

FLIGHT

The
AIRCRAFT ENGINEER
AND AIRSHIPS

First Aeronautical Weekly in the World. Founded January, 1909

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 1117. (Vol. XXII. No. 2.)

MAY 23, 1930

Weekly, Price 6d.
Post free, 7½d. Abroad, 8d.

Editorial Offices: 36, GREAT QUEEN STREET, KINGSWAY, W.C.2.
Telephone: Editorial, Holborn 1884. Advertising, Holborn 3211
Telegrams: Truditur, Westcent, London.

Annual Subscription Rates, Post Free.

United Kingdom .. 30s. 4d. Abroad .. 33s. 0d.*

* Foreign subscriptions must be remitted in British currency. (See last Editorial Page.)

CONTENTS

	PAGE
Editorial Comment:	
Marvellous Amy Johnson	553
"Bon Voyage!"	554
D.W. 2	555
Croydon Weekly Notes	558
Miss Amy Johnson's Progress	559
Banquet to Lord Wakefield	560
Dinner to the Editor of <i>Aviation</i>	561
Royal Aero Club Official Notices	561
Private Flying and Club News	562
Airisms from the Four Winds	568
Air Transport	569
Correspondence	571
Air Ministry Notices	572
Royal Air Force	573
In Parliament	573
Personals	573
Models	574



EDITORIAL COMMENT

WOMEN pilots no longer wake wonder in our eyes merely because they are women. They are just pilots; and one thinks of pilots as pilots, regardless of their sex—or at least one has very nearly come to the point of so regarding them. Only occasionally—in a heavy gale, for instance—is a man's strength necessary to master the lashing controls and to hold the bucking aeroplane upon its course. Lady Bailey and others have shown that a woman can fly where only very good men pilots would care to follow. In daring and skill there seems little to choose between the sexes.

It is only natural that there should be fewer women pilots than men, because, after all, our society is still not quite through the transition stage; but in a few years it may well be that the numbers will be about equal. It is also in the nature of things that of the women who take up flying a rather higher proportion should excel than is the case among men. Likewise, it has been noticed for many years past that the percentage of women students at the Universities who attain high honours is greater than the percentage of men. The explanation is that the women who enter for what used to be regarded as men's occupations are still usually picked women. Nearly every able-bodied young man takes up some sport, cricket or flying or swimming, and large numbers of men go to the Universities as a matter of course, without any special hope of greatly distinguishing themselves. The women who do the same things are still mainly women with special natural aptitudes, and they often go far in their own line.

Putting the question of sex aside altogether, one can only marvel at the remarkable performance of Miss Amy Johnson. Though she is a qualified ground engineer as well as a pilot, she had had, up to a fortnight ago, very little experience of cross-country flying. She made her first solo flight at the beginning of June last year, and took her "A" licence at the end of the same month. Her longest cross-country flight, before she started on her present adventure, was one of 200 miles from London to her home town

DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list—

1930	
May 24 ..	Flying Meeting at Peterborough.
May 24 ..	Cross-Country Observation Competition, Norfolk and Norwich Aero Club.
May 29- June 14	Royal Tournament, Olympia.
May 31 ..	Official Opening and Air Pageant, Bristol Airport.
June 1 ..	Ashwell-Cooke Challenge Cup, Lympe.
June 1 ..	N.F.S. Air Meeting, Reading.
June 9 ..	Northampton Flying Meeting.
June 12 ..	Isle of Wight Flying Club Meeting, Shanklin.
June 13 ..	N.F.S. Air Meeting, Nottingham.
June 14 ..	Mansford Garden Party.
June 21 ..	Household Brigade Flying Club Meeting at Heston.
June 21 ..	Air Rallye at Haldon Aerodrome, Teignmouth.
June 26 ..	Ipswich Air Pageant.
June 27 ..	R.A.F. Dinner Club Annual Dinner.
June 28 ..	Royal Air Force Display, Hendon.
July 5 ..	King's Cup Race and Hanworth Air Pageant.
July 17-23	"British Week" at Antwerp Exhibition.
July 19 ..	N.F.S. Flying Meeting, Leeds.
July 21 ..	N.F.S. Flying Meeting, Hull.
July 19 ..	Air Pageant at Hanworth, in Aid of National Birthday Trust Fund.
July 20- Aug. 7	International Light Plane Tour of Europe, starting from Berlin.
July 26 ..	Norwich Flying Meeting.
July 31 ..	Entries close for 1931 Schneider Trophy Contest.
Sept. 1-6	5th International Air Congress at The Hague.
Sept. 6-28	Aero Exhibition, Stockholm, Sweden.
Sept. 20 ..	Liverpool Air Pageant.
Sept. 27 ..	N.F.S. Air Meeting, Hanworth.
Nov. 28- Dec. 14	Paris Aero Show.
Dec. 31 ..	Closing Date for the Aga Khan's Prize for Indian Flight.

of Hull. This flight called for very little navigation, as England is well marked with railways, towns, and all the other features which simplify matters for an air navigator. She had, in all, been in the air for less than 90 hours. That such a young and inexperienced pilot should have beaten all records for light aeroplane flights between England and India, and should at one time have looked like reaching Australia in less time than the very experienced and very skilful Bert Hinkler, is a feat which we should not have believed possible if it had not happened.

As these words are being written, Miss Johnson is fighting her way against very difficult conditions over the Dutch East Indies. The dangerous crossing of the Timor Sea (no legitimate flight that for a single-engined and probably battered landplane) still lies before her. We wish her every luck, a safe arrival, and, last but not least, a good digestion.

* * *

The airship R 100 should start in a few days if the weather is propitious, upon her first overseas flight to Montreal. It is over ten years since R 34 made the first crossing and double crossing of the Atlantic by airship. That ship was a copy of

"Bon Voyage!"

one type of war-time Zeppelin, and she could carry barely enough fuel to take her across when winds on part of the way were against her. That flight, like all the great aeroplane flights just after the Armistice, was made without any clear conception of the needs and conditions of commercial air transport. Man had just become possessed of two types of aircraft, and he wanted to make long flights in them. Since then research and experiment have taken us a fair distance on the road which leads to the profitable use of the aeroplane. Airship developments, on the other hand, stood still for years. Then followed a period of

research, and now we are on the verge of renewed experiment. Therefore, a great deal may come from this flight of R 100 to Canada.

We have designed aeroplanes, both landplanes and seaplanes, which can fly with a high degree of safety and regularity to India, and there is no doubt of their capacity to carry on to Australia and South Africa. The individual flights to those Dominions are full of promise for a future regular service. But we cannot yet say that we are in sight of a type of aeroplane which can fly commercially across the Atlantic. The problem of carrying at one and the same time enough fuel and enough pay load seems at present insuperable; and there is no flying-boat in sight which could alight on a stormy Atlantic and ride out a gale. Therefore, though Canada is the nearest Dominion, between it and us there is a great gulf fixed which can only be bridged by the airship.

At the same time, we would deprecate in advance making too much of the result of this one flight. Complete success might not prove that a regular service will be successful, and mishaps will not prove the opposite. Maj. Scott has said, we believe, that an airship should never fly into a storm; it should receive timely warning from the meteorologists and should fly round the disturbance. We are not sure that it is yet possible to carry out this maxim completely. We must also remember that R 100 is one type of airship, R 101 is another type, and yet others are possible. We do not know which type will prove most suitable for Atlantic flying. The failure of one type will not damn all airships, unless the failure concerns a point inherent in all airships. Much of the criticism which has been heard has been illogical. We plead for fair, analytical study of the performances of these two ships; and we wish Maj. Scott and all on board R 100 "Bon voyage!"



A "NEW NOTE" IN BRITISH AIRCRAFT DESIGN: The "Meteo," just completed at the Cowes works of Saunders-Roe, owes its inception to Sir Henry Segrave. It is a four-seater monoplane fitted with two "Gipsy III" engines. The first machine is of all-wood construction, but subsequent ones will have metal fuselages. Clean aerodynamic design has been one of the objects, as well as a high performance.

(Flight Photo.)

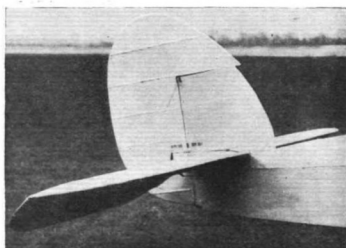


D.W. 2

A School Machine with Very Low Landing Speed

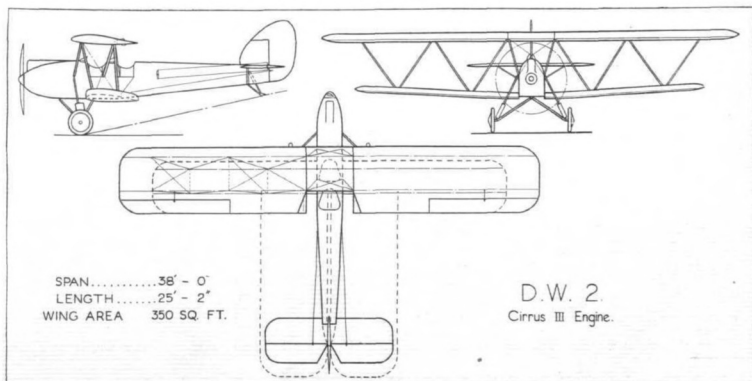
A LITTLE over a year ago a small party of aviation enthusiasts happened to gather one evening at a certain hostelry in Yeovil. On the morrow the Westland Aircraft Works were to celebrate the completion of the first "Wapiti" built for the Royal Australian Air Force, by a christening ceremony performed by Lady Ryrie, and many had wended their way Yeovilwards in order to be present. The talk, during the evening before, turned to the subject of machines for the private owner and for school work. Capt. Neville Stack threw a bit of a bombshell into the party by stating as his considered opinion that what was wanted was a machine capable of flying very slowly indeed, at something like 25 m.p.h., if possible, the top speed being of no importance whatever.

As frequently happens on such occasions, the discussion which followed this remark grew quite heated, and although Capt. Stack found a few supporters, his opponents were in a very considerable majority. Briefly, the argument advanced by Capt. Stack was that, for sheer pleasure of flying, the average person who goes up for a short flight in the vicinity of an aerodrome, or even for a short cross-country flight such as from London to one of the South Coast towns, does not want high speed. He does want to fly in comfort, troubled with as little noise and draught as possible, but speed does not interest him. He also wants to be able to fly fairly low so as to see the countryside over which he is passing, and he wants to feel that he is on a machine having



The Tail Surfaces of the D.W.2 are of generous proportions. (FLIGHT Photo.)

so low a landing speed that it can be "put down anywhere" without risk of damage. To get these things he is quite prepared to sacrifice a good deal of top speed if necessary.



THE D.W.2 : General arrangement drawings.



Side and three-quarter rear views of the D.W.2. (FLIGHT Photos.)

For school work, the slow-flying machine is an advantage, especially where raw beginners are concerned. Not only is risk of accident reduced by virtue of a low landing speed, but the chances of any mishap occurring at all are reduced because the slow-flying machine gives the beginner time to think and to correct mistakes.

Thus, approximately, did Capt. Stack formulate his arguments. His opponents, reluctantly agreeing that "there might be something in it," maintained, however, that the slow-flying machine must, of necessity, be one with very low wing loading, and that a lightly-loaded machine would be very uncomfortable in a gusty wind, and would "go kiting along" when being landed.

At the time of the Yeovil discussion there was, we believe, very little likelihood of friend Stack's slow-flying machine

materialising, and the subject was regarded by most of those present as being largely of academic interest. None of those present expected to see such a machine built in the near future. Whether Capt. Stack has continued his arguments elsewhere, or whether it is another case of "great minds thinking alike," we do not know. The fact remains that Mr. Dudley Watt, owner of the D.W. Aircraft Co., of Brooklands Aerodrome, has produced a machine which answers in almost every respect to that visualised by Stack a year or so ago.

The D.W.2, as the new machine is called, was designed for Mr. Dudley Watt by Capt. Pearson, the inventor of the "rotary aileron" and designer of, among other machines, the Glenny-Henderson "Gadfly." It was constructed in a few weeks in a very small shed at Brooklands, and Mr. Watt

has been testing the machine out before sending it to Martlesham for its type tests. Pending the Martlesham report, it is not possible to give exact performance figures and so forth, but already it has been established beyond a doubt that the D.W.2 does definitely fly very slowly indeed, still remaining under control.

At round about 30 m.p.h. the machine does not exhibit any tendency to "fall out of the pilot's hands," and the actual landing seems to take place at something like 25 m.p.h. In a slight breeze the machine lands at a quite surprisingly low speed, and the run is almost nil. As for the "kiting," which many had expected from such a lightly loaded machine, there is very little. The D.W.2 seems to "sit down" very nicely, and to stay down.

The expression "light 'plane'" conveys an idea of smallness rather than lightness, and the casual observer would not recognise in the D.W.2 a machine of the light 'plane class. In point of fact, it is roughly of the same size as a Hawker "Hart," but the weight is, approximately, that of a "Moth" or "Avian." The considerable size is, of course, due to the need for a large wing area to give the low wing loading. The tare weight is in the neighbourhood of 950 lb., and the C. of A. gross weight is 1,500 lb. As the wing area is 350 sq. ft., the wing loading is only about $4\frac{1}{2}$ lb./sq. ft.

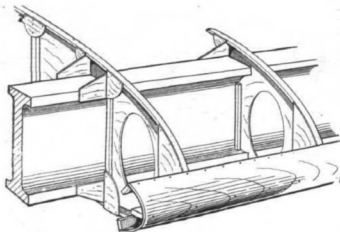


Forward portion of the D.W.2, showing engine and undercarriage. (FLIGHT Photo.)

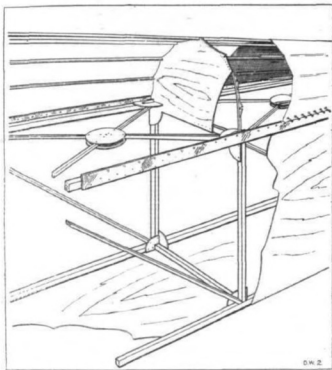
In designing the D.W.2, Capt. Pearson had to reconcile the conflicting requirements of simplicity and low cost with good view and the possibility of both occupants being able to make use of their parachutes. The former would indicate a vertical biplane arrangement, while the latter would call for a heavy stagger. Capt. Pearson's compromise shows a biplane with a lower wing of smaller chord and span than the upper, with the two trailing edges vertically above each other, and with the top plane rear spar placed relatively far forward so as to provide a centre-section cut-out of considerable depth from front to back, thereby bringing the occupant of the front seat fairly close to the cut-out and to the means of getting away by parachute in emergency.

The low weight, in connection with a large wing area, presented rather a problem in wing design. A single-bay biplane arrangement was obviously impracticable, and even an orthodox two-bay arrangement would have left rather long spars between supports. To keep wing weight down it was necessary to use very light main spars, and in

As regards their structural details, the wings of the D.W.2 are of normal construction, with spindled spruce spars and ribs having three-ply webs and spruce flanges. The arrangement of the inter-plane struts in the form of a Warren girder has, however, necessitated the use of strut fittings of some-



The wing construction of the D.W.2 is very simple. Note that the spar depth is smaller than the overall rib depth. (FLIGHT Sketch.)



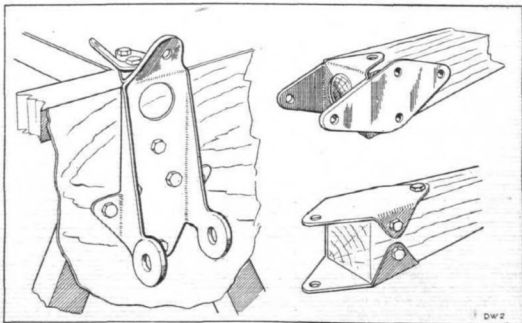
The fuselage of the D.W.2 has plywood covering on sides and bottom, and a fabric-covered fairing on top. (FLIGHT Sketch.)

what unusual form. One of these fittings is shown in a sketch on the next page, from which it will be seen that the steel plate forks the spar, while lugs running the opposite way form the supports for the struts. The spars, it should be pointed out, are not the full depth of the wing section, hence the strut plates are bent upwards so as to bring the plate ends above the level of the fabric covering. The inter-plane struts have fork ends for their attachment to the strut plates.

The fuselage is of the "box" type, with a framework covered with plywood. The covering, however, does not carry very much load, the internal framework being designed to be stable without the covering, *i.e.*, the struts being attached to the longerons by plywood gussets. While the sides and bottom of the fuselage are planked with plywood, the top deck is formed of a light framework of stringers, with a laced-on fabric covering. This covering can be removed fairly readily, and the internal structure of the fuselage inspected.

The two cockpits are very roomy, and the instruments are so arranged that when the front occupant leans slightly to one side or other the rear occupant can see the instruments placed in the front cockpit. The machine is very quiet, and conversation can be carried out direct when flying at cruising speed.

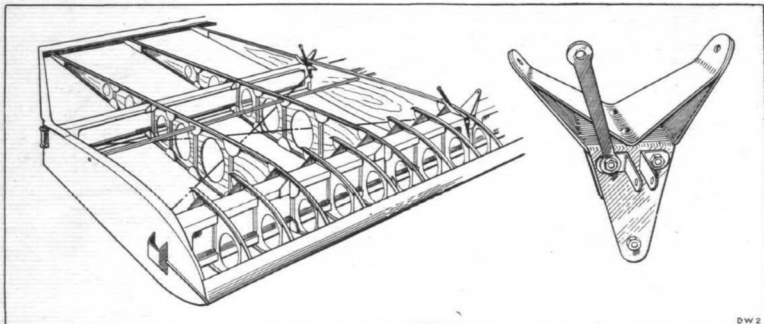
long lengths these would have been somewhat flexible and "whippy," even if strong enough for their flying loads. Capt. Pearson in the end decided to adopt the Warren girder arrangement for his wing bracing, and by so doing he has been able to produce a wing which, although very light, is remarkably stiff. The fact that the Warren girder strut arrangement results in a somewhat considerable frontal area is of relatively small importance in a machine which is not designed to have a high speed. Weight in this instance is of greater importance than drag. And apart from the lighter wing structure which the Warren girder arrangement gives, the wing folding is slightly facilitated, as no jury struts are required. Also, as the lower front spar root is not braced when the wing is folded, the operation of spreading the wings after folding is made easier because the spar can flex slightly and is thus easier to get into place before pushing the locking bolt home.



On the left is shown the fitting on the fuselage which takes the telescopic leg of the undercarriage and the forward centre-section strut. On the right are shown the two types of spar end fittings used. (FLIGHT Sketches.)

The undercarriage is of very wide track, the telescopic legs being hinged to the top longerons, while the bent axes and the radius rods run to the centre-line of the fuselage bottom. The travel of the wheels is considerable, so that, what with the light loading and low landing speed, the

a world's duration record for light 'planes, as the power required to keep the machine in the air is very small indeed, and the fuel consumed per unit of time would be very small. The cruising speed would, however, be too low to make the machine suitable for long-distance records.



THE D.W.2: On the left, a general sketch showing wing construction. On the right, one of the interplane strut fittings on the main spars. (FLIGHT Sketches.)

machine can be "pancaked" down without doing any damage, another point in favour of the slow type of machine.

The "Cirrus III" engine is supplied with fuel from a tank housed in the top centre-section. This tank has a capacity of 20 gallons, but as it only occupies about one-half of the centre-section, another tank could easily be added, should the machine be required for flights of long duration. Incidentally, the D.W.2 might well be capable of establishing

Some time ago we recorded the fact that the D.W. Aircraft Co. is moving to the old Ford aerodrome, near Bognor. There it is intended to establish a flying school and joy-ride concern, as well as works for the production of the D.W.2. We understand that at first the school work, etc., will be carried out with Avros, but that if the D.W.2 proves the success it promises to be, this type will gradually be introduced at the school.

CROYDON WEEKLY NOTES

WHAT can be accomplished in the way of time saving for business men through aviation was twice demonstrated this week by Capt. Gordon P. Olley, Imperial Airways' special charter pilot. A wireless message having been received from R.M.S. *Aquitania* asking for an aeroplane to meet the boat on her arrival at Cherbourg to pick up a passenger for London, Olley, having obtained permission to land in the forbidden area, immediately set off for Cherbourg in one of I.A.L.'s taxi aircraft.

On arrival there he chartered a fast motor boat, went out to the liner, took his passenger on board, and hurried back to the aerodrome, which they left at 1200 hours, arriving at Croydon 1500 hours, in time for the passenger to attend a very urgent business meeting in London.

On Friday, 16th inst., "Gordon" piloted a special "Argosy" to Scarborough and back in connection with the Trades Congress, having on board a party of twenty passengers. The return journey by train takes just under ten hours, but the aeroplane did it in four and a half hours, which shows there is still plenty of scope for the development of internal air services in England.

That beautiful sleepy old spa, Tunbridge Wells, is having a small aero show all to itself. The Home Counties Aircraft Services, operated by Mr. R. B. Waters at Penshurst Aerodrome, are showing a new all-metal Gipsy-Moth in the show rooms of a large motor firm, and in connection with Empire Week this firm are having a display of Mark III "Cirrus" engines and aeroplane parts in the town's largest store. There is no question as to the enthusiasm aroused, as the roads are blocked, and the entire local police force have turned out to cope with the congestion. It is understood that this new and very pushing concern is being turned into a limited company, with a very ambitious programme, which will be put into force right away.

The enterprise and foresight of K.L.M. (Royal Dutch Air Lines) is remarkable, for no sooner have they tried and proved one type of aircraft to be ideal for commercial flying, than it is superseded by a larger and more powerful machine. The advent of the new Fokker F.9, fitted with 3 "Jupiters,"

is awaited with great interest, and should be here any day now.

(The first machine arrived last Tuesday. A photo. of the cabin will be found on p. 571.—Ed.)

Some of the oldest and best K.L.M. pilots have stated that this machine definitely will fly with full paying load on any two engines.

Realising that the comfort of passengers must be studied in their transport by road as well as by air, Captain Spry Leverton, in collaboration with his transport staff, have designed and produced a vehicle for that specific purpose.

Mounted on a 25-h.p. Mercedes-Benz chassis is a graceful 18-seater body with a non-smoking compartment in front and smoking compartment at rear, the two being divided by two luggage compartments. Next to, and under the immediate supervision of the driver is a special mail lock up.

The old idea of flinging bags on to the roof with a chance of their jolting off *en route* is entirely done away with.

The whole is most luxuriously comfortable, and can be centrally heated when required. In short, it has been designed by practical people who know what is most desirable. Mumford of Plymouth, are the body builders, and the job reflects great credit on them.

Miss Lena Bernstein landed at Croydon on Sunday afternoon, the 11th inst. She was piloting a Farman 190, fitted with 230-h.p. Salomon engine, on which she established the world's endurance flying record for women pilots, when she remained in the air for 35 hr. 46 min. 55 sec. She flew back to Paris on Monday.

Mr. J. Tata arrived midday, Monday, 12th inst., thus completing his India-England flight. He was met by several high officials from the Indian Office.

"Safety in height" was evidently the very sound opinion of the Sabena pilot who, running into foul weather on the Continent during his night flight from Croydon, climbed to 10,000 ft. and waited for daybreak, when he was able to locate, and land at, Brussels Aerodrome O.K. It reminds one of the old A.T. and T. days, when we used to fly at 15,000 ft., thereby putting our passengers into "cold storage."

Lady Bailey, flying solo from Brussels, came floating happily in on her own Moth, Sunday afternoon, the 18th inst. May 7 to 14. Passengers, 817; goods, 72 tons—slightly less than last week.

The outstanding thrills of the very successful aviation meeting at Brooklands last Saturday, were undoubtedly "Jock" Anderson, with his wing walking, and John Tranum with his parachute dive and aerial gymnastics. Confirming his broadcast to the spectators, "Jock" explained to me that he practises the art of wing walking, so as to be better able

to protect himself and machine when encountering the wild fowl and beasts mentioned in previous issues. All that is necessary when attacked is to arm oneself with a *Rod, Pole or Perch*, step out smartly on to the wing and poke the intruder off—which leads to suggestions for Brighter Aviation Meetings, such as "Tilting the Ring," "Tent Pegging," "Aerial-jousting," by wing walkers, the *Piece de Resistance* being "Prodding the Parachute," in which sport the parachute having been successfully prodded, John Tranum dives off and releases another, and so on. "BILL"

MISS AMY JOHNSON'S PROGRESS

AN expression on nearly everyone's lips today is "hard luck Amy," for after her remarkable progress during the first eight days of her flight to Australia, Miss Amy Johnson has subsequently met with minor misfortunes, which have, at any rate, prevented her from bettering Bert Hinkler's solo flight to Australia—which at first she looked like doing. It will be remembered that she left Croydon on her "Gipsy Moth" on May 5, reached Karachi six days later (two days ahead of Hinkler's time) and Calcutta in eight days.

Then her troubles started. As briefly reported last week, it was while on her way from Calcutta to Rangoon, on May 13, (unlucky "13"?) that she had to come down in a field at Insein some ten miles from Rangoon, having been unable to locate the aerodrome at Rangoon. She made a safe landing, but in taxiing the machine fell into an unseen ditch, and as a result the wings, chassis and propeller were damaged.

Repairs were quickly carried out, and the spare propeller fitted, but nevertheless she was unable to start again until May 16, when she left Rangoon—where the machine had been taken the evening before—at 10.45 a.m. in blinding rain. After seven hours' flying through clouds and rain, and

experiencing considerable difficulty in finding a way over the mountains, she landed at Bangkok.

Her chance of beating Hinkler's record was now gone, and to add to her troubles, she found that the spare propeller was not giving the results the previous one gave. However, she left early next day for Singapore, but again fate was unkind, for strong headwinds over the Gulf of Siam, together with the fact that the new propeller prevented her from getting the most out of her "Moth," caused her to land at Singora some 450 miles from Singapore.

Proceeding the next day (May 18) Miss Johnson flew on to Singapore, where she received an enthusiastic welcome on landing. She set out the next morning with the intention of reaching Sourabaya, but luck was against her, and running short of fuel she had to make a forced landing in a small field at Tjomal, Java, 200 miles from Sourabaya. She made a safe landing, but some bamboo poles tore holes in the wings of her machine, and after these had been patched up, she was able to complete the journey to Sourabaya the next day.

There it was decided to carry out thorough repairs to the wings, which necessitated staying at Sourabaya two or three days—and here must leave our plucky little lady until next week.

THE AGA KHAN PRIZE

IT is pleasant to note that our Indian fellow-subjects are adding their quota to the credit of the Empire's air progress. The offer of a £500 prize by H.H. the Aga Khan, the leader of the Indian Mussalmans, and, we believe, the only British subject to bear the title of "His Highness" (we are not quite sure about the status of H.H. Rajah Brooke of Sarawak), for the first solo flight by an Indian between England and India has brought the names of four Indian pilots into prominence. Appropriately enough, these four between them represent three of the religions and three of the races of the Indian Empire. Their names are:—(1) Man Mohan Singh, a Sikh from the Punjab; (2) Ram Nath Chawla, a Hindu from Seinde, in the Bombay Presidency; (3) Aspy Merwan Engineer (*né* Irani), a Parsi from Karachi, and (4) Jehangir R. D. Tata, a Parsi from Bombay. All the machines used were Gipsy Moths.

Man Mohan Singh was the first to start (his first attempt commencing on January 11). He had learnt to fly at Bristol, but he had very little experience and confessed himself not an adept at map reading. His flight was a series of mishaps and adventures. He made three starts. He crashed more than once, and was once taken to hospital as a result. But with a persistence worthy of his martial race, he refused to give up, and he finally reached Karachi on May 10. Seriously, long flights by inexperienced pilots are not to be commended, but one can have nothing but admiration for the pluck of this young Sikh. The time taken on the flight disqualified him for the prize.

Ram Nath Chawla and Aspy Merwan Engineer are two members of the Karachi Aero Club. The latter is the son

of Mr. K. H. Irani, a rich merchant. As a boy at school he was always interested in things mechanical, and was nicknamed "Engineer" by his schoolfellows. The name stuck, and he decided to adopt it permanently. Other Parsis have at times adopted English vocational names. This fine young pilot is still only 17 years of age. Mr. K. H. Irani provided his son, and his friend, R. N. Chawla, with a Gipsy Moth, in which they flew together from Karachi to England, Chawla acting as first pilot. But the Aga Khan prize stipulated a solo flight. The Government of India, however, awarded Chawla a consolation prize of £560. A. M. Engineer thereupon decided to fly back alone. He left Croydon on April 25, and arrived at Karachi on May 11. The Moth and the Gipsy behaved in exemplary manner, and the flight was as devoid of adventure as all flights ought to be. On arriving at Karachi, Mr. Engineer wired to the De Havilland Aircraft Co., Ltd.: "Congratulate you on splendid behaviour of your aeroplane on return flight also." The Aga Khan prize has accordingly been awarded by the Aero Club to Aspy Merwan Engineer.

Meantime Jehangir R. D. Tata took off from Karachi on May 3 in an attempt to win the prize with a westward flight. He is the first Indian pilot to be trained in India, and his sister, Mrs. F. D. Pettit, of the Bombay Flying Club, is the first Indian lady who has taken an "A" licence. Tata is evidently a natural pilot, for he went solo after only 3½ hours' dual instruction. He arrived at Croydon on May 12, but his time was a few hours longer than that of A. M. Engineer.

We hope that before long Indian pilots may be seen competing in other big events, such as the King's Cup air race.

Our Private Owners' List

This quarter we have sent our list to all private owners. In case any have been overlooked they will be sent a copy free of charge if they will send us their name and address and the details of their machine. Anybody else may have a copy on receipt of twopenny to cover postage. Every effort is made to keep this list up to date, and we shall be grateful if anyone who knows of errors or corrections will send them along to us.

Wilbur Wright Memorial Lecture

On May 30, Mr. H. R. Ricardo, A.M.Inst.C.E., M.I.A.E., F.R.Ae.S., will deliver the 18th Wilbur Wright Memorial Lecture before the Royal Aeronautical Society. The title of the lecture will be "The Development and Progress of Aircraft Engines," and it will be delivered at 6.30 p.m., at the Royal Society of Arts, 18, John Street, Adelphi, W.C.2. Mr. Ricardo will review the progress which has been made in aero engines and also indicate possible lines of development.

BANQUET TO LORD WAKEFIELD

ON Thursday, May 15, the R.Ae.S., R.Ae.C., S.B.A.C., and the Air League of the B.E., held a banquet at the Savoy Hotel, in honour of Lord Wakefield. The toast list was small but admirably supported, and seldom has an audience shown keener appreciation of the speeches than those they heard on Thursday night.

Among the large number present were:—
The Right Hon. Lord Wakefield of Hythe, C.B.E., LL.D.; Brig.-Gen. Sir Capel Holden, K.C.B., F.R.S.; The Right Hon. Lady Wakefield; Colonel The Master of Sempill, A.F.C. (Chairman of the Royal Aeronautical Society); Lady McClean; Mr. F. Handley Page, C.B.E. (Chairman of the Society of British Aircraft Constructors); The Hon. Mrs. Forbes Sempill; Lieut.-Col. Sir Francis K. McClean, A.F.C.; Miss Morley Fletcher; Colonel Sir Joseph Reed; Lady Reed; Sir Alliott Verdon Roe; Mrs. F. Handley Page; Dr. Gerald Merton, M.C., M.A. (Chairman of the Executive Committee of the Air League of the British Empire); Mrs. G. Merton; Mrs. G. de Havilland; Capt. G. de Havilland; Mrs. C. R. Fairey; Mr. C. R. Fairey; Mrs. J. D. Siddeley; Mr. J. D. Siddeley, C.B.E.; Lady Cobham; Mr. H. T. Vane, C.B.E.; Miss Winifred E. Spooner; Sir Alan J. Cobham, K.B.E., A.F.C.; Miss S. M. Butler; Col. F. Lindsay Lloyd, C.M.G., C.B.E.; Mrs. Hargreaves; Lieut.-Col. Mervyn O'Gorman, C.B. (Vice-Chairman of the Royal Aero Club); The Hon. Lady Bailey, D.B.E.; The Right Hon. Sir Philip A. G. D. Sassoon, Bart., P.C., G.B.E., C.M.G., M.P. (Chairman of the Royal Aero Club); Chairman, His Grace the Duke of Atholl, K.T., G.C.V.O., D.S.O. (President of the Royal Aero Club).

THE DUKE OF ATHOLL, in proposing the health of "Our Guest," Lord Wakefield, said that the list of Lord Wakefield's benefactions to aviation would be far too long to give in full. He said that he would first read several telegrams which had been received from various clubs throughout the world wishing them a successful evening and expressing their appreciation of Lord Wakefield's generosity.

He, the Duke of Atholl, said that Lord Wakefield had made aviation his child and had assisted it in every way he could. He had given scholarships, donations to such bodies as the R.Ae.S. and R.Ae.C., and machines to clubs throughout the world as well as an enormous amount of assistance to so many Empire and epoch-making flights.

Lord Wakefield, he said, was a successful business man long before he became Lord Wakefield, and it might have been excused had he decided to rest on his oars in a calm sea, a sea made calm by his own products, no doubt, but he had not done so and had gone on working hard for aviation in every way which his vast resources permitted. He was Lord Mayor of London during 1915 and 1916 and during the war was a tower of strength to the Red Cross, both here and in France. One of the boldest things he ever did was to turn the Mansion House into a recruiting station and to appeal to the men of London. Another outstanding thing was his appeal to Sheffield for a five years' truce in industry. Lord Wakefield had always been a keen sportsman and had, in his young days, been a very good footballer, runner and boxer, so that it was natural that he should support the sport of flying now.

SIR SEFTON BRANCKER then supported the toast by saying that he was now delighted to be able to say just what he thought about Lord Wakefield.

He was particularly delighted at Lord Wakefield's peerage as, although he—Lord Wakefield—was a rabid conservative, the Labour Government had thus seen fit to honour him. He would like to mention, specially, the "dark horse" behind Lord Wakefield, who had always been his inspiration, but who was never in the limelight, namely, Lady Wakefield. It was she who cut down his smoking allowance so that he should save more to give to the flying clubs! Sir Sefton then revealed that Lord Wakefield was the benefactor who

had made Miss Amy Johnson's flight possible, and felt sure that they would all be pleased to hear that she hoped to resume her flight to Australia on Friday (May 16). Another of Lord Wakefield's inspirations was the support he was giving to gliding, and he felt that this support might lead to an invasion of Scotsmen who would make use of this cheap means of transport to fly from Edinburgh to London. Since Lord Wakefield was called the Patron Saint of Aviation, he had looked up the Buddhist equivalent of patron saint and he had found that it meant one who was "all giving and all forgiving," a description which he thought, admirably fitted Lord Wakefield, especially the all forgiving part.

THE MASTER OF SEMPILL, in further supporting the toast, said that as the Master of a Scottish Clan, he hoped to be the leader of this threatened glider invasion. The speakers who had gone before had completely shattered the carefully-prepared speech which he had intended to make and he, therefore, had very little to say. Speaking as the President of the Royal Aeronautical Society and on behalf of the Air League, he would first like to read a message which he had received from the Duke of York.

He felt that, tonight, the tables were turned, as, at last, Lord Wakefield was their guest while so many times before they had been his guests. He could do little more than express the appreciation of the Society to Lord Wakefield for all he had done for them and even now was still doing for them, as he was delighted to say that Lord Wakefield had intimated that he would be presenting them with an appropriate president's badge instead of the paltry bauble which he now wore. Mention of Lord Wakefield could not be made without referring to that admirable book of his to parents on careers after leaving school; a book which, as so many other things, had been inspired by Lady Wakefield, who fulfilled Euripides' dictum "that a man's best possession was a sympathetic wife." He, therefore, had much pleasure in proposing the health of Lord Wakefield.

SIR PHILIP SASSOON then announced that he had a very pleasing task to perform, as, on behalf of the four hosts, he had to present Lord Wakefield with a clock in commemoration of this occasion, which he now did as an expression of their grateful regard and esteem.

LORD WAKEFIELD, in reply, said that mere words were far too cold to express his feelings and felt that the present occasion was worse than facing a meeting of Scotch shareholders. He owed everything which had come his way to his wife and he knew the truth of the assertion that the inspiring influence which makes men successful is their wives. Sir Sefton Brancker, who was responsible for his backing, amongst other things, the flight of Miss Amy Johnson was, he thought, his genial Mussolini. Col. Sempill, who possessed that inestimable thing, a charming personality, proved that it was good to look for the best in people and thereby bring out the best in them. In a broad sense, this was his coming of age in aviation, as it was in 1909 that he first took an interest in flying, and in March, 1910, he made his first public declaration of his faith in it at a meeting of the Aerial League of the British Empire, when the Duke of Argyll and Baden-Powell were present.

He paid tribute to the part English women were taking in aviation, and referred to the Duchess of Bedford, Lady Bailey, Miss Spooner, Miss Johnson, and many others. Finally, on behalf of his wife and himself, he said he would like to thank his hosts for their munificence and kind hospitality.

MR. HANDLEY PAGE then proposed the health of the chairman. He said that this was an unusual dinner as there were only two guests, Lord and Lady Wakefield, and he trusted that Lord Wakefield would be with them many years to continue his work as Patron Saint by leading us.

His chairman was not a newcomer, as in 1909 he had



LORD WAKEFIELD OF HYTHE.

been associated with the Blair-Atholl company which had been formed to build the machines designed by that famous designer, Mr. Dunne, whose machines were like manx cats in that they had no tails. He felt sure that they were all glad to have him to preside at this most wonderful gathering.

THE DUKE OF ATHOLL said, in reply, that he in common with most people, was thankful when Mr. Handley Page sat down, as he was always fearful of what he might say next. With regard to the threatened glider invasion of Scotsmen which had been spoken of, he felt that if it should become a fact, then it would only be just retribution for the avalanche of motor-coaches which England sent them every year.

A DINNER TO THE EDITOR OF "AVIATION"

ON Wednesday, Mr. Handley Page invited a few guests to meet Mr. Edward Warner, the editor of *Aviation*. Mr. Warner was able to disclose many interesting facts about the position of aviation in America and the trend that things are taking. It seems that the American Government, since taking up licensing pilots, are carrying things to what seems incredible lengths; for example, no one is allowed to fly even as a passenger in the cockpit of a machine having dual controls fitted, unless he or she has a licence to do so. No one may start being taught to fly without a student's licence, and in fact, it would appear that the man who wishes to fly must have a book of tickets on the same scale as Cook's tourist. Five of the large groups of manufacturers now have 90

He would like to thank Mr. Handley Page for the way in which he had proposed his health, and he could do so freely and in his own words, as unlike Mr. Handley Page he had received no orders from his wife—she trusted him! In "Who's Who" he had seen 3 d's after Mr. Handley Page's name, and he was relieved to hear that this referred to his three daughters and not to the old army significance which was sometimes put after a prisoner's name meaning "drunkenness not proved."

After the banquet dancing was carried on until the early hours, and it is certainly true to say that seldom has any public function been enjoyed as much as this one was.

per cent. of the total production in their hands in the U.S.A., and the small firms are finding that the boom period of last year was not all it appeared to be.

It is interesting to hear that there is no restriction on the materials used in the manufacture of aircraft, provided that the specification of the material is stated, and the part of the aircraft incorporating it is stressed up correctly for that material. There is now, however, a move being made toward standardisation, and not only in material but also in such things as aircrew hubs. Mr. Warner is only over on a short visit, and has been "getting a line" on the application of subsidies and other things affecting the aircraft business, both here and in Europe.

THE ROYAL AERO CLUB OF THE UNITED KINGDOM

(Official Notices to Members)

REPORT of Meeting of the Committee of the Royal Aero Club held at 3, Clifford Street, London, W.1, on Wednesday, May 14, 1930, at 5 p.m.

Present.—Lieut.-Col. M. O'Gorman, C.B. (in the Chair); Air Vice-Marshal Sir W. S. Branker, K.C.B., A.F.C.; Griffith Brewer; Lieut.-Col. M. O. Darby, O.B.E.; Major C. J. W. Darwin, D.S.O.; Major Alan R. Goodfellow; Colonel F. Lindsay Lloyd, C.M.G., C.B.E.; John Lord; Lieut.-Col. Sir Francis K. McClean, A.F.C.; Lieut.-Col. J. T. C. Moore-Brabazon, M.C.; Major H. A. Petre, D.S.O., M.C.; Air Commodore C. R. Samson, C.M.G., D.S.O.; T. O. M. Sopwith, C.B.E.; Capt. C. B. Wilson, M.C. In attendance: H. E. Perrin, secretary; B. Stevenson, assistant secretary.

Election of Members.—Hamer Fraser Bagnall, Major Kenneth Macdonald Beaumont, D.S.O., Herbert Brooks Browning, Herbert Guy Fiske, Harrington Rolley Law, Francis Sydney Lee, Arthur Miles, Harold Peake, Harold Rhodes, Flight-Lieut. Reginald Newnham Waite, John Frederick Young, Lieut.-Com. Glen Kidston, R.N. (Rtd.).

Aviators' Certificates

9052	Charles F. P. Lowe	Northern Air Lines (M/c), Ltd.
9053	Elsie Joy Muntz	London Ae.C.
9054	William H. B. de Mussenden	Brooklands Fl. School.
	Leathes	
9055	John Hollingsworth Tanner	Hampshire Ae.C.
9056	Harry Ley Wilson	Airwork Fl. School.
9057	John Prince of Liechtenstein	Airwork Fl. School.
9058	Lionel Samuel Levitt	Liverpool & Dist. Ae.C.
9059	Algermon P. Targett-Adams	Hampshire Ae.C.
9060	Moray Vibart Ridgeway ..	Home Counties Aircraft Co.
9061	John Wilfrid H. Harrison ..	London Ae.C.
9062	John Hetley-Wybrants ..	Surrey Fl. Services.
9063	John G. Ward Lowe	Northern Air Lines (M/c), Ltd.
9064	Frank Ronald Garside	Berks, Bucks & Oxon. Ae.C.
9065	Leslie George Anderson ..	Cinque Ports F.I.C.
9066	Edward Sander Baker	Suffold Ae.C.
9067	Alice Florence Westra ..	Brooklands Fl. School.
9068	Harold Peake	Yorkshire Ae.C.
9069	Alan Edward Byrne	National Fl. Services.
9070	Honor Rendall	National Fl. Services.
9071	Thomas Frederic Woodhouse	National Fl. Services.
9072	Archer Branford	National Fl. Services.
9073	Charles Richet	National Fl. Services.
9074	Hannah Gwendolen Shone ..	Liverpool & Dist. Ae.C.

9075 Peter John Field-Richards .. Berks, Bucks & Oxon Ae.C.

9076 Lewis Winchester Hayton .. Newcastle Ae.C.
9077 Jack Noel Kiek National Fl. Services.
9078 The Earl of March National Fl. Services.
9079 Humphrey Osmond Wrigley De Havilland Fl. Sch.
9080 Rider Stewart Abram .. Hampshire Ae.C.

British Gliding Association.—It was decided to give official recognition to the British Gliding Association, delegating to them the control of the sport of gliding in Great Britain, including Competitions under the Competition Rules of the Royal Aero Club.

Civil Aviation Meetings.—The report and recommendations of the special Committee, under the Chairmanship of Air Vice-Marshal Sir W. S. Branker, on the control of Civil Aviation Meetings was received and unanimously adopted.

The recommendations were that all displays (in addition to competitions) to which the public were admitted on payment must receive a permit from the Royal Aero Club. The Club will appoint a steward for each meeting, whose duty it will be to see that the regulations of the meeting are carried out, that the pilots (competitors and visitors), conform to the rules drawn up by the promoters, and to report any breach of the rules and regulations to the Royal Aero Club and the Air Ministry.

King's Cup Air Race.—The Committee approved the following additional prizes:—Cup presented by the *Evening World*, Newcastle-on-Tyne, and cash prizes of £60, £30 and £10 to the three competitors who make the best handicap time between London and Newcastle-on-Tyne.

Challenge Cup presented by Mr. J. D. Siddeley, and a cash prize of £50 presented by Mr. H. M. Volk. Open to Light Aeroplan Clubs only.

F.A.I. Paris Conference, June 8-15, 1930.—The following delegates were appointed to represent the Club:—Lieut.-Col. M. O'Gorman, C.B.

Air Vice-Marshal Sir W. S. Branker, K.C.B., A.F.C.

Lieut.-Col. M. O. Darby, O.B.E.

Maj. C. J. W. Darwin, D.S.O.

H. E. Perrin.

Agar Khan Prize.—The Committee awarded the prize of £500 offered by H.H. the Aga Khan for the first flight between India and England or vice versa by an Indian subject, within four weeks, to Aspy Engineer. Aspy Engineer left Croydon on April 25 and reached Karachi on May 11. This award is subject to verification of the log sheet.

Offices: THE ROYAL AERO CLUB

3, CLIFFORD STREET, LONDON, W.1.

H. E. PERRIN, Secretary

PRIVATE FLYING AND CLUB NEWS



A PRIVATE OWNER'S AIR YACHT: The Hon. A. E. Guinness now owns another air yacht, a Saunders-Roe "Cutty Sark," which we show above, about to set out from Cowes on a trial flight.

THE HON. A. E. GUINNESS' AIR YACHTS.—A wireless installation has been fitted in this Private Owner's Supermarine flying-yacht, equivalent in power and range to the normal wireless installation on a seagoing vessel of about 5,000 tons.

The Marconi equipment consists of a powerful transmitter and receiver, a direction finder, and a broadcast receiver.

The transmitter and receiver on the new air-yacht are of the Marconi 1-kw. A.D. 8 type, which will provide communication up to 400 miles under normal conditions, either on telephony or telegraphy. The direction finder is the type A.D. 16.

The broadcast receiver is a Marconiphone type 35 instrument.

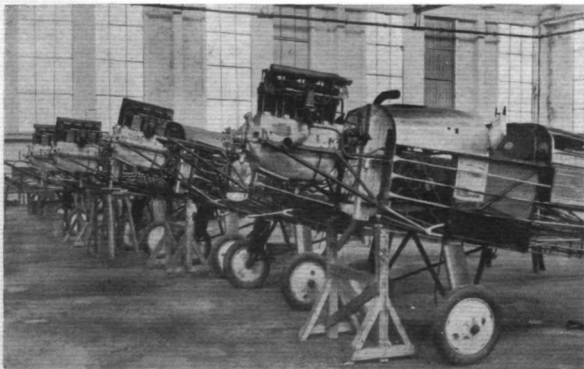
Wireless communication can take place either during flight or when the machine is resting on the water. To meet both purposes, two aerials are provided, one of the trailing type, which is wound in on a winch before the flying-boat descends

on the water, and the other of the fixed type attached between the wings.

As noted above, a Saunders-Roe "Cutty Sark" has just been delivered to the "Guinness fleet."

THE AMATEUR pilots, Messrs. Bardsley, Annabel and Wedgwood, successfully accomplished an 8,000 miles' flight round Australia in three Gipsy Moths. There was no forced landing during the whole trip, and the engines behaved splendidly.

THE SOCIÉTÉ POUR LE DÉVELOPPEMENT DE L'AVIATION is setting up a petrol filling station in front of the general buildings at Le Bourget Aerodrome, where private owners of aircraft can obtain aviation spirit, benzol or No. 1 petrol. Mechanics are available for carrying out running repairs, cleaning and general checking over of machines, and all work will be carried out at the lowest possible charges.



HATCHING BLUEBIRDS: Our picture shows a batch of Blackburn "Bluebirds" coming through the Saunders-Roe works at Cowes. These machines are equipped either with "Cirrus" or "Gipsy" engines—that nearest the camera having the latter. (Flight Photo.)

WE show in the accompanying illustrations two views of a new Swiss light plane, the "Korsa T2," constructed by Hugo G. Schmid at the Korsa works at Altstetten, Zurich. The forerunner of this neat little "bus," "Korsa I" (which was described in FLIGHT for April 5, 1928) was destroyed on its first flight, so a model was made and tested in the wind tunnel at Goettingen. The tests were so promising that "Korsa T2" was built, and Mr. Schmid has already flown it for more than 50 hours with excellent results.

The "T2" is powered with a 45-50 h.p. Anzani engine, and the cabin can accommodate a pilot, in front, and two passengers in a roomy rear seat, entrance being by means of two large doors. This machine is of wood construction and has the following performance: top speed, 105 m.p.h.; cruising speed, 81 m.p.h.; landing speed, 31 m.p.h.; take-off, 492 ft.; climb, about 4,900 ft. in 18 min.

THE KENT GLIDING CLUB has, since inauguration, made steady progress. Mr. C. H. Lowe Wylde, who designed and, with the help of Club members, built the first Zogling type of glider to be flown in this country, has become honorary instructor to the club. Many members have been instructed in the rudiments of gliding and have made successful flights. In order that members may have dual control instruction and may, therefore, get the "feel" of the controls, Mr. R. B. Waters, of Penshurst aerodrome, is on Sunday next giving instruction on his Moth aeroplane.

Anyone requiring information concerning the Kent Gliding Club should write to the Hon. Secretary, E. P. Parkes, 76, Week Street, Maidstone.

AT the London Gliding Club's grounds at Ivinghoe, on May 18, one of the members, Captain Needham, made qualifying flights for the Royal Aero Club's "B" gliding certificate. This is the first time a glide has been made for a "B" certificate. It is not officially recognised. The glide was made on one of the club's machines.

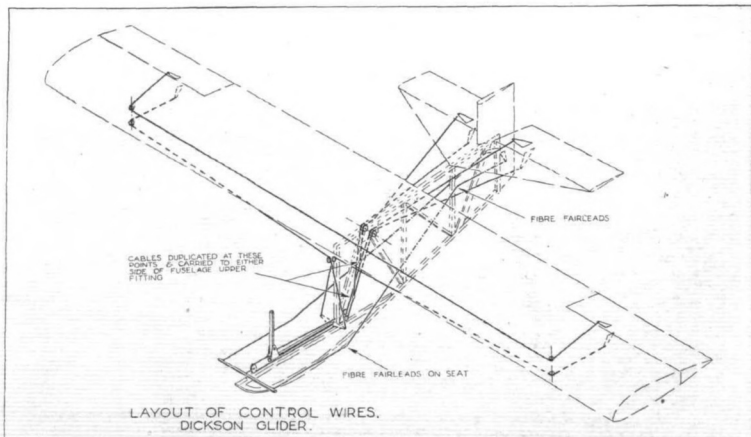
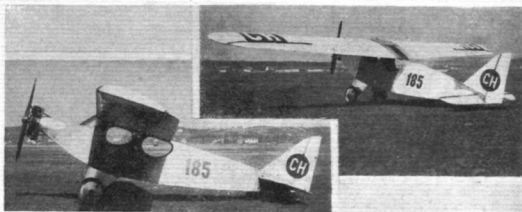
A general meeting has been held at the Club, at which meeting certain alterations were made in the rules, and it was decided that no more Founder Members should be elected. The Committee, however, are prepared to consider a few

further applications for membership, which should be made to the Secretary, 44a, Dover Street, W.1. The Club has also ordered a more advanced type of glider, the Prufing, an advanced soaring machine.

RAPID progress has been made in the first three weeks "preliminaries" of the Gliding Section of the Model Aircraft Club (T.M.A.C.), no less than thirty applications for membership have been received. Mr. F. Wilkinson has been authorised to commence negotiations for a suitable site and we have every hope that grounds will be obtained within the next two weeks. A meeting will be called at the earliest possible moment, when the final arrangements will be discussed. Particulars of membership can be obtained from Mr. John Welding, 404, King's Road, Chelsea.

AUTO AUCTIONS, LTD., is holding an exhibition of light aircraft, flying demonstrations, aerobatics, and a parachute descent at Heston Air Park on Sunday, May 25, commencing at 2.45 p.m. The object of this "show," which is being arranged by Airwork, Ltd., is to cater for those who are new to aircraft and private flying.

THE SCOTTISH FLYING CLUB is holding an air pageant at Renfrew from May 24 to 26. The programme (commencing 10 a.m.) will include air races (for the Mobiloil Cup), exhibition flying and aerobatics, a demonstration by the Autogiro, parachute descents by John Tranum, and, of course, joy-riding. In the latter connection, the Imperial Airways Silver Wing "Argosy" air-liner *City of Glasgow* will fly up to Renfrew today, and will take up passengers.



THE DICKSON GLIDER: As promised last week we show above a diagrammatic layout of the control wires.

BROOKLANDS

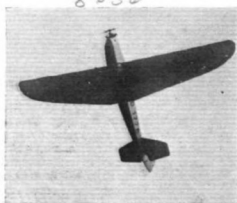
A Private Owner's Day

NINETY-SEVEN private owners attended the opening of the Brooklands Aero Club! This club, as we announced recently, has been formed as an off-shoot of the B.A.R.C., and flying on the club's Moth will be confined to pilot members; those wishing to have instruction will do so with the Brooklands School of Flying, through the club.

Capt. Davis, together with his co-pilots, Capt. Jones and Mr. Lowdell, of the Brooklands School, arranged a good programme which was carried through admirably. An innovation, and one which all clubs would do well to copy, was the omission from the programme of specific times for each event. This allowed the control officers a certain amount of latitude in starting each event, and it worked perfectly. There were practically no delays and the whole show was full of sustained interest.

The parking arrangements were exceptionally well carried out, there being a special park for those taking part in the display and this was also a special enclosure for the public, and another park over by the Hawker sheds was arranged for those visitors who were not taking part. The A.A. were naturally largely responsible for the smooth working of these arrangements and Mr. O. Tapper, in the absence of Mr. Ivor McClure, marshalled his khaki-overalled "Scouts" admirably.

The question of safely handling such a number of aircraft is not one which can be treated lightly, but Mr. Jeffs, as usual, by dint of much restraint and tact, managed to get them all away without accident after the show. As a general rule, pilots co-operated with him in a sporting fashion and conformed to his directions, but there are still a few of the older and more



Mr. John Rogers gives a display of slow flying on the Salmson-engined Klemm monoplane.

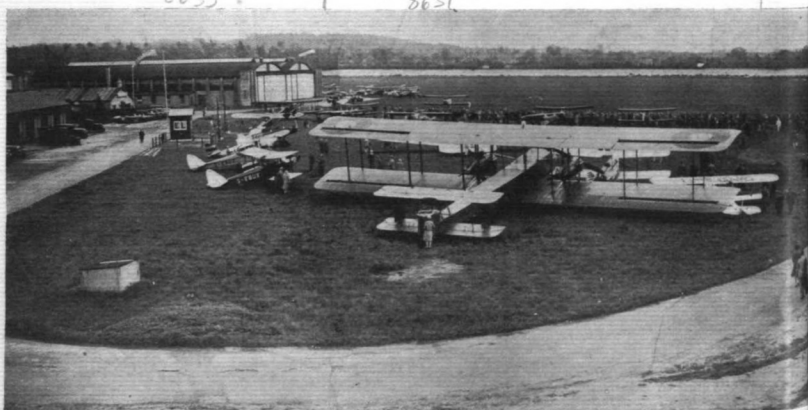
(FLIGHT Photo.)

"IF I HAD A TALKING PICTURE OF YOU": Capt. W. L. Hope obtains a "record" of Col. The Master of Sempill, Mr. St. Barbe, Capt. J. H. Cordes, Capt. H. S. Broad, and Mr. "A.A." Tapper.

(FLIGHT Photo).

experienced pilots who, because they are perfectly safe as pilots, think they are justified in taking off when and where they like. These ought to realise that not only are they showing a lack of sportsmanship but are also making Mr. Jeffs' work doubly hard by the example they are setting less experienced pilots, who naturally feel it somewhat invidious if any distinction is made in their treatment. At Brooklands, all pilots were asked to taxi down the side of the park, turn round an A.A. scout and take off, but a few got impatient at having to taxi slowly in a line, and turning short of the A.A. scout, consequently held up all those who had done as they were asked.

Pilots should remember that rules are made solely for safety, and though such rules may seem tedious, it is only by their



8628



Flying Officer Snaith, on the Comper "Swift" taxiing into the machine park after giving an excellent display of flying (as seen above).

(FLIGHT Photos.)

observance and by the co-operation of all concerned that we shall be able to run these meetings. There was admittedly a record number of aircraft present, but there is no reason to suppose that this number will not be exceeded before long, and it is therefore up to everyone to co-operate with those who are in charge and thus save the crushing blow all meetings would suffer, should an accident occur.

The programme opened with Flight-Lieut. T. Rose, who gave one of the aerobatic shows which we always expect from him. His loops are as perfectly done as any one could wish to see.

Next came Mr. Rogers, who drifted across the aerodrome on a small blue Klemm (Salmson engine). This is always a spectacular machine when it is demonstrated before the public, as its small quiet engine runs like the proverbial "sewing machine," and with any wind at all the machine seems to stand still.

Mr. G. Murray, who was trained by the Brooklands School, then gave an aerobatic display on a Moth. He handles his machine in a way which reminds one of the pilot who has been flying for very many years, and his inverted "stuff" was

particularly good for a comparative amateur.

"Wing Walking" was the next item, and the exponent of this form of amusement walked out along the wings of an Avro. As we have remarked before in FLIGHT, it is a little hard to see the point of this type of event, as, although to an expert the risk of an accident is very small, yet at the same time there is a risk which does not seem justifiable for the value of the show. Should an accident occur, the result would be very bad indeed on the public who are at long last becoming air-minded, and anything which might cause a set-back to air meetings ought to be avoided at all costs.

F./O. L. S. Snaith then took out the Comper Swift and threw it about. After his exhibition there was no doubt that the machine was easily controlled. He introduced a novel method of rolling which caused quite a lot of comment. His way was to

8625



IN PRODUCTION: Many visitors were interested in the new D.H. "Puss Moth," shown above in the machine park.

Some of the "97 Varieties" at Brooklands Aerodrome. It will be seen there were types to suit all tastes. (FLIGHT Photos.)

8630



8629



Mr. Dudley Watt demonstrates his new training 'bus, the "D.W.2," which is fully described elsewhere in this issue. (FLIGHT Photo.)

roll on to his back and stop dead without any swaying about, and then to roll back the same way, after which he repeated the manoeuvre the other way. This machine has an exceptional climb for a small single-seater with only an A.B.C. Scorpion engine, and it should appeal to sporting private owners.

Mr. Dudley Watt brought out his D.W.2, which incidentally looks very like a Horsley in flight, owing to its large span and thick wing section, and showed that flying can be safe at very low speeds. His loops were really worth seeing, as he just slowly climbed up one side and slid down the other without any very obvious dive to help him over. Many pilots who have flown this machine say that anyone could learn to fly it in a short time, and it looks as if the designers' hope that it should be a perfect training machine will be amply fulfilled.

Capt. Broad went up and inverted his special Moth, and appeared to prefer that way up to the normal way. It was unfortunate that machines should have taken off at the same time as he was giving us his exhibition, for they cramped him considerably. However, in spite of that he put up a very good show, and his climbing turns showed what a past master he is in the art of inverted flying.

Mr. Trantum was taken up by Mr. Norman Blackburn in a Bluebird, and "cast loose" he remembered to "count three and pull the ring," and arrived down safely just about the middle of the aerodrome. This time he was using a new type of Russell-Lobe chute which has a diameter of only 23 ft. Mr. Trantum says that it is delightful to jump with, and the side drift on landing is negligible.

Flt.-Lt. Schofield repeated his Hanworth Park show on an N.F.S. Desoutter. The way he manoeuvres this machine



Flt.-Lt. Stainforth gives a demonstration of Joystick Jerks on a Junkers "Junior." (FLIGHT Photo.)

is truly amazing, and his gliding turns on his back testify to his exceptional skill.

The humorous element was introduced by Mr. Lowdell, who took up Air-Commander Crak Shot, Y.M.C.A., as his passenger, and the worthy Air-Commander proceeded to litter the aerodrome with the bits of several bottles which he managed to "wipe out" with his accurate shooting when diving past the erection on which they were hung. All went well until the last bottle and after several tries the accuracy of his shooting was entirely spoiled by a red-headed gentleman who appeared from inside the erection and broke the bottle with a hammer. Retaliation on the part of Mr. Lowdell with a few bombs failed to wipe out this "blot on his passenger's escutcheon."

Flt.-Lt. Stainforth aerobated the Junkers Junior after this, and its amazing controllability when on its inverted spins and "falling

back was well shown by his inverted spins and "falling leaf."

Capt. Jones and Mr. Lowdell straffed a relic of the past in the shape of an 1895 "Benz Dog Cart" by pelting it with flour bags, and their shooting was remarkably accurate.

Mr. Murray then went up at the same time as Flt.-Lt. Thorn. The former on his own S.E.5a, and the latter on his Hermes-Avian. Both put up excellent shows, although the Avian was badly baulked by a large machine leaving before the end of the programme.

Both Lord Thomson and Sir Sefton Brancker were present, and the spectators must have numbered many thousands. Altogether the meeting must be considered one of the most successful we have seen, and we feel that such an auspicious opening of the Brooklands Aero Club augurs well for its future.



In his parachute descent, in a Russell-Lobe, Mr. John Trantum lands on the Wey (the banks of), but not to refuel. (FLIGHT Photo.)



DERKS, BUCKS AND OXON AIR FETE. Thus will be styled the N.F.S. Flying Meeting at Reading Aerodrome, Woodley, next Whitsun. Will readers also note that the date for this event has been altered—in order to fit in with local arrangements—from June 7 to Whit Monday, June 9. The meeting will be a sporting affair, and the chief events will be a race from Reading to Hanworth and back for owner-pilots, an "all forms of transport race," ballooning and aerobatic competitions, and a novelty race for "B" pilots.

CINQUE PORTS FLYING CLUB.—Our notes for this Club were "crowded out" last week, so we give them herewith. For the week ending May 10 they put in 24 hr. 35 min. flying, of which 7 hr. 50 min. was for dual and 7 hr. solo, while "A" pilots, tests, etc., accounted for 6 hr. 45 min. and 1 hr. 45 min. respectively. High wind interfered with flying on the Wednesday and Friday, while on the Sunday a cylinder-head went solo from G-EBQE—fortunately, without other damage. Mr. M. Williams passed all his tests ("A" licence) on the Monday. Unfortunately, he will not be able to obtain his "ticket" until his next birthday, as he is only sixteen!

For the week ending May 17 the flying time was 31 hours: dual, 12 hr. 30 min.; advanced dual, 1 hr. 15 min.; solo, 7 hr. 15 min.; "A" pilots, 8 hr. 15 min.; and tests, etc., 1 hr. 45 min.

A high wind stopped flying on Sunday, May 11, and fog

interfered on Thursday, the 15th. On Friday, Maj. Parker, of the R.E.'s, Chatham, passed all his tests for "A" licence on G-EBQE, and he was followed on Saturday by Mr. Chetwynd-Stapylton, of Saltwood, who had previously had experience with the Hampshire Aero Club at Hamble. On Saturday, Mr. P. W. Marriage, a London member, was launched solo, and performed very well.

Lt.-Comdr. Gubbins, R.N., of Canterbury, has purchased a metal Gipsy Moth G-AAGE, formerly the property of another "C.P." member, Mr. J. Scott-Taggart, of Hythe. The aircraft is reconditioning at Brooklands and should be delivered in about a week.

RATCLIFFE AERODROME. This is a private aerodrome which is being constructed by Mr. W. Lindsay Everard, M.P., President of the Leicestershire Aero Club, on land adjoining his house, 5½ miles north by east of Leicester city boundary. The aerodrome will comprise some 63 acres, with excellent approaches from all directions. It will be equipped with hangar accommodation for several machines, also refuelling accommodation. Bordering as it does the North Road from Leicester to Newark, it is ideally situated, and when completed will probably be the finest private flying ground in the country.

Arrangements are being made for the official opening on September 6 on a big scale, and invitations are shortly being issued by Mr. Everard to the whole of the private owners and clubs throughout the country.

Mrs. Baldwin's Air Pageant

In connection with Mrs. Baldwin's appeal for the National Birthday Trust Fund, an Air Pageant is being organised to take place at Hanworth Park, on Saturday, July 19. Among other items, there will be an arrival competition, zero hour

being 12 o'clock noon, and an aerobatics competition, open to private owners. In this, the pilots will be required to take off, climb to 1,000 ft., perform one stunt, and land on a mark. Points will be awarded for polished flying and well-executed stunts.



If we are to have an Aerial Point Duty, do let's make it comfortable for Robert.

AIRISMS FROM THE FOUR WINDS

Smith and Shiers Abandon Attempt

It is reported that as a result of damage to their Ryan monoplane when making a forced landing near Bangkok, Smith and Shiers have abandoned their flight from Australia to England.

Hinkler "Ibis" Flies

For some time Mr. "Bert" Hinkler has been hard at work on a new machine of his own design, differing materially from the orthodox type of light plane. The "Ibis," as Hinkler's machine is called, has now been practically finished (but for minor details), and during the last week or two "Bert" has been flying it. The tandem engine arrangement (40 h.p. Salmsons) is something of a novelty in this country, but we gather that Mr. Hinkler has not met with the difficulties that might have been expected. That is not to say that he has yet found out *all* there is to know about it, but at least it works well, and the machine flies very nicely. The boat-shaped fuselage is at present fitted with an orthodox undercarriage, but later on a step will be added and the machine tried out as a flying boat. Amphibian gear is yet another likely development, so that one way or another "Bert" is apt to be somewhat busy during the next few months.

The Blackburn "Sydney"

The Blackburn "Sydney" flying-boat monoplane is now nearing completion at the firm's Brough works, and it is hoped to carry out the first flying tests towards the end of this month. The "Sydney," it may be recollected, is the Service version of the "Nile," but is fitted with three Rolls-Royce "F" type engines.

Segrave "Meteor" in King's Cup Race

The "Meteor" twin-engined monoplane (photo. on p. 554), built for the Aircraft Investment Corporation by Saunders-Roe will, it is hoped, be a competitor in the race for the King's Cup on July 5, "crewed" by Flight-Lieuts. Atcherley and Stainforth.

Who Wants to Borrow a Schneider Machine?

The Air Ministry has expressed its willingness to lend to any responsible firm or body any of last year's Schneider machines, provided the borrower adequately insures the machine. The loan will be for the purpose of defending the trophy in case we are challenged next year. Unless the Air Ministry is also willing to lend a few service pilots, the offer does not appear to be of great help to anyone.

Schneider Machines for Russia?

The *Daily Telegraph* of May 21 has a good story to the effect that Soviet Russia wants to buy sufficient British Schneider machines to equip a squadron. Without being violently anti-Russian, we hope they do!

The Prince and the Air

On May 15, H.R.H. the Prince of Wales travelled by air to Sandwich in order to watch the play in the Walker Cup contest between British and American golfers. On May 21 His Royal Highness flew to Cardiff to open the new Tatem physics laboratory of University College. And finally it is reported that the Prince will enter a Hawker "Tomtit" in the King's Cup Race. He will not, however, be a passenger in the machine during the race.

A Group-Jumping Record?

Jumping from a Curtiss "Condor" at a height of 2,500 ft., 20 men recently landed on Roosevelt Field, N.Y., by parachute. This is claimed as a world's record in group-jumping.

A Parachute Record?

WHAT is believed to be a world's record parachute descent was recently made by Mr. E. Miller at Akron, Ohio, who made a drop from an altitude of 20,400 ft.

A Fine Canadian Pilot

The McKee trophy, which is annually awarded to the pilot who performs the greatest service in advancing flying in Canada, has this year been awarded to Capt. W. R. May, familiarly known as "Wop" May, of Edmonton, the chief pilot of Commercial Airways, Ltd. It was Capt. (then Lieut.) W. R. May, who was engaged in a fight with Baron Manfred von Richthofen at the moment when the latter was killed by another Canadian, Capt. Roy Brown. Mr. Floyd Gibbons, in his book *The Red Knight of Germany*, described May as an Australian, but apparently this was incorrect. The author said that May was a novice at the time of this fight, but had shot one Fokker down in flames, when he was himself attacked by the famous Baron and wounded in the arm. The Baron seemed on the point of finishing May off,

when Brown got on the tail of the red Fokker triplane and shot von Richthofen through the heart. The novice of 1918 has now been acclaimed the foremost Canadian civil pilot in 1930. We offer him our best congratulations.

Wanted, a Name!

THE De Havilland Aircraft Co., Ltd., is at a loss for an appropriate name for its new aerodrome at the junction of the Barnet by-pass with the Hatfield-St. Albans road. The company offers a 15-minute free flight in a Gipsy Moth to the person who makes the best suggestion. The last day for receiving suggestions is May 31. We may add that "Die Hard," while it includes the initials and expresses the spirit of the firm, is not likely to be thought a propitious name for a new aerodrome. "Damned Humpy" might apply to the old aerodrome, but not to the new. Our classical readers (if any) might suggest "Lepidoptera," but the best name of all would be—but, no; we are sure that Capt. Broad would give us a flip at any time, so we decline to win this competition.

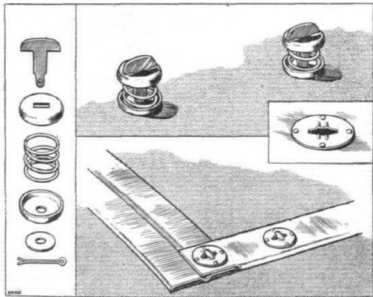
International Touring Competition

Two additional British entries have been made for the International Touring Competition, viz.: Maxwell D. Trench, Mono Special (100 h.p. Harner), pilot, John E. Carberry, and Capt. The Hon. F. E. Guest, D.H. Moth (Gipsy II.), pilot, Miss Winifred E. Spooner. The late entries bring up the total number of competitors to 101.

AIRSHIP ITEMS

R 100 was taken out of her shed at 6 a.m. on Wednesday, May 21. At the time of going to press the intention was that she should start that evening for a 12 hours' flight to test the recent modifications and repairs before starting on her flight across the Atlantic to Montreal.

The *Graf Zeppelin* started from Friedrichshafen at 5.25 p.m. on Sunday, May 18. Dr. Eckener is in command of the airship, and there is a crew of 42 on board as well as 22 passengers. At 5 p.m. next day she arrived over Seville and moored to the special mast which had been erected there. She circled over parts of Spain so as to avoid mooring in the heat of the day. On Tuesday, 20th, she left Seville at 8.30 a.m. for Pernambuco in Brazil. The Infante Alfonso of Orleans embarked on the ship at Seville and is crossing the Atlantic on her. At 3 p.m. the same day the airship reported her position about 250 E.N.E. of Madeira, and said she was travelling at 50 m.p.h. She is expected back in Germany about Whitsun, and a programme of other trips over Europe this summer has been drawn up. This programme includes a 48-hours trip to Great Britain and Ireland on July 29.



THE "SARO" COWLING CLIP: This clip, designed and manufactured by Saunders-Roe, Ltd., is of very simple construction. The T-piece has a certain amount of freedom to move, and will thus allow of considerable distortion of the framework. The single spring serves the double purpose of holding the parts together and acting as a shock absorber. Two superimposed cowlings can be secured with one clip, and finally the clip requires no tools to fasten or undo it. (Flight Sketches).



AIR TRANSPORT

AIR TRANSPORT IN CANADA

THE Dominion of Canada shares with the United States the distinction of being a leading flying country which has steadfastly refused to grant subsidies to airways. Up till a couple of years ago the only notable activity in the Canadian air was the work of Government aeroplanes in patrolling the forests and carrying out survey and photographic work. Nevertheless, air transport companies began to appear in Canada, and many of them contrived to exist without Government help. There is in the Dominion a healthy private demand for air transport, as well as for air survey. By degrees some regular air routes were opened, and kept going, and by 1927 a stage had been reached when the Canadian Post Office felt that mail contracts could be granted on some of the routes. The first air mail was from Rimouski to Montreal, taking mails off incoming steamers at the former place and hastening their delivery to the latter. Further contracts followed. Some are granted for services all the year round; some for services only in winter when the waterways are frozen and boats cannot sail; some for services only in summer; and some, notably the services to the far North, are only occasional. At the end of 1929 five companies had received mail contracts of one description or another. The companies do not rely entirely on their mail contracts for their revenue. They all carry out other flying work. Nevertheless, regular air services in Canada now cover a total of 6,453 air miles, including mail flights and other flights, the approximate total air mileage flown in Canada in 1929 amounted to 1,284,080. The personnel amounted to 341 private pilots, 634 commercial pilots, and 305 air engineers. There were 69 licensed civil aircraft and 68 air harbours. During the year there were only seven serious accidents, resulting in our deaths and seven injuries. Of these, five occurred in commercial machines, and two in light aeroplanes.

The Canadian air services may be divided into four classes. The first class is intended to quicken existing communications, and these run in a general east-west direction. They work in connection with railways and steamer services, and may be said in a sense to compete with them. The second class serves the mining districts of Ontario and Manitoba, and these connect at their southern termini with the railways, but fly over country north of the railway lines, where there is no other means of quick transport. The third class consists of occasional services into the far north, up the great Mackenzie River and the Yukon River, though no regularity of service is attempted, and good weather is deliberately awaited before flights are undertaken, these services are among the most remarkable air services in the world. They are a speciality of Canada, and are none which they must confer on the inhabitants of the frozen North, who previously had no link with civilisation

except by dog team, must be tremendous. The fourth class of air service connects Canada with the United States; and these are worked in co-operation with American air companies and railways.

Some details of the Canadian Airways at the end of December, 1929, will be of interest, but the following cannot be guaranteed as quite up to date. Flying progress is so rapid in Canada that it is difficult to keep pace with it, and a contract granted for a mail service in one year may not be continued in the following year.

Montreal—St. John (N.B.)

601 miles. Daily except Sundays.

Eastbound.		Westbound.	
8.00 a.m. (E.T.).*	Dep. Montreal.	Arr. 12.00 noon (E.T.).	
9.20 a.m.	Quebec.	10.30 a.m.	
1.45 p.m.	Moncton.	Dep. 7.00 a.m. (A.T.).	
	Moncton.	Arr. 1.50 p.m.	
2.30 p.m. (A.T.).*	Arr. St. John.	Dep. 1.00 p.m.	

Montreal—Albany

200 miles. Daily except Sundays.

Southbound.		Northbound.	
12.15 p.m. (E.T.).	Dep. Montreal.	Arr. 11.15 a.m.	
2.30 p.m.	Arr. Albany.	Dep. 8.45 a.m.	
Thence by train to New York.		U.S. mail plane leaves 7 a.m.	

Montreal—Detroit

588 miles. Daily except Sundays. Contractors: Canadian Airways, Ltd.

Westbound.			
9.15 a.m. (E.T.).	Dep. Montreal.	Arr. 11.30 a.m.	
12.45 p.m.	Toronto.	8.10 a.m.	
1.20 p.m.	Hamilton.	7.40 a.m.	
2.20 p.m.	London.	—	
3.30 p.m.	Windsor.	—	
4.00 p.m.	Arr. Detroit.	Dep. 6.20 a.m.	
(Dearborn).			

Toronto—Buffalo

100 miles. One way only. Daily except Sundays.

3.30 p.m.	Dep. Toronto.	
4.30 p.m.	Arr. Buffalo.	

Lac du Bonnett—Bisset

82 miles. Tuesdays and Fridays in summer. Contractors: Western Canada Airways, Ltd.

Northbound.		Southbound.	
9.00 a.m.	Dep. Lac du Bonnett.	Arr. 12.50 p.m.	
10.30 a.m.	Arr. Bisset.	Leave 11.00 a.m.	

AIR TRANSPORT AND MINING: We reproduce here a snapshot received from a Canadian reader, showing two Stinson Detroiters and a Fairchild 61 belonging to the Consolidated Mining Co. of Canada, Ltd., at their winter base, Prince Albert, on the Saskatchewan river.



Sioux Lookout—Red Lake
320 miles. Semi-weekly, Tuesdays and Fridays. Contractors :
Western Canada Airways, Ltd.
Dep. Sioux-Lookout 8.00 a.m.
Arr. Gold Pines 9.45 a.m.
Dep. " 10.00 a.m.
Arr. Red Lake 10.30 a.m.
Dep. " 10.40 a.m.
Arr. Gold Pines 11.10 a.m.

Dep. " 10.00 a.m.
Arr. Jackson Manson 10.30 a.m.
" Narrow Lake 10.50 a.m.
Dep. " 10.00 a.m.
Arr. Gold Pines 11.40 a.m.
Dep. " noon.
Arr. Sioux Lookout 1.30 p.m.

The Prairie Air Mail

The Prairie air mail from Winnipeg to Regina and on to Edmonton and Calgary is a particularly interesting experiment. It is a definite attempt by the Post Office to use the aeroplane to beat the train. Experimental flights began in December, 1928, and were carried out by Western Canada Airways, Ltd. It soon became evident that, in order to save sufficient time, night flying was necessary. The route from Regina to Calgary was therefore lighted for night flying,

and the service commenced in March this year. The route takes the shape of a horizontal Y. Flying westward, the aeroplane starts from Winnipeg and flies to Regina. There the route branches into two, one making for Edmonton and the other for Calgary. The total mileage is 1,226, made up as follows:—Winnipeg-Calgary, 770 miles; Regina-Edmonton, 456 miles. The service is daily, and is run in connection with the railway at Winnipeg. A map of this route appeared in FLIGHT of April 18 last. The time-table is as follows:—

Winnipeg—Calgary

Westbound.		Eastbound.	
9.00 p.m. (C.T.)*	Dep. Winnipeg.	Arr. 12.00 noon (C.T.)	Regina.
11.40 p.m. (M.T.)*	Dep. Regina.	7.25 a.m. (M.T.)	Moose Jaw.
12.30 a.m. (")	Dep. Moose Jaw.	6.35 a.m. (")	Medicine Hat.
3.15 a.m. (")	Dep. Medicine Hat.	3.55 a.m. (")	Calgary.
5.00 a.m. (")	Arr. Calgary.	Dep. 2.15 a.m. (")	

Regina—Edmonton

7.45 a.m. (M.T.).	Dep. Regina.	Arr. 4.50 p.m. (M.T.)	Saskatoon.
9.40 a.m.	Dep. Saskatoon.	2.55 p.m.	North Battle-
10.50 a.m.	Dep. North Battle-	1.45 p.m.	ford.
1.30 p.m.	Arr. Edmonton	Dep. 11.05 a.m.	

* C.T. = Central Time. A.T. = Atlantic Time. M.T. = Mountain Time.

Air Mail Pillar Boxes

THE London Postal Service has applied for the consent of the Westminster City Council to the erection of special pillar letter boxes, painted blue, for air mail correspondence in Piccadilly Circus, near the subway entrance in front of the London Pavilion, and in the Strand, by Surrey Street.

British Contract for Scandinavian Air Mail

THE contract for the Norwegian and Swedish air mails, between Oslo, Gothenburg and Malmö, has again been secured by Messrs. Halle and Peterson, the Oslo agents of the De Havilland Co. This year the service will be maintained by three D.H. "Gipsy Moths"—only two being employed last year.

The France-S. America Air Mail

FOLLOWING upon the successful first "all-air" mail flight, by M. Mermoz, from Paris to S. America, it is announced that in future this service will be operated once a week. It is hoped to deliver mails in Rio in three days, and in Buenos Ayres in four.

Lengthy Cruise of Junkers G.38

ON May 14 the Junkers G.38 four-engined monoplane (described and illustrated in FLIGHT of November 29, 1929) made a cruise of 10½ hours' duration, carrying 20 persons.

Leaving the aerodrome at Dessau in the early morning, the machine flew over Berlin to the coast of the Baltic, along the coast to Hamburg, and back to Berlin, where it alighted. The machine has now received the German registration number D 2000. The tare weight of the G.38 is 28,600 lb., and the maximum permissible gross weight is 52,800 lb. This, however, represents an overload, the normal gross weight being 44,000 lb.

A Fiji Air Service

SPEAKING at the opening of his first session of the Legislative Council, on May 13, Sir Murchison Fletcher, Governor of Fiji, announced that the Council would be asked to vote funds to start an inter-island air service. We gather that the intention is to start in quite a small way, with a couple of seaplanes.

Sydney-Brisbane Airway

IN our leading article of May 16, we remarked "the late (Australian) Government sanctioned a scheme for inaugurating services Sydney-Brisbane and Camooweal-Darwin, which will probably start in due course." When we wrote that we had in our mind subsidised services, and for the moment it slipped our memory that an unsubsidised service between Sydney and Brisbane has been opened by Australian National Airways Ltd., with Avro 10 aeroplanes.



A NEW FOCKE-WULF "ENTE": The latest model, flown for the first time the other day, resembles the previous machine, but the addition of outboard wing rudders will be noted.

CORRESPONDENCE

[The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.]

THE AUTOGIRO

[2308] I do not question your technical comparison of the Autogiro with the ordinary 'plane. Surely, however, the great point is that its landing powers makes the Autogiro of far greater use than the ordinary 'plane.

I don't agree at all about getting more speed. Concentrate on landing and starting and 5 miles per hour won't matter.

Had I the means an Autogiro would be the machine for me. I could easily land on my small farm. With a small motor in the roof of the hangar for rotor starting I could probably take off also.

Winkfield, Windsor.

RAYMOND B. YENDOLL.

May 11, 1930.

ON MODELS AND CLUBS

[2309] Now that the hobby of model aeroplaning is booming, it is time that we had a real live body to govern the sport of model aeroplaning in England.

You will, no doubt, recollect that it was largely due to my efforts in the pages of FLIGHT, when I edited the model section of this journal, that all of the cups originally belonging to the Kite and Model Aeroplane Association were gathered together again. It was also my suggestion that a London local club known as the London Aero Models Association should change its name to the Society of Model Aeronautical Engineers, and approach the Royal Aero Club with a view to becoming recognised as the body to govern the sport.

I cannot trace that it has done anything useful in the rational interests of the hobby. It remains what it formerly was, a purely local club with an extremely parochial outlook. It has produced a monstrously ludicrous formula about usable proportions, apparently with a view to eliminating the flying stick, which in my opinion is a more scientific instrument than a flying caricature of a full-size machine. Surely the model should be a means of experiment and not a copy of something already in existence.

A fuselage is merely provided on full-size aeroplanes to provide a housing for the pilot, engine, etc., with a minimum of head resistance, and to provide a connection with the main planes and tail. It does not make an aeroplane efficient—it is, in fact, a necessary evil. Why, therefore, perpetuate it in model form when a mere stick serves the purpose in a more scientific way, although it may not look so pretty?

It is, I would add, quite possible for one to construct a model which complies with the S.M.A.E. formula and which would still be a flying stick. A flying stick is a more scientific instrument because it does not sacrifice performance in order to obtain a pleasing appearance; the putting on of frills does not make the model scientific. The most scientific model is that which has the weight factor reduced to the almost irreducible minimum consistent with strength, and remains for the longest time in the air.

If one could combine beauty of line with a scientific instrument without sacrificing performance so much the better, but the S.M.A.E. formula is childish. What we want is a live body that can govern the sport all over the country in the manner in which the K.M.A.A. did before the war, and I shall be glad if all those readers who feel with me would write to me.

Addlestone, Surrey.

May 2, 1930.

F. J. CAMM,

Editor, "Motor Cyclist Review."

GLIDING

[2310] I was very much interested with Mr. D. G. Sadler's opinion on gliding (2303), for the conquest of the air will only be attained when man can fly by his own power, which is quite possible, and the glider will do it. Up to the present, the glider is practically a toy and has to be started by towing and can only travel small distances for the very simple reason that it has not the power, after every "swoop", to rise to a sufficient height to continue the movement indefinitely, like a bird, especially in calm weather, but I think I have found the means of not only getting off alone, but also of continuing the flight as long as the pilot wishes.

Of course, there must be no motor or it becomes an aeroplane, the whole power must come from the pilot, and that will only be necessary at the end of the "swoop." In calm weather, there will be naturally a little more "pilot power" required, but in a breeze it is all plain sailing.

I should like to correspond with any enthusiast who has handled gliders and might be interested.

ROBERT P. THORPE.

Ypres.

May 13, 1930.

COMFORTABLE FLYING

The passenger cabin of the latest type of machine, Fokker 'IX with 3 Bristol "Jupiter" engines, to be put into service by the K.L.M., line has ample leg and elbow room. The leather-upholstered chairs are provided with adjustable head rests, so that passengers can change their position to the most comfortable.

(FLIGHT Photo.)



AIR MINISTRY NOTICES

AIR MINISTRY NOTICES TO AIRMEN

France : Nice (La California) Landing Ground Re-opened. Greenland : Flights to

A.—Nice (La California) Landing Ground.

Notice to Airmen No. 34 of the year 1929 (N/A. Navigational Warning No. 1/1930, Reprint No. 3), is hereby cancelled, the work having been completed.

B.—Flights to Greenland.

Paragraph 1 of N/A. General Notice No. 11 of the year 1930 should be amended to read as follows:—

"1. Admission for flights to or over Greenland must be obtained in advance from the Danish Government, and application for such permission should be addressed to the Secretary, Air Ministry (D.D.C.A.), Gwydyr House, Whitehall, S.W.1."

General Notice (No. 12 of 1930).

Liability for Loss, Damage or Injury at Royal Air Force Air Stations Abroad

The attention of all concerned is drawn to the fact that the following disclaimer of liability, which is published as § 48 of the "Air Pilot" (Volume 1), in connection with conditions governing the use of State-owned air stations in Great Britain and Northern Ireland, is also applicable in connection with the use of Royal Air Force air stations abroad.

(1) Liability will not be accepted by the Air Council, its servants or agents, or by any servant or agent of the Crown for loss or damage by accident, fire, flood, tempest, explosion or any other cause to aircraft, or for loss or damage from whatever cause arising to goods, mails or other articles, or for loss or injury from whatever cause arising to passengers or other persons (including pilots, engineers, or other personnel of aircraft) landing at, departing from or accommodated in or at any State-owned air station, even if such loss, damage or injury is caused by or arises from negligence on the part of the Air Council's servants or agents or of any servant or agent of the Crown.

(2) The use of any apparatus such as cranes, chocks, mechanical starters, etc., belonging to or under the control of the Air Council, by the use of some of its servants or other persons making use of the air station, will be entirely at the risk of the person using such apparatus, and no liability will be accepted for any loss, damage or injury caused by or arising from the use of any such apparatus (whether under the control or management of any servant or agent of the Air Council or of the Crown or otherwise) which may result to the user thereof or to any other person or thing. The use of such apparatus will be permitted only upon the understanding that the Air Council and the Crown will be held indemnified against all claims which may result from such use. It must further be clearly understood that the Air Council do not in any way warrant the safety or fitness of any such apparatus.

General Notice (No. 13 of 1930).

Examination for Air Navigators

An examination for Air Class Air Navigators' Licences will be held in London only at the Air Ministry, Gwydyr House, Whitehall, on Monday, Tuesday and Wednesday, July 7, 8 and 9, 1930.

2. Application forms, the syllabus, and conditions of examination may be obtained on application to the Secretary, Air Ministry (C.A.2), Gwydyr House, Whitehall, London, S.W.1.

3. Formal applications to sit at this examination must be made on Form C.A.2c, and, together with the prescribed fees, must be received at the above address not later than Tuesday, June 7, 1930.

4. Before a licence can be issued, candidates will have to pass the prescribed medical examination. Arrangements can be made for the special medical examination at the Central Medical Board to take place on Wednesday afternoon, July 9, 1930, if early application is made to be examined on that day. Otherwise special arrangements will be made.

General Notice (No. 14 of 1930).

AIR MINISTRY NOTICES TO AIRCRAFT OWNERS AND GROUND ENGINEERS

High-Tensile Steel Fork Joints A.G.S. 168 to 178, and High-Tensile Steel Turnbuckles A.G.S. 138 to 149

1. The following information is substituted for that contained in Notice to Ground Engineers No. 2 of 1923 (revised 31.12.28), which is hereby cancelled.

2. High-tensile steel fork joints A.G.S. 168 to 178 have been found unsafe and their use on any aircraft is prohibited. Ground engineers should, therefore, take steps to replace any such fork joints, which are incorporated in aircraft or held as spares by mild-steel fork joints conforming to A.G.S. 412 to 422, B.E.S.A. Specification S.P.3, or Stainless Steel fork joints to A.G.S. 678 to 689.

3. The following table gives the A.G.S. numbers of the prohibited H.T.S. fork joints and of the M.S. and S.S. fork joints which replace them:—

A.G.S. Nos. of prohibited H.T.S. fork joints: 168 169 170 171 172 173 174 175 176 177 178

A.G.S. Nos. of fork joints superseding the above:—

Mild steel .. 412 413 414 415 416 417 418 419 420 421 422
Stainless steel .. 678 679 681 682 683 684 685 686 687 688 689

M.S. fork-joints 412 to 422 are identified by the flats on the ends of the fork, together with the counter-plate which extends down each side of the fork gap, and those of S.S. to A.G.S. 678 to 689 are similar but have no collar on the barrel, whereas the original H.T.S. fork-joints A.G.S. 168 to 178 are readily distinguished by the small ribs at the sides of the pin holes.

The use of high-tensile steel turnbuckles A.G.S. 138 to 149, on civil aircraft is still permitted, but, as these turnbuckles are all of war-time manu-

facture, they should be carefully re-inspected to ensure that no faults have developed during service. The particular defects to be guarded against are fine hair cracks and flaws in the steel ends, and season-cracking of the barrels. (This class of turnbuckle may be readily identified by the A.G.S. number stamped on each turnbuckle.)

5. When replacing any high-tensile steel turnbuckle by a mild-steel turnbuckle conforming to A.G.S. 490 to 497, particular care should be taken to ensure that the former is replaced by its equivalent in the latter class. The following table gives, in each class, the respective A.G.S. numbers of the turnbuckles which are interchangeable in respect of strength and diameter of pin:—

A.G.S. Nos. of old .. 140 141 142 143 144 145 146 147 148 149
Design stamped on each turnbuckle .. H.T.S.
turnbuckle

A.G.S. Nos. of mild-steel turnbuckles of equivalent strength .. 491 492 506 493 507 494 508 495 496 497

Note.—The one exception is M.S. turnbuckle A.G.S. 490, for which no strictly-interchangeable H.T.S. size exists, as A.G.S. 138 and 139, which it replaces, were made with two eye-ends only and not with the customary fork and eye-ends.

6. No Certificates of Airworthiness will be issued, or existing Certificates of Airworthiness renewed, in respect of any aircraft on which high-tensile steel fork joints are fitted.

(No. 13 of 1930.)

Nipper "Lion" Engine : Tightening of Nuts on Master Connecting Rods

1. The attention of aircraft owners and ground engineers is directed to the special care necessary when tightening the nuts on master connecting rod studs of Nipper "Lion" engines.

2. These nuts must be sufficiently tight to hold the bearing cap securely under running conditions, but not so tight as to cause stretching of the studs. To ensure this correct tension the engine makers employ a spring loaded spanner set to give a maximum loading of 840 lb. (120 lb. at 7-in. radius).

3. It is very desirable to use a spanner such as that referred to in paragraph 2, but when this is not available, a box spanner and a tommy bar, the latter to be not more than 6 in. in length, can be used. The nuts must be tightened by applying the pressure to the spanner.

4. If any correction is necessary in order to obtain alignment between the split pin hole in the stud and the castellation of the nut, this must be effected by removing the nut and facing off the bottom face, care being taken that a true surface is obtained between this face of the nut and the bearing cap.

5. Studs for the "Lion" master connecting rod are now made from steel to B.E.S.A. Specification S/65. When any replacements are necessary, studs of this material, which are identifiable by a saw cut across the end, should be used.

6. Attention is drawn, in connection with the above, to Notices to Ground Engineers Nos. 3 of the year 1927, and 2 of the year 1929.

(No. 14 of 1930.)

Blackburn "Bluebird," Mk. IV Aircraft : Rudder Bar

1. The attention of aircraft owners and ground engineers is drawn to Modification No. 83, which calls for a reduction of $\frac{1}{8}$ in. in the length of the rudder bar tube and $2\frac{1}{2}$ in. diameter end plates on aircraft of the above type, in order to obviate fouling of the rudder bars when adjusted to the extreme front or rear positions.

2. The modification is covered on Messrs. Saunders-Roe, Ltd., Drawing No. N.C. 1837, Issue 5, copies of which can be obtained upon application to Messrs. Saunders-Roe, Ltd., Cowes, I.O.W.

3. Until the aforementioned modification has been effected, aircraft owners and ground engineers should ensure that the rudder bars are maintained in the "mean" position.

4. No certificate of airworthiness will be renewed until this modification has been satisfactorily incorporated.

(No. 15 of 1930.)

Genet Major Engine : Inspection and Replacement of Aircrow Hubs

1. The rear flange of the original type aircrow hub (Part No. S.R. 15081) on Genet Major engines was found liable to crack at the inner ring of lightning holes, there being two such rings of 12 holes $\frac{1}{8}$ in. diameter in each.

2. In hubs of later manufacture (Part No. S.R. 15081/1) the number and diameter of the lightning holes were consequently reduced, the thickness of the rear flange increased, and the specification of the material of the hubs changed.

3. As the result of further experience, the latest type of Genet Major hub now in production (Part No. S.R. 15081/2) has no lightning holes, and has two concentric stiffening flanges on the outer face of the rear flange to obviate any distortion tendency on tightening the aircrow hub bolts.

4. Means have already been initiated by the engine manufacturer to call for the replacement of all the original type hubs referred to in paragraph 1.

5. Aircraft owners and ground engineers are hereby advised that no Certificates of Airworthiness will be issued or renewed in respect of aircraft with this engine installed unless hubs of one of the later types described in paras. 2 and 3 above, are fitted.

6. The replacement should in any case be effected as early as possible, and not later than one month from the date of this Notice.

7. The original type hub should be examined after each flight, and must be discarded forthwith if any indication of cracking is found in the rear flange.

Note.—Part numbers are stamped on the outer face or periphery of the rear flange.

(No. 16 of 1930.)

"C.D." Robbed

CAPTAIN C. D. BARNARD returned home the other evening to find his house burgled, his dog doped, and his jewelry, presentation gifts, etc., missing. It is thought that the burglar is now on a high-speed long-distance flight.

Death of Dr. Nansen

It is with great regret that we have to record the death, at the age of 68, of the famous Norwegian explorer, scientist

and patriot, Dr. Fridthiof Nansen. It was paralysis of the heart which caused the sudden death of the great Norwegian. In aviation circles, Dr. Nansen will probably be best remembered for the interest he took in the possibilities of Arctic exploration by air. The scheme to make use of the *Graf Zeppelin* for a voyage of exploration fell through, mainly for financial reasons, but doubtless Dr. Nansen would have succeeded, with his wonderful courage and determination, in completing other arrangements, had he been spared.

THE ROYAL AIR FORCE

London Gazette, May 13, 1930.

General Duties Branch

Flight Lt. G. C. Stemp (Lt. The Buffs, R.A.R.O.) is granted a permanent commission, in this rank (May 1); Lt. A. M. Rundie, R.N., is reattached to R.A.F. as Flying Officer with effect from April 30, and with seniority of June 16, 1924.

The following are promoted with effect from May 14:—*Flight Lieutenants* to be *Squadron Leaders*:—A. W. Fletcher, O.B.E., D.F.C., A.F.C., F. A. Norton, G. M. Lawson, M.C., G. A. H. Pidcock, S. Benson, A.F.C., P. C. Wood, A. C. Collier (Act. Squadron Leader), G. C. Gardiner, D.F.C., *Flying Officers* to be *Flight Lieutenants*:—A. E. Groome, D.S.M., R. L. Edward, J. R. Brown, D.F.C., L. H. Brooke, H. W. A. Fox (Hon. Flight Lieut.), A. H. Wheeler, G. D. Green, J. H. Woodin, C. C. Edwards, C. K. J. Coggie, N. A. West, R. J. A. Ford, R. G. Hart, M.C., W. H. Burbury, H. L. Drake, J. A. Tindall, A. C. Evans-Evans, C. F. Coaker, J. R. Addams, H. R. Barton, N. S. Allison, W. M. C. Kennedy, J. G. D. Aronson, J. E. W. Bowles, T. P. P. P. Gagon, C. W. L. Truss, A.F.C., G. W. Tuttle, P. R. Barwell, P. V. Williams, R. Costa, T. H. Perry-Keepe, G. H. Loughnan, A. C. Rowland, A. H. W. J. Cocks, G. W. Hayes, L. W. Cannon, H. W. Tristram, G. E. G. Lywood, C. M. L. Shaw, A. J. Holmes, L. Dalton-Morris, F. S. O'Hanlon, T. L. Pankhurst, J. S. Blomfield, E. E. Fallick, D. W. Gibbon.

The following Pilot Officers on probation are confirmed in rank:—M. P.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Group Captain L. A. Pattinson, D.S.O., M.C., D.F.C., to Air Ministry (D.O.S.D.), on appointment as Deputy Director of Organisation; 7.5.30. *Wing Commanders*: J. H. S. Tyssen, M.C., to R.A.F. Base, Gosport, to command; 7.4.30. R. Colishay, D.S.O., O.B.E., D.S.C., D.F.C., M.C., *Commandant*, whilst attending Senior Officers' Tech. Course, Portsmouth; 5.5.30. A. R. Arnold, D.S.C., D.F.C., to R.A.F. Depot, Uxbridge, whilst attending Senior Officers' Tech. Course, Portsmouth; 5.5.30. D. Harries, A.F.C., to R.A.F. Depot, Uxbridge, whilst attending course at Senior Officers' School, Sheerness; 5.5.30. J. Sowerby, A.F.C., R.A.F. Depot, Uxbridge, whilst attending course at Senior Officers' School, Sheerness; 5.5.30. *Squadron Leaders*: A. L. Gregory, M.B.E., M.C., to Central Flying School, Wittering; 6.5.30. L. G. le B. Croke, to R.A.F. Training Base, Leuchars; 5.5.30. R. Harrison, D.F.C., No. 17 Sqn., Ipswich; 29.4.30. *Flight Lieutenants*: T. A. Wane-Browne, D.S.C., to R.A.F. Depot, Uxbridge; 25.4.30. H. F. Bradley, to R.A.F. Depot, Uxbridge; 26.4.30. F. H. Astle, to No. 1 School of Tech. Training (Apprentices), Halton; 28.4.30. H. Chumley, to No. 13 Sqn., Netheravon; 1.5.30. M. H. Garmans-Williams, to Armament and Gunnery Sch., Eastchurch; 5.5.30. S. G. Con-

O'Reilly; Feb. 28. J. D. Baker-Carr, R. C. Dawkins, R. F. Fletcher, B. J. Hurren, G. B. Kelly, C. R. Lonsdale, H. L. Messiter, J. S. D. Miles, C. V. Ogden, G. J. Pawsen, H. A. Shotter, A. J. Tunnard; March 15. C. Sardfield-Sampson; March 24. F. Lemon, V. C. F. Streetfield, E. A. H. Tanner; April 10. E. H. Bellairs, H. R. Black, E. L. Brackenbury, W. K. Brett, E. H. Coleman, E. E. Ellison, R. Ellison, G. Farnhill, G. D. Fleming, K. D. Knecker, J. E. Loveday, L. McHardy, W. R. A. Matheson, P. R. May, E. J. K. Megaw, D. A. Messiter, V. B. Myers, L. F. H. Orr, M. E. Perkins, G. W. Phillips, M. V. Ridgeway, N. C. Singer, H. C. Singleton, A. E. Smith, R. Todd, M. Watson, F. Whittingham, D. H. G. Wood; April 13.

The following Pilot Officers are promoted to rank of Flying Officer:—E. J. Finnegan, T. Gadd; April 12. C. E. W. N. C. Pelly, R. W. Wallace; May 2. Flight Lt. A. H. Goldie is placed on retired list; May 12. Flying Officer A. V. Harvey is transferred to Reserve, Class C; May 7. The following course to be attached to R.A.F. on return to Naval duty:—Lt. R. R. Oshab, R.N. Flight Lt., R.A.F.; April 22. Lt. Cmdr. F. W. H. Clarke, R.N., Flight Lt., R.A.F.; April 25. The following relinquish their short-service commissions on completion of service, May 14:—Flight Lt. S. P. George; Flying Officer H. V. Smith, D.C.M. (Lt.), Sherwood Foresters, R.A.R.O.).

Medical Branch

Flight Lt. (Quartermaster) J. M. Maxwell is promoted to rank of Squadron Leader; May 9.

nolly, to Armament and Gunnery Sch., Eastchurch; 5.5.30. The Earl of Bandon, to Central Flying Sch., Wittering; 2.5.30. C. B. S. Spackman, D.F.C., to No. 111 Sqn., Hornchurch; 11.5.30. A. R. Jones, to No. 208 Sqn., Manx East; 24.4.30. H. R. F. Baxter, to R.A.F. Depot, Uxbridge; 1.5.30. D. S. Earp, D.F.C., to No. 22 Sqn., Martlesham Heath; 6.5.30. A. L. Paxton, D.F.C., to R.A.F. College, Cranwell; 9.5.30. F. W. Moxham, No. 54 Sqn., Hornchurch; 7.5.30. *Flying Officers*: J. W. Hutchins, to R.A.F. Base, Calshot; 1.5.30. G. Lansdowne, D.F.C., to H.Q. Air Defence of Gt. Britain; 1.5.30. F. L. Kingham, to Coast Defence Co-operation Flight, Eastchurch; 8.5.30. J. S. Phillips, to Station H.Q., Manston; 6.5.30. H. G. Loch, to No. 1 Sqn., Tangmere; 5.5.30. J. C. B. Tindling, to R.A.F. Depot, Uxbridge; 1.5.30. J. C. Harcombe, to R.A.F. Depot, Uxbridge; 1.5.30. E. G. L. Russell, to R.A.F. Depot, Uxbridge; 2.5.30. J. V. Yonge, to No. 1 Flying Training Sch., Netheravon; 5.5.30. A. Maughan, to The Packing Depot, Sealand; 13.5.30. N. X. Sheldrick, to Central Flying Sch., Wittering; 5.5.30.

Stores Branch

Wing Commander F. C. Williams, O.B.E., to Air Ministry (D. of E.), for duty as R.A.F. Representative on the Board of Management, Navy, Army and Air Force Institutes; 22.4.30.

IN PARLIAMENT

Air Mail Payments

MR. LEES SMITH, the Postmaster-General, on May 6, in reply to Commander Bellairs, said the total payments to British and foreign air companies, respectively, for the air carriage of mails for the year ending March, 1930, the payments were £54,000 and £2,300, respectively. No information was available regarding the relative payments to various companies made in the United States of America and Canada; but according to the latest figures available the total annual payments for the conveyance of mails by air were given as £1,189,015 dollars and £272,403 dollars respectively.

Hendon Display

MR. MONTAGUE, on May 7, in reply to Miss Lee, said the Hendon aerial pageant would be held at Hendon this year, and that no other display of a similar nature to that is organised at home by the Royal Air Force, but some Royal Air Force aircraft will be taking part in certain civil flying meetings. The purposes for which the display at Hendon is held are to provide an annual inspection and review, corresponding in some degree to the reviews of the Navy and Army at Spithead and Aldershot, as a means of ascertaining the degree of efficiency that is being maintained in the Air Force and as a test of individual and collective skill, to enable the public to see something of the work of the Royal Air Force, and incidentally to raise funds for Air Force charities. No extra cost over and above that of ordinary training, of which the display forms part, is thrown upon public funds, the cost of all special arrangements and facilities for spectators is met out of the receipts. As regards confining the display to civil aviation and excluding all war aircraft from participation there was no reason for altering the character of an annual event in which it was evident, from the attendance, that the general public took very great interest.

Aerodrome on New Charing Cross Station

MR. MONTAGUE, in reply to Mr. D. G. Somerville, said the Air Ministry had given full consideration to the suggestion that a central London aerodrome might be built on top of the new railway station that would have to be built on the south side of the Thames if the Charing Cross Bridge scheme is eventually approved, but it was found that the technical and financial difficulties involved render it impracticable.

Marine Aircraft and Tyne Base Scheme

MR. MONTAGUE, on May 12, in reply to Mr. West Russell, said a site for a sea aerodrome at South Shields had been inspected by an Air Ministry

representative and reported upon as a suitable base for marine aircraft having a good take-off performance. It could be developed as an air port if the neighbouring local authorities saw prospects of the operation of a seaplane service from the Tyne. The decision was taken by the Admiralty, but would be for the local authorities' decision, but the Air Ministry is ready to give all possible assistance in the way of technical advice.

Demonstration Flights in Buenos Aires

MR. MATTERS, on May 14, asked the Under-Secretary of State for Air whether he can arrange for one of the Schneider Cup seaplanes to be sent to Buenos Aires for demonstration flights in connection with the British Empire Manufacturers Exhibition, which is to be held in the Argentine capital next year?

MR. MONTAGUE: I stated on April 2 that it might be found possible to lend these seaplanes on the terms then stated for the purpose of taking part in the Schneider Trophy contest in 1931, and the Royal Aero Club have now been asked whether they are available for that purpose. Until it is known whether they are wanted, it is not possible to make any arrangements for their being exhibited as suggested. He quite agreed with Mr. Matters that these proposed demonstration flights would give a considerable impetus to the sale of British aircraft in South America, but that was a matter for the Admiralty.

Air Mails Delivery by Parachutes

MR. MANDER asked the Under-Secretary of State for Air whether any experiments are being carried out at the present time with various types of parachutes for the delivery of mails by aeroplane; and what success has so far been achieved?

MR. MONTAGUE: Trials with a special parachute for dropping air mails and with another parachute device which is a modification of that known as the standard supplies dropper, are in progress, but I am not yet in a position to make a statement on the results of these trials. In addition, two methods of delivering air mails other than by means of parachutes or the landing of aircraft are being examined.

Light Aeroplane Clubs Subsidy

MR. MONTAGUE, in reply to Mr. Everard, said the hitherto unsubsidised clubs from which applications have been received are Leicestershire, Northamptonshire and Southern Aero Clubs, and the Household Brigade Flying Club. The applications of the two first-named clubs have been approved.

PERSONALS

Married

FREDERICK A. NORTON, Flight-Lieut., R.A.F., was married on April 10 at the office of the Registrar, to JOAN MARRIOTT.

To be Married

A marriage has been arranged, and will take place early in June, at Wrotham, between Flight-Lieut. R. IVELAW-CHAPMAN, D.F.C., A.F.C., R.A.F., son of Mr. and Mrs. J. Ivelaw-Chapman, Charlton Kings, Cheltenham, and BETTY, only daughter of Mr. and Mrs. C. W. SMOKETT, Borough Green, Kent.

The engagement is announced between Squadron Leader ROBERT H. M. SANDRBY, M.C., D.F.C., A.F.C., R.A.F., second son of the late Prof. Robert Sandrby, M.D., LL.D., F.R.C.P., and Mrs. Sandrby, of The Tower House, Harrow-on-the-Ussell, and Joyce, only daughter of Major M. O. N. REES-WEBBE, late The Northamptonshire Regt., and Mrs. Rees-Webbe, of Berkeley House, Weymouth, and grand-daughter of the Right Hon. Sir Edward Clarke, K.C.

Item

The will of Captain OVERTON INEET PRESTON, M.C., Croix de Guerre (late R.A.F.), of The Shaws, Nazeing, Essex, has been proved at £4,472.

MODELS

THE MODEL AIRCRAFT CLUB (T.M.A.C.)

As previously announced, the next T.M.A.C. meeting will be held on Wimbledon Common on Saturday, June 7, commencing at 3.30 p.m., and will include the following Handicap competitions.

(1) Duration Competition. Heavyweight fuselage models weighing 8 oz. and over.

(2) Duration Competition. Lightweight fuselage models of less than 8 oz.

(3) Duration Competition. Any type of model flown by ladies or juniors (boys of less than 16 years of age).

Best duration of three flights to count for prizes. A member cannot enter one machine in more than one competition. An allowance of 10 seconds will be added to the duration of models rising from the ground.

Handicaps.—The following deductions in seconds will be made from the times of the best recorded flights of members who have been placed in previous competitions.

Each 1st place	10 secs.
.. 2nd	5 "
.. 3rd	3 "

Will all members who have and who are constructing mechanically driven model aeroplanes send full particulars of same to the Competition Secretary, Mr. T. Newell, 32, Veroan Avenue, Bexley Heath, Kent, so that arrangements can be made to organise a competition for same. Hon. secretary, A. E. Jones, 48, Narcissus Road, West Hampstead, N.W.6. Hampstead 8363.

THE TOWNEND RING

BOULTON AND PAUL, LIMITED, announce that they are the holders of all the Foreign and Dominion Patents covering the device known as the Townend Ring and that, in addition to the original patents, they have applications pending both in this country and abroad for certain important improvements on the original device.

In addition to this they have entered into an arrangement with the Department of Scientific and Industrial Research whereby, subject to the right of the Crown to free use of the British and Dominion patents, they will issue licences for the use of the Townend Ring to British aircraft manufacturers for use on aircraft either for sale in this country or for export. Under this arrangement they will give to all such licensees such technical information and assistance as is necessary for the design and installation of rings of this type. Boulton and Paul, Limited, are also open to consider the granting of licences for the manufacture and use of Townend Rings abroad to any responsible applicants.

Extensive tests, both model and full scale, have now proved that, given a satisfactory installation, the Townend Ring is capable of reducing the resistance of a radial air-cooled engine to a figure very much lower than is possible with any ordinary type of cowling. At the same time the ring does not prejudice cooling or interfere with the accessibility to the engine to which it is fitted as do other types of cowling which claim to produce approximately similar reductions in resistance. It must, however, be emphasised that to obtain satisfactory results with the Townend Ring the ring itself must be designed in conjunction with the complete engine and body combination in order to obtain satisfactory results, and that the assistance of a firm with expert knowledge of the characteristics of the Townend Ring will prove of great value to all those who propose to use this type of cowling.

Our Latest Contemporary

We beg to offer greetings to *Sport*, No. 1, Volume I, May, 1930, a publication which proclaims itself the journal of the Air Ministry Athletic Association. We congratulate it, first, on its classical cover, reminiscent of the frieze of the Parthenon, though the Hellenic horsemen look rather surprised to find themselves where they are—and to tell the truth they do not look as if they will remain there long. We also compliment our contemporary on the excellent photograph of Mr. H. W. W. McAnally, C.B., the Chairman of the Association. We admire the candour of the Foreword, which expresses doubt as to whether a second number will appear, and we sympathise with the pathetic advertisement for an Editor. Finally, we marvel at the creditable list of physical activities in which the staff of the Air Ministry indulge, and we wish our new contemporary a longer life than it has ventured to prophesy for itself.

Avro Avians in Bournemouth Area

HENLY'S (1928), LTD., of Glasgow Terrace, Grosvenor Road, S.W.1, who are distributing agents for Avro "Avians," inform us that they have opened premises at Bournemouth, from which the distribution of these machines in the Bournemouth area will be made.

"Glorious" Photographs

APPARENTLY it is not understood by all our readers that the photographs illustrating our special section last week of H.M.S. *Glorious* were our own and, as such, copies may be obtained from this office at the usual rates.

PUBLICATIONS RECEIVED

U.S. National Advisory Committee for Aeronautics Reports:
No. 334.—The Torsion of Members Having Sections Common in Aircraft Construction. By G. W. Trayer and H. W. March. Price 25 cents. No. 338.—The Effect of Reduction Gearing on Propeller-Body Interference as Shown by Full-Scale Wind Tunnel Tests. By F. E. Weick. Price 15 cents. No. 339.—Full Scale Wind Tunnel Tests with a Series of Propellers of Different Diameters on a Single Fuselage. By F. E. Weick. Price 15 cents. No. 340.—Full-Scale Wind Tunnel Tests on Several Metal Propellers Having Different Blade Forms. By F. E. Weick. Price 10 cents. No. 341.—The Design and Development of an Automatic Injection Valve with an Annular Office of Varying Area. By W. F. Joachim, C. W. Hicks and H. H. Foster. Price 10 cents. Superintendent of Documents, Washington, D.C., U.S.A.

The Air Pilot (Vol. 1) Monthly Supplement. No. 8. April, 1930. H.M. Stationery Office, Kingsway, London, W.C.2. Price 6d.

Droit Aerien. Jan., Feb., March, 1930. Per Orbem, 4, Rue Tronchet, Paris.

The Gauge. Vol. 8, No. 9, May, 1930. J. J. Habershon and Sons, Ltd., Holmes Mills, Rotherham.

AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motors. The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

APPLIED FOR IN 1928

Published May 22, 1930

- 30,425. D. R. PORJOY. Connecting-rod assembly for i.c. engines with radial cylinder. (328,191.)
33,336. V. J. BURNELL and E. B. WILFORD. Aircraft. (328,287.)
38,101. G. RITTI. Cylindrical tubular structures for aeronautical constructions. (303,028.)

APPLIED FOR IN 1929

Published May 22, 1930

- 1,787. M. O. DARRY and A. A. SIDNEY. Pumps for controlling delivery of fuel to i.c. engines. (328,207.)
2,007. Soc. d'Etude et de Construction d'Appareils de Tele-Mecanique. Landing-device for aircraft. (304,723.)
2,202. GOODYEAR-ZEPPELIN CORPORATION. Manufacture of gas containers. (304,775.)
16,408. BOULTON AND PAUL, LTD., and J. D. NORTH. Cowlings for air-cooled i.c. engines. (328,481.)
18,048. KLOSTER-BRANDTS, LTD. Radio system for aerial navigation. (313,506.)
18,323. CHANCE BROTHERS and Co., LTD., and A. L. FORSTER. Wind-direction indicators. (328,489.)
21,972. DAIMLER-BENTZ AG.-GES. Ignition chambers suitable for high-speed Diesel engines. (328,509.)
22,618. KLOSTER-BRANDTS, LTD. Radio system for aerial navigation. (317,006.)

FLIGHT, The Aircraft Engineer and Airships

36, GREAT QUEEN STREET, KINGSWAY, W.C.2

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