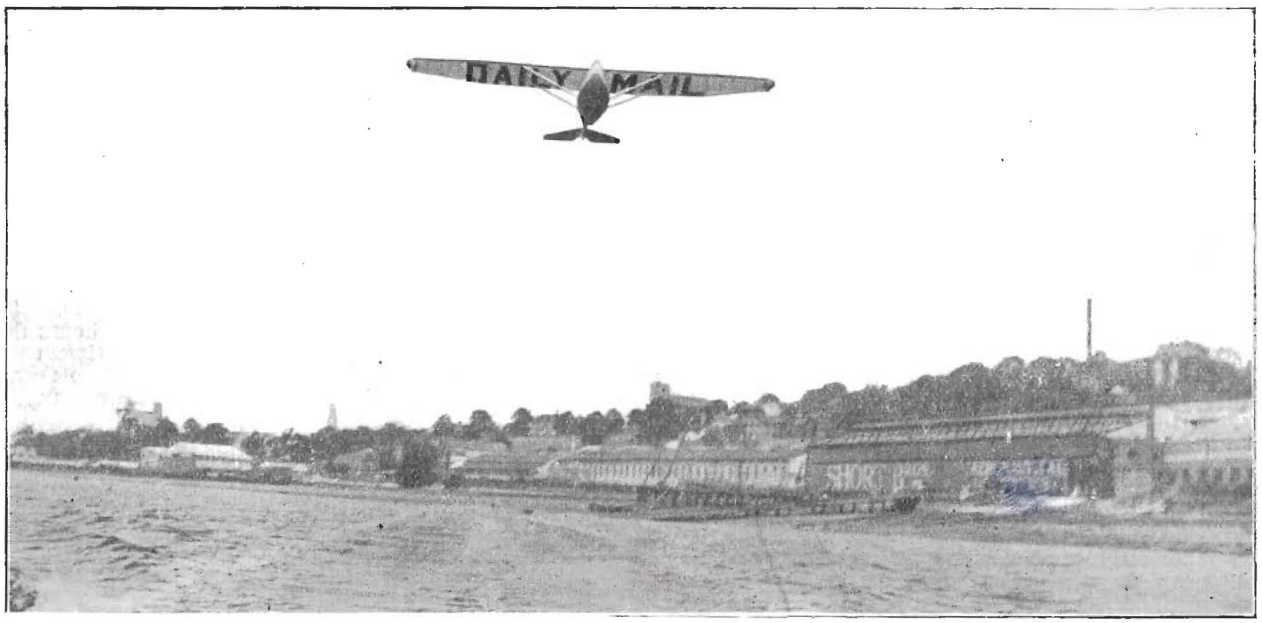
August 14, 1931 Vol. 2. No. 3

THE SAILPLANE AND GLIDER

Price 6d.

Edited by Thurstan James.

THE BAT-BOAT



The latest B.A.C. which is a two-seat waterplane using standard wings and tail-unit flying behind a speed-boat on the Medway at Rochester.

ARE DEMONSTRATIONS WORTH IT?

The more demonstrations to which one goes the less interested does the Public seem. We would protect this statement by admitting that one demonstration will probably draw a big crowd in a district fresh to demonstrations of Motorless Flight but in districts where such demonstrations have been held before the Public stays away. This was particularly noticeable at Ditchling during the Bank Holiday Week-end when, in spite of the admirable publicity arrangements made by the Sounthdown Skysailing Club and the Lyons Tea people, the attendance was, to our mind, meagre. We noticed the same thing at Balsdean at Whitsun.

Forthcoming Fixtures

August 15.—Demonstration and Meeting. The Channel Gliding Club, at the "Valiant Sailor," Dover Hill, Folkestone.

August 22--23.—Demonstration and Meeting. The I.O.W. Gliding Club, at Afton Down, Freshwater.

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

October 4--5.—Second B.G.A. International Meeting.

In the first volume of THE SAILPLANE we suggested that Clubs were dissipating far too much energy upon the organisation of demonstrations and meetings. Such energy would be much better spent upon Gliding. 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.

As Mr. Gardiner pointed out in THE SAILPLANE last week demonstrations are chancy affairs, either the weather or the wind fails. The meeting at Ditchling was unusual in that conditions were so good that hardly any flying was done except by such experts as Mr. Mole, Mr. Needham, Mr. Turner, Mr. Lowe Wylde, Mr. Smith and Herr Krause. In fact events for primary machines and the less advanced pilots had to be shelved.

Another weakness in demonstrations is the failure of billed attractions to materialise, though so far as we know this does not apply to Ditchling. Any such failure is bound to adverstly affect public opinion.

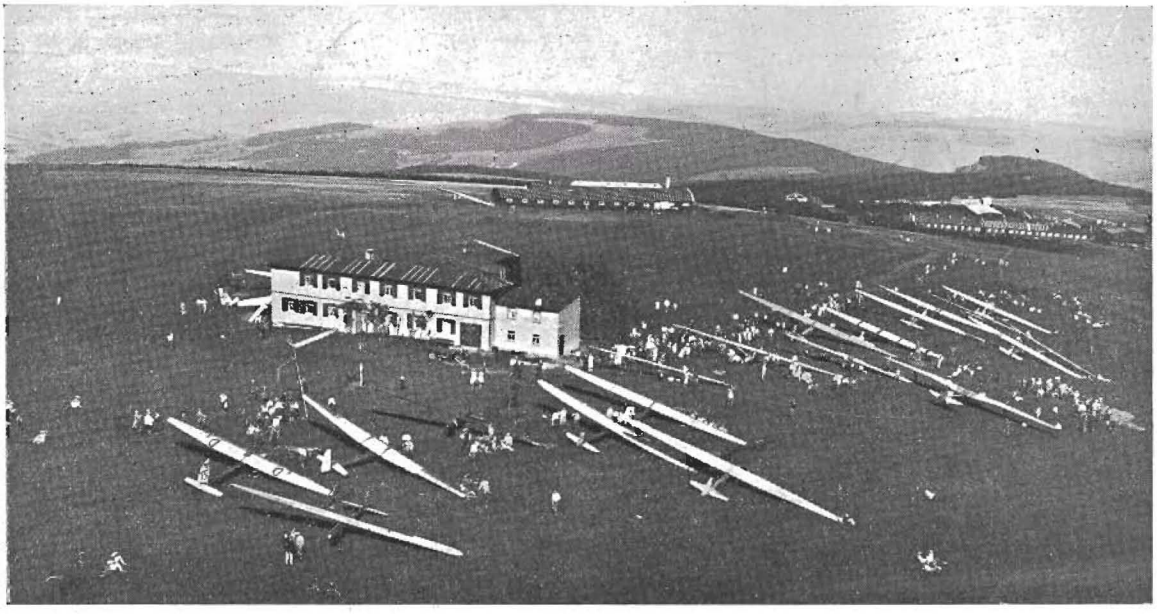
At Ditchling there was an unfortunate incident which led to all sorts of wild statements being made. After Herr Krause had been flying for some three hours and was therefore not unlikely to approach or even beat the existing record of four hours and a quarter, Mr. Smith of The London Gliding Club was launched in the Club's new Prufling, once the property of Mr. T. 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. Mr.

(*continued on page* 28)

Some Impressions of the 12th Rhon Competitions.



The 12th Rhon Gliding Competition took place at the Wasserkuppe this year from July 23 to August 5. Although the Competition was International, only German pilots and machines took part. There were 59 machines entered this year and actually 52 arrived as against 35 last year. Two machines came from Breslau, and two from Grunau, considering that the majority of German Clubs are suffering from the same complaint as the majority of English Clubs—lack of money—this shows the amount of enthusiasm within the German Gliding Movement. There were 400 people actually living in the School buildings. This manifestation of enthusiasm is further established by the fact that most of the competitors and crews arrived with absolutely no money at all—they had to ask the R.R.G. even to find their food.

All the machines disclosed the fact that they had been very carefully constructed by their owners, the majority of whom were the actual competitors. One can say that the standard of workmanship insisted upon by the R.R.G. has been largely responsible for the great progress which the constructors have made. Throughout the inspections which are always a special feature of the Rhon Competitions, hardly 2 per cent. of the construction was questioned. There were no great alterations in the designs and no great differences in the types. In the preceding years many of the machines which went to the Wasserkuppe did not fly, but in this year's competitions nearly every one of them flew.

Mention might be made here of one or two machines which caused a little comment. The "Kassel 25" received the most careful scrutiny from everybody. It is, of course, beautifully built and sells for the astounding price of £75. It has a gliding angle of 25 to 1, span 60 ft., and flying speed 14 m./sec. An interesting feature is the use of adjustable struts, which simplifies rigging, and once the screwed bolts have been set the wings can be assembled and dismantled very easily. The rigging time for 4 men is 20 minutes. It is very graceful in flight, and the officials at the Wasserkuppe were loud in their praise.

Then there was the SCHLESIEN IN NOT, the KASSELL 20, the Dresden PANZERKREUZER (armoured cruiser) and looked it.—the PLEITEGEIER (bankrupt) because most probably it had not been paid for ! ! and the CELLOPHAN Professor. The wings of this machine are covered with cellophane compressed on silk cambric. (The late Mr. Lander had experimented with this material.—Ed.) However, Kronfeld's machine, the WIEN, is still the best and the pick of the lot. All are agreed on that point.

Unfortunately it was not possible to get complete details of the winners of the different events, but a short review may serve the purpose of the moment. That the young pilots have made progress may best be judged by the fact that not only did they make great duration flights but they also made good altitude and distance flights. For instance, take the WURZBURGER GENERAL-ANZEIGER professor (named after a newspaper). This machine was piloted by young Schnud for 9 hours duration. This boy is 23 and it was his first time on the Rhon. Other good pilots were Teichmann who flew the ERICA OFFERMANN, Pleiffer on the SCHLESIEN IN NOT, Hakanjos on the STUTTGART Professor, Kunzer on the Stuttgart STADT STUTTGART.

The best performances were made by :

Groenhoff	220 kilometres	(137 miles)	to Magdeburg.
Hirth	192 ,,	(119 miles)	to Cochan-Moselle.
Groenhoff	180 ,,		
Hirth	175 ,,	(112 miles)	to Halle.
Meyer	54 ,,	(34.6 miles).	

Kronfeld was handicapped.. Not only was he ill, but his machine the WIEN had had to be re-covered. But on the last day of the Competition the contest for the day was the longest distance flight by means of thermic currents. Some dozen or so pilots made a valiant attempt to reach the desired height, but again it was left to Kronfeld to show the way. He went up about 11.30 a.m. and literally fought for the thermic currents for over an hour before he attained the height he desired, but having gained that height he pushed off for all he was worth and landed later in the afternoon 187 kilometres away. The flights of Groenhoff and Hirth were also from thermic currents. Groenhoff's flight (to Magdeburg) and Hirth's (to Halle) were made in front of a thunderstorm.

The greatest height reached in the junior pilot class was 855 metres (2810 ft.) by Pfeiffer on the SCHLESIEN IN NOT.

At the same time many of the pilots flew distances of 30 to 35 kilometres (18—22 miles)

Sunday, the Aug. 2, was a wonderful flying day, there were no less than 20 machines in the air at the same time as against 14 last year. This was the day Pfeiffer made his splendid altitude flight of 855 metres, and Hirth went off to Cochan Moselle (192 kilometres). It should be noted here that Groenhoff's and Hirth's flights of 110 kilometres and 192 kilometres respectively were in the direction of the Rhine, the very first time flying to the West had been accomplished.

We were rather amused on Tuesday : a thunderstorm broke over the mountain and was the cause of much activity : about a dozen machines went up to get in front of it, but unfortunately it was only local and nothing serious was accomplished. The laugh came from the fact that as soon as the thunderstorm broke machines and pilots were got ready in double quick time, whereas in England everyone would have made a bee line for shelter!

There was no very serious crashery—the AACHAN broke its back owing to the length of the fuselage.—breaking their backs is a feature of the AACHAN machines. However, Meyer will soon be ranking with the "big" men.

On the Aug. 1, a series of aeroplane-towed flights were made, although in the preliminary rules no aeroplane

towing was to be permitted. The following are the times :—

Groenhoff	...	1 hour,	42	min.,	20	sec.
Hirth	...	1 ,,	27	,,	30	,,
Kronfeld	...	1 ,,	10	,,	20	,,
Hemmer	...	...	25	,,		
Stark	...	...	24	,,	30	,,
Rhon	...	...	13	,,	35	,,
Muschick	...	...	10	,,	20	,,
Bachem	...	...	8	,,	40	,,
v. Chlingensperg.	...				25	,,

The public turned up **en masse** on Sunday, Aug. 2. There were over 40,000 people there and 7,000 cars. English visitors included the Master of Sempill, Mr. Gordon England, Mr. and Mrs. Whidborne, Mr. Dudley Hiscox, Mr. Little, Mr. Scott-Hall, Mr. Isaac, Dr. Thistlewaite, Dr. Slater (and his models). Great excitement was caused by two ladies arriving from England in their M.G. Midget,—Miss Nicholson and Miss Meaking were making a tour of Germany and found time to come up to the Wasserkuppe. It is not surprising to find that they were literally swamped by the German boys.

Both Miss Nicholson and Miss Meaking are "A" power pilots and so interested were they in what they had seen at the Wasserkuppe that they asked if arrangements would be made for them to join the advanced course which commences on the 14th. They were very happy when the O.K. came through.

Mr. T. H. Naylor flew over with Miss Delphine Reynolds and her friend—the snake. Another interested spectator was Mr. Jack O'Meara from New York. Mr. O'Meara had intended to take part in the Competitions, but unfortunately his entry was received too late. Professor Theodorides also came over from Athens. Professor Theodorides is an Associate Fellow of the Royal Aeronautical Society and is very keen on starting the Gliding Movement in Greece—there are no Clubs there at present but a Committee of 3 have decided to form an Association at once.

One can definitely say that the German Gliding Movement is still progressing and similar Movements in other countries will have to go a long way before they will be as far advanced. All these young pilots will soon be taking their places in the front rank of the World's best pilots.

The grading of the Competitions is a splendid idea. In the Competitions there were 5 grades of pilots.

1. Pilots who have not yet flown for one hour in any one flight.
2. Pilots who have made a flight of more than one hour and up to 5 hours in any one flight.
3. Pilots who have not flown a not-stop distance of more than 20 kilometres.
4. Pilots who have flown a distance of 50 kilometres and have been to the Rhon Competitions in 1930 and 1931.
5. Pilots who have flown for more than 5 hours, and/or for 50 kilometres in any one flight, and who obtained their "C" Certificates prior to January, 1930.



£75 is the price of this new Kassel Sailplane.

The grades represent the pilots in the two distant Competitions—the first 3 grades represent the junior and senior pilots in the "practice" Competition, and the other 2 grades represent the pilots in the "performance" Competition, such as Kronfeld, Hirth, Groenhoff, Meyer, Hemmer, Stark, Bedau, etc. According to the performance pilots in the first 3 grades put up, so are they graded for next year's Competitions, and it might he as well recorded now that within a few years the following names will be as familiar as those of the big pilots to-day :- Pfeiffer, Hakanjos, Kunzer, Teichmann, Schnud, v. Chlingensperg, Hemmer, Meyer,—they only require a little more experience. Some of them went up to make a duration flight above thermal currents but they could not stand the bumps and each one landed in turn. Platz, who is a power pilot, stayed up the longest on this occasion. His machine the RHEINLAND is a very fast machine and belongs to the AACHAN class.—

J. L. R. W.

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(*continued from page* 25)

Smith is one of the pilots of such soaring machines and so far as we know there has never been the slightest risk of an aerial collision. The pilots have rules of the road to which they adhere.

The real cause of Herr Krause's forced landing would therefore seem to be a difference of rulings obtaining in Germany and this Country as to the proper method of passing other machines in the air. In view of the fact that the International Competitions are to be held in October and that a large number of foreign entrants are expected an international ruling must be obtained. As Mr. Waplington tells in his description of this year's Rhon Competitions twenty sailplanes were soaring together. As we hope to have the same fine sight in this country let us establish a ruling at once which will enable our pilots and their foreign friends to fly together in similar safety.

While talking of the Rhon Competitions we would draw attention to the amazing distances which were covered by Groenhoff and Hirth. The interesting thing about these flights is that not only are they the longest yet made but they were made for the first time towards the West, and that is the direction in which Dr. Georgii (see Sailplane Vol. I, No. 40), showed the goal of competitors in this year's competitions to lie.

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FIRST CROSS COUNTRY FLIGHT TO BE MADE BY A BRITISH PILOT ON A BRITISH SAILPLANE.

On Monday, August 3rd, Flying Officer L. Mole won the "Mrs. Richardson" Cup with a flight from Ditchling Beacon to Lewes and return, a distance of about 8 miles.

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An English Club's Experience of Auto-Towing

[This paper was read before the Gliding Conference at Ilkley, and sums up the experience of the Oxford Club. It will be interesting to publish the comments of other clubs who have also experience of the method. A good deal has already been published in THE SAILPLANE *about auto-towing, particularly articles by Messrs. Haller and Lowe-Wylde as well as the report of the Engineers' Club of Detroit (references: Vol. 1, No. 19, pp 150--152; Vol. 1, No. 21, page 166; Vol. 1, Nos. 34 and 35,pp. 272, 280--281.—*ED.*]*

My object in placing before you the experience and conclusions arrived at by the Oxford and County Gliding Club on the subject of primary training by auto-towing on primary type machines, is to present to clubs similarly situated to ourselves an unbiassed view of this method of training, so that they may profit from our experience and be saved unnecessary experimental work and expense; also to correct any lack of consideration of the basic principles involved which may exist, the presence of which has been manifest on more than one occasion and is likely to result in trouble of a more or less serious nature.

The reasons why the Oxford and County Gliding Club embarked on primary training by auto-towing was, in the first place, the fact that they were temporarily without a suitable ground for launching in the orthodox fashion by shock-cord. Secondly, it occured to us that with a reasonably large field in use there was every possibility of providing the raw beginner with flights of much longer duration without involving additional risk, and since progress is necessarily a function of "time in the air," this would enable him to become accustomed to the "feel" of the machine and controls much more quickly and thus enable him to graduate for his "A" Certificate in a shorter time than would otherwise be possible.

Thirdly, we were led to investigate this form of primary training as an alternative to the shock-cord method of launching as a means for lessening the acceleration shock caused by the rubber-rope launch, a shock which is highly disconcerting to the average beginner and which tends to prevent him from concentrating on the controls to the natural detriment of his performance. Our experience over a consideable period has proved the two latter points to be substantially correct. Novices who were very nervous of being launched by the shock-cord method showed not the slightest disinclination to being towed behind a car, and we have one outstanding example of a member who crashed the machine on each occasion he was launched by rubber rope, who eventually carried out some half-dozen trips behind a car a few feet from the ground, without the slightest difficulty or mishap. This member has since been launched by rubber rope without making any glaring mistakes while in the air, or feeling inconvenienced, proving that the auto-towing had inspired him with the necessary amount of confidence and given him some valuable experience.

The duration of flight naturally depends on the nature of the ground, but, from the four or five seconds which the average beginner remains in the air when launched by the shock-cord method on relatively flat ground, it is not a

Summary

Used intelligently, and not for demonstration stunts, involving altitudes above 20 feet or rapid climbs, the auto-towing method of training is perfectly safe with a primary training machine.

A capable instructor and car driver are essential, and all concerned in the operation must be perfectly clear on the meaning of any signals used for starting, stopping, releasing, etc.

A car capable of rapid acceleration is of primary importance.

The pupil must be instructed not to allow the machine to gain altitude, but to maintain the machine in horizontal flight as far as possible some ten feet from the ground.

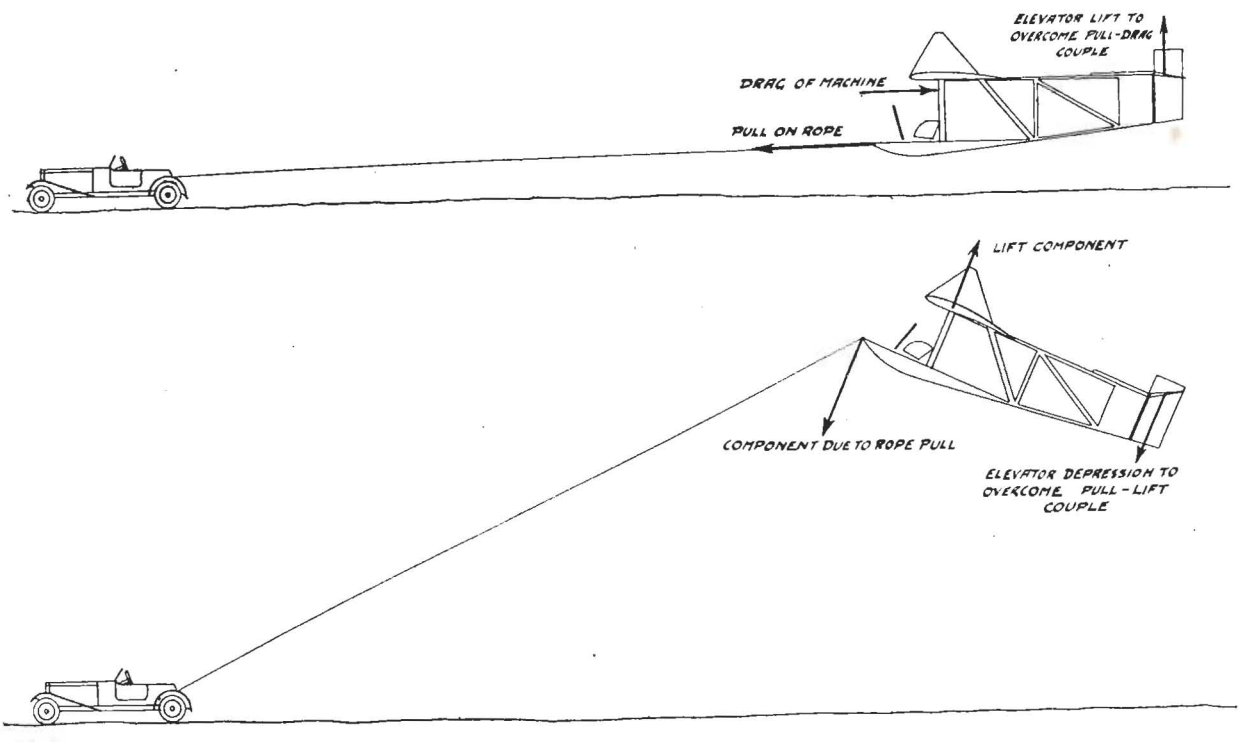
Hemp rope has many points in its favour for towing when giving primary instruction.

A release device under the control of the pilot is essential, and one on the car advisable.

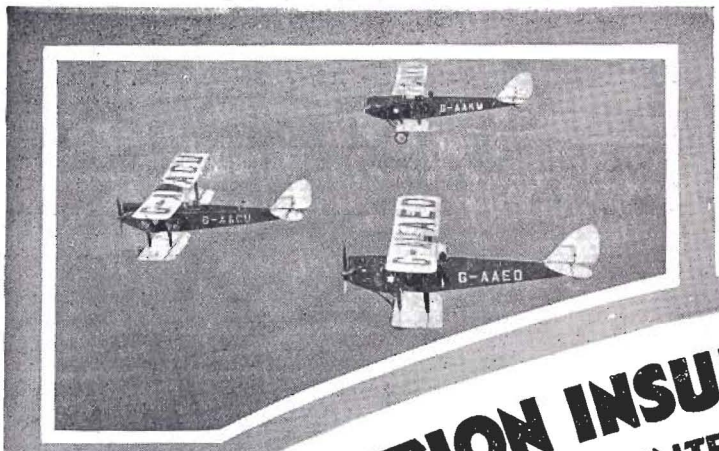
Special instruction must be given to a pupil who has been auto-towed regarding the importance of not losing flying speed, and thus stalling the machine, when he is subsequently launched by shock-cord.

A double track on the machine is a distinct advantage.

The machine should under no circumstances be towed much above its normal flying speed.



Diagrams to show how the height of the glider above the ground affects the position of the control-stick.



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difficult matter to increase the time to ten, twenty, or even thirty seconds if the size of the ground permits.

Without a doubt the method of training by auto-towing with a specially produced two-seater machine, advocated by the Chairman in his opening speech, is the best and most logical one, but, like many other clubs, the Oxford and County Gliding Club was not in such a rosy position as to be able to go to the expense of designing and constructing a special machine for the purpose, however desirable such a course may have been, and, as a result, we turned our attention to the utilisation of our standard training machine, a German-built ZOGLING, for this type of training. After careful consideration of the situation, it was decided that there was no real reason why this type of training should not be indulged in, providing it was carried out intelligently.

The first consideration is the question of the suitability of the primary trainer it is proposed to use for auto-towing tuition, and I would like to point out that the machine must possess good longitudinal stiffness so that the framework does not warp to a dangerous degree should the machine be dragged along the ground crabwise at a slight angle. The German-built ZOGLING is very good in this respect, the skid, or runner, being reasonably short and well stayed by the three life-wire bracings, two of which are anchored to the base of the king-post, the third being attached to the rear extremity of the runner. The R.F.D. primary trainers also employ this method of bracing and are equally suitable for the purpose.

The Dickson type only employs two lift wires, both of which are anchored to the base of the king-post, thus the entire length of the runner to the rear of the king-post is unbraced and can easily be overstrained through towing. This point is aggravated in this particular machine by the fact that there is little or no ground clearance below the rudder-post when the machine is resting on the ground, so that there is, in addition, the risk of danger to the lower tail longeron.

Although we have employed a single track machine satisfactorily, there is not the slightest doubt that a double track and wheels are an asset, firstly on account of the added stability with which it provides the machine while it is on the ground and, secondly, on account of the greater ease with which it permits the car to accelerate. The simplest method of adding wheels to a primary type machine for auto-towing would appear to be to cut a vertical slot in the plywood stiffening of the runner just behind the king-post and extending between the top and bottom runner members. Through this may passed a tubular axle equipped at each end with wheels, particularly of the "doughnut" pattern. The axle motion should be controlled by radius rods attached to the axle ends with an anchorage close to the nose of the machine, and the motion can be restrained in the usual manner by winding braided rubber cord over the axle and suitable spools or straps attached to the king-post or runner members. This method of mounting the axle was brought to our attention by an American Club who have been using it for a long period with considerable satisfaction.

In regard to the additional stresses thrown upon the machine when auto-towing and, in particular, the additional bending moments imposed on the body framework, I think a few words on this aspect of the question are not amiss. It must be understood that these additional stresses are mainly imposed when the machine is flying at a considerable altitude with the rope still attached, when towed above normal flying speed, or when being made to climb at a very fast rate. Providing the machine is kept low down, that is, not higher than about ten or fifteen feet, and flying substantially horizontally, the extra load imparted is negligible and very well within the factor of safety of the primary type machine. It should be realised that loads greater than normal do not occur under these conditions unless the machine is forced up beyond its normal kiting angle.

In practice, we have found that the beginner is only too ready to keep the machine within the limits I have just outlined. In the first place, the average person when he is first taken into the air forms a totally incorrect estimation of his height above **terra firma**, and invariably imagines he is some ten or twelve feet off the ground, when, in reality, he is but two feet up. We have found that the beginner not only does not attempt to climb to any height, but has no desire to get very far from the ground. Furthermore, there is not the slightest occasion from a primary training point of view why the machine should be pulled up to any height. All that is necessary, and all that we advocate, is that the **ab inito** should be air-borne for a sufficient period to enable him to grasp the use and "feel" of the controls.

Taking the forces acting on the machine when being towed at steep angles or high altitudes, we find that the pull of the tow-rope produces an appreciable component at right angles to the flight-path of the machine, tending to pull the nose downwards, and this, being some little distance in front of the Centre of Pressure of the main planes, produces a couple whose tendency is to bring the machine to the horizontal. In order to maintain a climb, the pilot must of necessity pull his stick back raising the elevator to an extent sufficient to balance the couple due to the tow-rope pull and lift of the wing.

Thus we have the condition where powerful downward forces are exerted on the nose and tail of the machine, and an equally powerful force is acting upwards on the Centre of Pressure of the machine, the whole having a tendency to break the machine's back, and here lies the real danger of auto-towing. The severity of this condition can obviously be reduced by correct location of the tow-rope anchorage, since the correct position of the tow-rope is such that the axis of the rope passes through the Centre of Pressure of the machine. However, owing to the peculiar construction of the primary type glider, this is not easy to arrange and, furthermore, the best position varies somewhat with the attitude of the machine in respect to the tow-rope during flight.

In the case of horizontal flight at low altitudes, that is to say a few feet from the ground, the tow-rope pull has little or no component at right angles to the flight path of the machine, the only out-of-balance force acting under these conditions is that due to the Centre of Resistance of the machine being some distance above the Centre of Tractive Effort. The tractive effort is applied at the hook at the front end of the machine, whereas the Centre of Drag is some eighteen inches to two feet below the wing. These two forces produce a couple which tends to make the machine climb slightly and, in order to maintain horizontal flight, it is necessary for the joy-stick to be held slightly forward.

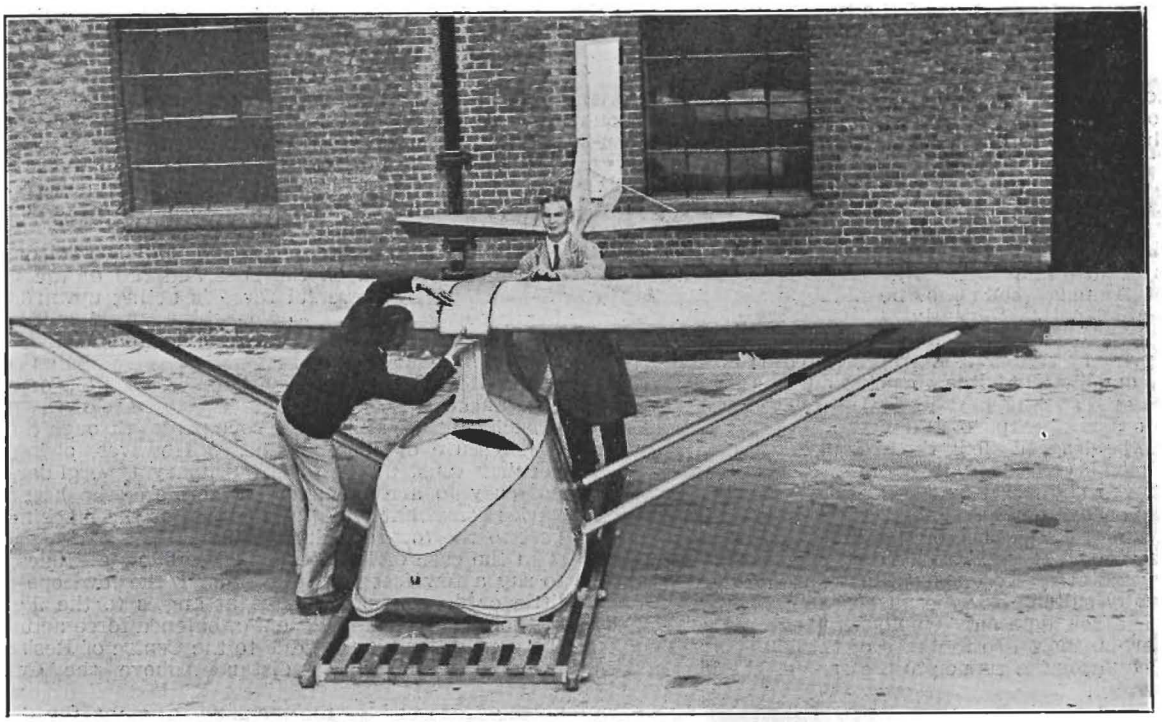
This is the normal position of the joy-stick in free flight, so that under these conditions we are very closely reproducing the position of the controls necessary for the shock-cord launch. With the machine operating under these conditions, no greater stress is imparted to the machine that that which is attained under normal flight conditions with a shock-cord launch, providing, of course, that the normal flight speed of the machine is not appreciably exceeded.

It will be understood that there is a position between the two I have just outlined where the machine will kite at a natural angle with the controls normal. This is the position where the axis of the tow-rope approximately intersects the Centre of Pressure of the machine.

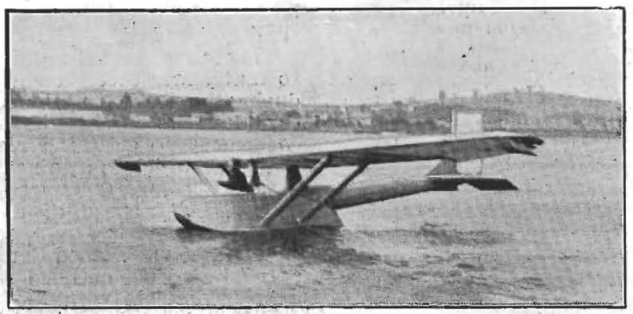
After trying both wire and rope for towing, we favour a high quality rope of the sash-cord variety, approximately ⅜in. in diameter, for the following reasons. It is much less dangerous to anyone in the ground party who should accidentally come in contact with it; it is sufficiently resilient to make the use of a shock-absorbing device unnecessary, and it does not suffer from the development of kinks in the aggravating way that the wire rope does. For primary training 100 feet of rope is employed, as this enables the instructor to be sufficiently close to the pupil clearly to see his actions and take the necessary steps to counteract any faulty manœuvres which might be indulged in.

A satisfactory release for the tow-rope on the machine under control of the pupil is necessary and one on the car for use in emergency is advisable, although we have yet to find occasion to use the latter. Our experience indicates that a rope permanently attached to the machine is a source of danger even in the case of the raw beginner.

The most important point with this type of primary training is to get the machine air-borne as quickly as possible, particularly in the case of single track machines, and to accomplish this a car with a good acceleration is an absolute necessity. Our experiments have shown us that the smallest car practicable is a 12 h.p. of the sports variety, such as a Sports Alvis. If the car is not in the sports category, then is must be of considerably higher power, preferably something over 20 h.p., and, furthermore, it must be in good condition. American cars have many points worthy of consideration in this direction. As the Chairman has already pointed out, their second-hand value is low and they are, therefore, fairly easy to acquire. They have ample horse-power and low gear ratios, which provides them with good acceleration, and finally their springing renders them suitable for use on rough ground.



FOR AUTO-TOWING.—The latest B.A.C. product, the Bat-boat which is a two-seat machine for towing behind a motor-boat.



On the Medway

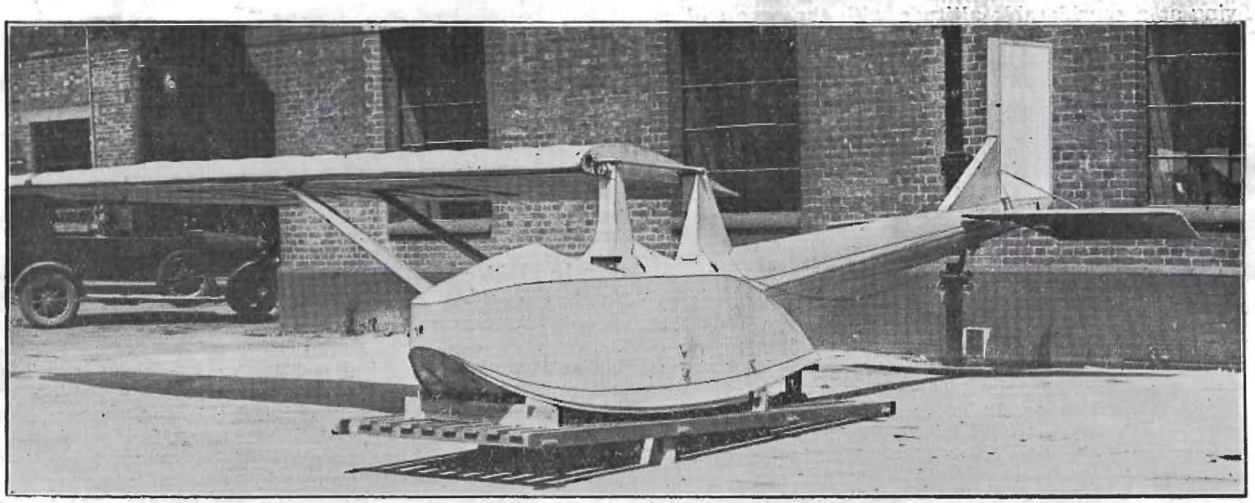
Much depends on the quality of the driver, and whoever he may be, he must know how to manipulate the clutch and gear-box so as to effect a smooth change-up when this is necessary. The disastrous effects of a driver heavy on the clutch and bad at gear-changing, can readily be imagined.

Unfortunately, the question of acquiring suitable grounds for towing persons in this country is almost as difficult a problem as obtaining the use of a suitable soaring site. This is chiefly due to the prevalence of small fields to the almost total exclusion of large tracks of land. It is to be hoped, however, that the aerodrome development schemes outlined earlier by the Chairman will eventually be a solution to the problem. When choosing a field the two obvious points which need attention are the quality of its surface and its situation relative to the prevailing wind. Obviously, the longest run of the field should face the prevailing wind.

An important point to note is that extra care must be taken when instructing a pupil who has received his early experience by auto-towing before launching him by the shock-cord method, chiefly with regard to keeping the nose of the machine down. Since the auto-towing method renders sudden loss of speed and consequent stalling practically impossible, the pupil instructed by the auto-towing method is liable to lose sight of the importance of maintaining his flying speed in free flight by the use of gravitational force. It is at this period in the training that the tendency exists to pull the machine up to too great an angle and thus stall the machine before realising what is wrong, but, as already pointed out, if the towing training has not been carried out at too great a height, this risk is greatly minimised.

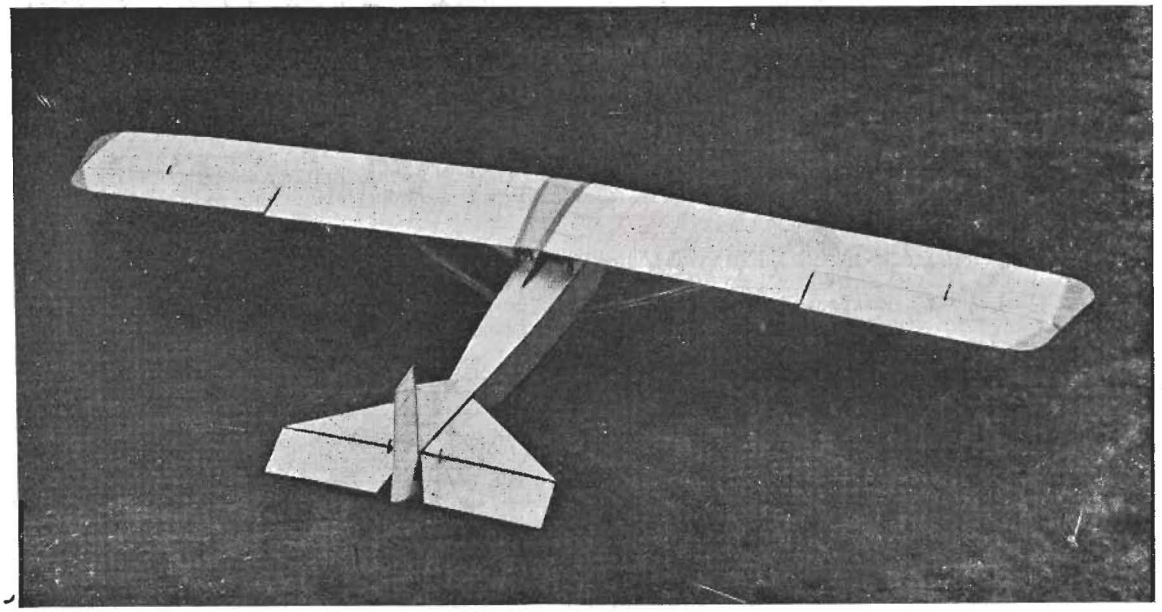
In conclusion, it is hoped that these few words on the subject of auto-towing will be of some assistance to the other clubs and if it has the effect either of saving them unnecessary expense or accelerating their rate of progress, the Oxford and County Gliding Club will consider their efforts have been worth while.

A. F. HOULBERG



The Bat-boat has been successfully flown and has proved its workmanship by being moored out for four hours without taking in any water. This machine uses the same wings and tail-unit as the B.A.C. VII.

NEWS FROM THE CLUBS



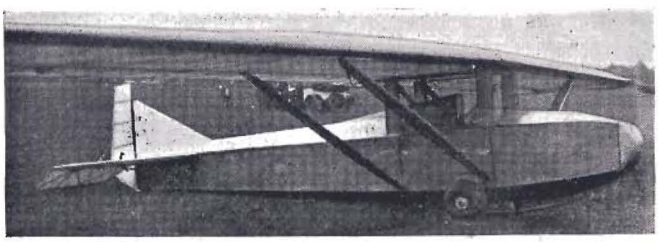
CLUB-BUILT.—The "Dorsling" which is a kind of mongrel Prufling developed for auto-towing by the Dorset Club.

THE DORSET GLIDING CLUB.

Rain marred the Wiltshire Club's meeting at Oliver's Castle, but in spite of this our DAGLING (the first machine to arrive) was erected on the site on Friday morning by Messrs. Secker and Solomon who had slept there Thursday night, and the former made a spectacular flight of nearly 3 minutes during the afternoon. The recovery entailed lifting the machine over several fences before the Lyons winch cable could be used. The other machines present were the Lyons Demonstration FALKE and the SCUD (British) which each made a soaring flight. The attendance was poor but all looked forward to a much busier Saturday.

Three other Members arrived Friday evening and found our advance-party resting from their labours in the tent, where, after yarning till midnight, we turned in to sleep. Sundry beetles and spiders and a mole caused a little excitement whilst some Members complained of the snoring (instead of soaring) of one pilot.

During the night and for 90 per cent. of Saturday, it poured with rain. In the morning we helped the Oxford Club to assemble their ZOGLING (German) Primary machine which they had brought on Friday afternoon. By 2.30 p.m. there were a few spectators arriving and the Lyons Demonstration machines were assembled. Mr. Secker was launched in our DAGLING in the interval between

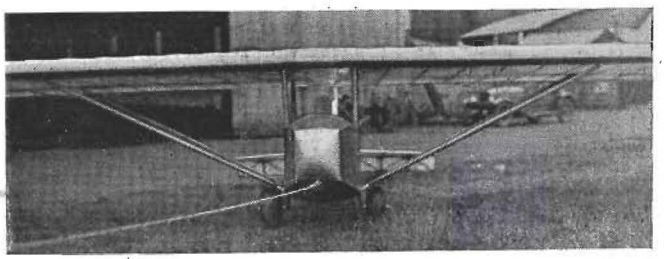


The fuselage is longer than the Prufling.

two showers and this made the first flight of the day—a fine glide involving a sweeping turn around a headland to enable him to alight in the approved pasture which was surrounded by fields of corn, etc.

The FALKE was the next machine in the air and Herr Krause remained aloft for over 20 minutes. Several others from Dorset had arrived by now but the showery weather held up the proceedings for a time. Next, Dr. Allan (of the London Club) who had arrived with his privately-owned SCUD was assisted to assemble this attractive machine, designed by Mr. Baynes, who was also present. About 4 p.m., the SCUD was launched, but after soaring towards the western end of the Headland for a few seconds the pilot turned to remain in the up-current and almost immediately nose-dived and crashed into the hillside. The pilot was injured and the machine badly damaged. The meeting was then abandoned and in pouring rain we helped in the removal of the injured pilot and his machine before setting to work to dismantle and pack the DAGLING which Mr. Secker brought back to Yeovil (to dry out) on Sunday.

We are sorry for the Wiltshire Club as their own machine was not even on view having been crashed some time ago and repairs having been delayed by an accident to their official repairer. We would like to suggest that when a Club stages a Demonstration it is essential that the Club machine should be on view, and if, due to lack of time or inexperience, the Members cannot repair in time to fly, it should still be shown as a tangible asset to enable prospective members to examine and learn something of the construction. The fuselage or skid alone could be rigged up to enable the instructor to demonstrate methods of tuition, etc. We hope



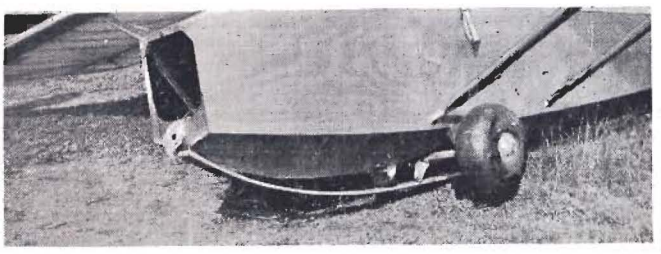
Note airwheels and detachable nose.

our Wiltshire friends do not mind this little criticism. We know they have had many set-backs and difficulties—the greatest we consider to be their lack of a site which can be used on Sundays and we hope they will soon be able to join forces with the Oxford Club in this matter.

The weather and the regrettable accident spoilt what might otherwise have been a worth-while Demonstration and we sympathise with the Wiltshire Club, and Messrs. Lyons. To the Lyons Demonstration Manager and his assistants whose organisation and equipment is to be admired we tender our thanks for the help given especially in regard to the use of their recovery apparatus. We also thank those Members of the Wiltshire Club who helped in the launching and recovery of our DAGLING and hope our Demonstration on a primary type machine will encourage them to go ahead so that some day we may meet in a friendly competition. We were glad to make the acquaintance of the Oxford Club and are sorry that circumstances prevented them from flying their ZOGLING.

AUGUST CAMP.

We welcome our new Lady Member and are glad she is joining in our Camp which now comprises some 12 Members. If any Members of other Clubs are visiting the West Country during



The nose cap detached, the two releases can be noted, one in front and one close to the axle.



ACES AT THE RHON.—Herron Groenhoff, Stark, Hemmer, Kronfeld, Hirth (in car) and Bachem (on running-board).

August, they should call and see us at work or at play, according to time and weather.

DORSLING.

Repairs are nearly complete. Will Members please turn up at Yeovil on Wednesday at 6 p.m. to help pack and at Maiden Newton on Thursday, 6.30 p.m., to unpack and rig both machines.

HANGAR.

The work on the DORSLING and preparing for and recovery from our trip to Devizes has interfered with the completion of our work on the Hangar Doors. Will Members please bring old clothes as well as Holiday kit for August Camp as they may be inveigled into doing a spot of work.

THE ILKLEY AND DISTRICT GLIDING CLUB.

Since the B.G.A. Conference, we ourselves can boast of no good work on the flying field. But we have had numerous visitors up at our flying ground at Malham. The Sunday after the Conference, we entertained the Huddersfield Gliding Club, some of the Leeds Gliding Club, and Mr. Stedman, with his Stedman Special Trainer, and others.

Though this is supposed to be a short history of our own doings, something must be said about the Huddersfield Club. First of all we have seldom met such a sporting club, and secondly, they are all born humorists. When we arrived up at Malham, we discovered a ZOGLING already rigged. We were very cheerful, as we drove up to our temporary hangar (a barn), blessing the industrious members of the Ilkley Gliding Club who had erected our training machine so early for us.

When we got to the gate, and found it was the Huddersfield's glider, our spirits, were, to say the least, a little damped. However, as Huddersfield then lacked man-power we offered to help them pull off. We will not hurt anyone's feelings, though I doubt if we could, if we tried; but although the Ilkley Club has the reputation of being the first club to loop a glider in England, and is now training a reserve team for the Schneider Cup, by doing terminal diving glides on a ZOGLING, etc., etc., we really were interested in the things Huddersfield so kindly showed us.

For instance we have never done a high speed slip and quick landing turn on a ZOGLING with one of its flying wires trailing behind. We have as yet, never attempted to land above our starting point in a ZOGLING, nor have we dared to try and chivvy up Mr. Carr's wild bull, with the same machine. Finally, we were showed the most realistic crash. This must be further explained: the pilot did a most skilful landing, on a slope of at least one in four, in an up-current, among the largest boulders Malham boasts. Though crash it was, not one farthing's worth of damage was done.

However, it was a great pity that the weather was so gusty, and awkward for our visitors. We should very much have liked to see Messrs. Brooke, Lawton, and Matthews take their "A" licences, as they well deserved them. Mr. Brooke's very skilful handling of the machine, after a flying wire had come adrift was really a very masterful piece of flying.

Mr. Stedman's machine is a new training machine. He has departed from some of the customary methods of Glider construction, and has produced a very hopeful machine. One or two minor adjustments are being made, and then it ought to compare favourably with the ZOGLING in performance. The new privately-owned sailplane [*We believe a* HOLS DER TEUFEL.—ED.] which has been built by some of the club members is completed, and will shortly be test flown. It has already been inspected by the B.G.A. inspector, who reported all O.K.

There is a rumour that a camp is going to be held, solely for the manufacturing of "C" Certificates, sometime in the future.

We are endeavouring to put up a hangar at Malham, and I believe negotiations are now being made for its erection. This will mean that we shall be able to leave all our machines rigged, and also that we shall have a Club Headquarters actually on the flying ground.—"Z."

THE ISLE OF WIGHT GLIDING CLUB.

The annual meeting of the Isle of Wight Gliding Club was held at East Cowes on July 26, with Major C. W. Brannon, M.C., in the chair.

The last annual report was read by the Hon. Secretary, Mr. L. A. Hurst, who pointed out that the Club's first glider, a B.A.C. II, built and tested by Mr. C. H. Lowe-Wylde, had been purchased by means of a subscription in the form of a loan, and had done much good work in giving all members the opportunity for elementary gliding. Thanks were due in connection with the Club's new all-metal glider, at present in construction, to Mr. J. A. Thompson, the acting Captain, for erection, and Mr. Bennett for welding. If the meetings had been lately so well attended as they were at first the Club would make much progress.

The Technical Committee's report was given by Mr. Thompson, who stated that much work in repair and improvement had been done on the existing glider and equipment, and it was just as airworthy if not more so, than when they obtained it. The fuselage of the new glider had been proceeded with, and he appealed for bigger attendance at the meetings. Auto-towing had been attempted, first with two cars, with little success, and lately with one, which had been very successful.

The accounts, sent by the Hon. Treasurer, Capt. F. L. M. Boothby, C.B.E., showed receipts of £97 2s. and expenditure of £96 13s. 5d., leaving a balance in hand of 8s. 7d.

The Officers were elected as follow:—President (subject to his consent), Mr. S. E. Saunders, O.B.E.; Captain, Mr. Thompson; Hon. Secretary, Mr. Hurst; Hon. Treasurer, Capt. Boothby, while the election of further Vice-Presidents was left to the Committee, which was re-elected *en bloc*.

THE NEWCASTLE GLIDING CLUB

A "dummy" trainer has been designed by the Newcastle Gliding Club to accustom members to catapult launching. It also teaches the use of elevator and rudder controls without risk of damage or expense, thereby saving the glider and most of the ground work entailed (only five are required to launch the dummy). Further advanced members are enabled to have the use of the glider while the beginners' class are using the dummy.

The "dummy" consists of a pair of skids each 6ft. long and 10in. deep, fixed sledge fashion 18 in. apart. A piece of 1¼in. gas tubing (1⅜in. O.D.) about 4 ft. long passes through the skids at the Centre of Gravity of the loaded machine, and takes the form of an axle. Upon this are two "Austin Seven" wheels approximately 3ft. 9in. apart.

It has a wedge-shaped fuselage similar to a CRAMCRAFT I glider, 11ft. long and 18 in. wide, constructed of ply-wood top and bottom with solid sides ¾in. thick. This is mounted about 3ft. above the double skids by four vertical and two inclined struts.

The rudder and elevators are attached to suitable spars at the



The Newcastle Trainer. The member in the background is operating the quick-release.

tail of the machine. The area of the rudder is about 8 sq. ft., and the total area of the elevators is about 11 sq. ft. The controls are actuated by rudder-bar and joy-stick in the usual way, the latter having no sideways movement as there is no equivalent of aileron control. Wire bracing is used wherever it appears necessary.

OPERATION.

A hook is provided on the front cross-member between the skids and the machine is catapult-launched in the usual way. A safety-belt is used to give confidence to the pilot and prevent him being thrown out in the event of encountering bumps or striking an obstacle.

Four men are used in the launching crew, the machine being held back and released by a quick-release attached to the back of the skid and operated by the pilot.

The machine travels at a speed of between 20 to 25 m.p.h. when launched with this crew and travels a distance of about 150 yards, in which turns can be practised.

OBSERVATIONS.

In a wind of between 10 to 15 m.p.h., both rudder and elevator controls were found to be quick in action, control being maintained up to the last few m.p.h. of the machine. It was found that novices could soon be cured of the habit of pulling back the stick on being launched, and correct use of the rudder was quickly learnt.

The machine has been continually in commission since the end of May, and over 200 flips have been made. It is still in service exactly as it was constructed (by a member without aeronautical experience) but as a result of observations we are now preparing some minor modifications and improvements. On one occasion a member hit a stout wood fence and the only resulting damage was a cracked skid which was soon repaired.

The machine cost less than £2 to build, and has been the means of teaching over 20 members the use of the two controls on it, without the glider having to be used. It has proved to be a cheap and reliable method of getting novices over their "teething troubles," and we would advise new Clubs to start with such a machine before they obtain their first glider. It is a rule in this Club that no member is allowed to fly, or train, in the glider until he has made a qualifying flip in the "dummy."

The modications we propose making are to lower and incline the seat so that the pilot's head is below the top of the fuselage (we do not expect danger in this respect but consider it a necessary precaution) and support it by wire bracing instead of wood struts shown in the photograph. We also propose increasing the height of the tail skid so that the elevators will always be clear of the ground.

[*We are always glad to have articles of this nature in which Clubs helpfully pass on the results of their experiences to others.* —Ed.]

THE PENDLE FOREST GLIDING CLUB.

The Pendle Forest Gliding Club held their first meeting on July 19, and another has been held since. The Club's machine, it looks like a Renard from the photographs, was flown by Mr. A. M. Verity, of Bradford. We understand that further information can be obtained from Mr. Kay of J. S. Horsfall, Ltd., Leeds Road, Nelson, Lancashire.

THE WARWICKSHIRE GLIDING CLUB.

The Warwickshire Gliding Club who meet every week-end now have a gliding site at Blackhill Farm, Snitterfield, Stratford-on-Avon. The Hon. Secretary is Mr. E. N. V. Frost, Wellesbourne, Warwick.

THE WILTSHIRE LIGHT AEROPLANE AND GLIDER CLUB.

The Members of the "Wilts Who Work" have had a busy time recently in completing arrangements for, and carrying through, four Meetings for the purpose of demonstrating the current phases reached by engineless, and powered flight. This represents the culmination of more than six months' work and owing to postponements due to bad weather, two of the Meetings fell on three days last week. On July 22, Mr. Lowe-Wylde very kindly trailed up his B.A.C. VII to the Polo Field, Coate Road, Swindon, which had been very kindly lent to the Club by Mr. Hill.

In all, 26 auto-towed launches were made by Mr. Lowe-Wylde, and the thermal effect of rising air-currents above the heated surfaces of the houses and roads adjoining was repeatedly marked by an appreciable lift, and during one flight, the same effect occurred while passing over grassland on which the sun shone between the clouds which left sharply defined shadows (areas of shade).

The Mayor of Swindon, Mr. John Belcher, had intended opening the Meeting, but another pressing engagement prevented this, so Mr. C. J. Cuss, Chairman of the Wilts Club, had the honour of taking the first flight with Mr. Lowe-Wylde, and many other Members of the Club and the public enjoyed for the first time, auto-towed launching and silent engineless flight over relatively flat country.

Members are eagerly looking forward to seeing a Demonstration of Mr. Lowe-Wylde's developments of towed-launching and flights behind a speed-boat. As an expeditious means of learning to fly there is much in favour of this method.

The Wilts Club's Two-Day Summer Meeting was held at Oliver's Castle near Devizes on July 24--25. The object of the Meeting was to demonstrate Gliding by means of primary and secondary machines and soaring flight by means of the most advanced types of sailplanes. Both objects were achieved on Friday in fine weather and to the great enjoyment of the few hundred gallant amphibians who kept afloat in the deluge on Saturday and reached the summit of Oliver's Castle, which is fortunately about 700 ft. above sea level, and was not completely submerged when the Lyons Tea Cloud Yacht was landed and anchored by the able pilot, Herr Hans Krause, after soaring with elegance for 20 minutes 20 seconds, which was by no means the limit of duration possible in the conditions prevailing.

The affinity of Lyon's Tea for water was never better demonstrated than on Saturday last, when force "T" exercised an irresitable tension on cloud "420" which was pulled down in a merciless manner on the heads of the guests. Then and then only could the layman discern the motive in naming these sailplanes "Lyon's Tea Cloud *Yachts*."

The Officers of the Wilts Club, Mr. C. T. Cuss (Chairman) and Mr. L. S. Scarlett (Hon. Secretary) with their President, Captain W. L. Gundry, who is also this year Mayor of Divizes, Mr. Baynes and Mr. Fenwick and representatives of the Press were the guests of Mr. G. F. Woolf at a delightfully informal luncheon at the Bear Hotel, Devizes on Saturday. Mr. Woolf outlined the steps which he had taken on behalf of Messrs. J. Lyons and Co., to assist the Gliding Movement and the Clubs endeavours throughout this country.

Captain Gundry in responding in his dual capacity, referred to the importance attaching to flying, and expressed the hope that the efforts made by Lyons and the Wilts Club would bear fruit. Mr. Cuss on behalf of the Wilts Club expressed gratitude to everyone who had helped to carry through the arrangements for the Meeting, and stated that without the assistance rendered by Messrs. Lyons through their able and far-sighted manager, Mr. Woolf, Mr. Fenwick and his staff, they could not have given Wiltshiremen the privilege of seeing for themselves so experienced a pilot as Herr Hans Krause soaring in the advanced German FALKE and British SCUD machines on two consecutive days over such a glorious Wiltshire Soaring site as Oliver's Castle and Beacon Hill kindly lent to the Club for this occasion by Mr. Halbrough.

Very beautiful glides, nearly 2 miles long, were made by Mr. H. J. Secker, of the Dorset Club in their R.F.D. Primary Training Machine on both days. Herr Hans Krause made a delightful soaring flight of 11½ minutes in the FALKE sailplane on Friday and later piloted the British SCUD machine designed by Mr. Baynes, who was present, and which had been purchased by Messrs. Lyons from E. D. Abbott Ltd., and during this first experience he was able to soar and terminate in a long and graceful glide of nearly 2 miles. The same type of machine was piloted during soaring flight for 17 minutes at Beamsley and 20 minutes at Dunstable, by Dr. H. Allan, a Member of the London Club, who arrived with his own privately-owned SCUD trailing behind his Baby Austin car on Saturday during the deluge.

To the regret of everyone, a mishap occurred 28 seconds after Dr. Allan had taken off during a brief lull in the breeze while making his first turn. The view expressed by Herr Krause was "that Dr. Allan stalled on the turn in turning down-wind with insufficient air-speed." It was a great relief for everyone to learn that the injuries to Dr. Allan were confirmed to the right foot and a scalp wound over the left eye.

It was, of course, a great disappointment to thousands that the fine weather of Friday did not continue for Saturday to give the Members of the Oxford and other Clubs a chance to take their Pilot's Certificates.

An excellent plan was produced showing the site and one-way routes by the "A.A.," which organisation marked the loopways and directed the visitors with professional skill and politeness, and this kindness was greatly appreciated.

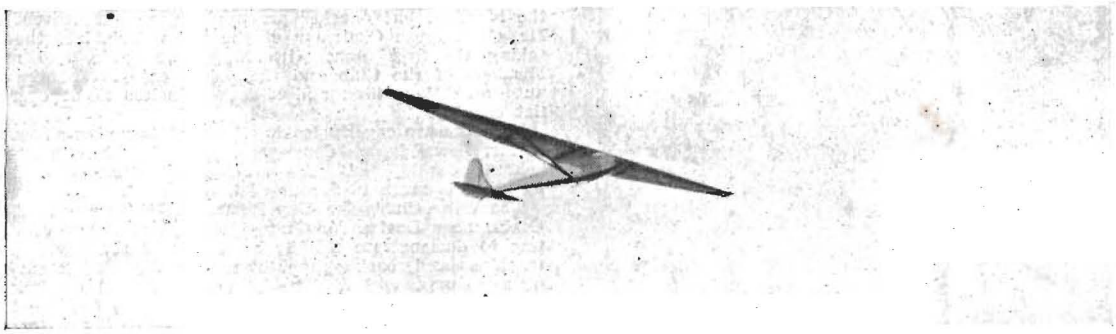
Lord Heytsbury and a number of distinguished visitors attended the Demonstrations and showed great interest in the flights and the construction of the various types of the machines and the equipment enabling the pilots to control them.

The visiting Clubs from London, Dorset, Oxford and Banbury were welcomed. The Press rendered great service in making known the strides accomplished with the various phases of silent engineless flight, and no enterprise is likely to benefit to a greater extent by obtaining high-speed news of a high order than the Press.

As a souvenir of this Meeting and mindful of an old promise made while exploring the Soaring sites of Wilts, Mr. Cuss presented three Wiltshire Blackthorn thumsticks to :—

Herr Hans Krause, the Pilot of the Lyons FALKE and SCUD Sailplanes.
Mr. G. F. Woolf, the Organiser.
Mr. Fenwick, the Ground Officer.

Owing to the "King's Cup Race" falling on the Saturday, Mr. Gordon England, who is Chairman of *The British Gliding Association*, and others distinguished in the World of Aeronautics were unable to be present.—C.J.C.



THE RECORD-HOLDER.—The Professor of The London Club which holds once again the British Duration Record.

THE BRITISH DURATION RECORD

On August 2 Flying Officer E. L. Mole flying the Professor of The London Gliding Club established a new unofficial British Duration Record of 6 hr. 10 min. 38 sec. thereby exceeding that recently made by Flying Officer Buxton in the Cloudcraft Phantom by nearly two hours.

The flight was made from Ditchling Beacon on the South Downs during the meeting organised by the Southdown Skysailing Club at which Mr. Mole made two other outstanding flights. He soared with a passenger in the Barbara Cartland (B.A.C. VII) for 28 min. 31 sec. and in the same machine without a passenger flew nearly five miles to Lewes where he landed. A launching party was sent out and Mr. Mole was sent off again from a hill above Lewes and flew back to Ditchling where he was unfortunately blown over while landing though without personal injury.

THE WORLD'S DURATION RECORD?

Recently in Honolulu, Lieutenant J. C. Crain, who is an officer in the United States Army, kept a glider in the air for 16 hours 38 mins. This is claimed as the World's Duration Record for Motorless Flight, but must be regarded as unofficial until homologated by the F.A.I.

THE LONGEST WASSERKUPPE FLIGHT.

On July 26, Herr Gunter Groenhoff established a new record by gliding from the Wasserkuppe to Meizerhein, a distance of 137 miles. As this presumably was made from a shock-cord launch it breaks all records although Herr Groenhoff has already flown some 160 miles after being launched by aeroplane-towing.

REPORTS

We wish to draw attention to the very irregular practice to which Club officials and others have resorted lately in sending in their reports in long-hand. The phrases and words have often to be chopped about which throws a great deal of extra work on our already much overworked staff.

Reports, which must be received before the Tuesday prior to the following publishing Friday, can only be published if they are typewritten in double-spacing.

"THE SAILPLANE." VOLUME I.

A few complete bound volumes of THE SAILPLANE, Vol. I, Nos. 1 to 42 are available at one guinea each, post free, from this office. Orders which must be accompanied by remittance will be dealt with strictly in rotation, though one or two volumes will be set aside for overseas readers.

EXPIRED SUBSCRIPTIONS TO "THE SAILPLANE"

We are receiving a number of letters in tones of disapproval at the non-arrival of THE SAILPLANE. We hasten to point out to all concerned, particularly to those whose subscriptions are now due for renewal, that a subscription does not go on for ever, and if the writers of the letters which we have received would only take the trouble to think, they would not write in to ask **Why** they have not received their copies.

There must, however, be a little overlapping due to the change-over, and steps are being taken to remind everybody when their subscriptions are due for renewal in order that continuity may be established.

GERMANY'S EXPORT TRADE

The famous German firm of Kassel has exported forty-eight gliders during the last fourteen months. The greatest number of these, twenty-five, were of the Zoegling type, England and the United States each importing eight. The manufacturing concern employed fifty workmen and three construction engineers during 1930.

According to report, plans are being altered completely in order that gliders and sailplanes may be constructed on a production basis. A new model known as the KASSEL 25 will be constructed. The new sailplane has a wing spread of 59.05 ft. This type may be produced for 1,500 marks (£75) or about one-half the price of similar types.

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