August 28, 1931 Vol. 2. No. 4

# THE SAILPLANE AND GLIDER

Price 6d.

Edited by Thurstan James.

## CLOUD-SOARING

The "Schlesien in Not" soaring over the Wasserkuppe during the XIIth Rhoen Competitions.

## ON ACHIEVEMENT AND A LETTER

That the people who do things are the ones who speak least is notorious and though Editors are talkative folk theirs is the pleasant duty of sometimes directing the limelight upon the achievements of those who would otherwise successfully hide their light under the biblical bushel, to the detriment of human progress.

The necessity for distance flights to prove the practicability of motorless flying has long been evident to those who think and and though until recently little had been done, those best fitted for the task had been pondering the problem and biding their time. A notable achievement was the distance flight by the BARBARA CARTLAND, the B.A.C. VII which was flown by Mr. Mole at Ditchling. This was probably the first out-and-return flight to be made in this country even though it were with an intermediate stop.

Another excellent example of the art was given by Herr Magersuppe who flew for two hours recently with a passenger. The outstanding performance, however, is one which has received no publicity and has yet to appear under "Club News." This was a flight of well over 16 miles by Mr. G. M. Buxton, made on the PROFESSOR of the London Gliding Club.

This flight was made on Aug. 17 and after gaining height in the hill-winds off the Dunstable slopes Mr. Buxton soared under a cloud street (or chain of small cumulus clouds) towards Ivinghoe Beacon. Over comparatively flat country he made his cloud-supported way until he was opposite the Beacon but some two miles out from it, and 2,000 ft. up. Then he turned and slid down hill to Totternhoe. Once more the hill winds shoved the sail plane up, this time to 600 ft. above the hill. Mr. Buxton then crossed Dunstable and Luton with the help of a cloud but realising that he could get no further turned round and landed in Luton Hoo Park by the lake, which is 6¾ miles away from the soaring site, and over flat country.

As we have said this flight has not even been mentioned in the Daily Press but is of infinitely greater value to the Movement than all these record-breaking duration flights. It has shown that distance flying is within the scope of the Club-trained member and will encourage to emulation the large number of "C" pilots whom we now have in the Country.

**DEMONSTRATIONS.**

Elsewhere and under the apposite heading we publish a letter from Mr. Geoffrey Woolf. We are interested to see that Mr. Woolf answers our question as to the value of demonstrations by a qualified negative. Mr. Woolf rather seems to have written his letter with the idea that when

(*Continued on Page* 38)

### Forthcoming Fixtures

August 29–30.—Demonstration and Meeting, the Portsmouth and Southsea Gliding Club, Race-Course, Portsdown Hill.

October 3–4.—Second B.G.A. International Meeting.

# Results of the 12th Rhön Gliding Competition

The prize committee has awarded the prizes as follow:

PRACTICE COMPETITION

The maximum flight duration:—

(1) Aircraft No. 23, STADT STUTTGART, pilot Künzer, 18mins. 14secs.—M546.50.

(2) Aircraft No. 25, PROFESSOR of the Württemberg Luftfaht Verband, pilot Hakenjos, 16min. 56secs.—M507.50.

(3) Aircraft No. 1, WURZBERGER GENERAL ANZEIGER, pilot Schmid, 14min. 53secs.—M446.0.

The Württembergische Luftfahrt-Verband has also awarded as a special prize, free tuition for one pupil in the Deutschen Verkehrsfliegerschule for instruction up to the "A2" certificate.

The prizes for the greatest total height were divided among the following aircraft:—

(1) Aircraft No. 56, ERICH OFFERMANN, pilot Teichmann, total height, 2,082 metres—M526.90.

(2) Aircraft No. 39, SCHLESIEN IN NOT, pilot Pfeiffer, total height, 2,080 metres—M526.40.

(3) Aircraft No. 25, PROFESSOR, pilot Hakenjos, total height, 1,765 metres—M446.70.

The long distance practice prize, for flights of more than 20 kilometres, offered by the Allianzkonzern, was awarded to the aircraft:—

No. 56 ERICH OFFERMANN, pilot Teichmann, (34.6 km.)—M581.90.

No. 25 PROFESSOR, pilot Hakenjos (28.8 km.)—M501.10.

No. 23 STUTTGART, pilot Künzer (24.8 km.)—M417.0.

Prizes to the value of M1,750 were also awarded for aircraft built by the competitor himself since 1/9/30.

THE PERFORMANCE COMPETITION.

The long distance flight prizes for pilots who had not flown more than 20 km. in one flight before the beginning of the competition, were awarded to:—

No. 22 WURTTEMBERG, pilot Röhm, total distance 106.2 km.—M681.60.

No. 24 LORE, pilot Bachem, total distance, 95 km.—M609.70.

No. 33 HEIL UND SIEG, pilot Hemmer, total distance, 32.5 km.—M208.70.

The long-distance flight prize was won by Groenhoff on No. 12, FAFNIR, for flights of 220 or 170 km. (M1,714.60) and Mayer on No. 49, AACHEN, for 1 flight of 54.6 km.—(M285.40).

The long distance flight prize offered by the Reichsverkehrministerium, was awarded to:—

No. 12 FAFNIR, pilot Groenhoff, for the flight of 220 km. M1,600.20.

N. 9 MUSTERLE, pilot, Hirth, for the flight of 192.4 km. M1,399.80.

The fixed destination flight to Oechsenburg and back to starting point, offered by the Prussian Ministry of Commerce was divided among:—

No. 9 MUSTERLE, pilot Hirth—M710.

No. 12 FAFNIR, pilot Groenhoff—M700.

No. 57 WIEN, pilot Kronfeld.—M590.

The high altitude prize for a height of at least 2,000 m. over the starting point was awarded to Groenhoff on FAFNIR, height, 2,050 m.—M1,500.

PRIZE FOR LOW-WIND SAILPLANES WITH TOWED START.

This prize of M500 was awarded to Kronfeld on the WIEN, who was the only pilot who, in accordance with the conditions, after a flight of 1½ hours, landed within the prescribed zone.

Groenhoff won the Prinz-Heinrich-Rhönpreis for the greatest height (2,050 m.), and also the Nehring-Gedächtnis-Preis of Bad Homburg for his flight of 220 km.

The prize Committee also awarded a special long distance flight prize of M500 to W. Hirth for his flight in storm clouds of 175 km. to Friedeburg, and a prize of M400 to Kronfeld for his long distance flight in thermal up-currents, of 156 km. to Westphalia.

Besides the prizes mentioned in the announcement and the daily prizes, a large number of awards were made for the practice and the performance competition, for long distance flights of more than 100 km., for flights lasting longer than 15 minutes and 1 hour, and for high altitude flights of more than 100, 200 and 500 m. over the starting point.

The total amount of the money distributed as prizes was about M27,500. All the amounts of the prizes are given in German Marks which may be taken as equivalent to the English shilling.

(*Continued from Page 37*)

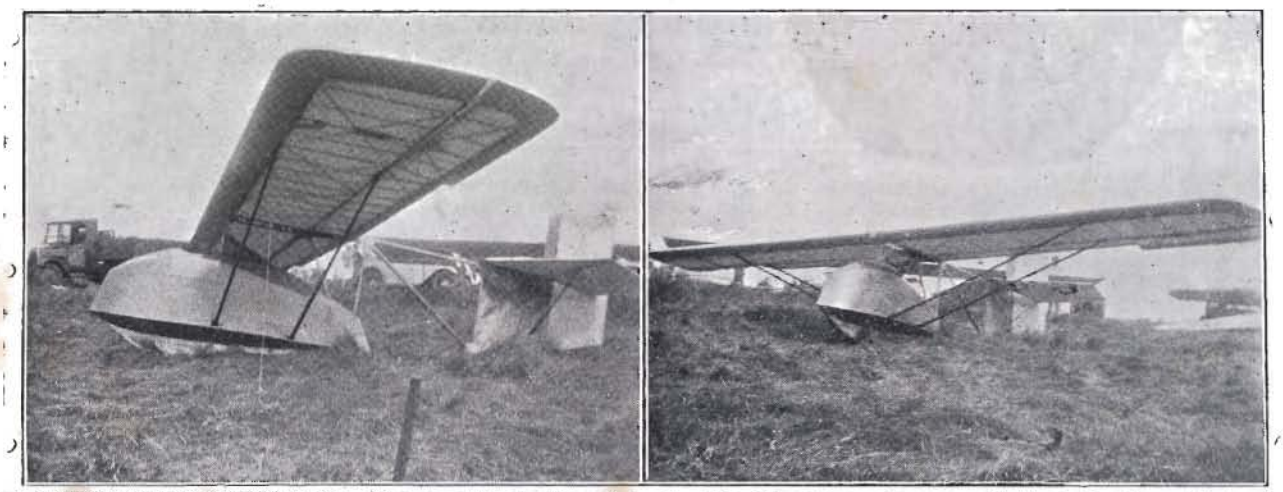
we said "Demonstrations" we meant "Lyons Demonstrations." As everyone knows there were and still are Demonstrations organised by others than the Lyons Tea people. Naturally in an editorial we were speaking in the wider sense and included Demonstrations of all denominations.

Mr. Woolf has apparently overlooked the fact that we drew attention to the need for strict ruling as to the proper method of passing in the air and confuses the issue by drawing attention to the "discourteous" aspects of the case. We see nothing in Mr. Woolf's letter that alters our opinion or that invalidates our previous comments.

As for the mysterious reference to Mr. Gordon England, it is made all the more mysterious as even supposing such a disclaimer had been authorised, Mr. England would have been the first to make it himself and not leave it to be said by another and that without authorisation.

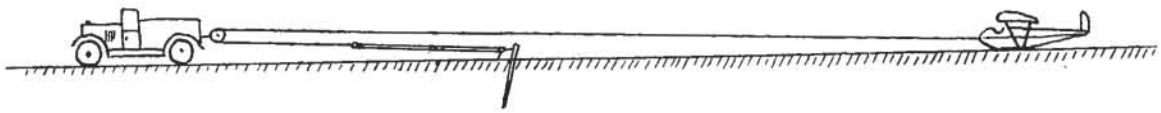
The whole incident need never have arisen had there been definite understanding about the competent flying authority. No Flying Meeting should ever be held without a competent person in control without whose authority no one should leave the ground. Obviously such a person should be an experienced individual and preferably chosen by the Governing Body.

No. 43 of the Competition Rules of the B.G.A. states that for every meeting there shall be appointed certain stewards who shall have supreme control of the carrying out of the Meeting according to the official programme, and shall have the duty of enforcing these rules. This rule has not been enforced up to now in order that freedom of action shall be given and that the organisers shall not be overloaded with extra expense. However, when the Competition Rules have been passed by the Council we understand the Rules will be strictly enforced.



**A SOUTHDOWN SKYSAILER—The machine built and designed by Mr. Leeroy Brown with the help of members of the Southdown Skysailing Club.**

# A novel method of Towed Gliding



The value of towed gliding need not be stressed; it has been sufficiently demonstrated by Mr. Lowe-Wylde. The difficulty is that the large area required for towed flight is often as difficult to find as a good hillside.

The method described in this note allows of quite passable flights being achieved in a moderate-sized field which need not have a particularly good surface. It originates in Germany, and has been carried out successfully by the Academic Flying Club of Karlsruhe who state that they have made over 200 flights with it, using ZOGLINGS, HOLS DER TEUFELS and other machines.

[*A variation of this method in which the usual launching team is used instead of the motor-car was described and illustrated in* THE SAILPLANE *for January 2, where it was referred by the name of "High-start."*—ED.].

The sketch makes the method of operation fairly clear. One end of a length of elastic is secured to a picket in the ground and the other is attached to a rope whose length depends upon the room available. The rope passes through a pulley-block on the car and then back to a release hook on the glider. The car, glider and pickets are approximately in the same line, the latter being set off to one side a little to avoid possible entanglement between the rope and elastic.

When the car starts, the elastic stretches until the inertia and friction of the rope and glider is overcome, when the glider is catapulted into the air. The glider is not held back as the rope runs back through the pulley-block which is moving forward with the car, tension is maintained the whole time, and as the impulse from the elastic is absorbed, the car takes the glider in a normal tow, travelling at somewhat less than half the glider's speed.

Our own experiments were made in a field 250 by 300 yards, using a ZOGLING loaned by the Nottingham Gliding Club. We used 200 yards of rope, 40 yards of three-quarter inch elastic double, and a 16 h.p. car. The car was driven in bottom gear, and never attained a greater speed than 16 or 17 m.p.h. Only light breezes were experienced.

We found that if the car was started with no slack in the rope, it was practically "stalled" by the time the glider began to move, and had difficulty in accelerating fast enough as the elastic contracted to maintain the tow.

The best results were obtained when the car was started level with the pickets to which the elastic was secured, thus having 20 yards of slack rope carefully coiled behind it. When this was done the acceleration of the launch was approximately equal to that given by about six men a side on a normal catapult*; the acceleration can be nicely regulated by the amount of slack left in the rope at the start.

The flight is distinctly in three portions. First a fairly steep climb on the pull from the elastic; then a slightly flat period while the car is accelerating for the second time, during which level flight is maintained without appreciable climb; then a steady climb till the car reaches the boundary, when the nose is put down and the rope released.

Flights in this field ranged from 30 to 40 seconds and were generally finished with a turn and landing down-wind. It can be seen that if the tow is held beyond a certain point the glider will be pulled down by the shortening rope; in spite of this it was found that the longest flights were made when the rope was held until the glider was nearly above the car at the end of the field. Needless to say this was only done in a light wind, as the height attained (some 70–80 ft.) did not allow of a complete circle into the wind and a down-wind landing had to be made. If the rope was released when the glider was over the pickets where it is near its maximum height it was possible to turn and glide back nearly to the starting point.

The advantages of this method over direct towing are these:—

1. The catapult launch enables a simple glider with a central skid to be used. At the same time there is no risk of anyone being hurt if the elastic breaks.

2. The flight begins right from the start at the boundary of the field, and valuable space is not lost while car and glider gather speed. There is no gear changing.

3. Owing to the comparatively-low speed of the car much rougher ground can be traversed than is possible in direct towing.

We understand that for no doubt excellent reasons the B.G.A. do not approve of a ZOGLING for towed flights. So far as stresses are concerned, I would like to point out that with this method, the most rapid climb by far is that given by the elastic at the start, and this is no more than commonly given by hand launching. So long as the speed of the car is carefully regulated in relation to the wind, it does not seem that undue strains should occur anywhere.—R. F. T. GRANGER.

*This of course is dependent also on the power and acceleration of the car. Cautious trials should be made for every car used.

# CORRESPONDENCE

### Mr. Woolf Has Something to Say

Sir,—I read with interest your article in THE SAILPLANE headed, "Are Demonstrations worth while.?" From the points of view of the organiser of recent demonstrations and of the Clubs as at present assisted by some members of the "Gliding Body," I think not.

You give your opinion on the crowd assembled at the only Lyons' Demonstration at which you have attended, and that on the occasion of the week-end referred to at Ditchling, for an extremely brief period. I do not agree.

Next you say:—

"If demonstrations do not make a large profit for the Clubs then they are not worth while because their effects in obtaining new members are not profitable in that most Clubs are scarcely able to cater for the needs of the members which they already have."

What this means is not clear.

I now refer to a passage in your article on the unfortunate incident at Ditchling in your own words:—

"'After Herr Krause had been flying for some three hours and was, therefore, not unlikely to approach or even beat the existrecord of four hours and a quarter, Mr. Smith, of The London Gliding Club was launched in the Club's new PRUFLING, once the property of Mr. R. E. Lander. After Mr. Smith had made one or two circuits he turned immediately behind Herr Krause who, knowing that Mr. Smith was not particularly experienced and that the PRUFLING was considerably faster than the FALKE which he was flying, turned aside out of Mr. Smith's way and in so doing lost the up-current and had to land.

"Now the Competition had been officially opened and as the London Club had been invited to compete, they were, therefore, subject to the approval of the competent official, completely within their rights in launching a machine with one of their team while the weather was favourable. Such consent was apparently obtained, and it was only after the event that criticism was made.

"Now, as is generally known, the London Club have already had four machines in the air at once, soaring over Totternhoe, and they often have more than two."

In my considered view what happens on the London Gliding site to people who thoroughly know the course, or in Germany at the Wasserkuppe, or I hope at the B.G.A. Meetings with experienced British and International Pilots has no bearing upon what happened at Ditchling.

You speak of criticism after the event.

The writer, representing J. Lyons and Co. Ltd., had no knowledge of the London Gliding machine being sent up, neither had our Pilot, Herr Krause.

This distinguished foreign Pilot was seeking to create a record at the special request of the hosts of the Meeting.

Capt. Needham, Mr. Smith, the Pilot of the second machine, and Mr. Leeroy Brown, the Chairman of the Meeting, expressed regret on behalf of all concerned for the error of judgment in allowing a London Pilot to go up at that particular moment, under all the circumstances, and I quite believe the effect was contrary to their anticipation.

Quite apart from it being extremely dangerous on foreign sites new to novice pilots to go into the air, as on this occasion, when the other machine was very low, there are questions of courtesy involved:—

1. General international courtesy in this case to a foreign pilot visiting this country.

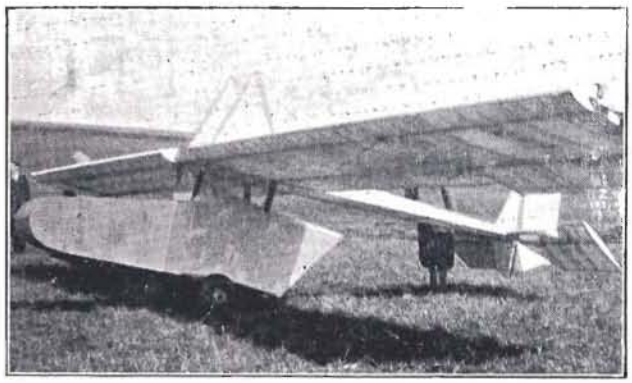
2. (Secondary importance)—courtesy to a Company that has given manifest evidence of its interest to help the Gliding movement.

Whatever discourtesies may have arisen, none of them are in any way countenanced by Mr. Gordon England, the Chairman.

I am sure you do not wish to make unmerited criticism, and I am sincerely anxious to prevent any misunderstanding of the issues which have given some of us recently a little concern.—(Signed) GEOFFREY WOOLF.

### An Explanation

Sir,—We see you have in THE SAILPLANE of July 17, two photographs of a glider which you say is our latest product.



**The Sunderland Club's Cramcraft**

Actually we find that these pictures were sent to you some time ago by a member of The Sunderland Gliding Club. This Club began operations last autumn with two of our Primary Training machines and later modified one of these considerably as they wanted to use it for autotowing. We believe that the machine has performed quite satisfactorily with the additions but feel that we must disclaim alike credit and responsibility for its production. (Signed) MARGARET STEVENSON (Secretary, Cramlington Aircraft Ltd.)

### Club Finance.

Sir,—I would like to support Mr. Gardiner's paper on the importance of standardising the form of Accounts and Balance Sheets of the various Clubs. Much very valuable information could thus be secured.

For instance I would like to see the cost of Repairs sub-divided under four headings, those caused by: (1) Beginners; (2) By those with "A" Certificates; (3) By those with "B"; and (4) By those with "C" Certificates. Then if these figures were divided by the number of Members under these headings, you would arrive at the average cost per person in that section. It would also be interesting to divide the figure by the total number of glides and so ascertain the cost in repairs per glide.

Such figures would go a long way to settle the problem as to whether the Club can afford any more beginners. From my experience in the Surrey Gliding Club (now the Southern Counties Soaring Club) the cost of beginners' repairs is kept very low, no credit to the beginners, but to the excellence of the Honorary Instructor, Capt. Stratton. In this way Clubs will be able to thank themselves when they are blessed with a good Instructor.

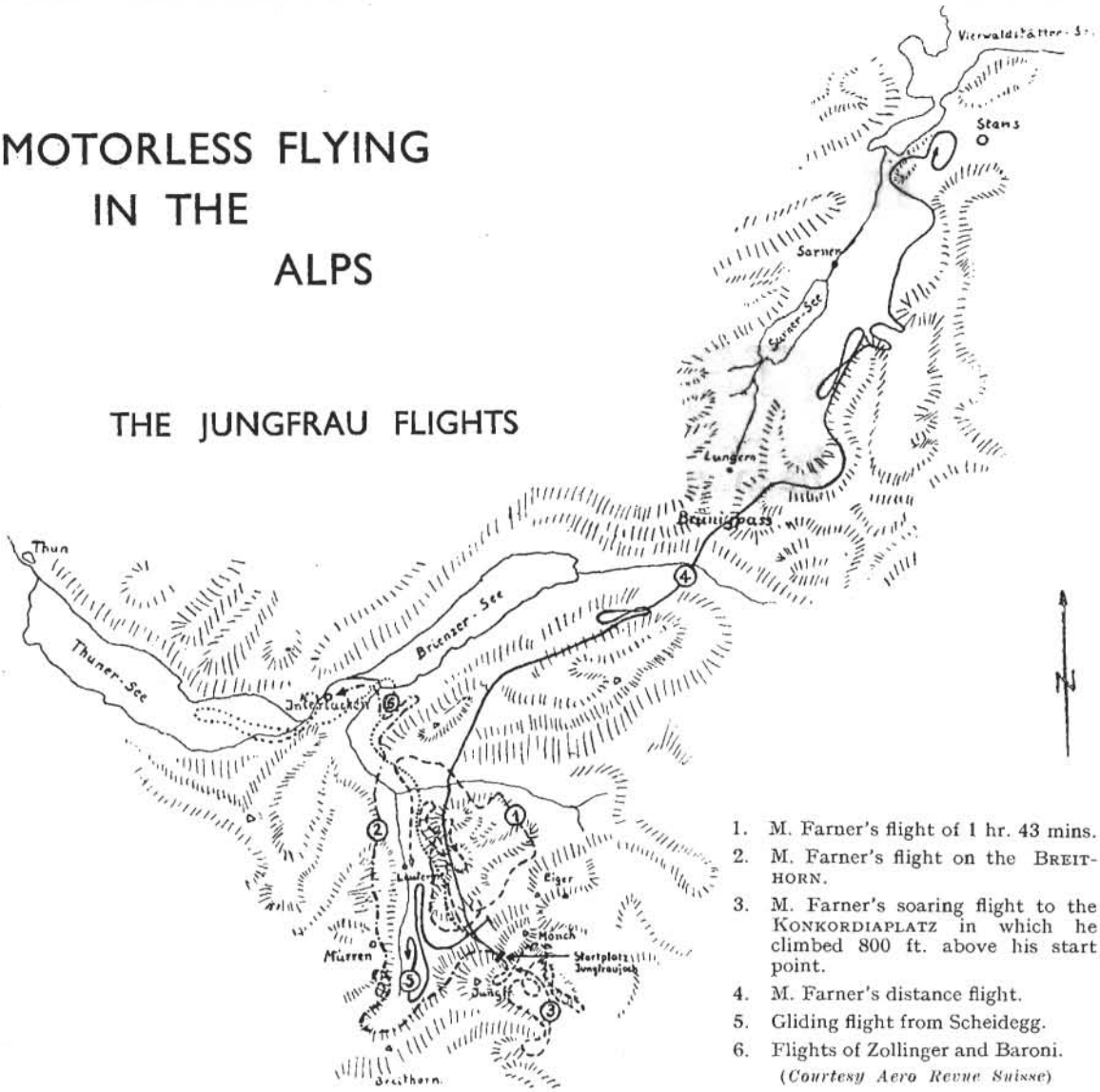
With almost every one of Mr. Gardiner's suggestions I have nothing but praise, and we owe him much for his suggestion of Standardised Accounts at this early stage. But I must admit I do not quite like drawing too much from the first month's figures. He shows for instance a deficit of £7 15s. 3d. in this month. This figure is almost as wrong as assuming that the Members subscriptions will continue at £180 per month, although I admit his would be the safer assumption. However, the object of this letter is to congratulate Mr. Gardiner for his valuable suggestion.—(Signed) H. V. ROE.

### COMPETITIONS.

It is regretted that a mistake was made in our last issue regarding the date of the International Competitions. The dates are October 3 and 4—not 4 and 5, as stated.

# MOTORLESS FLYING IN THE ALPS

## THE JUNGFRAU FLIGHTS




1. M. Farner's flight of 1 hr. 43 mins.
2. M. Farner's flight on the BREITHORN.
3. M. Farner's soaring flight to the KONKORDIAPLATZ in which he climbed 800 ft. above his start point.
4. M. Farner's distance flight.
5. Gliding flight from Scheidegg.
6. Flights of Zollinger and Baroni.

*(Courtesy Aero Revue Suisse)*

THE SAILPLANE has already reported the flights which Herr Groenhoff made in June of this year, from the Jungfrau in Switzerland, but the flights were so interesting that I believe a fuller description, which has been approved by Herr Groenhoff will prove of value.

The machine he used was the FAFNIR, the gull-like record-breaker frequently illustrated in this paper.

Some difficulty was experienced in finding a suitable terrain for the start. Owing to the depth of the snow it was impossible for the starting men to run, so it was decided to use ten men on each side of the double 40m. starting ropes. Even this large starting crew was unable to give the machine sufficient speed and when it was released it began by tobogganning over the ground.

The pilot endeavoured to pull it off but the tail of the FAFNIR lies on the ground, which makes it extremely difficult to put a positive angle of incidence on the wings when the machine is being started down hill. It then ran through a stone wall and almost fell over a precipice. Herr Groenhoff tried again to pull the machine up, but found the elevators did not work.

The cock-pit covering of the FAFNIR only provides the pilot with an 8in. aperture on either side of the totally enclosed cockpit so that he was unable to look back to see what had happened to the tail. Again the machine caught itself. Shortly afterwards it went on its nose again and the pilot decided to see if he could keep it there by pushing the stick forward. This he succeeded in doing and came to the conclusion that the elevator must be working to some extent and that therefore, the faster he flew, the more likely he would be able to control its flight, so he flew the machine at about twice its normal speed.

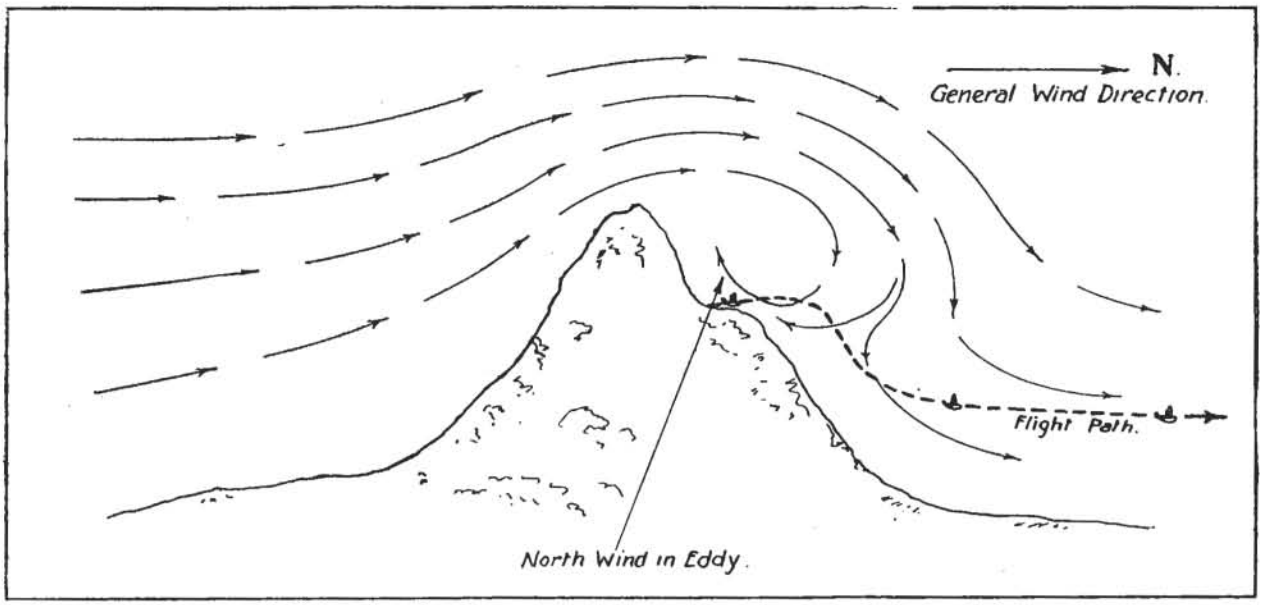
In spite of this the machine fell out of his hands at least a dozen times. On more than occasion he thought he would have to jump with his parachute, and he prepared his camera to take a picture of the FAFNIR as she spun down, but the prospect of losing the machine and landing amongst crevasses on the ice when he might be hurt and unable to move, deterred him.

He succeeded in bringing the machine to Interlaken, where he had to make a high-speed landing to prevent the machine falling out of his hands again. There he discovered that he had lost half of his elevator in the crash through the snow wall.

At the next start the machine left the ground, but the pilot felt his rudder pedals go forward together and immediately discovered he had no directional control over the machine. The aileron control of the FAFNIR is effected by a bar on top of the stick and the pilot decided to attempt to turn the machine by making use of the flexible wings. When he wished to alter course to the left, he gave sharp right aileron by pulling the bar down and returning it as quickly as possible. This resulted in the right wing flexing and the thrust obtained by repeating this movement at frequent intervals was sufficient to permit the machine to be steered to some extent. The landing was made at Interlaken, where the machine was stalled down until the last moment, when a normal landing was affected. The pilot then discovered that the wooden block at the rear of the tail skid, which takes the hand ropes for the tail men at the start, had pulled out and taken with it the rudder.

The next start was normal and the flight ended at Interlaken.

The flight after this last one was particularly interesting in that the pilot had promised to attend the Berne Air Meeting and said that he might come by air. When the day came there was a South wind which under normal circumstances might have been expected to have prevented a start being made, as the flight was to be made in a Northerly direction. However, the appearance of the clouds indicated that an eddy was being formed behind the mountain top. This proved to be the case and




**A diagram which shows how the pilot managed to take off.**

a North wind was found on the North side.

This enabled a start to be made, but the machine immediately encountered a terrific down-wind of 6 miles per sec. (19.6ft. per sec.) through which, of course, the pilot flew as quickly as possible. On coming out of the down-wind he made a normal flight to Berne Aerodrome using the clouds he encountered after this. He arrived over the aerodrome at a height of 400 metres (1,300ft.) and was lucky enough to find a cloud, which enabled him to give a demonstration of cloud-flying before a much-impressed crowd.

Several other starts were made, but the machine failed to leave the ground.

The pilot considers the ideal height to start is from 1,000 to 1,500 metres (3,280—4920 feet). At such great altitudes as the Jungfrau, the air is too rare to lift the machine and the difficulty of finding a good starting-crew locally is almost insuperable. Furthermore, conditions appear to be unreliable. Sometimes it is only possible to soar near the mountains and at other times it is only possible to soar in the valleys.

On the whole the Jungfrau flights revealed the fact that high starts are not desirable.

Should anyone consider making further flights of this description, they are advised to use longer starting ropes, to see that the machine is so designed that the tail is well away from the ground and to make certain that the tail-rope cannot pull out and carry away any portion of the controlling surfaces.—ABEL ARD.

## A SWISS EXPEDITION

On June 10, of this year, some Swiss gliding enthusiasts of O.V.L., organised an expedition to the Jungfrau in the Bernese Alps. The object of the expedition was to investigate the possibilities of motorless flight at high altitudes. A similar expedition had already been made by the Austrian Aero Club in the Winter of 1929 to the Tyrolese Alps. It was on this latter expedition that Herr Kronfeld obtained some remarkable data.

The Swiss enthusiasts chose the Jungfrau because there is a railway up the mountain to a height of 3,447 metres (11,300 ft.), which made possible the transport of machines right up the mountain. At the same time as the Swiss expedition, Herr Gunter Groenhoff, with his sailplane, the FAFNIR, had arrived at the same site with a view to making researches on behalf of the R.R.G.

The Swiss expedition explored the air-currents with the aid of small observation balloons and smoke-candles attached to parachutes.

On June 11, M. Farner started at 7.30 in the morning and soared for some minutes above the Guggi Glacier in a strong ascending current. He crossed the Tschedden and the Lauberhorn mountains in order to reach Grindle wald valley where favourable thermal currents enabled him to climb to about 500 metres (1,540 ft.). Continuing his flight towards the North, M. Farner found some new up-currents close to Interlaken which enabled him to climb towards the South and to land at Lauterbrunnen at the foot of the Jungfrau after a magnificent flight of 1 hour 42 minutes. This broke the Swiss record by three-quarters of an hour.

The following day the same pilot took off to investigate the thermal currents in Lauterbrunnen valley. He was remarkably successful and maintained his height for more than a quarter of an hour after leaving the Jungfrau. He landed at Interlaken after a flight of 49 minutes.

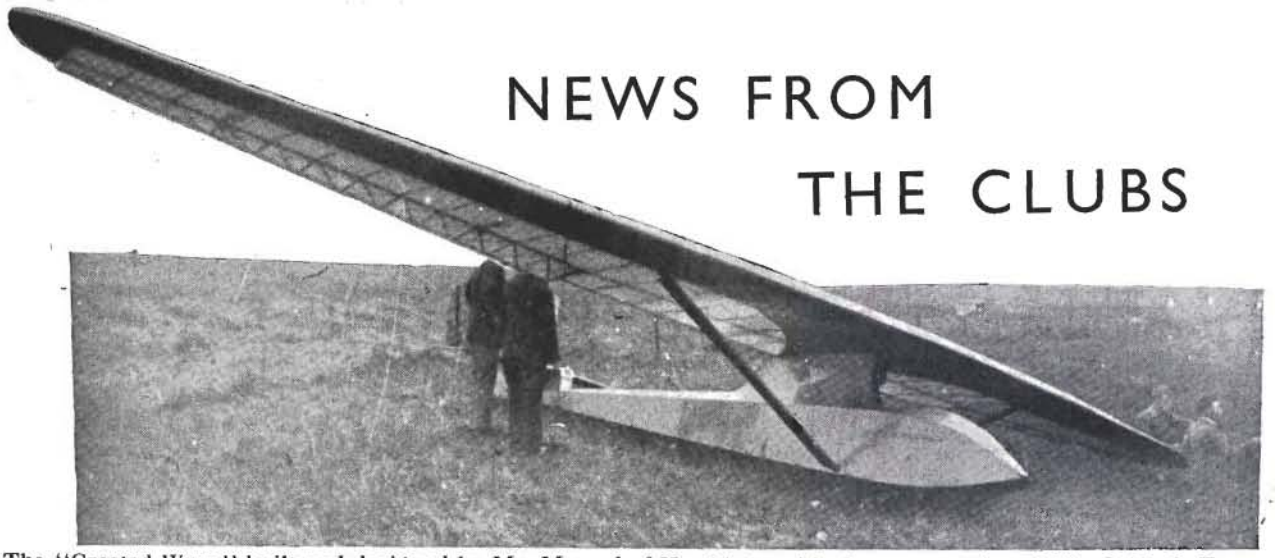
As unfavourable winds made the take-offs very difficult, the Swiss expedition stationed two of their machines on the Scheidegg where MM. Baroni and Traxler made some instructive flights, notably those of M. Baroni in Truemmelen Gorge which is only some 300 ft. wide and bordered by rocky walls about 3,000 ft. high.

The two outstanding flights of the expedition were that of M. Farner to Stans, a distance of 57 km. (35.4 miles), in which he flew across the Brunig col, and the flight of Herr Groenhoff to Berne, a glide of 58 km. (36 miles).

The last flight of the Swiss expedition was made by M. Zollinger who after leaving the Jungfrau, steered a course for Interlaken over which he obtained a height of 1,400 metres (4,600 ft.), by the aid of up-currents. From Interlaken the young pilot steered towards Lake Thuen which he flew over for a distance of 12 km. (7.45 miles) using the up-currents off the two banks. After this he returned to Interlaken having flown for 31 minutes.

The Swiss expedition discovered that take-offs in the rarefied mountan atmosphere are extremely difficult and the most careful preparations are necessary to avoid catastrophe. Generally speaking, such expeditions must be equipped with extremely rugged aircraft and the pilots must be widely experienced. There is an absolute necessity for an extensive ground organisation as every forced landing on a glacier which is made out of sight of an observation post might easily have fatal results in such desolate expanses of snow and ice.

# NEWS FROM THE CLUBS



**The "Crested Wren" built and designed by Mr. Manuel of Hawkinge with the co-operation of Mr. C. M. C. Turner of the Channel Club.**

## AN AUSTRALIAN GLIDING CAMP

The Sydney University Gliding Club held their first camp from June 3 to June 8 in order to try out their glider which they had built. English readers and particularly Club members should note that the Club made scientific surveys of their ground and plotted each flight. This may be overdoing it, but we have yet to see a serious attempt to chart the general run of currents on a soaring ground.

The camp was held at Doonside about one mile from the railway station on a domed shaped hill about 90 feet high. This hill is very suitable for gliding as it is possible to use it in all winds except those from the east and east-nor-east.

During the Camp a complete topographical survey, with 5 ft contours, was made by the Club members under the direction of Mr. R. Aston, M.Sc., B.E., and each flight was plotted by the use of the plane table and checked by tacheometer work; complete thermometer, barometer, and anemometer records were kept for the whole period of the camp.

The machines present were as follows:—

S.U.T. 1.—The Sydney University Glider Club's machine, which was designed and built from first principles by the undergraduates of the engineering school. This machine was commenced in 1929 before there were any gliders in Australia.

HAWK—Built by Mr. Alfred Pelton, following modern German practice.

BROLGA—A Dixon type machine modified to suit requirements by the members of the Progressive Gliding Club.

GRANVILLE GLIDING CLUB machine, a "Zoegling" type, built by Mr. Mylne, at Mascot.

### DETAILS OF MACHINES

S.U.T. 1—weight 335 lbs.; wing area, 200 sq. ft.; wing section, R.A.F. 33; weight as flown, 475 lbs.

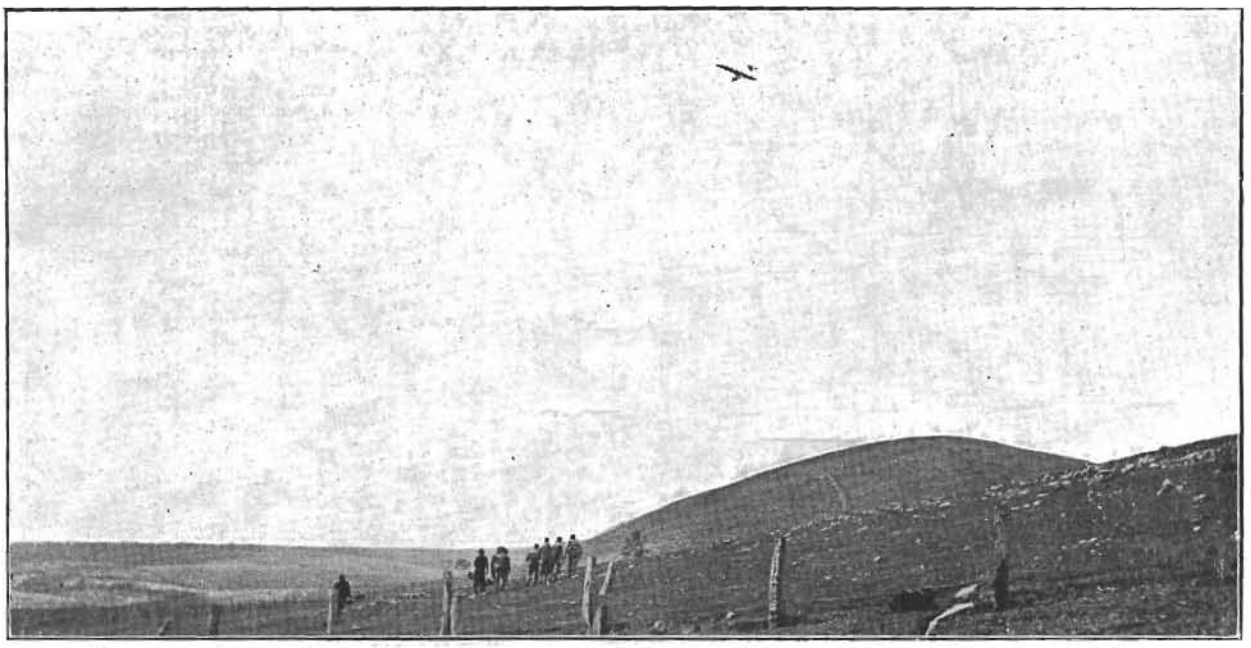
HAWK—weight 220 lbs.; wing area, 165 sq ft.; wing section, Gottingen.

BROLGA—weight, 198 lbs.; wing area, 180 sq. ft.; wing section, C.Y.W.

The officers of the camp were:—Mr. T. D. J. Leech, B.Sc., B.E., in charge; Mr. R. L. Aston, M.Sc., B.E., in charge of instruments and time-keeping; Staff-Lieut. D. Vernon, camp officer; Mr. L. J. R. Jones in charge of machine and maintenance; and Mr. H. W. Ross, A.F.C., and Mr. J. V. Connolly, B.E. (Deputy) in charge of flying and instruction.

On June 3, the camp party established camp for 30 persons and later in the night the machine was transported by road to the site. Next day the machine was erected during the day and a few uncompleted parts were finished; during the night a check of the Centre of Gravity was made and this revealed that the C. of G. was somewhat behind the Centre of Pressure, 0.4 of the chord to be exact.

An attempt to fly the machine on June 5 by towing with the only car available failed as the car stalled. The machine was then taken to the hill where a short flight was made, by Mr. Connolly. As this seemed satisfactory, the machine was taken to near the top of the hill and launched. A height of at least 30 feet was attained and the machine made a good flight. After lunch, a flight of over 600 ft. was made from the same spot. The ground speed was 35 m.p.h. and the gliding angle 1 in 12.2 Auto-towing was again attempted for the purpose of giving pupils the feel of



**SOARING IN AUSTRALIA—A locally built Zogling soaring for over an hour with a 16 stone pilot above the gliding site used by the Adelaide University Engineers' Gliding Club.**

the controls. As the day was quite windless the ground speed was too high and it was considered unsafe to continue.

The hill was again utilised to give three pupils some instruction and after several fast runs over the ground two *ab initio* pupils went solo very satisfactorily. On one of these flights one of the pupils hit a bump on landing and slightly damaged the rudder-bar and the running-strip on the skid. This damage was repaired by the next morning. Mr. Pelton's machine arrived on Friday night and was tested on the following day.

On the next day the wind began to blow from an unfavourable quarter (north-east) and which was the worst side of the hill. The slope there was very flat and no remarkable flights were made. The Progressive Club machine arrived and performed very well. The last flights of the evening were quite emotioning as the HAWK and the BROLGA were launched almost simultaneously by the rubber-tow rope and by auto-towing respectively. These flights were down-wind on the steep southern slope and both machines had to attain high speeds before taking off. On one flight, the gliding angle of the HAWK was found to be 1 in 12.5 which seems to have been the best of the meeting.

Another attempt was made on Sunday at auto-towing in the S.U.T. 1, in a reasonable wind. Owing to a mistake in rigging the flying wires became slack and the whole wing bracing system got out of correct alignment. An attempt was made to correct this but upon launching the machine would swing to the left due to "wash-in" on the right wing. This proved difficult to correct and much time was wasted. In the afternoon three good flights of about 200 yards were made. The BROLGA and the HAWK made many very successful glides and the Granville Club machine came over and made excellent auto-towed flights. On the last of these it flew for over 40 seconds and almost to the field used by the Club as an aerodrome.

During the night and the following morning, alterations were made to the S.U.T. 1, while the HAWK and the BROLGA were flown from the hill and from the flat by auto-towing, respectively. In the afternoon the S.U.T. 1 was flown by Messrs. Connolly and Pelton covering over 600 feet on each of four flights, with a duration of about 17 seconds. Again there was practically no wind. Another pupil was given a short flight from the side of the hill and made a successful landing.

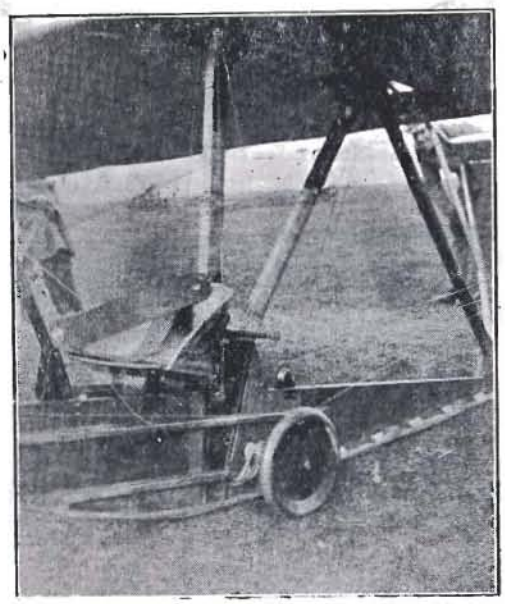
The chief troubles experienced with the new machine, S.U.T. 1, were due to the rigging. The wires stretched and caused delay and inefficiency. The position of the Centre of Gravity will have to be corrected and slightly more rudder control provided. The machine is of much greater size than the other machines present, having 40 ft. span with a wing area of 200 sq ft. The weight, of course, is greater and on this account launching was much more difficult.

The stalling speed of the machine was calculated to be 27 m.p.h. but there was no marked stall at any speed, the machine settled on an even keel at any speed. This was due to the R.A.F. 33 section. The stability of the machine was particularly noticeable and the ease of landing was remarkable. The hook for the tow rope was not quite satisfactory, the rope leaving with considerable energy. It is remarkable that the gliding angle of this machine should be so good when it is remembered that the stick was held forward at all times to balance out the tail heaviness and the drag from this must have been very high. The safety of the type was demonstrated by the ease with which *ab initio* pupils handled it on their first flights.

The Sydney University Glider Club cannot express too much admiration and gratitude to the gentlemen from other Clubs who so wholeheartedly co-operated in making this camp a success. In particular, Mr. Alfred Pelton for lending his rubber tow-rope, and his assistance and advice at all times. The North Shore Gliding Club for lending their car, the "Bitza." The Progressive Club and Mr. Warner for valuable assistance and advice, and the gentlemen from the East Sydney Technical College Club who worked with us by day and by night for the sake of the game.—J. V. CONNOLLY.

## THE DORSET GLIDING CLUB

The August Bank Holiday Camp was a great success and the 14 Members who took part thoroughly enjoyed camping out, although the weather was somewhat unreliable. No additional Certificates were obtained but a great deal of concentrated training took place on both the DAGLING for *Ab Initios*, and on the DORSLING for "B" Pilots.



**FOR AUTO-TOWING—The all-steel wheels fitted by the Dorset Club to their R. F. D. The wheels have a diameter of 12" and are made of 22 s.w.g. steel plate with 16 s.w.g. tread.**

No untoward occurrence has to be recorded until the last day of the camp (Sunday), Aug. 9, when the DORSLING was damaged due to manœuvring rather too close to the hillside. The restrictions of our site are being brought home to us more and more as our training becomes more advanced. It would appear that we shall have to restrict our secondary training work to those days on which the wind is sufficiently strong to make launching this machine worth while. On this point we should welcome suggestions from any of our friends of the London Club, or any other experts with experience of the PRUFLING and other advanced machines if by any chance they should be in this neighbourhood during the holiday season and could examine our site from this point of view.

The advantages of the hangar were fully appreciated during the holidays, as on several days we had both machines out and were able to carry out much more flying than in the old days when the machine had to be rigged at the beginning of the day, and partially dismantled for packing in the barn at the end of the day.

This hangar was supplied by Messrs George Blay, of Honiton, Devon. The dimensions are:—40ft. long x 24ft. 5in. wide x 9ft. 8in. high. The shape is approximately semi-circular, on the lines of the "Nissen" huts, of which large numbers were used during the War. The construction is sound but very simple, and the erection complete can be carried out by three men in two days. There are two windows in the roof and three in the fixed end wall, the opposite end wall is removable in sections.

We contemplate an improvement, when funds permit, embodying sliding doors at this end. In its simplest form this hangar represents the best value for money that we have yet seen or heard of. With the hangar of the dimensions stated we can store both our DORSLING and DAGLING when fully erected and have plenty of room for minor equipment, and spares. The semi-circular shape of the hangar is excellent from the point of view of withstanding adverse weather conditions, especially when the building is erected in an exposed position on the top of the hill.

The cost of such a hangar as this is round about £50, which is appreciably cheaper than the price quoted us for any other form of construction, and we strongly recommend Clubs who are contemplating the erection of a hangar to get in touch with the makers.

**HOME BUILT—Mr. Manuel, seen in the middle picture, has built this machine himself. It has a slightly swept-back wing. The finish is extremely good and preliminary trials indicate a high-efficiency performance. Manoeuvrability and control is reported to be good in spite of the apparently small area of the tail-unit.**

## THE HUDDERSFIELD GLIDING CLUB

According to *The Huddersfield Examiner* some of the gliding clubs which sprang into being during the boom period of last summer are finding it difficult to carry on. Sheffield is one of those which have been in difficulties, and things had come to such a pass that it was difficult for the members of that club to get any opportunity of flying at all.

The Huddersfield Club, more fortunately placed than the majority of other clubs, has been able to extend a helping hand to those members of the Sheffield Club who still wish to continue with the practice of gliding and soaring flight.

Recently the members of the latter club, at the invitation of Huddersfield, spent the day at the flying ground of the Huddersfield Club at Flouch, with a view to arriving at some mutual arrangement for the two clubs to use one site. The outcome of the meeting was that the Sheffield members felt that if their club could be absorbed by the Huddersfield organisation it would be the best solution of their difficulties.

A general meeting of the Sheffield Club was held last Tuesday evening, and it was decided to wind up, and come to the following agreement with the Huddersfield Club: "That in return for turning over the whole of their assets, consisting of machines and bank balance, to the Huddersfield Club, their members in return should share the privileges enjoyed by Huddersfield members for flying instruction until the end of the latter club's financial year, i.e., the end of September. After that date they shall be able to renew membership of the Huddersfield Club without the imposition of an entrance fee."

In this way Sheffield gliding enthusiasts will be able to enjoy the advantages of a good flying ground and a well-appointed workshop. It will not be surprising to hear of further clubs being absorbed in this way in the near future, and there is a distinct possibility that the Huddersfield Club will be the centre of gliding activities over a wide area in the West Riding.

## THE LONDON GLIDING CLUB

On Saturday, August 1, a party from The London Gliding Club took their PROFESSOR and one of their PRUFLINGS down to Ditchling Beacon to participate in the Southdown Club's Competitions. The successes gained during the week-end are dealt with in the account of the Meeting, so it will be sufficient here for the writer to say that we all had an excellent time and would like to thank the Southdown Club for their welcome and the assistance so freely given whenever required.

The wind being in the North suited the Ditchling Group admirably; but unfortunately made the conditions for those who went to Dunstable extremely bad. Saturday, Aug. 8, saw a small but hopeful band watching the wind blowing straight up the hill and the rain coming down in streams. We all packed up at about 6 p.m. hoping for a better Sunday.

The morning certainly looked promising although the wind had rather more North than we should have liked, however, it was decided to do some DAGLING work to start with and Mr. Hamilton was sent off to do a 45 sec. "B" flight, which was successful. Mr. Lee then did his final "B" flight in a gusty wind and Miss Nicol a practice flight. Mr. Morland then went off in the PRUFLING, but the spur beyond the launching ground proved his undoing. Unless the wind is dead up the hill, that spur always provides a downdraught either on one side or the other, according to the wind, and by the time Morland had got round it he had lost too much height to get back to the hangar.

We then adjourned for lunch, after which the ZOGLING was brought out and Major Petre took charge of the *Ab Initios*. Mr. Michelson brought out his PHANTOM but had to wait for assistance as the Club teams were by this time hard at work, as Mr. Culver had taken over the PRUFLING to give some of the newer "B" pilots instruction. Messrs. Abdallah, Dent and Lee and Miss Nicol had 3 ground hops each and were then taken a short way up the hill and launched slightly out of wind and told to turn into wind for their landings. All four were good, but Lee and Miss Nicol were particularly steady and it was decided to give them all a trip off the top if the wind dropped towards evening.

Michelson then had his first launch on the PHANTOM. Seven men on each side of a double rope were used, as this launch was to be on level ground straight into the cornfield, nobody could foresee the result which gave us an insight to the astoundingly flat glide of the PHANTOM. It shot straight off the ground on a long glide, the cornfield has a very gradual slope of about 1 in 25 and the PHANTOM never rose more than a few inches above the top of the corn. Most of the way the skid was rustling through the top and the glide finished about 250 yards from the start, having cleared the cornfield, crossed the small valley, and landed up the hill towards the hangar. Certainly not more than 15 feet below the starting point.

Major Petre now tried to soar the PROFESSOR, but the wind had gone and a very great effort ended at the bottom of the hill. The DAGLING, PRUFLING, and the PHANTOM next all came to the top. L. Desoutter took his "A" on the DAGLING. Michelson tried to soar the PHANTOM but of course could not manage it as there was no wind at all, and Lee was sent off on the PRUFLING.

He did exactly as he was told to, but unfortunately undershot his landing slightly and dropped the PRUFLING on the fence of a sheep pen. The landing was out of sight from the hill top, but we heard it and the three who were to have followed him groaned (amongst other things) and took the rope down the hill as there was no hope of any more work. On our way back to the hangar we met the PRUFLING and found it practically undamaged, a short split in one of the fuselage panels being the only breakage. However, it was too late to do any more so we packed away the kites and dashed into Dunstable for food and drink, arriving just in time, very cold and tired.—D.E.C.

## THE NORTH COTSWOLD GLIDING CLUB

On July 25 conditions were not happy, but pending the arrival of the B.A.C. Soarplane, which was unfortunately delayed by trouble on the road, the Mullard Radio Van entertained the spectators with music, and a demonstration of Primary Training was given by the ground engineer, and afterwards the machine was launched from the hill, flights being made by Miss Evelyn Moore and Miss Cocks-Johnston.

On Sunday morning, the aerodrome showed considerable liveliness. The arrival of Mr. Lowe Wylde on a "Klemm" Monoplane, and the arrival of a visiting "Moth" the Soarplane erected and the Club machine in her new colours, gave promise of a busy day, but that essential element, "the wind" decided at the last moment to change its mind, and after Mr. Lowe Wylde had tested the surroundings on the Klemm Monoplane it was decided to move the whole demonstration to "Happylands," which had been placed at the disposal of the Club by Mr. Cotterell, of Happylands Farm.

Everybody got to work, and in the short space of three-quarters of an hour, everything had been moved, including the road signs, and the machine, which was soared to Happylands in two flights by Mr. Lowe Wylde. Mr. Cotterell had also removed all his sheep and cattle, which was no light job, and the ground was ready for action.

In spite of the bad weather, which would have kept most pilots on the ground, Mr. Lowe Wylde was soon in the air. Soaked to the skin, he continued to fly all through the afternoon, taking up passenger after passenger. The car team, Mr. and Mrs. Green, of the British Aircraft Co., worked hard under extremely difficult conditions, the wet ground causing the wheels of the Bentley car to spin.

Mr. L. Wylde was extremely pleased with the conditions he found at Happylands, being able to obtain considerable help from the wind currents rising from the trees which border the fields. The North Cotswold Gliding Club by the kindness of Mr. Cotterell, have been able to arrange for the use of this ground for Autotowing in the future.

Perhaps the most successful result of the demonstration was the influx of new members to the North Cotswold Gliding Club.

The Club would like to take this opportunity of thanking all their visitors and helpers who carried on soaked to the skin, and to welcome them further to their regular meetings on Sunday afternoons at Broadway, and to mention again that the only official address of the North Cotswold Gliding Club, is c/o, Mr. Geoffrey Smith, secretary, "Evesham Journal" Office, Evesham.

Mr. Lowe Wylde thanked the Club, and was kind enough to state that the organisation was one of the best he had encountered in his various demonstrations. This was undoubtedly due to the way in which all members pulled together, and did their share of the work.

Thanks must also be expressed to Mr. and Mrs. Alan Butler, the presidents of the Club, for the use of the hangar and facilities for housing the visiting aeroplane: to Miss Douglas Jones, for her admirable catering arrangements, and to Mr. John Whitehouse, chairman of the Club, for lending an Armstrong Siddeley car for towing and transport purposes on the ground.

## THE SOUTHDOWN SKYSAILING CLUB

Some 6,000 people (700 cars paid admission to the park) visited the three-day meet of the Southdown Skysailing Club at Ditchling during the Bank Holiday week-end. The flying was really good as the Northerly wind enabled the steep slopes of Ditchling Beacon to be used. References to this Meeting have already been made in THE SAILPLANE so that readers will already be aware of the excellent flights then achieved, chiefly the new British unofficial record of over six hours by Flg.-Off. Mole, and the distance flight by the same pilot. Herr Krause flew for over three hours in one flight so the public saw plenty of soaring.

### PRIZES

A medal to Mr. Little of the Southern Counties Soaring Club for a launching-cable release-hook.

In the Duration Competition for secondary machines Flg.-Off. Mole representing the Southdown Skysailing Club was placed first on the BARBARA CARTLAND and received a medal and tankard. Mr. C. M. C. Turner, on a B.A.C. VI, representing the Channel Club was placed second and received a cigarette case.

In the Open Soaring Competition, Mr. Smith of the London Club, on a PRUFLING was placed first and received a shield. Mr. Turner of the Channel Club was placed second on his B.A.C. VI and won a tankard.

In the Closed Duration Soaring Competition, Mr. Mole, of the London Club (same man, different Club) won the Cup for his record flight of 6 hrs. 20 mins. 38 secs., on the PROFESSOR. Representing the Southdown Club, the same pilot was placed second for his flight of 28 mins. 30 secs., in the BARBARA CARTLAND with a passenger.

Herr Krause received a shield as a special prize.

The Distance Soaring Challenge Cup was won for the Southdown Skysailing Club by Mr. Mole for his distance flight of 4½ miles to Lewes in the BARBARA CARTLAND.

The Spot Landing Competition was not completed owing to the high winds on the concluding day of the Meeting, and the Ladies' Open Soaring Competition was not held as no entries were received.

## THE SOUTHERN COUNTIES SOARING CLUB

During the Bank Holiday week-end this Club put in quite a lot of soaring at Balsdean and frequently had two Club machines up at once. They secured an *ab initio* "C" [*Who is the blushing prodigy*?—Ed.] and their R.F.D. A.T.27 was soared for over an hour when a voluntary landing was made.

# Official Notices

## COUNCIL MEETING.

It is hoped that all Council Members will attend the next meeting to be held in the Library of the Royal Aeronautical Society on September 7, as Mr. Gardiner has very kindly expressed his willingness to attend in order to give advice on the great financial question which confronts the Movement to-day.

## REGULATIONS GOVERNING AUTO-TOWING

1. All gliders used for auto-towing must have a special Certificate of Airworthiness for that purpose issued by THE BRITISH GLIDING ASSOCIATION. For training purposes a single track undercarriage (i.e., one with a single wheel and/or skid) is advisable.

2. Any existing glider holding a normal C. of A. which is to be adapted for auto-towing must be re-approved for the special C. of A. For this an appropriate fee will be charged.

3. The towing hook shall be fitted with a "fool-proof" release with the operating device close to the pilot's hand and shall be of a type approved by THE BRITISH GLIDING ASSOCIATION.

4. Means for locking the release should be provided. (It is essential that beginners should be entirely under the control of the Instructor).

5. The towing cable shall be of not less than 10 cwt. breaking strength and of extra flexible construction. It must be examined before each flight. A shock absorber consisting of a double link about fifteen inches in length of ⅝ braided elastic cord, with 10 cwt. check cable to allow 50 per cent extension should be fitted. Good quality ⅜ diameter sash cord may be used in lieu of steel cable if desired.

6. An air-speed indicator must be mounted on the car well within the vision of the driver and connected to a pitot head monnted on a strut, at least five feet above any part of the car.

7. An Instructor with experience of auto-towing shall always be in the car with the driver, seated in such a position that the glider and pupil are in full view throughout the flight.

8. A separate master throttle control shall be fitted near the winch brake, in order that the Instructor can regulate the speed of the car in an emergency.

9. The towing-car shall be of sufficient power and reliability to make a quick "get-away" and avoid stalling the glider close to the ground. A minimum of 20 h.p. is recommended.

10. On wet grass or on ground where wheel-slip is likely to occur, chains should be fitted to both driving wheels.

11. The glider shall be fitted with adequate harness for the pilot (and passenger). Harness to be of a type approved by the B.G.A.

12. If primary type gliders are used for auto-towing they shall not be taken to a greater height than 10 ft. above the ground. Any infringement of this regulation will entail suspension of the Certificate of Airworthiness.

## SUPPLEMENTARY REGULATIONS FOR AEROPLANE TOWING.

1. All towing aeroplanes should have a current Certificate of Airworthiness endorsed for towing gliders.

2. Glider Certificates of Airworthiness must have an endorsement for aeroplane towing.

3. All towing cables must have a weak link to break at 400 lbs. in tension.

4. A minimum length of 300 ft. is suggested for the cable.

5. Towing cables must be dropped by the towing aeroplane over an aerodrome so as to fall clear of all buildings and persons.

6. All sailplanes must have a release definitely operable by the pilot.

7. The glider must be released from the aeroplane in good sight of the aerodrome from which it has started and must signal its release by the aeroplane flying one or two complete circles.

## ACCIDENT REPORT

### REPORT ON ACCIDENT TO LONDON CLUB "PRUFLING" AT DITCHLING BEACON, ON AUGUST 3, 1931

Since Capt. Needham, who was flying the machine, is himself a member of the Technical Committee, it is thought that an independent account of the crash may be desirable.

The machine concerned is THISTLEDOWN, a Kegel Prufling bought by the London Club. It had been repaired by the ground engineer of the London Club, but had not since been flown on their ground before being taken to Ditchling.

Shortly after mid-day on Monday, Aug. 3, the machine was taken to a valley away from the main ridge, with the intention of entering it for a spot-landing competition. The wind was strong, and on that side somewhat gusty. Capt. Needham took the machine up for a test flight and made a good landing. He took it up a second time from a different position. When he had flown about 200 yards the cowling over the cockpit came adrift in front, through the dowels drawing out of their sockets.

The cowling lifted in front, and must have acted as a forward elevator, at the same time masking the control on the elevator proper. Capt. Needham forced it down twice or three times with his free hand while keeping control of the machine. The last time the cowling was forced down while the elevator was in the "down" position (control-stick forward). The blanketing effect of the cowling on the controls and its elevator effect were simultaneously removed and the machine, which was flying at no great height dived steeply and overturned on touching the ground. The nose of the machine was destroyed but otherwise little damage was done.

The coming adrift of the cockpit cowling has previously been reported as being the cause of a similar accident to Mr. McCulloch, of the London Club, flying the other PRUFLING. Steps have now been taken to prevent its happening again.—(Signed) D. MORLAND (London Gliding Club).



Printed for the BRITISH GLIDING ASSOCIATION by the Broadwater Press Limited, Welwyn Garden City, Herts, and Published by THE BRITISH GLIDING ASSOCIATION, at 44a Dover Street, London W.1. Telephone: REGENT 6145.