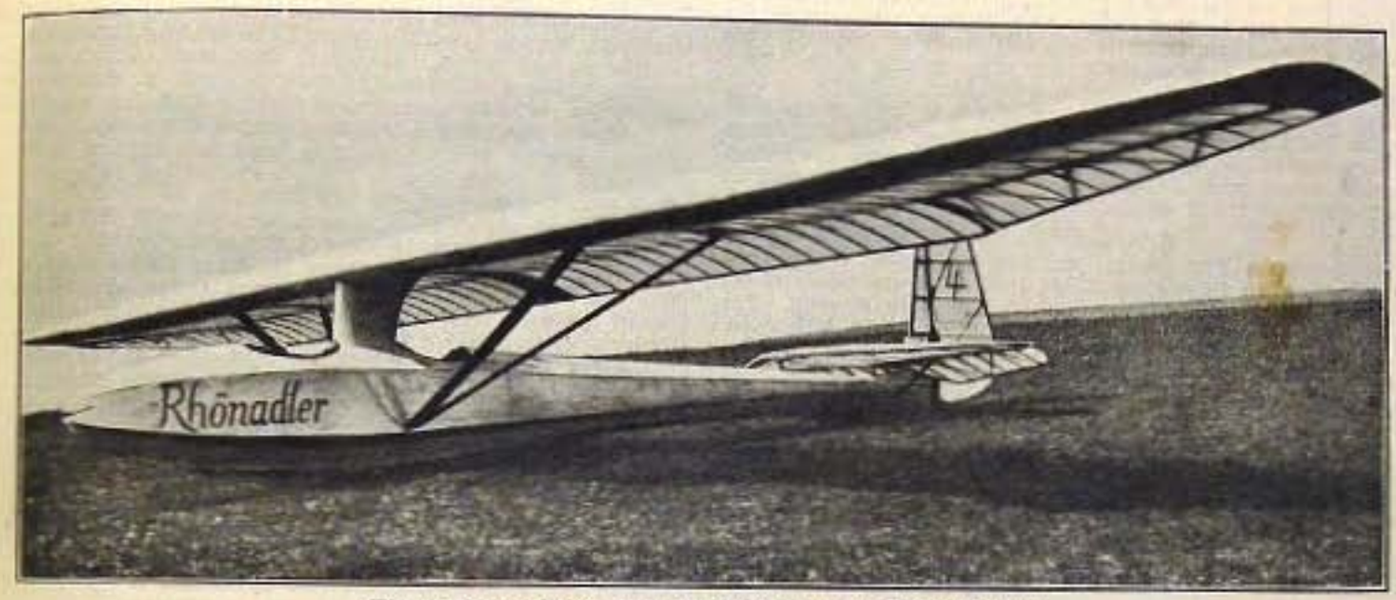
Jan. 9, 1931. Vol. I. No. 18.

THE SAILPLANE AND GLIDER

Price 3d.

BUILT FOR TWO.



The "Rhoenadler" built by Schleicher of Poppenhausen.

SOME MATTERS OF MOMENT.

A matter of immediate interest to us, and one which will affect all our readers, is the raising of our subscription. We have been compelled to raise this to 3s. 9d. for three months and 15s. a year, post free.

The cost of producing a publication like THE SAILPLANE is difficult to estimate, but now that 18 numbers have made their appearance, we have enough figures to allow us to see how the money is being spent, and as far as we are concerned at the moment, lost. Quite a large proportion of our losses are due to the cost of postage. The price of 3s. for three months means that the subscriber gets his copy at 2½d. instead of 3d. and we get this amount less ½d. which means 2¼d. a copy. As the cost of actual production is about 6½d. a copy, we feel justified in cutting our costs as much as we may.

Now that you have had 18 numbers we feel less reticent in explaining the position, for you have had a chance to weigh up the value of THE SAILPLANE to you, and the Movement as a whole. We feel confident that you will endorse our decision to carry on and make our future quite certain by seeing that all your friends subscribe to the paper.

By way of compensation we have been making various inquiries and have devised ways and means of delivering THE SAILPLANE to certain places in the South and West of England at reduced rates. We are therefore anxious to hear from friends of the paper who are prepared to order THE SAILPLANE in quantities of 500 to 50. We would supply the paper in these quantities at reduced prices so that Clubs or individuals could sell the paper at 3d. with a profit on each copy sold. This would be made possible by a reduction in the distributing costs which is not possible on single copies. We mention the West and South of

England to start with, but could probably cope with Belfast too.

If the experiment is a success we will extend it. If we can increase circulation by these means we can increase the size of the paper; if we can do that those extra features can be included which we should all like to see. It is up to you and your Clubs; if you will see that there is a constant demand for fifty copies a week at every Club, we will see that each Club makes a small profit and you will reap the benefit of a bigger paper.

A NEW FEATURE.

Arrangements are afoot for the publication in The Sailplane of a complete set of the drawings of The Reynard Primary Glider. This machine is in use by various Clubs. We have received so many inquiries for drawings of a machine of this kind that we are very happy to be able to meet it in this way. We have hesitated before taking the step as there is always the danger of somebody making a glider carelessly and breaking his neck, much to the detriment of the Movement.

Now that we have an organisation in *The British Gliding Association* for looking after airworthiness, and one which supplies inspectors, there is less likelihood of tragedy. We cannot accept responsibility for any defects which may occur before or after building the machine.

Our aim in publishing the drawings is to help responsible people build their own glider, but they must make their own arrangements for inspection. In the air a man's life hangs by the worst-made piece of his equipment, and would-be builders must think of that before they begin work.

A WARNING.

According to *The Times*, Mr. Leeroy Brown, Captain of the Southdown Skysailing Club, met with an accident on Jan. 4, when his glider crashed at Ditchling Beacon. He was taken to Sussex County Hospital, Brighton, where he is detained with a broken arm, a leg broken in two places, and shock. We are particularly grieved to read of such accident to the energetic and hard-working Mr. Brown, to whom we are indebted for many kindnesses.

We have it on good authority, but cannot as yet vouch for the accuracy of the statement, that the accident was due to crossing of the elevator controls. This has happened many times before, and a brand-new Schneider Trophy machine dived into the sea at Venice for the same reason though luckily the pilot escaped with a severe shaking. If this was the cause the accident must be regarded as a warning of the fatal possibilities of careless and inadequate inspection. If it was not it is still the proper time to point out that such an accident, and worse, can happen from careless inspection.

The suggestion has been made in this paper before, and probably will be again, that *The British Gliding Association* would do well to issue a report on such accidents so that erroneous impressions may be removed and adequate precautions taken to prevent the repetition of such eventualities.

ENSURING THE CONTINUANCE OF PROGRESS.

The Second Meeting of the International Commission for Studies in Motorless Flight was held in Paris on Dec. 6. As reported in The Sailplane for Sept. 12, the Commission was formed on June 14, 1930. At the last Meeting there were present Dr. Georgii (Germany), M. Massenet (France), Major Massaux (Belgium), Col. The Master of Sempill (England), and Graf Ysenburg (Germany).

Mr. Gordon England is to be asked to become Chairman of the Sporting Committee.

Perhaps the most important action taken at this meeting, in view of the present state of affairs in this country, was the arranging of international competitions for the future. This ensures that each year there will in Europe be an international competition to induce pilots to practise hard to improve their art.

This year there are to be international competitions in Germany, France, and Great Britain. It seems likely that the British Competitions will happen comparatively early in the year, though Scarborough may organise a show later on. The French Competitions are to run from the end of May till the beginning of June. The German from July 25 to Aug. 9.

After this there is to be only one international European competition per annum and it will be held in the various countries alternately.

The R.R.G. badge is to be internationalised. The various countries however, with the exception of Germany, will add their identity letter. Thus "G" will be added for Great Britain, "F" for France and "OO" for Belgium.

We understand that the French Government and Aviation circles in France generally regard the Gliding Movement as of the utmost value. We hear that *Aviz*, which is the French Gliding Association, has received a donation of 250,000 fcs. (£2,060) and that a further 3,000 fcs. (£24 10s.) is available for each primary machine constructed or acquired. So far French Gliding does not appear to have amounted to much and it will be interesting to see what effect this Government aid will have.

As matters stand in this Country, without Government aid of any kind, we have some thirty or forty Clubs operating every week and a number of these Clubs have now demonstrated that the glider offers a cheap and effective way of giving people their first idea of handling aeroplane controls. There is a growing feeling in favour of a central school for the United Kingdom. Whether funds will be forthcoming for this as a commercial venture remains to be seen.

The Meeting was remarkable for the friendly and helpful spirit shown by all parties and augurs well for the furtherance of the international aspects of the sport.

GLIDING IN CANADA.

The Aviation League of Canada, which is recognised by the Canadian Government and performs some of the functions of our own Aero Club, has appointed a Glider Committee which is to submit various recommendations.

These will refer to formation of the Canadian Glider Association with suggested constitution and by-laws; licensing of gliders; and licensing of glider pilots.

The Glider Club of Vancouver has been taken over by a company known as Aero Schools of Vancouver, who exist as a school of ground instruction for air engineers and pilots. This organisation now trains glider pilots. They intend to build sailplanes and power-gliders.

The Border Cities Glider Club of Walkerville, Ont., recently gained some prizes in the teeth of an American competition at Cleveland which had been organised by the Gordon Bennett Balloon Race Association on Aug. 31 and Sept. 1.

The Edmonton Glider Club have a machine, *The Condor*, which approximates to a sailplane.

So far we have not heard of any outstanding distance or duration achievements in Canada.

The Reynard Primary Glider, working drawings of which are to be published in "The Sailplane." The rudder and elevators are interchangeable as are the ailerons.

HOW TO RIG A PRIMARY TRAINING MACHINE.

By Marcus D. Manton.

[We are aware that most Clubs know how to rig their primary trainers, but consider that an article by such an authority as Mr. Manton, who was teaching people to fly in the Early Days at Hendon, will provide a useful reference and will help on the instruction of newly-joined members.—Ed.]

The following notes on the rigging of a primary training type glider contain nothing which is new or unknown to those who have operated gliders during the past season, but may prove, it is hoped, to be of some slight assistance to those who with little or no previous experience of aircraft are acquiring a glider for the first time.

The remarks contained in this article are not intended to refer to any particular make of machine, but to apply to primary gliders in general, such as the Zogling, Dagnall, Reynard, or Dickson. The S.A.C.II is strut-braced, and therefore the following remarks are not so pertinent.

The glider may be considered as comprising the main planes, the fuselage, the outrigger, and the tail-unit.

On receipt of a new machine it will be necessary to erect the machine by bringing together in the correct manner the various units. Once the glider has been erected it may be possible to house it in a fully-rigged state, but it has been noticed that Clubs with such storage accommodation are few and far between at the moment, and in most cases so little room is available in the shed or barn, or the entrance to it is so small, that the removal of one, or both wings, and possibly the tail-unit, is necessary.

With a new machine it will first be necessary to attach the outrigger, with the tail-plane elevators and rudder, to the fuselage. Little difficulty can be experienced with this, as it is only necessary to bring together the various parts, to insert bolts into the holes provided and screw up the nuts.

Attaching the Wings.

The fuselage should now be held in an upright position by one of the party to enable the wings to be attached. These are usually fitted one at a time, it being immaterial which is fitted first. If three people are available it is best for them to take positions so that one is at the wing-tip and two at the wing root, one taking charge of the front and one the rear spar connections respectively. The spar-ends which will be found drilled to take pins or bolts are then offered-up to the fittings on the fuselage, the holes in the fittings being brought into line with the holes in the spars, and in this connection a tommy-bar is useful and should be available. When the holes are in line the pins or bolts are pushed through, the heads of the pins or bolts being towards the front of the machine.

Bolts for attaching the spars have little to recommend them, because as the clearance in the holes is small the threads are easily burred when being inserted. This makes the fitting and tightening of nuts in a somewhat inaccessible position a rather troublesome job. Headed-pins drilled for a safety-pin or cotter are better, but best of all are headed pins with parallel shanks and tapered ends, the pointed end readily finds its way into the holes through the fittings and saves much time and cuss-words. In place of the nut

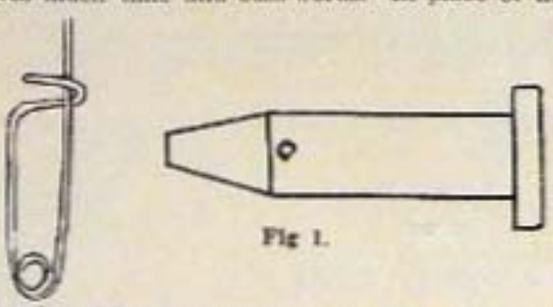


Fig. 1.

ordinary domestic safety-pins may be used, or special ones can easily be made from piano-wire with the aid of a pair of round-nosed pliers (*Sketch No. 1*).

When the spar-bolts or pins have been inserted and locked the next operation is to attach the landing-wires (wires running from the pylon or cabane) to the front and rear spar fittings, which will be found approximately midway along the upper surface of the plane, the wires being attached by means of the turnbuckles.

Before inserting the threaded eyes of a turnbuckle the barrel should be completely screwed off and then engaged with one screwed eye by one thread, the other screwed eye may then be inserted into the barrel at the opposite end (the eyes are screwed left- and right-hand); if this is neglected it will be found that considerable thread is still exposed on one eye when the other eye is hard up in the barrel. This is bad practice, and a useful amount of adjustment is lost which could have been obtained had the threaded eyes been given an equal start. When the turnbuckles have been given three or four turns they can be left for the time being while the second plane is attached in an exactly similar manner.

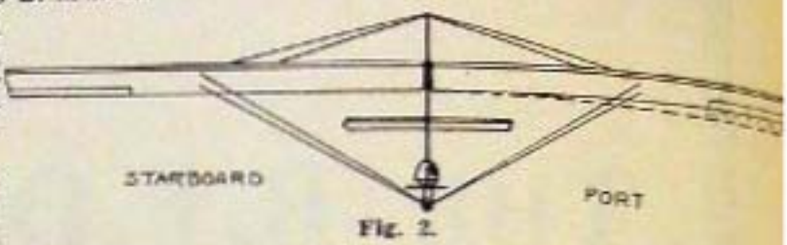


Fig. 2.

The machine is now in such a condition that both wings are in position with the landing (top) wire attached, and one member of the party can now be spared from holding the fuselage to take charge of one of the wing tips. If each tip is held by one man the machine can readily be kept in an upright position.

Trueing-up the Wings.

The next operation is to see that the wings are horizontal and at right angles to the fuselage (unless the machine is purposely being rigged with a dihedral angle). This is accomplished by "eye," both wings should be straight, one leading edge being in line with the other as though the wings had been built in one continuous piece. If any adjustment is necessary to level the wings this can be done by turning the turnbuckles on the front landing wires, leaving the rear wires alone.

How to Rig the Lift Wires.

The lift (underside) wires may now be attached. There are three of these to each wing and they run from fittings on the skid to the wings.

On each side of the skid are two fittings, the front fitting having two wires attached to it and the rear fitting one wire.

The front wire of all should be attached to the wiring plate on the underside of the front spar by means of its turnbuckle, the rear wire, that is the one from the rear fitting on the skid, should be similarly attached to the back wiring plate on the rear spar. The second wire from the front skid fitting is a combined lift and drag wire and runs diagonally upward from the front fitting on the skid to the wiring plate provided for it on the underside of the rear spar alongside the rear lift wire.

The lift wires should all now be tightened sufficiently to take out the slack, but not more. There was one man in the early days of aviation who, when asked how he tuned up an aeroplane, said he tightened up the wires until when plucked they gave the note of middle C! This must be avoided as putting a big initial stress in the wings and wires. When the six (three each side) lift wires have been attached the wings are ready for final trueing-up.

The Final Trueing-up.

The leading edges of the wings having already been levelled, it is not necessary to touch the front landing or lift wires, and all the adjustments are now made on the rear landing and lift wires. When "eyed" from the front of the machine the trailing and leading edges of the wings should be parallel. Judgment of this is made easier if the tail of the machine is lifted and placed for the time being on a suitable box on which the end of the fuselage may rest. The planes should now appear as indicated in the full lines in *Sketch No. 2*. If either or both planes droop this must be corrected (the dotted lines in *Sketch No. 2* indicate a droop or "wash in" on the port or left wing). To correct a droop the rear lifting wires are slackened sufficiently to allow the rear spar to move up as the rear landing (upper) wire is tightened the required amount. Should the wing have a "wash out," that is, if the trailing edge at the tip is higher than the root, the opposite remedy is necessary and the rear lift wires should be tightened whilst the corresponding landing (upper) wire is slacked out.

A Useful Gadget.

Those who prefer other means than sighting to true up the wings can easily construct the simple gadget shown in *Sketch No. 3*. This consists of a wooden batten, to which at the middle a semi-circular piece of cardboard or three-ply is tacked and to which a plumbline is attached. The gadget is placed on the underside of the wing resting across the front and rear spar positions, parallel to the ribs and at the wing root, the face of the card across which the string lies being towards the wing tip, when the plumbline comes to rest a pencil mark is made on the card to indicate the position of the string.

The gadget is now moved to the wing tip, but one must be careful not to turn the card round to face the other way, and again placed across the underside of the wing, resting

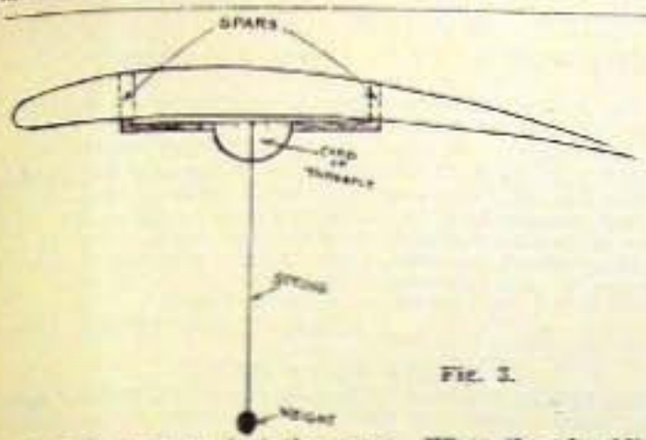


Fig. 3.

in the same way against the spars. When the plumbline comes to rest it will, if the wing is true, cover the pencil mark; if not, the rear landing and lift wires must be adjusted until the pencil mark and string coincide. The other wing is trued up in the same manner.

[*Considerations of space have necessitated the omission of Mr. Manton's remarks about truing up the bracing wires from the wings to the tail.*—ED.]

Connecting-up the Ailerons.

It is presumed that the ailerons have been fitted to the wings, the rudder to the fin and the elevators to the tail-plane. The way to do this is self-evident, though care should be exercised to see that the pins are properly secured with safety-pins.

First we will true-up the ailerons, attach the cables and see that the ailerons move up and down correctly. When sitting in the seat with the control-column pushed against the left leg the starboard, or right-hand, aileron should be down, and the port, or left-hand, aileron raised. Adjust the cables so that when the slack is removed (not so tight as to make the control operate stiffly) and when the control column is in its vertical or neutral position, both ailerons

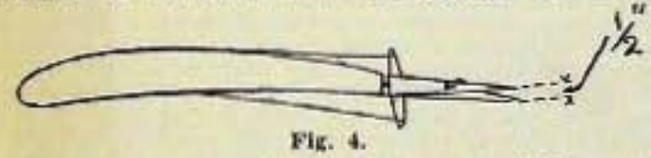


Fig. 4.

should be raised about ½-inch when measured between the trailing edge of the aileron and the trailing edge of the wing.

This is only an approximate measurement, and if slightly less or slightly more is immaterial so long as both ailerons are identical. Alternatively, both ailerons may be rigged level in neutral position so that the trailing edges are in line, but it is believed that the former arrangement gives better control when the ailerons are moved near to their extreme positions in flight. In effect it means that the raised aileron is raised more than the lowered aileron is depressed, with consequently less drag from the latter. This gives slightly better control as a result, because it reduces the tendency of the glider to turn or yaw towards the lowered aileron.

The Rudder Controls.

Now connect the rudder wires and see that they are not crossed. The wire on the rudder-bar near the pilot's left foot should run to the port, or left-hand, lever on the rudder, and similarly with the other wire.

When the rudder-bar is in its middle position, at right angles to the fore-and-aft line of the machine, the rudder should be straight and in line with the fin. When the rudder-bar is pushed forward by the left foot the rudder should also move to the left to turn the machine in that direction. *It must be remembered that the steering of a glider is like a boat and not like the handlebars of a bicycle*

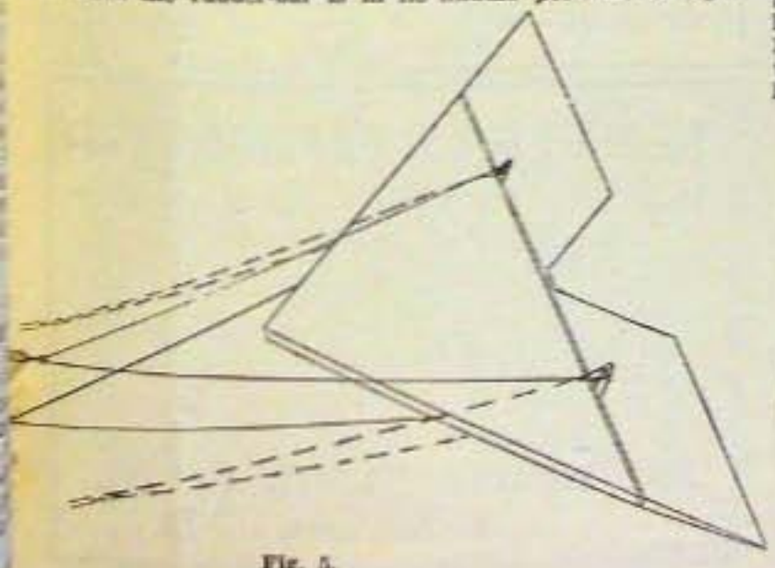


Fig. 5.

The Elevators.

The elevators must now be coupled-up. First see that the cables are not twisted and lie in the grooves of their respective pulleys and then connect the cables to the levers on the elevators. *Care is necessary here to make sure that the elevators are raised when the control-column is pulled back and are depressed when it is pushed forward.*

It is suggested that those wires which go to the upper side of the elevators should be painted one colour and those which go to the underside should be painted a different colour for a short distance either side of the coupling

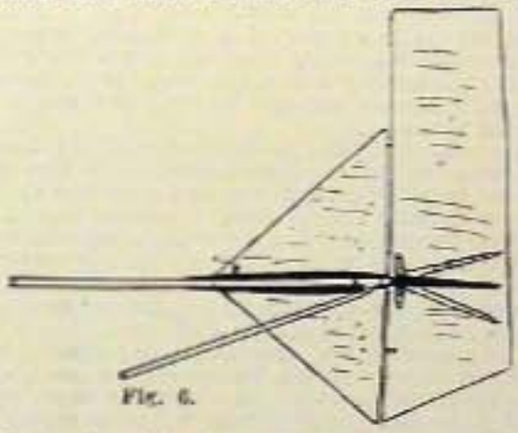


Fig. 6.

turnbuckles and a dab of corresponding colour put on the elevator levers. This should prevent mistakes. (The writer knows of a number of cases of wrongly connected elevator wires, both with gliders and power machines, where the elevator cables have been either coupled up so that control movements on the stick were reversed or the elevators locked against movement.) *Sketch No. 5* shows how if the elevators are coupled as shown by the dotted lines they would be locked.

The turnbuckles on the elevator cables should be so adjusted that when the control-column is in neutral position, i.e., vertical, the elevators should be straight out and form a continuation of the tail-plane. (*Sketch 6.*)

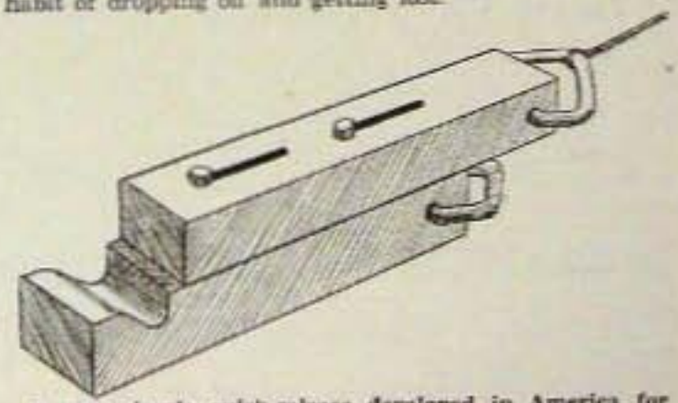
Fig. 7.—The correct way to lock a turnbuckle.

Final Precautions.

The machine is now rigged, and it is only necessary to lock all turnbuckles and see that all safety-pins or nuts are secure and for *someone else to go over the whole machine* to see that nothing has been left undone, and to test the controls for correct functioning.

It is rarely necessary to completely dismantle a machine to house it. It may, however, be necessary to remove one or both wings, and the method adopted should be just the reverse of that outlined herein, lift wires being undone first and landing (top) wires afterwards.

The following tip is worth much, as it will save minutes, and possibly hours of time. When dismantling, any turnbuckle which has been undone should be screwed right home on one end of the wire and locked thereto by its locking wire. It will then be there when next required and will not be lost in transit. Loose turnbuckles have a nasty habit of dropping off and getting lost.



A very simple quick-release developed in America for auto-towing. The top block slides smoothly over the lower one.

CORRESPONDENCE.

Mr. Lingard talks about Sharpenhoe.

Sir,—Re the report from The London Gliding Club, Harlington Group, which appeared in The Sailplane last week, in which the statement was made that the wind was considered too strong for The Bedford Club to fly their machine. With all due respects to Mr. Lander and his Group, to whom we are indeed very much indebted, I beg to correct this statement, and to point out that, although I can consider myself merely a novice as compared with some where gliding is concerned, my humble opinion is that the wind on that date was no more than agreeably strong.

In restraining my own enthusiasm and preventing any of our members from taking the jump, my reason was certainly not doubt over the strength, but rather the peculiar behaviour of the wind.

When one is in control of a club with rather limited funds, and only a training machine, it is not a good policy to take unconsidered and unnecessary risks, probably resulting in extensive damage, without the benefit of any knowledge gained.

It was admitted that no observations had been taken of the action of the wind when blowing in that direction, and as, in order to take off into the wind, one had to face another and rather higher hill, it seemed almost certain, even to the uninitiated, that there would be a strong down-draught somewhere in the vicinity. As was stated in the account there was, and much closer than expected.

In conclusion, I would like to mention a point that was apparently not observed by the Harlington Group. Rather by way of consoling our consciences and proving that the day was not entirely wasted, we made good use of our compass to ascertain in which direction the wind was most likely to prove useful, and we also tested by means of some smoke the action of the wind on some other slopes.

Once again may I thank the Group for making us the offer to use their ground which offer eventually resulted in us having a most successful day on Jan. 4.

(Signed) E. A. Lingard
(Hon. Capt. The Bedford Gliding Club).

The Road Traffic Act, 1930.

Sir,—Further to our recent correspondence regarding the unfair restrictions on light trailers, we now have it on very good authority that the Minister of Transport is exempting the light two-wheeled trailers from the obligation of having a second person in attendance, and also that an amendment of Regulation 82 will allow for automatic brakes on trailers up to 10 cwt. unladen.

We should advocate them on *all trailers* from the carefree way our trailers and caravans are drawn.

The limit to 20 m.p.h. is the only snag which remains and we solicit your assistance in persuading the Minister, while the regulations are still being drafted, that the limit is not necessary with the light two-wheeled trailer behind the private car. Please do what you can to help.

Many thanks to B.G.A. for their contributory effort reported in yours of Jan. 2.

(Signed) J. Cecil Rice
(Chairman, Rice Caravans Ltd.).

TWO NEWS ITEMS.

Mr. Lander has been gliding by moonlight and Mr. Searby has started a Gliding School. The report of Mr. Lander's adventures will have to wait until next week as we have not room for them this week.

Mr. H. A. Searby, whose address is Carlton, Nottingham, has organised the Nottingham Gliding School. We are surprised at his rates, which seem to indicate the School is a philanthropic institution; they are 5s. per quarter and 6d. per glide. These seem to us quite inadequate for the proper running of a school, as we cannot imagine how the salary of a qualified instructor, rent of hangar and depreciation of the machine can be met out of such small sums.

A CORRECTION.

We would like to correct the stress diagram which we published in our issue Dec. 19 under the title of "A Fragment from Flanders." As the more observant will have noticed the legend was in typescript. This had been pasted on, and in the transition from office to block-maker, the final term of the formula for finding the reaction at the point "A" became detached. This should read $\frac{M_1}{L} + \frac{1}{2} WL + WL$.

Finally it may be as well to state quite definitely that this lecture was not given as a B.G.A. lecture and that the methods of stressing explained therein are Mr. Flanders' own. The formula and chart are not put forward as being exact but are offered as a means of giving adequate structural strength for machines within the limit as laid down in the lecture (an aspect ratio of six, gliding angle not greater than 1/14, and a loading of 2 lbs. per sq. ft.). A large number of primary and advanced gliders can be made within these limits which will enable the amateur designer to make his first experiments and gain the enthusiasm necessary to proceed to more exact and efficient work.

NEWS FROM THE CLUBS.

WHERE GLIDING CAN BE SEEN.

Beds.—The Bedford Gliding and Flying Club. Week-ends at Wilstead Hill, 3 miles from Bedford on Bedford—Luton road.
—The London Gliding Club. Meeting place: Turveys Farm, near Totternhoe, on Sundays.

Dorset.—The Dorset Gliding Club, at Chickerell, Weymouth.

Edinburgh.—The Edinburgh Gliding Club. Sundays, at West Craigs Farm, between Corstorphine and Turnhouse Aerodrome.

Glam.—Merthyr and District Gliding Club. Sundays, 10 a.m. to sunset. ½-mile left Dynevor Arms, Merthyr Tydfil—Swansea Road.

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

I.O.W.—The Isle of Wight Gliding Club. Whiteley Bank, near Godshill. Every Sunday from 11 a.m.

Kent.—Channel Gliding Club. Adjoining Hawkinge R.A.F. Aerodrome, 2 miles from Folkestone, on main Canterbury road. Every Wednesday and Saturday afternoon and all Sunday.
—Kent Gliding Club. Week-ends above Lenham, on the Maidstone—Ashford road.
—The Isle of Thanet Gliding Club. Saturdays and Sundays from 2 p.m. Manston Aerodrome, Thanet.

Lanark.—The Glasgow Gliding Club. Barrance Farm, Easter Whitecraigs, near Glasgow. Every Sunday from 11.15 a.m.

Lancs.—The Furness Gliding Club, at Gleaston Park Farm, Gleaston, near Ulverston (midway between Gleaston and the Coast road), every week-end.
—The Stockport Gliding Club. Every Sunday afternoon at Woodford Aerodrome, Manchester.
—The Preston and District Glider Club. Week-ends at Beacon Fell, 2 miles from Inglewhite and 7 miles from Preston.

Staffs.—The North Staffs. Gliding Club. Week-ends at The Downs Banks, Barlaston Downs, near Stone, Staffs.

Surrey.—Surrey Gliding Club. Every Sunday, if weather permits, at Lockner Farm, Chilworth, near Guildford. 10 a.m. to sunset.

Sussex.—Sailplane Club of T.M.A.C. Horton Farm, Smalldole, near Steyning.
—Southdown Skysailing Club at Ditchling Beacon. Sundays, 10.30 a.m. till dark.
—The Worthing and District Gliding Club. Wednesdays, Saturdays, and Sundays, at High Titton, second turning to left going from Washington to Storrington.

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

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

Worcs.—North Cotswold Gliding Club. Every Sunday at Fish Hill, above Broadway Village, from 10 a.m. to sunset. Saturdays and Wednesdays from 2 p.m.

Yorks.—The Bradford Gliding Club, at The Pastures, Apperley Bridge. Saturday 1.30 p.m., Sunday 9 a.m.
—The Huddersfield Gliding Club. All day every Sunday at Bradley Bar, Huddersfield.
—The Leeds Gliding Club. Week-ends at Gildersome, near Leeds.
—The Scarborough Gliding Club. Every week-end at Flixton.

(Clubs are invited to send in full details as to where and when they can be seen at work. This feature should help Clubs considerably as readers who are not members can go to look at the nearest local Clubs and see which they like.—Ed.)

THE BEDFORD GLIDING AND FLYING CLUB.

During the week-end, through the kindness of Mr. Lander and Mr. Piggott, we prolonged our stay at Sharpenhoe, and on Sunday we put in a full day of some of the best Gliding yet done in the Club. The weather was perfect, and the wind was just of sufficient strength, blowing right up the hill on which we were operating. With the help of our slip-undercarriage and only a small party on the elastic rope, the machine found "lift" and altitude at once.

Every member present had several flights, and most of the flights were of 20 to 25 seconds' duration, one of our *ab initio* pilots, the Vice-Captain, Mr. Bevan, putting up a splendid show of 31 seconds, which, unfortunately, was not officially observed.

The Club Captain, Mr. Lingard, gave thrilling demonstrations of fast, down-hill swoops, following closely the contour of the ground, ending with faultless landings. One of our beginners, Mr. Bell, after one or two shots down below, took the machine from the higher level and made a perfect flight with a good landing. Even our "heavyweight," Mr. Irvin, had no difficulty in reaching the "upper strata" and made some good flights with well-timed turns back into the wind. Our Secretary gave a spectacular display of steep banks into wind, finishing up with a launch into the gloom, and by a series of "switchbacks," finding the ground down below.

Everyone voted the day as being the best yet, and again we would express our thanks to Mr. Lander for having us on his "preserves." His Prefect, *Thistledown I*, made some fine flights beside us, and we certainly congratulate him and his friend on their splendid handling of the machine. Soon, perhaps, we shall again visit Sharpenhoe and take him on in a friendly contest from the top, Prefect versus Dagling, in a straight line glide.

THE CONONLEY AND DISTRICT AERO CLUB.

Nay, c— it, Scarboro', fair "do's" amongst pals! Don't say you overlooked us altogether after the hardy enthusiasts of The Cononley and District Aero Club stood waiting on your flying field for three days for you to turn out. We reported all present and correct after our eighty-mile trip through a blizzard all the way. We barged into your revels at the Royal looking like orphans of the storm and proclaimed triumphantly that Cononley had done it.

We waited and saw precious hours of opportunity go by next day, we launched, derigged and waited again like Casabianca might have done for days. Some of our more hard-boiled fanatics even went into the next week at the foot of Flixton hill. And yet you didn't know we were there.

Ten hardy gliders, including our juvenile wing-tip supporters, all lost. It's too sad. The only consolation left is the good time we had camping in the three caravans and the evenings round the glowing brazier before we retired, and the very interesting display of real flying by Herr Groenhoff.

We have again been over this week-end, Jan. 4, and watched your nacelled R.F.D. (and the horse which brought it back) hard at work.—J. C. R.

THE LONDON GLIDING CLUB.

Last Sunday we went to Tottenhoe and saw Gliding of a kind of which a year ago we only had visions. An *ab initio* Club-trained "B" pilot soared for nearly two minutes on a Zogling, which stupendous effort was only terminated by trying to do too much. The novice was Mr. Humby, who lost the rising air by trying to short cut across a cup in the downs instead of creeping round the edge. But it was a useful lesson and one which all those present will remember as demonstrating convincingly the narrowness of the up-current.

The next outstanding feature of the day was the remarkable number of long glides done from the top of the hill. In the ordinary way such glides are far and few between because of the time taken to bring the glider back. On Sunday the London Club adopted for the first time the scheme which the Dorset Gliding Club have developed and described in THE SAILPLANE.

All that are required are a snatch-block, about 2,000 ft. of rope and a car with ropes or chains round the back-wheels. The block is fixed to stakes near the top of the hill and the car runs on level ground. The glider is towed to the bottom of the steep slope by a car and then hitched to one end of the rope. A second car attached to the other end of the rope, which has been reeved through the block, then runs across the field and hauls the glider to the top.

We should like to see the scheme modified by using the Oxford Club's idea of affixing a drum instead of a wheel to one of the driving axles and using the second car to haul in that way. It would avoid dragging up the field and wearing out tyres.

CLOSED CAR COMFORT.—The Rice Caravan at Ditchling where it sheltered many from the chilly blast. Guests were regaled with fresh tea and warm food.

The use of two gliders, one for the advanced group and one for the group under primary instruction, provided plenty to watch. One could say without exaggeration that one glider was in the air nearly all the time. This is a marked improvement on the days when one had to wait nearly an hour after a good flight.

We were struck by the excellent performances put up by ab initio pilots who were propelled over a precipice of some 300 ft. high after instructional hops on level ground. All these people did well. One enthusiast on the first of such flights went looking for trouble and found it in the shape of a powerful up-current, but he bjted through it and made a good landing miles away.

The last flight was a good piece of work by Miss Nichols, one of the select band of ab initio lady "A" Certificate holders. She was shot from the hill in the gathering dusk and found at the end of her flight a Baby Austin in her line of flight. With commendable presence of mind she flew the machine onto the ground and then pushed the stick over. Such head work enabled the obstructed wing to clear the car and nothing was hurt.

When the ropes had been coiled and the gliders taken back to the farm-buildings we all, crowds and hordes of us, crammed in to what is certainly the most delightful room of its kind we have ever seen. This is the dining room of Mrs. Turvey, whose husband farms the land on which the Club glides. But the dining room is no ordinary room. It, and the house of which it forms part, have been there for the odd six hundred years. There is a gigantic fire-place, of the type of which some builders delight in making im-proved copies, but Mrs. Turvey's fireplace has the advantage of being the prototype of such copies and being built by people who knew why they were making fireplaces of such dimensions.

The furniture, brass and silver are further delights, but such a catalogue of someone else's house borders on the impertinent and we will not risk Mrs. Turvey's anger less we are deprived of those amazing teas whose amplitude and succulence are such that Club members have to be buried forth by threats some three hours after they have started.—T. S.

THE MATLOCKS GLIDER CLUB.

We have done quite a large amount of training on our Cheodcraft primary glider, which is very satisfactory indeed. As none of our members had had any previous flying experience as pilots we decided to adopt the motto of "safety first," which has answered very well as can be seen from the log-book which shows that up to date we have made 247 launches with a total cost in repairs of somewhat less than 5s.

We have only been able to operate on Sundays, owing to the inability of members to come on Saturdays, and for the first seven times we met at Flash, about five miles from Matlock, the glider being towed there in a trailer made by a few members of the Club out of two car wheels, a front axle, springs, and the crate in which the glider was delivered. The field at Flash was almost flat, so the glides made there were all short hops, but they gave us the "feel" of the machine and accustomed us to the rapid acceleration of the shock-cord launch.

On the fourth Sunday we had our first mishap. After 18 successful glides in a wind which was really far too strong to be safe, one of our members did a little too much work with the rudder and finished up across wind, with the windward wing in the air. A strong gust came, and before anyone could get near, the glider, with the pilot strapped in, somersaulted on one wing-tip, damaging one of the rear wing-spars. The damage was repaired during the week by three members of the Club, and on Sunday, Nov. 2, we made 41 successful glides.

On Nov. 23 the wind was far too strong for safety, so the members who were present reluctantly decided that it would be prudent to abandon the idea of flying, and devote the rest of the day to searching for better gliding sites. Two sites were inspected—one at Shuckstone Cross, between Lea and Crich, which gave promise of being quite a workable ground in a wind from S.W. to N.W. for glides up to about 20 seconds. The other site at Masson would have been almost ideal for practically any wind, except for the number of stone walls, which are to be found on nearly all the Derbyshire hills, and utterly spoil countless numbers of otherwise perfect gliding and soaring sites.

On the following Sunday we tried the machine at Shuckstone Cross in a dead calm and twenty-two glides of up to 18 3/5 secs. were made, Mr. A. L. Slater making the best glide that had been done in our craft up to that date. On Dec. 7 we used the same ground and tried out a release gear designed and made by Mr. A. L. Slater, which was simple in design and perfect in action, and also a pulley arrangement made by Mr. G. O. Smith, which enabled the members to walk down the hill to pull the glider up. Twenty-two glides were made, averaging 11 secs. each, the best being 15 secs., almost the limit of the ground. Twenty-one more glides of approximately 10 to 13 secs. were made at the same ground on Dec. 14, bringing the total up to 247.

We are now looking out for a ground which will permit of a 30 to 40 secs. glide, as quite a dozen members can fly to the limit of the present ground every time. We are very pleased with our achieve-ments, especially as we have had absolutely no instruction by any glider or power-pilot whatever in either rigging or flying our machine.

The Hon. Sec. is Mr. J. W. Walker, Matlocks Glider Club, Limetree Road, Matlock, Derbyshire.

THE STOCKPORT GLIDING CLUB.

Things have been moving with The Stockport Gliding Club recently, the biggest step forward of which has been a working agreement between the Manchester Aeronautical Society, who possess a training type glider, but who, up to now, have not been able to turn out a sufficiently strong side to enable them to start training seriously, and the Stockport Gliding Club.

Apart from possessing the training type of glider, the Manchester Club numbers among its members men who are connected with the Aircraft Industry. In the designing and constructional sections, therefore, their experience and help is most valuable. In the Stockport Club are a number of pilots from the Lancashire Aero Club. One of their members, Mr. E. A. O. Meade, is acting as Hon. Instructor to the Club. Also the Lancashire Club owns a Prefect. It is hoped, therefore, with the combined experience and resources of the two Clubs between them some good gliding will be put up.

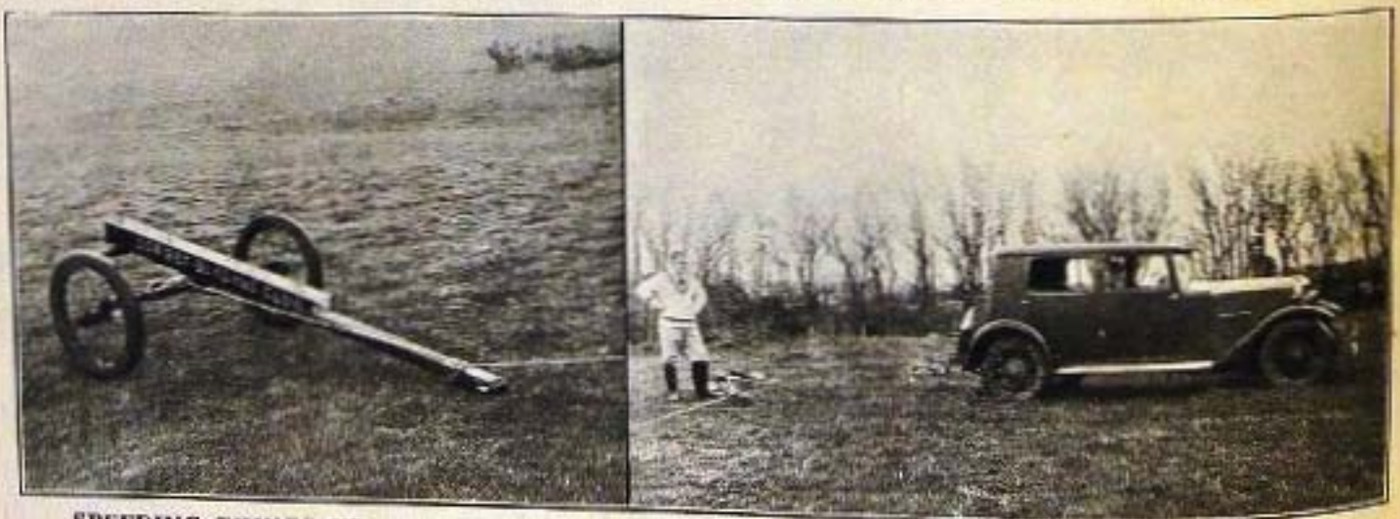
Gliding began three weeks ago on the Aerodrome at Woodford, kindly lent by Messrs. A. V. Roe and Co. Ltd. In spite of the very damp weather some very good sport was obtained. Gliding is now taking place each Sunday afternoon, but owing to the level ground and complete absence of wind the duration of the flights are very short. At the same time, it is noticed that the members who are without air experience feel much safer without the wind, and we feel it is as well that they get used to the launch of the glider without the fear of climbing and stalling.

THE WREXHAM AND DISTRICT GLIDING CLUB.

The Wrexham and District Gliding Club, formed two months ago, took delivery of their first machine, a B.A.C. training type, on Dec. 13. This machine was brought up from Maidstone by Mr. Lowe-Wylde, who gave a lantern lecture the same evening at the Technical Institute. On Dec. 14 the members and machine proceeded to the Plasney Fields, Marchwiel, about two miles from Wrexham. They were greatly assisted with their first demonstration by the attend-ance of the North Staffs. Club, who brought with them their inter-mediate type sailplane. This is a B.A.C. painted sky-blue and looked very pretty.

Mr. Lowe-Wylde then opened the meeting with a glide on the Primary, under most unfavourable conditions. The wind (what there was of it) blowing down hill. The field, although of good slope, was through the action of recent rains very heavy and made the work of the launching teams hard. Cross-wind launches were made by the Staffs. Club, their machine making some good flights even if some-what short. The best glide by a member of the Wrexham Club was made by Mr. Featherstone, an ex-R.A.F. pilot. The rain kept off for most of the afternoon and it made altogether an enjoyable day, even if the flying was a little disappointing owing to the bad conditions.

We are hoping to hold further meetings with the North Staffs. Club. It is far more interesting with more than one machine. The Wrexham Club are about forty strong and includes six ex-R.A.F. pilots. Our President, Mr. Hunter (Managing Director, Hunter's Ltd.) unfortunately could not attend, as he is away at Portsmouth supervising constructional work they have in hand.



SPEEDING THINGS UP.—How the Dorset Gliding Club recover their glider after long flights. The car runs on level ground and the rope attached to the trolley is reeved through the pulley at the Member's feet. A similar system is now in use by The London Club.

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