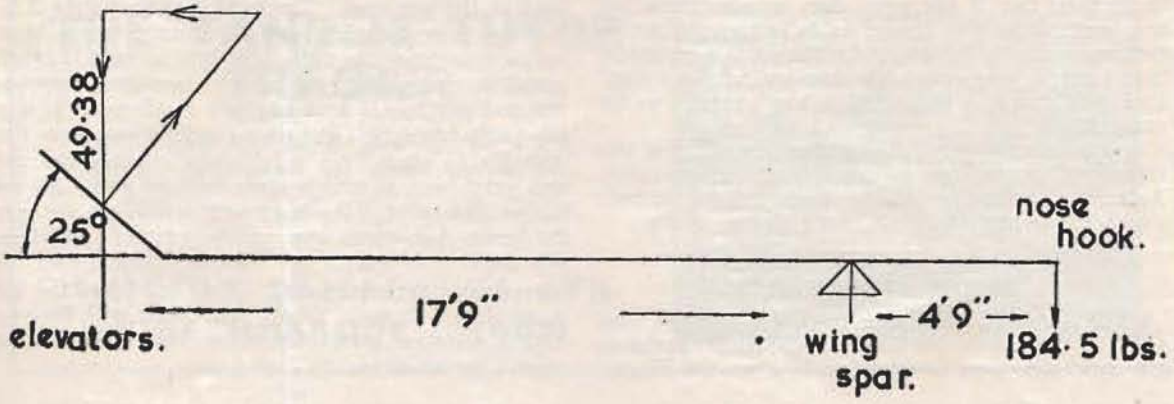
BRISTOL Gliding Club has again organised its resources to operate weekly Instructional Courses during the 1952 season.

The excellent facilities of the Club, operating on a spacious airfield only seven miles from Bristol, ensure that all Course members will enjoy Gliding at its best, as well as securing a first-rate holiday.

Courses cater not only for absolute beginners, but also provide rapid conversion training for those having previous power-flying experience. Tuition to ' B ' standard is available with test for the Royal Aero Club ' A ' and ' B ' Certificates included when the pupil reaches the requisite degree of skill.

The Club's fleet includes an ' SG-38 ' Primary Trainer, Slingsby ' T.21B ' and ' Kirby-Cadet ' Gliders, and equipment includes modern winches, launching and retrieving vehicles and adequate auxiliary gear.

The first of the weekly Courses will commence on June 2nd, and the last on September 21st, 1952.



LETTERS TO THE EDITOR—*contd. from previous page*

different state of affairs from a dead load hanging downwards from the nose (and carried by the wings) as at the top of a launch. Admittedly 10 cwts. of cable represents a height of over 27,500 ft. which is far in excess of anything one could hope to attain in practice, but the elevator and ' stick ' loads would surely become prohibitive long before even a quarter of such a height were reached. What therefore is the true significance of the weak-link in the cable ? One would like to hear the views of other readers on this subject—**G. M. L. Brown, (183 Gliding School), Colvend, Cheadle Hulme, Cheshire.**

TRANSPORT DIFFICULTIES TO LASHAM

A prospective member of the Surrey Gliding Club writes :

SIR,

I fear that public transport facilities to Lasham Airfield (somewhere in Hants !) from this district will be pretty hopeless.

In a remarkably short time I have come across two or three people in the same predicament as myself and I feel that something should be done about it, although I can't for the life of me think what.

Thank you once again for your help.—**A. F. Wright, Knowle Green, Staines, Middlesex.**

SIR,

I am prompted to write on these lines an account of the annoying error occurring three times in my letter on artificial horizons (page 18, March issue), where every time I have typed ATTITUDE you have printed ALTITUDE. A small error, but annoying to me, and maybe misleading to anyone who is perhaps having difficulty in following the argument anyway.

I find on further consideration that although its main theme is perfectly correct, it does contain one false statement ; namely that ' precession ' and ' earth's rotation ' errors will creep in after a long period of continuous circling. In fact, the single ' erecting ' force on the gyro can be regarded, for convenience, as two forces ; one acting laterally relative to the aircraft and one acting fore and aft relative to the aircraft. As we saw in my previous letter, in continuous circling the lateral ' erecting ' force keeps changing its direction and is therefore ineffective, but if the gyro does wander from the true vertical (as it is bound to do in time, either by precession due to friction or by the earth's rotation) then twice in every circle the fore and aft ' erecting ' force will give it a kick until it has returned to the vertical.

I wonder how many of your readers will spot this error, and accuse me of carelessness or ignorance. Actually, I plead guilty to both in the present instance.—**Gerard O. Smith, Park Grove, Derby.**

ULSTER GLIDING CLUB

AFTER strenuous work by W. Douglas and T. Trimble during the winter Saturday evenings our machines were overhauled in time for Easter. Liddell opened the ball on Saturday, 12th April, by sailing his ' Gull ' in a very light S.W. wind to the S.W. slope of Binevenagh for 1 hr. 20 mins. A young raven came up to 1,400 ft. at Eagle Hill but disappeared like a paper dart when he espied gulls flying near his nest. However, over Binevenagh the old bird himself came up and really got cross. The trip to and around Binevenagh was made over a column of smoke from grass burning at the Railway Station at Ballerena and so light was the wind that there were no ripples on the River Rowe and the hill gave only 1,800 ft.

However, this is only the third time that the S.W. slope has been soared and we think that the raven might have been more hospitable.

Easter Sunday, April 13th. Was windless so Austin, Cooper, Stonham and Liddell amused themselves doing mile long tows and circuits in the ' Tutor.' We are delighted to welcome F/L Stonham who is liaison officer between R.A.F. and A.T.C. ; he has just completed a Gliding course at Detling. Alas our friends from Eglinton have left Ireland and we miss especially Stubbins, Sansom and Osborne. However, Lieut. Jock Cochrane is there now training the Gannet Gliding Club and we hope soon to be gathering recruits.

On Monday, April 14th we welcomed Mr. and Mrs. Irwin and Mr. and Mrs. Stanley of Short & Harland Gliding Club and motored them around this beautiful site. Short's have an ' Eon ' primary and a ' Nimbus ' 2-seater and we are working out a plan whereby the two Clubs can use each others facilities for training and soaring. Here at last is a hopeful outlook. Unfortunately the A.T.C. have not produced soaring members as we had hoped but Duggie (Woodenhorse) Cooper is now teaching Strabane cadets to fly gliders and should produce results.

April 15th. Carl Beck was launched in a light Northerly and did nobly for 45 minutes, then the wind dropped and we lay in the sunshine. At 4 p.m. Bott of the Southdown Club visited us so Liddell decided to circuit the ' Gull.' Seagulls were wheeling over the sandhills. Released at 700 ft. the ' Gull ' caught a thermal to 1,400 ft. and stayed circling over the one spot for an hour accompanied by Beck for 30 mins. in the ' Tutor.' Beck landed, the sky became overcast and the horizon blotted out and a light drizzle fell, so at 5.30 Liddell flew at 600 ft. to land at the top road. The wind was now light S.E. drifting *from* the cliffs and the road is more than half a mile from the cliffs. Circling to land, Liddell found no sink and for 30 minutes remained between 600 and 800 feet in grey windless conditions. It was the most fantastic sight as the conditions were the opposite to ideal. No wind, drift towards the sea and grey haze to the horizon and no sun. All we can venture is that the land air met the sea air over the beach, but which one was the warmer and which one kept the ' Gull ' at ' chimney height ' for 30 minutes is anyone's guess. At no time was the lift more than 1 ft./sec. When Jim Bacon and Tommy Linton returned with the tow car, the ' Gull ' landed after 1 hr. 40 mins.

KEMSLEY WINTER CROSS-COUNTRY COMPETITION AND MARCH EXTENSION

THE one hundred guineas which Lord Kemsley most generously gave to the Awsociation for the encouragement of Winter Cross-Country flying has been awarded as follows :—

35 gns.	G. O. Smith, for a flight from Camphill to Burnham Grange, 59.2 miles, in a ' Sky ' on the 16th December ; winch launch. Mr. Smith has been awarded an extra 10 gns. for this exceptional flight.
10 gns.	Derbyshire and Lancashire Gliding Club, for providing Mr. Smith's launch.
5 gns.	J. Tweedy, for a flight from Camphill to Scofton Worksop, 28.2 miles, in an ' Olympia,' on the 16th December ; winch launch. Mr. Tweedy was not awarded the full second prize as his documentation was not complete, but the Judges wished to give some recognition to this excellent flight.
20 gns.	S. R. Wiltshire, for a flight from the Long Mynd to Halton, 104 miles, in an ' Olympia,' on the 22nd March ; winch launch.
10 gns.	Midland Gliding Club, for providing Mr. Wiltshire's launch.
10 gns.	G. Varley, for a flight from Kidlington to Redhill, 67 miles, in an ' Olympia,' on the 22nd March ; winch launch.
5 gns.	R. L. Neill, for a flight from the Long Mynd to Pershore, 43 miles, in an ' Olympia,' on the 22nd March ; winch launch.
5 gns.	F. Breeze, for a flight from Camphill to Doncaster, 30 miles, in a ' Kite I,' on the 23rd March ; winch launch.

FOR SALE

' VIKING I ' high performance sailplane and trailer, fully instrumented, ground handling wheels, complete with parachute. The C. of A. has recently expired. This is the machine George Thompson used for his wave flight to 14,800 ft., and the performance is similar to that of an ' Olympia.'—Offers to : Roger D. Dickson, Marlborough House, 4, Marlborough Road, Sheffield, 10.

' GULL I ' Sailplane and Trailer, fully instrumented, current C. of A. ground handling wheel and modified hood.—Offers to The Derbyshire & Lancashire Gliding Club, Camphill, Great Hucklow, Derbyshire.

WANTED

High performance Sailplane, ' Olympia ' or similar, with instruments and preferably trailer. Please quote F.O.B. price nearest port and estimated freight and insurance charges to Durban. Replies to Rand Flying Club, Rand Airport, Germiston, Transvaal, South Africa.

ROYAL AERO CLUB CERTIFICATES

(Issued under delegation by the B.G.A.) MARCH, 1952

CERTIFICATES 'A' .. 90 (14381-14470)
'B' .. 73
'C' .. 8
Silver 'C' 6
Gold 'C' —

'B' CERTIFICATES

No.	Name.	A.T.C. School or Gliding Club.	Date taken
6866	Dennis Childs	No. 161 A.T.C.	16. 3.52
8435	Ernest Woodhams	R.Naval G.S.	1. 7.51
8596	Clifford Walbridge	No. 89 G.S.	16. 3.52
9070	Edward Howard	No. 61 G.S.	16. 8.51
10819	Alan McLelland-Brown	R.A.F. College G.C.	1. 3.52
10879	Dereck Barker	No. 89 G.S.	24. 2.52
10880	Alfred Davis	No. 89 G.S.	16. 2.52
11822	Anthony Le Roy	No. 89 G.S.	25.11.52
11950	Ronald Wilson	No. 146 G.S.	23. 2.52
12648	Alan Thomas	No. 68 G.S.	13. 3.52
12848	Graham Lewis	No. 143 G.S.	23. 3.52
13057	Robert Gray	No. 23 G.S.	24. 2.52
13122	Alan McCarroll	No. 203 G.S.	24. 2.52
13214	John Adams	Handley Page G.S.	24. 2.52
13621	Tony Warren	No. 104 G.S.	15. 3.52
13701	Edward Elliott	No. 203 G.S.	24. 2.52
13914	John Higgins	No. 146 G.S.	23. 2.52
14129	Peter Frewer	No. 42 G.S.	24. 2.52
14169	Robert Dudley	No. 42 G.S.	24. 2.52
14205	John Ferguson	No. 23 G.S.	23. 3.52
14020	Briau Beckwith	No. 106 G.S.	16. 3.52
14221	Brian Parker	No. 44 G.S.	24. 2.52
14266	John Hubble	No. 44 G.S.	24. 2.52
14301	George McMullan	No. 168 G.S.	2. 3.52
14381	Peter Newton	No. 122 G.S.	24. 2.52
14382	Terence White	R.E. F.C.	23. 2.52
14383	George S. Taylor	Derby & Lancs. G.C.	24. 2.52
14384	John Shackleton	Derby & Lancs. G.C.	24. 2.52
14387	Michael Wilson	No. 23 G.S.	17. 2.52
14388	William Stark	No. 22 G.S.	20. 1.52
14389	Michael Rhodes	No. 125 G.S.	16.12.51
14390	Jack H. Fox	Wahnerheide G.S.	10. 2.52
14391	Kenneth R. Brown	Bristol G.C.	3. 6.50
14392	Robert W. Mason	No. 146 G.S.	15. 2.52
14394	Derrick N. Riley	Derby & Lancs. G.C.	19. 8.51
14395	Geoffrey H. Lloyd	No. 42 G.S.	24. 2.52
14397	Ronald A. A. Janes	No. 122 G.S.	24. 2.52
14399	Peter Nichols	Army G.C.	13. 1.52
14400	Louis Malone	Wahnerheide	3. 4.51
14401	Brian Burk	No. 168 G.S.	24. 6.51
14402	Allen Merritt	No. 146 G.S.	6. 1.52
14404	Gerald Odham	R.A.E. T.C. G.F.	1. 3.52
14406	Stanislaw Rydlewicz	Aberdeen G.C.	24. 2.52
14408	John T. Smith	Aberdeen G.C.	16. 3.52
14411	Robert J. E. Walter	No. 130 G.S.	18.11.51
14412	Douglas Le Gassick	Oerlinghausen	26. 6.48
14413	Ronald Ward	Luneburg	13. 5.51
14414	Alexander Mitchell	No. 1 G.S.	7.10.51
14415	George B. Jack	Aberdeen G.C.	10. 3.52
14417	George S. Taylor	No. 23 G.S.	24. 2.52
14419	Gilbert Pawson	No. 143 G.S.	24. 2.52
14421	Joseph Barker	Gutersloh	29. 1.50
14428	John N. Evans	No. 168 G.S.	25. 8.52
14429	Rex Penford	No. 22 G.S.	2.12.51
14439	Lawerence Birch	Derby & Lancs. G.C.	2. 9.52
14440	Vernon Barker	No. 125 G.S.	16. 3.52
14441	William Christie	No. 5 G.S.	16. 3.52
14442	Reginald Feltham	Bristol G.C.	6. 6.51
14443	Michael Paul	No. 49 G.S.	7.10.51
14444	Archibald Thomas	No. 2 G.S.	21.10.51
14445	Eric Parrish	No. 146 G.S.	9. 2.52
14446	Edmund Johnson	No. 168 G.S.	13. 3.52
14447	Victor Charman	Wahnerheide	24. 2.52
14448	Peter Jarman	No. 125 G.S.	23. 3.52
14449	R. G. Knight	Old Sarum	29. 9.51
14450	John A. Dews	No. 23 G.S.	24. 2.52
14451	Allan Rigg	R.A.F. Celle	4.11.51
14452	Charles Willsher	No. 122 G.S.	23. 3.52
14453	Peter Heron	No. 105 G.S.	16. 3.52
14462	Brian Heard	No. 125 G.S.	16. 3.52
14466	Douglas Kirkpatrick	No. 203 G.S.	23. 3.52
14467	John Robson	No. 168 G.S.	16. 3.52
14468	Richard Dawes	No. 42 G.S.	24. 2.52

'C' CERTIFICATES

12655	J. S. Skipp	Hereford G.C.	3. 2.52
14391	Kenneth R. Brown	Bristol G.C.	24. 2.52
14400	Louis Malone	Wahnerheide	6. 8.51
14412	Douglas Le Gassick	Oerlinghausen	25. 7.48
14421	Joseph Barker	Gutersloh	31. 5.50
14451	Allan Rigg	R.A.F. Celle	26. 2.52

Do you know your airfields?

22

Recognise this airfield? It's No. 22 in this series of puzzle photographs. You'll find the answer below on the right. ★

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