

FLIGHT

The
AIRCRAFT
ENGINEER
AND
AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

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

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EDITORIAL COMMENT.



ET another great flight has been successfully accomplished by the return, on Saturday last, to Croydon, of Mr. Alan J. Cobham, Mr. Elliott and Mr. Emmott, on the completion of their flight of nearly 17,000 miles from London to Cape Town and back.

Once more the aeroplane has been used successfully to "show the flag," and this time the flight has the further merit, as far as this country is concerned, that it was an all-British one. Aviators of other countries have made magnificent flights, and we yield to no one in our admiration of their achievements, yet there is great satisfaction in being able to point to such a splendid effort as that of Cobham's and say that it was entirely British. There are not lacking those who hold that this country has lost its leading position in air matters, and has left to others the task of "blazing the trail." Whatever may be the position in matters relating to air defence, there is not the slightest doubt that as regards individual efforts Great Britain can more than hold her own. Of this fact Cobham's great flight is a convincing demonstration. For this reason he, and all associated with him in the great venture deserve the thanks of the British public in general and the British aircraft world in particular. Apart from demonstrating the qualities of British aircraft and British aero engines, the flight to Cape Town and back must have done a tremendous amount of good in bringing home to the outlying posts of the Empire the potentialities of aviation. If commercial aviation is ever to amount to anything—and few will deny its vast possibilities—it must, as far as the British Empire is

London-
Cape-
London

DIARY OF FORTHCOMING EVENTS

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

1926	
Mar. 18	Mr. A. J. Cobham. "Long-Distance Aeroplane Flights," before R.Ae.S.
Mar. 22	Entries close for Gordon Bennett Race.
Mar. 25	R.Ae.S. Annual General Meeting.
Mar. 27	R.A.F. v. Army, Rugby Match, Twickenham.
Mar. 27	R.A.F. (India) Reunion Dinner.
Mar. 31	Entries close for Schneider Cup Race.
Mar. 31	Royal Aero Club Annual General Meeting.
April 8	Marchese de Pinedo, "A 35,000 Miles Flight," before R.Ae.S.
April 13	Mr. S. H. Evans, A.F.R.Ae.S., M.I.Ae.E. "The Performance of Modern Aircraft—with special reference to the Variable Wing," before Inst.Ae.E.
April 21	Inst.Ae.E. visit to Messrs. D. Napier and Son, Acton.
April 22	Capt. G. T. R. Hill. "The Tailless Aeroplane," before R.Ae.S.
April 29	Lieut. Col. V. C. Richmond, "Results of Recent Airship Flight Tests," before R.Ae.S.
May	Gordon-Bennett Balloon Race.

concerned, be based upon close co-operation between the mother country and the dominions, and consequently, anything which will assist to hasten the full appreciation of what aviation has to offer cannot fail to work towards a closer collaboration. It would be difficult to imagine anything more likely to attain that end than the splendid flight which has just been brought to a successful conclusion. During his flight Cobham has visited all manner of remote outposts of Empire, many of them with but the faintest knowledge of flying, and he has thus given thousands who had not previously seen a modern British aeroplane a much needed and much appreciated opportunity to inspect at close quarters a specimen of one of the latest examples of the vehicle of the future.

As regards the effect of the flight on other nations, this cannot fail to have been of inestimable value in raising British prestige abroad, and, in view of the statement of the Air Minister that aircraft manufacturers should, during the next year, make an effort to secure more orders from abroad so as to make up in some measure for the reduction in home orders which, unfortunately, the Air Estimates contemplate, Cobham's flight should be of very direct benefit, not only to the firms immediately concerned in the flight, but to the British aircraft industry in general.

The Technical Aspect

As regards technical lessons of the London-Cape Town-London flight, there are several. For instance, Cobham has stated that large sections of the route over which he flew are admirably suited to be operated commercially—some of them appearing to be more especially seaplane routes. This applies particularly over the northern section of Africa. In South Africa, on the other hand, long distances are found over which the landplane could fly with perfect safety, the country being flat and abounding in landing grounds. In this connection we cannot refrain from referring to a subject that has been widely discussed in aviation circles, and which has also recently been brought up in the House of Commons. We refer to the decision of the South African Government to subsidise a German aircraft firm for the operation of air services. The experimental air mail service proved perfectly feasible, from a technical point of view. That it did not pay could have been foreseen. That the South African Government should, after abandoning the experimental service, have turned to a foreign nation for the equipment of an air route can only be described as regrettable, and it is to be hoped that among the many other benefits which Cobham's flight may be expected to give, it will have shown South Africa that there is no need to go abroad for flying equipment. From that point of view it would appear that Cobham's visit was a most timely one, and it will be interesting to see what effect it has when the next agreement with the S. A. Government comes to be considered.

Concerning the machine used, the de Havilland 50J, it is of interest to note that this is of the form of construction often described as composite, i.e., with wooden main structure members and sheet steel fittings. We had no opportunity of inspecting the machine thoroughly at Croydon last Saturday, but a hurried examination failed to disclose any trouble or defect in the machine after its 17,000 miles' flight, so that the doubts often expressed as to how a wooden aeroplane will stand up to work in tropical climates appears to have been answered. The ply-wood-

covered fuselage appeared to be in perfect condition; the fabric-covered wings showed no undue slackness, and the machine, although oily and dirty with the sand and ravages of many storms, generally looked absolutely "fit." That we shall have to come to metal construction ultimately, owing to the problem of supplies of wood, no one will deny. But there is much to be said for Mr. Walker's contention, in a letter published in *FLIGHT* some time ago, that so long as we learn how to make efficient and cheap metal spars, there is no reason why the rest of the machine should not be made of wood. It is the long lengths of silver spruce which are difficult to get. The smaller stuff, such as is used for wing ribs, etc., can still easily be obtained, and certainly the D.H.50J seemed to show that the ply-wood skin fuselage will stand up remarkably well. Provided, therefore, that ample supplies of ply-wood are obtainable in case of war, there does not appear to be quite the urgent necessity of making every last small part of an aeroplane of metal.

For the first time in history a radial air-cooled engine was used on a flight of this nature, and the Armstrong-Siddeley "Jaguar" appears to have done all that any aero engine, of whatever type, could be expected to do. We had a short chat with Cobham on Saturday, and he stated that never at any time had there been the slightest suggestion of engine trouble. The extreme temperatures met with must have been trying to the engine, not to mention that more than once, when flying in sandstorms, the air intakes were smothered in sand. Yet the engine ran as well as ever. The flight has thus proved the qualities of the radial air-cooled, a type of aero engine which many regard as the type of the future. Altogether, the flight has demonstrated the superb qualities of British aircraft material, not to mention the equally British determination and stamina of the crew, to whom the very greatest credit is due. Our thanks to them all for their wonderful demonstration.

Another Radial Triumph

March seems to be a month of triumphs for the radial air-cooled engine. The "Jaguar" has completed something like 17,000 miles under the most trying conditions, and the Bristol "Jupiter" has completed an even longer period under, perhaps, rather less severe conditions, but nevertheless sufficiently searching to discover any defects that might have been present. That not a single defect was discovered after nearly 226 hours' flying at an average of about 72 per cent. of full power is proof positive of the soundness and reliability of Mr. Fedden's design and Bristol workmanship. The engine was officially sealed before the start of the test, and the machine and engine then handed over to Imperial Airways to be tested under normal operational conditions, still under the supervision of the A.I.D. What made the demonstration all the more impressive was the fact that the Bristol Aeroplane Company had such faith in the "Jupiter" that at the outset the statement was made that a flight of 25,000 miles without replacement would be attempted. That the attempt succeeded shows that those responsible for the engine know its capabilities to the full, and that, therefore, if a certain performance is promised it will be attained. That is a reputation which any firm might well envy, but it is one in keeping with the traditions of the Bristol Aeroplane Company.

LONDON-CAPE TOWN-LONDON

Alan Cobham's Splendid Achievement

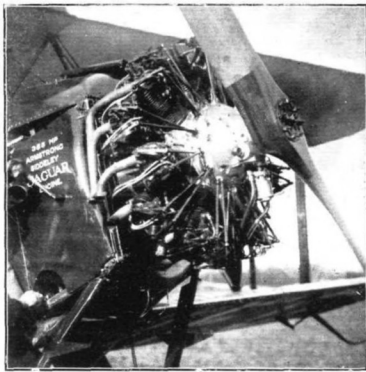
HAVING beaten, by two days, the s.s. "Windsor Castle," which left Cape Town on the same day as he, Alan Cobham has concluded his remarkable dash home on the equally remarkable De Havilland-Siddeley "Jaguar" combination. Even so, in his own words, although he had taken 15 days against the liner's 17, the odds were against him, for whereas the liner could travel the full 24 hours a day, Cobham and his companions, A. B. Elliott and B. W. G. Emmott, had to stop

at some place *en route* every night—whilst they lost three days at least owing to impossible weather conditions and a slight mishap.

We will first continue the story of the flight from where we left them at Sollum last week, and then describe the extraordinary scenes at Croydon on his arrival. Although weather reports from the Mediterranean were by no means ideal Cobham was ready and anxious to continue the flight to Athens across the Mediterranean, but the start was delayed in order to repair a broken tail skid. As it happened this delay was probably a blessing in disguise, for shortly after a fierce gale sprang up in the North Mediterranean, and it is doubtful



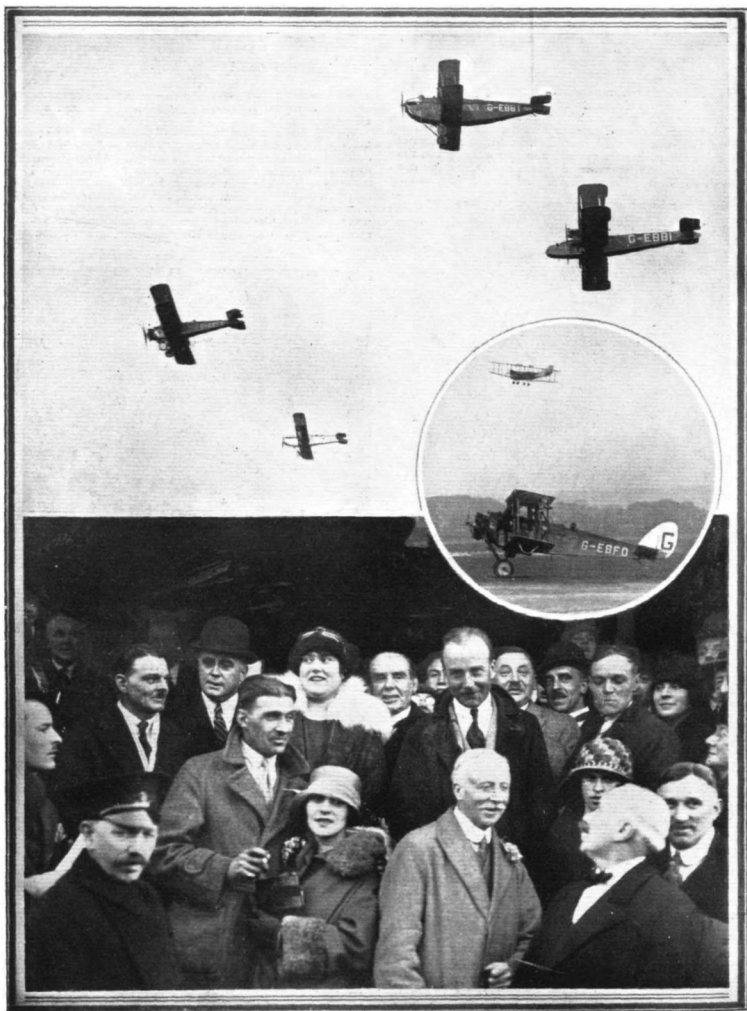
HOME AGAIN: Mr. Alan J. Cobham (right) and Mr. Elliott, his engineer, photographed at Croydon shortly after their arrival. Both looked sunburned and fit after their long flight.



LONDON-CAPE TOWN-LONDON: The 385 h.p. Armstrong-Siddeley "Jaguar" engine which came through the 17,000 miles and all variations of climatic conditions, without a hitch.



THE MACHINE: The D.H.50 in front of the hangars at Croydon, just before starting on its last "flip" across to the Stag Lane Aerodrome. Both the machine and its Armstrong-Siddeley "Jaguar" engine were in very good condition, considering the trying conditions under which the 17,000 miles' flight was made.



[FLIGHT Photographs]
HOME FROM THE CAPE: These three photographs tell the story of the home-coming of Cobham, Elliott and Emmott on Saturday of last week from their flight to Cape Town and back in a D.H.50 fitted with Armstrong-Siddeley "Jaguar" radial air-cooled engine. The upper photograph shows the D.H.50 arriving over Croydon aerodrome, followed by some of its escorting machines. Inset is seen the "50" actually landing after its 17,000 miles' flight, and the lower photograph shows a happy group, in which may be recognised Mr. Loader, Sir S. Instone, Mr. Emmott, Mrs. Cobham, Sir Charles Wakefield, Mr. Cobham and his father (in the foreground), Mr. Rodgers, and Mr. Elliott.



[FLIGHT Photographs.]

AT CROYDON: In the upper photograph Mr. Cobham is seen being welcomed home by Commander Perrin, on behalf of the Royal Aero Club. In the centre Mr. Cobham is "delivering the goods" from the door of the Customs House, and below is a sea of upturned faces of the crowd listening to Cobham's little speech.

if they would have been able to fight against it and reach Athens in safety.

However, on March 11, the machine having been stripped of all extra weight (including Emmott's camera gear, which was sent on by ordinary methods) in order to take in some extra petrol for the 500 miles over-sea journey, they took off in good style and headed for Europe. Visibility was bad, and very soon after leaving the African coast they had no landmark to guide them and had to depend upon a compass course. After flying thus for about three hours, against a strong headwind and through numerous showers, Cobham expected to sight the island of Crete—but there was no sign of it, even after a further half-an-hour's flying. Thinking he had gone slightly off his course Cobham steered a little more to the north, but

Having safely negotiated the Alps they descended once more into clouds and poor visibility and landed at Lyons. After a short stay here they hastened on for the final 475 miles, weather conditions being poor until reaching the Channel, when the sun shining brightly on the cliffs of Dover presented a hearty welcome home to the three airmen. Without stopping they hurried on and eventually landed at Croydon, at 4.20 p.m., having accomplished a splendid day's flying—over 900 miles in 8 hours 20 mins.

THE ARRIVAL AT CROYDON

In the meantime, considerable preparations had been made for the reception of the air travellers on their arrival at the Croydon aerodrome. Invitation cards had been sent out to



FIRST GREETINGS: These two photographs show the crowds surging around the machine as soon as it came to a standstill on the Croydon Aerodrome. In the upper photograph, Mr. Cobham is being hailed by friends, while in the lower picture he is seen being carried to the Customs House.

still without result, and just as they were beginning to feel anxious the faint shadow of the island of Cythera came into view—so they had passed over Crete without seeing it! Visibility at this locality, it should be mentioned, is usually very good. As they approached the mainland of Greece they struck very bumpy weather, and had to fly out over the sea again to escape it. However, shortly after they landed at Athens in bright sunlight.

They left Athens at 6.40 a.m., in a snowstorm, on March 12, and successfully accomplished the 840 miles to Pisa, and on the following day, March 13, they set out on the final stage to London, a distance of just over 900 miles. On the first section they experienced one of the biggest thrills of the flight, when, climbing to 12,000 ft., they flew over the Alps, the brilliant sun-lit snowy mountain peaks standing out all around them with wonderful clearness.

those directly interested in the flight, and to a number of prominent personalities in the aviation world, as well, of course, as to representatives of the press. These cards bore a request to the Civil Aviation Traffic Officer, familiarly known as "Mr. Caro," that he would kindly admit bearer to the secret places of the heart, otherwise the terminal aerodrome, of Government-subsidised "commercial" aviation. Curiously how the love of red tape clings. Even during these winter months, when one may, with any luck, see two or three machines arrive and depart, a special dispensation is required before one may set foot on the sacred tarmac inside the fence. The invitation card itself was not, however, sufficient. It had to be stamped on the back before it was valid. Here it must be pointed out that the officials in charge did the stamping with courtesy and despatch, and got the tedious business over with a minimum of fuss and loss of time.

told that the Editorial "We" is to be honoured by having as pilot none less than Major C. K. Cochran-Patrick, D.S.O., M.C., we hide our blushes and gladly accept the invitation. It arranged that the six "Moths" shall fly in two formations of three each, the one to which our machine belongs being led by Captain Geoffrey de Havilland himself, flying as passenger in the second place, and the other by Brian Heath. Shortly before 3.30 Broad's formation gets away, followed a few minutes later by de Havilland's. The six machines show a remarkably good climb, in spite of the relatively low power of their "Cirrus" engines, and soon Croydon is left behind and we are heading south-east. Climbing gradually, and cruising at about 65 m.p.h., the two miniature "formations," as we call them, make a wide sweep to the right, and then turn in the bright sunshine, but although the ground is clearly seen from 2,000 ft., the horizontal visibility is none too good, and a climb to 3,000 ft. does not improve matters. By the time the "squadron" has reached the neighbourhood of Sevenoaks, Broad commences a large left-hand turn, and the rest of us follow suit. The next half-hour or so is spent in thus circling around, the pilots in the meantime keeping a sharp lookout for anything that might arise, and it was here, I think, that I identified as Handley Page's. Yet other springs up from nowhere, apparently, easily recognised as being de Havillands, but too far away for the exact type to be identified.



LONDON - CAPE TOWN - LONDON: Sketch map showing the route taken by Alan Cobham on the out and home journeys.

In the meantime the sturdy little "Cirrus" of our own "Moth" is humming away merrily, and so reassuring is its note that never for a moment does one have the feeling that it might stop. The front cockpit of the "Moth" is very comfortable, and as the "joystick" has been removed and the foot-bar disconnected, one can be quite comfortable.



EXAMINING THE ESCORTS : Visitors surround the D.H. "Moths," six of which went out to meet Cobham over Sevenoaks, one of them, piloted by Capt. Geoffrey de Havilland, carrying Mrs. Cobham. Owing to poor visibility, the "Moths" failed to get close to Cobham's machine, and arrived back at Croydon some little time after Cobham had landed.

the only object in the cockpit that is taboo being the pupil's throttle control, from which one studiously keeps away. Suddenly Maj. Cochran-Patrick turns out of his place in the formation, hitherto carefully maintained, and heads for "Broad's bunch." The revolutions indicator creeps up to over 1,800, and the air-speed indicator shows rather better than 90 m.p.h. One wonders what is up. The air seems to be full of machines, all looking "deafish" but not near enough to be definitely identified. For a fleeting moment one has the impression that one of the D.H.'s has a radial engine, but then the silhouette changes and it is impossible to be certain. Failing to catch up with Broad, we return to our own formation, this time on the left flank, and all the machines make for home, our "Moths" bringing up the rear. Biggin Hill is passed, and soon we are back at Croydon, only to find that Cobham's machine is already standing on the ground, surrounded by thousands of people.

After alighting, it is discovered that Maj. Cochran-Patrick

What they had done, Cobham said, was nothing heroic. The success of the flight was mainly due to good organisation. He gave most of the credit to his engineer, Mr. Elliott, whose task it had been to look after the engine and machine and see to it that they were in perfect order when wanted. For his own share he claimed no kudos, and said that the many pilots surrounding him could all have done as well as he had, given the opportunity.

Then followed another struggle to get from the customs-house to the Trust House Restaurant. At last a way was cleared, and Cobham and his companions disappeared "behind the scenes." In an inner room a few friends had gathered together, apparently under the chairmanship of Mr. Handley Page, and Cobham and his companions were toasted in a suitable beverage.

Sir Charles Wakefield in a short speech thanked Cobham for what he had done, and for the splendid example which he had set for others to follow. Sir Samuel Instone proposed



LONDON-CAPE TOWN-LONDON : Some "snaps" taken by A. B. Elliott (the engineer of the party) on the outward journey. (1) The arrival at Malakal, Sudan. (2) A native helps to fill up with fuel. (3) An aerial view of the Sennar Dam recently opened to irrigate 1,000,000 acres of desert.

did see Cobham's machine, and that his breaking away from the formation was done in an endeavour to catch Broad and signal to him the fact that Cobham had arrived over Sevenoaks. Our "Moth" was not, however, able to overtake Broad's machine, and so the little squadron was unable to get back to Croydon in time to comply with the blackboard sign exhibited before the start, which intimated that "escorts should land first."

At Croydon there was a great to do. When Cobham landed the crowd broke through the barriers, the few policemen being unable to restrain them, and surged over the aerodrome in an endeavour to get a good view of Cobham and his companions. For a time it began to look serious, and the famous fliers were nearly mobbed. Ultimately, however, the police and others succeeded in getting the aviators through to the customs-house, whence, after a brief breathing spell, Cobham emerged, to the great delight of the multitude.

Sir Philip Sassoon, Under-Secretary of State for Air, made a brief speech of welcome on behalf of the Air Ministry, to which Mr. Cobham replied in an equally brief speech.

the toast of Mr. Elliott, who, he was glad to say was an old Instone Air Line man, and finally the health of Mrs. Cobham was drunk, Mr. Cobham exclaiming "Yes, to Mrs. Cobham for letting me go."

It might have been thought that this would finish Cobham's day; but not a bit of it. After a few minutes' stay in the Trust House he and Elliott embarked on the D.H.50 once more, and were followed by the escort of "Moths," and the little squadron flew across to Stag Lane, Cobham thus being back at his actual starting-point after having flown close upon 17,000 miles. Very soon afterwards a message was received that His Majesty the King desired to see Cobham at Buckingham Palace, and thither Cobham consequently hurried. His Majesty congratulated Cobham on his achievement, and upon hearing that Mrs. Cobham was waiting in the car, expressed the desire that she be called. The King then conversed with Mr. and Mrs. Cobham for a considerable time, and showed not only a very thorough knowledge of the details of the flight, but also a keen appreciation of the difficulties involved and the problems to be overcome before

it becomes possible to start regular air services over portions of the route covered by Cobham.

In the evening Mr. Cobham broadcast from 2.L.O. a brief talk on his flight, which was so well delivered that not a single word was lost to the millions of listeners. In view of the fact that he had flown rather more than 900 miles since his breakfast in Pisa that morning, had been mobbed at Croydon, and had had an audience of the King, we are not at all certain that his talk from the London station was not one of his greatest achievements. Certainly nobody could have dreamt from listening to him that he must be dead tired, and one began to realise some of the qualities that make Cobham what he is.

And here on behalf of ourselves and our readers, we would add our quota of congratulations and appreciation to the thousands of others received by Cobham, Elliott and Emmott, and to the De Havilland Aircraft Co., Armstrong-Siddeley Motors, and all the other firms which collaborated in making this epoch-making flight a success.

In conclusion, we wish, once again, to draw attention to certain other factors in connection with the flight. First of all, it was financed entirely by private enterprise, and secondly, its object was to survey the London-Cape Town route with a view to the possibilities of air services along

its various points, and also as propaganda for British aviation.

The construction of the special de Havilland 50 aeroplane, its Siddeley "Jaguar" engine, and the provision of all the equipment, supplies and finance required were accomplished by the united efforts of about twenty or more British firms. Thus, the De Havilland Co., who managed the organization of the expedition, received the wholehearted assistance and enterprising co-operation from the following firms:—Imperial Airways, Ltd., Armstrong Siddeley Motors, Ltd.; the British Petroleum Co., Ltd.; C. C. Wakefield and Co., Ltd.; the British Thomson-Houston Co., Ltd.; the Palmer Tyre Co., Ltd.; the Robinhood Engineering Works, Ltd. (K.L.G. Plugs); the Hoffman Manufacturing Co., Ltd.; the Aeronautical and Panel Plywood Co., Ltd. (the plywood supplied by this firm was the same plywood which was on the machine when it made its London-Rangoon-London flight); Wm. Malinsson and Sons, Ltd.; Titanine-Emailite, Ltd.; J. Stone and Co., Ltd.; S. Smith and Sons (M.A.), Ltd.; Pinchin, Johnson and Co., Ltd.; Earle, Bourne and Co., Ltd.; Brunton and Son; Accles and Pollock, Ltd.; Brown Bros., Ltd.; Henry Hughes and Son, Ltd.; the Triplex Safety Glass Co., Ltd.; and Pickford's and Hay's Wharf Shipping and Forwarding Co., Ltd.

AMUNDSEN'S NORTH POLE AIRSHIP

Wireless Direction as Navigational Aid

The Italian airship "Norge 1," in which the well-known Polar explorer Amundsen is to attempt to fly from Europe over the North Pole to Alaska, and which will pass through London on its journey, will, it is claimed, be the most efficiently equipped airship from a wireless point of view which has ever taken the air.

By special arrangement with the Marconi Company, the vessel is to be equipped with transmitting apparatus which will enable the commander to keep in touch with either land or ship stations at distances up to 1,000 miles. Thus the airship will never be out of touch with the external world during its whole journey above the icebound solitudes of the Polar regions, and it is to be hoped that this very necessary equipment will not, as seems to be so frequently the case in expeditions of this sort, be discarded at the last minute in order to save weight, etc. Otherwise it may mean the same old story of days of anxiety with no news of the expedition.

Receiving apparatus specially designed to cover a wave-range of 300 to 25,000 m., will also be carried, whilst direction-finding apparatus will be installed which will be sufficiently

sensitive to enable the navigators accurately to determine their course and direction even over the Pole itself, when the compasses will be of no navigational value, since all direction will be due south.

The wireless direction-finder will enable all the long-wave European and American stations to be picked up and oriented with ease, huge loops having been erected right round the envelope of the airship. By this means the sensitivity of the wireless directional apparatus has been made much greater than any hitherto employed on any aircraft.

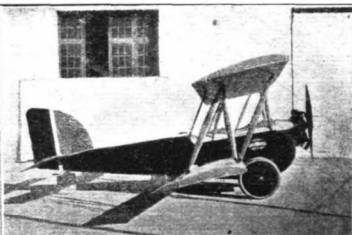
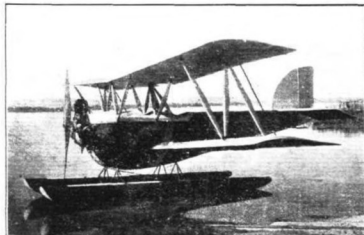
The Marconi Company are making arrangements to forward any reports from amateurs of reception from the airship during its flight to the North Pole to the wireless officer with the expedition.

The airship has been reconditioned in Rome and has already successfully carried out some trials. When these are concluded it will fly via Marseilles, London, Leningrad and Norway to King's Bay, which will be the taking-off ground for the final flight across the Pole. When in England the airship will make a halt at Pulham.

The "Other" African Flights

The four R.A.F. Fairey III.D biplanes, under Wing-Commander C. W. H. Fulford, which left Cairo for Cape Town on March 1, are making steady progress, although one or two delays have been experienced. Proceeding from Malakal on or about March 10, they flew to Mongalla, where slight magneto trouble to one of the machines prevented them from resuming the journey until March 12. Kisumu (Kenya) was reached on March 13.

On March 9, Lieut. Medaeto, the Belgian pilot, left Brussels on a Breguet XIX biplane in an attempt to fly to Kinshasa (Belgian Congo), as previously reported in *FLIGHT*. He reached Belgrade the same afternoon, and, proceeding the next day, flew on to Athens. On March 11 he crossed the Mediterranean and landed at Cairo in the afternoon. Bad weather delayed him at Cairo until March 15, when he accomplished a nine hours' flight to Athara. With him are Lieut. Verhagen and a mechanic, Coppens.



"TWO MACCHI LIGHT" PLANES: On the left the Macchi 20 Seaplane, which was classed first in the recent Coppa del Mare, and the Macchi 20 land plane, which was classed second in the "Coppa d'Italia." Both types were fitted with 60 h.p. Lawrence air-cooled engines

Personals

Married

FRANCIS LOGAN, Flight-Lieut. R.A.F., younger son of the late Mr. and Mrs. EDWARD LUXMOORE, of Weybridge, was married on March 11 at All Saints, Ascot, to DOROTHY JANE, daughter of the late J. T. JOHNSTON and of Mrs. Johnston, of Nether Denton, Cumberland.

The marriage took place on March 9, at St. Peter's, Eaton Square, of Air-Commodore FELTON VESSEY HOLT, C.M.G., D.S.O., R.A.F., third son of the late Sir Vessey Holt, of Mount Mascall, Bexley, and of Lady Holt, of 67, Cadogan Place, to MISS MARION EDITH DUGDALE, only daughter of Mr. and Mrs. James Henry Dugdale, of Cadogan Gardens, and Rowney Priory, Hertfordshire. The best man was Sqdn.-Ldr. J. Russell. Among those present were Air-Marshall Sir John and the Hon. Lady Salmond, Air Vice-Marshall Sir Geoffrey and Lady Salmond, Air Vice-Marshall Sir Philip and Lady Game, Air Vice-Marshall and Mrs. Brooke-Popham, Wing-Commander and Mrs. Gould, Group-Captain and Mrs. Mills, Sqdn.-Ldr. and Mrs. Ridley, Wing-Commander and Mrs. Garrod, Wing-Commander and Mrs. Pretymann, Group-Capt. the Rev. W. and Mrs. Moffat, etc. Representa-

tives of the Central Flying School, Upavon, formed a guard of honour.

To be Married

The engagement is announced between Flight-Lieut. THOMAS ARTHUR WARNE-BROWNE, D.S.O., R.A.F., only son of Mr. and Mrs. Arthur Warne-Browne, of Shiplake, and RUTH, younger daughter of Mr. and Mrs. CHARLES E. NICHOLSON, of Lee-on-the-Solent.

The engagement is announced between CECIL GEORGE WIGGLESWORTH, R.A.F., second son of Mr. George Wigglesworth, B.A., B.Sc., and Mrs. Wigglesworth, of Brighton, and PEGGY, youngest daughter of the late Arthur Cade Bemrose and Mrs. Bemrose, of London and the Isle of Wight.

Deaths

Flying Officer E. L. W. H. ALMS (Bon), R.A.F., who died on March 1 at Risalpur, as the result of a bombing accident, was the second son of Mr. and Mrs. Edward T. Alms, Windsor Lodge, Taunton. His age was 26.

BENJAMIN CAILLARD, who died on March 5, at Karachi, India, as the result of a flying accident, was the son of Mr. and Mrs. Esmond Caillard, of Brighton.

THE AIRSHIP CLUB

A MEETING of the Committee of the Airship Club, held at 3, Clifford Street, on March 5. The following members were elected:—Lieut. W. C. de M. Leathes, R.N. (retired); T. Davys Manning, Esq., L. Winter, Esq., F. T. R. Prier de Soane, Esq., Edward Cooper, Esq., T. Grierson, Esq., A. G. Galloway, Esq., R. F. Granger, Esq.

Associate member: Miss Stella Wolfe Murray.

It was resolved that members wishing to take part in the Gordon Bennett balloon race be asked to forward their names to the Secretary and the crew would then be selected by the committee.

Draft rules of the club and Memorandum of Association for Airship Clubs, Ltd., were considered, and it was decided to obtain expert advice on their form before the next meeting. The 80,000 cub. ft. balloon "Bee" has been entered by the Airship Club in the Gordon Bennett balloon race which starts on May 30 from Antwerp, Belgium. A crew of

two is required, one of whom must be a qualified pilot. Members wishing to take part in the race are requested to furnish the following information:—(1) Whether they desire to fly as pilot or passenger. (2) Previous experience. (3) Approximate age and weight. (4) What proportion of the travelling expenses for themselves and the transport of the balloon they are prepared to pay. (As a rough guide, a member who has taken part in four Gordon Bennett races is of the opinion that these expenses might amount to £50 per person, but more probably half that sum).

On receipt of the above information a crew to represent the club will be selected by the committee.

Gas for inflation of the balloon is provided free. It is hoped that as many members as possible will assist at the start of the race.

F. L. M. BOOTHBY,
Hon. Secretary

New Life-Saving Suit Demonstrated.

AN interesting demonstration with a new form of life-saving or buoyant clothing, designed by Major H. H. Evans, was given at the City of Westminster Swimming Baths on March 12. The feature of this clothing consists of a patent "aerated" rubber known as "Mousse," or "Foam" rubber, the composition of which renders it extremely buoyant and of such light weight that it is especially adaptable as a lining for garments and other devices for life-saving purposes. Volume for volume it is five times lighter than cork and considerably more durable. It further possesses calorific properties that provide great protection from cold. Thus, it is claimed to be particularly suitable for use in clothing for airmen. A combination suit for airmen, which in general appearance did not differ from the normal aviation suits, was demonstrated, in order to show that the wearer, falling into the water, could float in a vertical position, breast high and use his hands and arms without difficulty. Considering that this suit only weighed about 8 lbs., it was certainly remarkably buoyant, and the demonstrator floated with ease and well out of the water. A variety of other garments, to suit various conditions were successfully demonstrated, but unfortunately pressure on our space prevents us from saying more than that we think this "aerating" is worthy of investigation by those interested, and that further particulars may be obtained from Major H. H. Evans, 24, Craven Street, Charing Cross, London, W.C.2.

Lithuania to Build Aeroplanes

LITHUANIA is the latest country to commence the construction of their own aeroplanes. A local firm of Linenau and Co. have, under the supervision of a German engineer, F. H.

Hentzen, an airman, who, in 1922, won a record for gliding designed and built a two-seater machine, with a speed of 160 m.p.h. This machine is capable of reaching a height of 17,000 ft. in 17 mins., whilst with the exception of the engine, the whole machine has been manufactured entirely in Klaipeda, Lithuania. It is significant as showing the reputation of British engineering that it has been decided in this, the first machine built in Lithuania, to fit one of the latest Napier "Lion" aero engines.

Draughtsmen for Airships

THE Air Ministry announces that it is desired to fill certain vacancies for unestablished draughtsmen at the Royal Airship Works, Cardington, at the earliest practicable date. The Admiralty have called for reports giving the names, qualifications, and experience of any temporary draughtsmen who are about to be, or have recently been, discharged, who desire to be considered for these appointments, and who can be well recommended, distinguishing between ex-Service and non-Service men.

Relativity

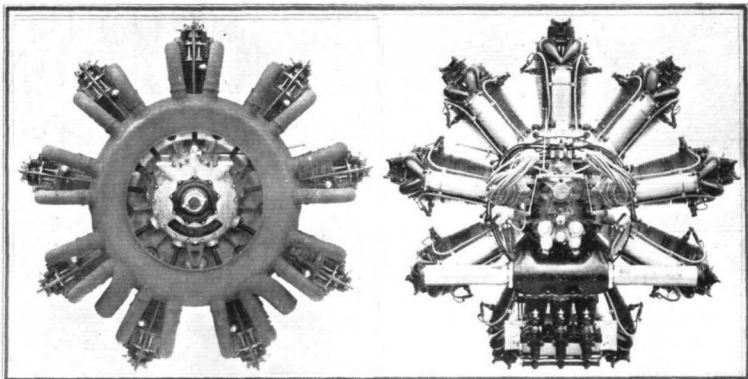
ON March 9 a record flight between Croydon and Le Bourget was accomplished by Capt. A. S. Wilcockson in an Imperial Airways Handley-Page "Hampstead" (three Siddleys "Jaguars") with 11 passengers, when he covered the 205 miles in 1 hour 26 minutes. In contrast to this, Capt. G. P. Olley, when flying from Cologne to Croydon the following day, took eight hours to complete the trip, which normally occupied 3½ hours, and at one portion of the journey a slow goods train travelling beneath him overtook the aeroplane!

BRISTOL "JUPITER" ENDURANCE TEST

225 Hours 54 Minutes Flown and 25,074 Miles Covered Without a Replacement

As briefly recorded in *FLIGHT* last week, the new series Bristol "Jupiter" completed, and in fact exceeded, the test of flying 25,000 miles without any part of the engine being replaced. The performance is one which has probably never

publish other than external views of the engine. It may be said, however, that the new engine has been reduced in frontal area by 12 per cent. as compared with the Series V, while the weight has been reduced by 80 lb. There is an



225 HOURS WITHOUT A REPLACEMENT : These two photographs show, in front and rear view, the Bristol "Jupiter," which has recently completed what must be a record run under such conditions. Note the special exhaust ring on the front of the engine. This has been produced by the Bristol company after considerable experimentation, and has been found to give excellent results. In the rear view may be seen the new carburettor unit recently developed by the makers of the engine.

been equalled in this or any other country, and is a most convincing demonstration of the durability of the Bristol "Jupiter" aero engine. It is somewhat unfortunate that this particular engine is of a type which is still on the "part publication" list of the Air Ministry, and consequently it is not possible to give a detailed description of it, nor to

increase of 50 b.h.p. at normal revolutions, and a similar increase in brake horse-power at maximum revolutions. To anyone familiar with aero-engine development these figures are really remarkable, and show the great advance made in air-cooled engine development of recent years.

The new series Bristol "Jupiter," which has now been in



AFTER 25,074 MILES : The Bristol "Bloodhound" in which the "Jupiter" was installed for the endurance tests. This machine, although some three years old, is still going strong, and it is interesting to record that it is the prototype of the latest "Bloodhounds."

production for six months or so, passed its official type tests in the autumn of 1925 under the new Air Ministry schedule.

BRISTOL "JUPITER" ENDURANCE TESTS Condition of major Components after Tests

Component.	Average Wear. (in.).
Cylinder bore	Nil
Piston	0-0006
Gudgeon pin diameter	0-0008
Small end bush bore	Nil
Wrist pin diameter	0-0003
Wrist pin bush bore	Nil
Crankpin diameter	0-0002
Big end bush bore	0-001
Big end bush, outside diameter	0-0007
Master rod liner bore	Nil
Cam sleeve bush bore	0-0005
Crankshaft sleeve	Nil
Eccentric gear bore	Nil
Eccentric floating bush, outside diameter	0-0005
.. .. . bore	Nil
Eccentric outside diameter	Nil
Crankshaft tail bearing	0-0008

The general condition of the engine was excellent, and as shown in above table, the amount of wear was in no case sufficient to require replacements.

The latest endurance test is one more demonstration of the reliability of this type of engine, and it is worth recalling that the Bristol Company had so much confidence in this engine that they decided to put it to a very severe test. A standard production engine was taken from stock after test, sealed up, and installed in a Bristol "Bloodhound," a two-seater fighter with an all-up weight of 3,650 lb. The engine was sealed by the A.I.D., and was under their continual supervision from the time it was installed in the Bristol "Bloodhound" machine until being stripped after the completion of the test.

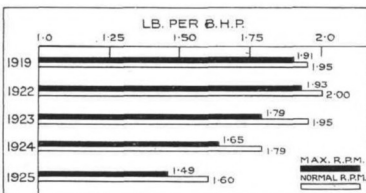
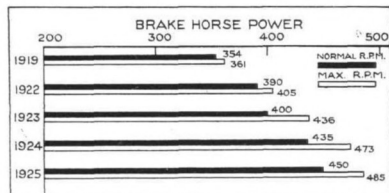
With the co-operation of Imperial Airways, Ltd., the Bristol Aeroplane Company obtained the services of two well-known pilots, Capt. Barnard and Col. Minchin, and the machine was flown continually between Croydon, Bristol, Birmingham, Southampton, etc.

It should be pointed out that the engine was by no means

bearings, gudgeon-pins, etc., appeared to be in perfect condition. In point of fact, it seemed obvious that the engine could easily have completed at the very least another 100 hours' running without being touched.

In this connection one should not, we think, forget the machine in which the Jupiter engine was installed for the test. This was the original "Bloodhound" designed in 1922 and completed either that year or early in 1923. This machine has seen a great deal of service, having been employed both for experimental work and for air racing. Yet it is an excellent testimony to the quality of Bristol design and workmanship that the machine has not needed, and has therefore not been given, an overhaul since it was first built. The engine used in the 25,000 miles flight was No. J 6067 and was standard in all respects and taken from the first production batch of the new type. After the completion of the official acceptance tests, it was installed in the "Bloodhound" and handed over to the pilots of Imperial Airways, Ltd., for an impartial flight test under routine operating conditions. The whole of the test was supervised by representatives of the Air Ministry and of Imperial Airways, Ltd. At the request of the Bristol Aeroplane Company, the engine was officially sealed by the Aeronautical Inspection Directorate, so that no replacements could be made without official cognisance. Before commencing the tests it was decided that a total of 25,000 miles should be flown before the engine was dismantled, and on the successful completion of the distance the engine was removed from the machine, calibrated for power on the Froude brake, and completely stripped for official inspection. Following is a synopsis of the test: The test was commenced on January 4, 1926, and completed on March 8, 1926, having by then run for 225 hours 54 minutes, and the machine having covered a total mileage of 25,074. The average fuel consumption during the test was 21.9 gallons per hour, and the oil consumption 3.95 pints per hour. The normal power developed by the engine before test was 452 b.h.p., and the normal power developed after test was 440 b.h.p. Replacements to the engine during test were nil, and the general condition of the engine on stripping was excellent. It was considered that a top overhaul with the replacement of one valve and one valve spring was all that would be necessary to make the engine fit for a return to service.

Following is the official A.I.D. report on the Bristol "Jupiter" flight endurance test, January 4 to March 8:—
"A standard 'Jupiter' engine No. J 6067 in Bristol



DEVELOPMENT OF THE BRISTOL "JUPITER" ENGINES: On the left a graph illustrating the increase in brake horse power, at normal speed and at full speed, from 1919 to 1925, the power at maximum speed having risen from 361 b.h.p. to 485 b.h.p. The chart on the right illustrates the decrease in power-weight ratio during the same period, this ratio having dropped from 1.91 lbs. h.p. to 1.49 lbs. h.p. on a basis of maximum speed, and from 1.95 to 1.6 on normal r.p.m.

nursed during this period, but was flown hard in some extraordinarily bad weather, frequently for long periods at full throttle. During the whole of the test the engine was run at an average of about 72 per cent. of full power. The engine ran perfectly throughout, and no trouble whatsoever was experienced. At the completion of the 225 hours 54 minutes' test the engine was entirely stripped down in the presence of the A.I.D., and its condition was found to be practically perfect, the total replacements necessary being one exhaust valve and one exhaust-valve spring.

On Thursday of last week we had the privilege of examining the "Jupiter" engine at the Filton works of the Bristol Aeroplane Co., Ltd., immediately after it had been stripped down, and, although naturally we were not in a position to make actual measurements, an inspection of the engine revealed amazingly little wear, it being particularly noticeable that the most highly stressed parts, such as the big-end

'Bloodhound' machine G-EBGG completed observed flight trials of 225 hours total endurance, with the A.I.D. seals unbroken and with no replacements.

"Average fuel consumption .. 21.9 gallons per hour.

"Average oil consumption .. 3.95 pints per hour.

"On removal from the aircraft the engine was transferred without adjustment to the Heenan and Froude brake and run for five minutes at full throttle and normal r.p.m., developing 440 b.h.p. Power when similarly tested prior to the flight trials was 452 b.h.p.

"On dismantlement the following parts are found to require replacement to render the engine again completely serviceable:—

"One exhaust valve (stretched).

"One inner valve spring (broken in first coil).

"The condition of the engine on strip examination is excellent."

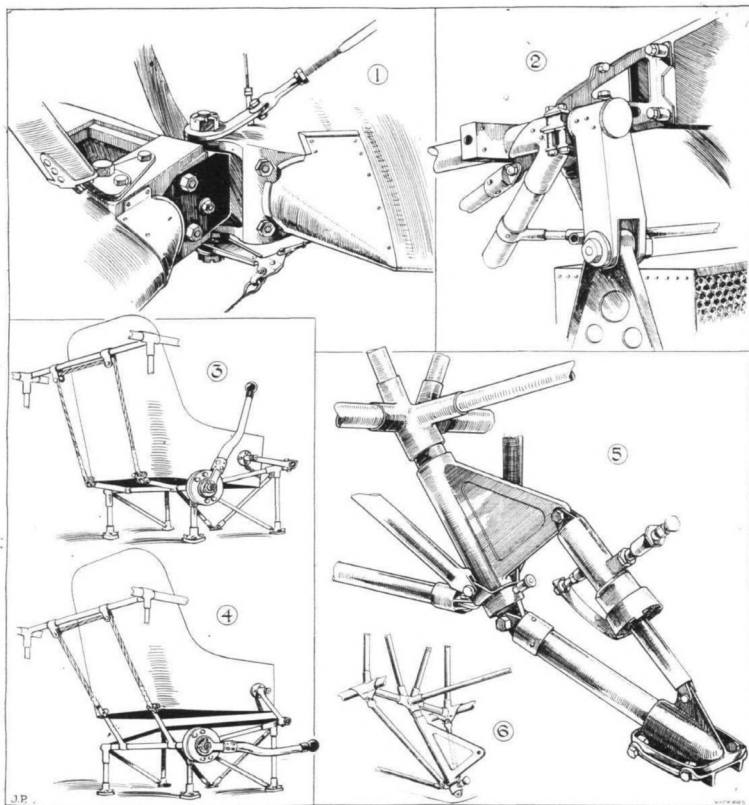
THE VICKERS "VENDACE"

An Efficient Land or Sea Training Biplane

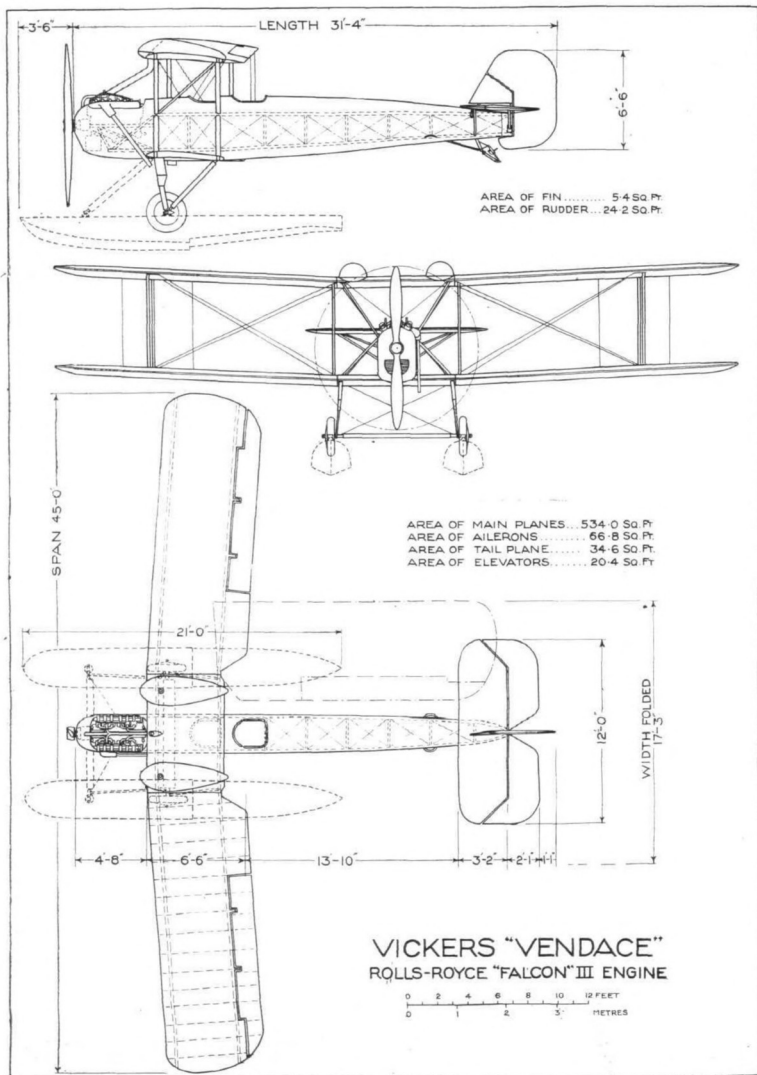
ONE of the latest products of the famous House of Vickers is a medium-sized tractor biplane, known as the "Vendace" and intended for training purposes, either as a land machine or a seaplane. It has only just been completed and probably by the time these lines appear in print it will have made its first trial flights at Brooklands—hence, we are unable this week to publish photographs of the complete machine, but the accompanying general arrangement drawings and detail

sketches will, we hope, suffice for the time being to give a general idea of its features.

The "Vendace" it should be mentioned is in every way a thoroughly straightforward job following orthodox Vickers' practice, and no attempt has been made to produce anything of a startling or novel character—the one aim of its designers being to turn out a serviceable and efficient machine for the purpose for which it is intended. That their object will be



THE VICKERS "VENDACE" TRAINING BIPLANE: Some constructional details. 1. This sketch shows the lower rear wing-hinge fitting—the wing being folded half-way back—and the crank, mounted on the hinge bolt, through which the ailerons are actuated, thereby enabling the wings to be folded back without upsetting the aileron adjustment. Note the neat metal fairings on the plane edges. 2. The forward end of one of the engine bearers, showing the front engine bracket and the suspension of radiator. 3. The adjustable seat, shown in normal position, and 4, in raised position. Adjustment is effected by means of the hand lever through an Auto-Lock (friction) device. 5. The Oleo tail-skid with 6, a diagram of the complete unit.



THE VICKERS "VENDACE" TRAINING BI-PLANE: General arrangement drawings, to scale. This machine can be used as either a land- or seaplane.

achieved is, we think, apparent merely from a glance over the general arrangement drawings, for it must be admitted that the general lines of the "Vendace" are at once pleasing, clean and business-like.

There are, however, one or two features in the design of the "Vendace" which call for special mention. One of these is an effective method of adjusting the height of the seats (to suit out-sizes of occupants) during flight, another, the neat housing and mounting of the power plant, and also the fact that to change the machine from a land plane into a seaplane it is only necessary to remove the wheels and substitute floats on the same chassis with only two additional struts. We will refer again to these points later on in our description.

As previously stated the "Vendace" is a tractor fuselage biplane, and the wings are of equal span and chord, of moderately thick wing-section. Both upper and lower planes are set at a dihedral angle and are given a sweep-back of about 3°. They comprise three main sections—upper and lower centre panels and the corresponding outer extensions. The centre panels are only slightly wider than the fuselage, and carry the main wing extensions by means of the standard Vickers' hinge-fittings so that both right and left-hand wing cellule can fold back alongside the fuselage—the pivot point being on the rear spar. This process of folding, as on all Vickers' machines employing this feature, is very simply and quickly carried out—merely by unscrewing the two upper and the two lower bolts on the front spar attachments to the centre panels. The lower centre section, by the way, is carried by four bolts on extension brackets below the bottom longrons of the fuselage, and can easily and quickly be removed from the fuselage.

The wing construction follows usual Vickers' practice, viz.: spruce and ply-box section main spars, and built up spruce ribs. Compression members are spruce segmented tubes and the internal wing bracing is by swaged steel tie-rods. Each outer wing cellule has a single pair of streamline steel tube interplane struts, and one front strut at the hinge line; the centre sections are braced by streamline steel struts, sloping out from the top longrons of the fuselage up to the top, and down to the bottom, centre section spars respectively. Thus the external wing bracing is to all intents and purposes of the single bay type; bracing between struts is carried out by streamline steel tie-rods.

The control surfaces are of similar construction to that employed for the main planes; in the case of the fin and rudder mild steel and Duralumin tube, with built-up spruce ribs, are employed. Ailerons are fitted to both top and bottom planes, they are of the balanced type, i.e., they are pivoted on their front spars from projections on the rear wing spar, so that the portion of the aileron from spar to leading edge forms the balance, the main planes being cut away from rear spar to trailing edge to receive the complete ailerons.

Elevators and rudder are balanced, while the fin is adjusted to counteract the slipstream effect from the airscrew, and the horizontal stabilizer is adjustable as to incidence during flight, being operated by a wheel on the right-hand side of the pilot's cockpit. Dual controls of the stick and rudder bar type are provided, and the aileron controls are so arranged that the folding back of the wings will not upset their adjustment. An oleo tail skid is provided.

The fuselage is of the orthodox Vickers tubular-cum-wire bracing rectangular girder construction, the longrons and struts being of mild steel tube and the bracing of swaged steel tie-rods. From the sternpost to the engine section there are nine bays, then comes an extension of the fuselage forming a simple but effective engine mounting employing the same materials. The engine, a Rolls-Royce "Falcon III," is most "get-at-able," and its removal is quite a simple process. A deep semi-circular radiator is slung beneath the engine bearers, at the forward ends; an extremely neat metal cowling completely encloses the engine and radiator, an opening being formed for the latter where an efficient

shutter arrangement is provided. A rubber packing piece is placed between the radiator edges and the metal cowling so that all air passes directly through the radiator.

Fabric is employed for the covering of the fuselage and a very neat turtle-deck fairing is provided for the top and bottom. This fairing consists of built-up wood girder arches mounted across the longrons at each bulkhead which carry longitudinal stringers.

The two cockpits are placed fairly close together and are provided with plywood fairings. As previously stated the seats can be adjusted during flight, a feature, we think, that possesses considerable advantages, not only in a training machine where a variety of pilots have to be suited, but for general purposes also. For instance, in the case of a long-distance flight, when taking off, landing, or looking for landmarks, the pilot can instantly raise himself well up in the cockpit, then, when he wishes to cruise in comfort he can lower himself down again. The operation of raising and lowering the seat is very simply carried out by means of a parallel-link motion actuated through a special auto-lock device by a lever at the side of the seat. However heavy the pilot may be the friction of the auto-lock is sufficient to retain the seat in any position it may be put. The arrangement is shown in one of the accompanying sketches.

Gravity system petrol supply is employed, petrol being carried in two large tanks mounted in the top centre section. An oil tank, with radiator, is mounted in the floor of the front cockpit. The tanks are of timed sheet steel and pipe couplings are of the metal to metal type.

The landing chassis is of the axle and V-strut type of comparatively wide track—8 ft.—with standard Palmer wheels. An improved and very compact Vickers oleo-pneumatic shock absorber is embodied in the front members of the V, which are of streamline steel tube braced with swaged steel tie-rods. To convert the machine into a seaplane, the wheels are removed and two long Duralumin floats attached to the axle in their place, while an additional strut is fitted extending forward from each top fitting of the forward V strut (a lug being provided for this purpose) down to the floats. These struts are also braced by swaged steel tie-rods. Except for the fitting of the floats, the machine as a seaplane is otherwise identical to the land type.

In conclusion it should be mentioned that all bearings or moving joints throughout the "Vendace" are provided with pressure grease lubricators, a small but none-the-less important feature.

The principal characteristics of the Vickers "Vendace" are—

Span	48 ft.
Overall length	31 ft. 4 in.
Overall height	12 ft. 9 in.
Overall width (folded)	17 ft.
Chord	6 ft. 6 in.
Area of main planes	534 sq. ft.
Weight light (with water)	2,588 lb.
Useful load	890.
Weight laden	3,475 lb.
Loading per sq. ft.	6.5 lb.
Loading per h.p. (290 at 2,200 r.p.m.)	12 lb.
Speed range	44-117 m.p.h.
Climb to 5,000 ft.	5 mins.
Service ceiling	20,500 ft.
As seaplane—	
Overall length	35 ft. 2 in.
Overall height	14 ft. 1 in.
Weight light	2,960 lb.
Weight laden	3,850 lb.
Loading per sq. ft.	7.2 lb.
Loading per h.p.	13.3 lb.
Speed range	45-5-111 m.p.h.
Climb to 5,000 ft.	6-5 mins.
Service ceiling	17,000 ft.

London Anti-Aircraft Units

H.M. THE KING has approved of the 156th (London) Anti-Aircraft Battery, Royal Artillery (Territorial Armv), being in future designated the "156th (Barking) Anti-Aircraft Battery, Royal Artillery (Territorial Armv)."

The Polar Flights

PREPARATIONS for flights to the North Pole this spring are nearing completion in both the Amundsen and the Wilkins expeditions. As previously reported, Amundsen's Italian airship "Norge I" has already made successful trials, including a night flight from Rome to Civitavecchia and Capri and back, lasting about eight hours. The Fokker machines,

which Capt. Wilkins will use for his dash north, have been erected at Fairbanks (Alaska). Unfortunately, when one of the machines was about to make a trial flight, Mr. Hutchison, one of the members of the expedition, stepped back into the air-screw zone just as the engine started, and was fatally injured.

U.S. Airship Crash

THE U.S. Army airship TA-5 dived into the sea at Hampton Roads whilst carrying out a flight on March 10. Another airship and a Government cutter at once rushed to the rescue, and the crew were taken off by the cutter, which also towed the damaged airship to Fort Monroe.

AIR DEBATE IN THE HOUSE OF LORDS

FOLLOWING are extracts from *The Times* report of the air debate in the House of Lords on March 10.

Lord Thomson (who was Secretary of State for Air in the Labour Government), in calling attention to the air policy of his Majesty's Government and moving for papers, expressed the view that the Government had, in the light of Locarno, acted rightly in slowing down the scheme of expansion which was initiated in 1923. He believed that this gesture would be noted and appreciated throughout the world, and he trusted that their example would be followed and result in a nearer approach to a more general reduction in armaments throughout Europe. If people only knew what was in store for them in the event of another European war there would be no war talk or jingoism outside the lunatic asylums. He regretted that it had not been possible to do more in the way of allocating funds to research and to commercial aviation. They could no more reduce their expenditure on the Air Force than they could on education. He regarded aviation as a branch of national and Imperial education. They had to teach the British people the habit of the air, so that the Empire could be linked up by means of this new and rapid form of locomotion. Expenditure on research was, in his view, a sound investment; thereby economies might be effected later, and flying could be rendered safer and, therefore, more popular. Encouragement should be given to this department of the Air Ministry, and men of science should be able to count on a career if they devoted themselves to aeronautical research. If he were to pass a criticism on the admirable body of men who composed the staff of the Air Ministry, he would say that they were not so enthusiastic as they might be in regard to research, because they could not be too enthusiastic. Aviation was still in its infancy, and, great as were the achievements of the past, they would pale in significance compared with what would happen when the best scientific brains of the country devoted themselves to the conquest of the air. As regarded commercial aviation, its development was essential to the nation and the Empire. A great deal of education in this matter was required. It was an extraordinary feature of the times they lived in that English-speaking people, in spite of the many inducements to do so, did not appear to grasp the full significance of this means of transportation. A very different state of affairs existed in Germany, where, in spite of the restrictions on civilian construction by the Treaty of Versailles, the commercial aviation industry displayed an astonishing vitality. He applauded the decision of the Government not to reopen the question of a separate air arm and Air Ministry. But he failed to understand the need for secrecy in regard to the Colwyn Committee's Report. It was surely unjust to allow the Air Ministry to be accused of extravagance and inefficiency—charges which had not yet been proved to be founded—and that no defence should be put up in order that the feelings of the older Services should not be hurt. The country surely had a right to know what was the verdict of the Colwyn Committee. If there were reasons why the Government could not publish the Report in full—and he could imagine several—he pressed for answers to certain questions. Apparently, the Colwyn Report stated that no economy could be effected if the Air Force and the Air Ministry were abolished as separate entities. So far so good. But a little more light was needed on the subject. They had to remember the recklessness with which accusations had been made in public against the Air Minister. That rather official observation would not go far to console the *personnel* of the Air Force. It was a negative reply. Something much more definite was wanted. He would ask whether an investigation was made of the proposal that air co-operation should be provided in the future by separate naval and military wings, and if so, with what results. Did the Colwyn Committee recommend that the Navy and Army should have increased powers of control over those portions of the Air Force which existed primarily for co-operation with the other Services, or did the Colwyn Report say exactly the reverse? In the interests of justice, as well as of efficiency and economy, the country had a right to know what, in general terms, were the findings of the Committee, about whose report there had been a flood of rumours which were damaging to the Air Force.

He recalled that the dual system now recommended in certain quarters had not stood the only test worth considering—the test of war. Before the war the dual system had caused constant friction, waste and confusion, and in 1917 it became evident that Great Britain was not holding its own in the air on the Western Front. A unified Air Force was then created, and when the Armistice was signed Great Britain had taken

the lead in the air over all other belligerents. Experience had shown that the Air Force could no more be placed under a sailor or a soldier than the Army could be placed under an admiral or the Navy under a general. In the event of another European war our ports and industrial and military centres would be exposed to complete destruction before the Army could be mobilised or the Fleet could put to sea, and against such attacks the Air Force was the sole line of defence. It was not auxiliary to the other Services; rather other Services were auxiliaries to the Air Force.

To him this was not a question of politics in the party sense; it was one of national policy. It might be that he had been flogging a dead horse—he hoped he had. But there were powerful influences behind these attacks on the Air Ministry and the Air Force. They were ceaseless in their activity, and, in his opinion, highly dangerous. Their aim was the subordination of the Air Force to one or other of the older Services, or, worse still, to both. That meant placing the control of a very technical weapon in the hands of men who did not understand its functions. The question of a Ministry of Defence had been dragged into the controversy, but in his view that was entirely irrelevant on the Air Force Estimates. It had, as he understood the matter, no connection whatever with these estimates, or, at any rate, a very remote connection. The most relevant questions were those he had ventured to put in regard to the Colwyn Report, and the reactions of that report on air policy. It was because he considered these questions so important, and because he felt very deeply on the subject that he had raised them that afternoon.

The Duke of Sutherland, Paymaster-General, replying on behalf of the Government, welcomed Lord Thomson's speech, and said they were glad to have his valuable advice and counsel in these matters. Three sets of criticisms were disclosed in the recent debates in another place on the Air Force Estimates. The first set was made by those who wished to scrap the Air Force entirely as a step towards general disarmament; the second came from those who wished to increase the Air Force even more quickly than was being done under the present arrangement; and the third from those who, while agreeing in the main with the present expenditure on the Air Force, considered that the money was not being spent to the best advantage. He was glad that Lord Thomson did not support any of these criticisms, but that, on the contrary, with a few modifications, he supported generally the present policy of the Air Ministry—a policy with which he had so much to do in building up only a short time ago.

In spite of what the various critics said, there was no doubt that the Air Force to-day had as good a chance of being well administered as any other Service. It was run by men who had ample experience in the development of this new arm, and who knew, as well as they could be known, the possibilities and difficulties of the situation. They were a picked body of men, with expert and first-hand knowledge. Suppose the critics were right? It would, indeed, be difficult to know what policy to follow, because they contradicted one another even more violently than they disagreed with the policy of the Air Ministry. There was no need to fear that the Air Force would be starved. The policy of the Air Ministry was to hold the balance between the new feeling of peace produced by the Locarno Pact and the need for a strong Air Force. That policy could be varied, altered, or modified each year in accordance with the position of affairs in Europe without vitally affecting the gradual but necessary growth of the Air Force as a whole. The Air Force had always been terribly underhoused, and the present expenses were caused to a very great extent by the necessary housing of a new force.

As regarded the Colwyn Report, all he could say at present was that the report was a Cabinet document, and, therefore, could not be published. But he could tell Lord Thomson a good deal more than had already been made public. In general terms he might say that the Colwyn Committee recommended the continuance of a single unified Air Service to carry out all air work, whether for the Navy, Army, or central Air Force. They went on to say that they favoured a strengthening, rather than a weakening, of Air Ministry control over those portions of the Air Force which co-operated with the Navy and Army respectively. The noble lord had said that he would like to see research so arranged that experts could go into the research department of the Air Ministry and make a life's work of it. If it were possible, it would be a splendid idea, and he would put the matter to the Air Minister at the first opportunity. A good deal had been done by the



Air Ministry in the last year or two in regard to research. They were spending a good deal more this year than they did in 1925-26. Though hampered by lack of funds, they had been able to reorganize their technical organization, and they had constituted a separate director of scientific research with a small staff to ensure that all the purely scientific aspects of the problem of aviation should receive the fullest consideration under the most favourable conditions. They were endeavouring to make a fuller use of outside scientific resources. They had recently formed at Oxford and Cambridge two air squadrons, which would serve to maintain closer touch between the Air Force and the Air Ministry on the one hand, and the scientists and Universities on the other.

By these means they hoped to be able to enlist the assistance of the unrivalled scientific talent in the Universities in solving the difficult problems of aeronautical research. In regard to civil aviation, the subsidies would undoubtedly

increase from year to year. The figure this year was £105,000 higher than that for 1925-26, and the provision of subsidies would have been materially larger had there been a full year's provision for the subsidy of £93,600 annual maximum, which it was proposed to pay for the operation of a regular fortnightly service between Karachi and Cairo. This new service, which would be in operation at the end of the current calendar year, provided a most important link in Imperial communications. It was essential to us to see that it was organized on the most favourable basis, with first-class technical equipment. Imperial Airways, who were to operate the service, were purchasing a number of three-engined machines of the most up-to-date type. A sum of £362,000 was provided under other heads for airship development. Expenditure on airships was undoubtedly of greater value for commercial purposes and speeding up communications than for military purposes.

Lord Thomson then withdrew his motion.

IN PARLIAMENT

Aircraft Construction in Dockyards

Mr. HOSE BRISTOL, on March 19, asked the First Lord of the Admiralty whether the Admiralty have turned their attention to a necessity that may arise in the near future of constructing aircraft in the Royal Dockyards; whether the technical officials of the Admiralty have examined the problems involved?

Mr. Davidson: The answer to both parts of the question is in the affirmative, but I understand that it is the present policy of the Air Ministry to rely upon the aircraft industry for construction.

Aircraft and Anti-Aircraft Units Combined Exercise

Mr. THURTELL asked the Secretary of State for Air whether, before deciding to carry out a sham air attack on London he will take into consideration the disturbing effect such an attack would have upon the nerves of the people, especially those who experienced air raids during the War?

Sir S. HOARE: Assuming that the hon. Member is referring to the proposed combined exercise to be carried out next May by aircraft and anti-aircraft units, I am glad to say that the arrangements will be such as to cause no alarm to the population. There is to be no organised sham air attack, but a few machines will fly over London to afford practice to anti-aircraft and searchlight units. There will be no firing.

Aircraft Sales Abroad

Mr. KENNETH SMITH asked the Secretary of State for Air if he can give particulars of the sales abroad by British aircraft industries year by year since 1920; to which countries the goods are destined, and whether private firms or Governments; and what increase in foreign trade may be expected as a result of the concessions in selling which it is this year proposed to introduce?

Sir S. HOARE: As regards the first part of the question the hon. Member will find particulars of the exports of aircraft, engines, and parts, for 1920 and the four subsequent years, in the Annual Statement of Trade for the United Kingdom, 1924, volume 3, page 469. I understand that particulars for 1925 will be published in due course. As regard the second part, the published figures indicate the countries of destination, but not whether the purchasers were private firms or Governments. I am afraid I have no information to enable me to reply to the last part of the question, but there is little doubt that the proposed withdrawal of certain restrictions on the sale

abroad of the later types of machines should result in an improvement in this trade.

Airship Construction

COMMANDER BELLARS, on March 11, asked the Prime Minister whether the Committee of Imperial Defence, in pursuance of combined action between the three fighting Services, have formed any conclusion that airships will be largely used for naval reconnaissance, as put forward in all the suggestions for their utility; whether all previous airships have been built under the supervision of the Admiralty; and whether the Admiralty have been fully consulted as to the designs of the two airships?

The Prime Minister: The answer to the first part of the question is in the affirmative, and to the second in the negative. The answer to the third part is also in the negative, the aim of the Air Ministry being to produce airships to meet the requirements of all three services, e.g., as aircraft carriers and for the conveyance of troops, as well as for naval purposes. I may add that responsibility for the design and construction of airships was transferred from the Admiralty to the Air Ministry in 1919-20, together with a portion of the staff hitherto employed on this work by the Admiralty.

Commander Bellars: With reference to the second part of my question, as to whether all previous airships have been built under the supervision of the Admiralty, may I ask the Prime Minister if he can tell me of any airship that has not been built under the supervision of the Admiralty?

The Prime Minister: Oh, yes; all the airships that were built by the Army. Commander Bellars: Am I to understand, therefore, that the Air Department has no experience in building airships, and that the Department which has experience is not to be consulted?

Air Mails Committee

VISCOUNT SANDON asked the Secretary of State for Air whether since its Interim Report in 1924 any final Report has been published of the Air Mails Committee, under the chairmanship of the Parliamentary Secretary to the Ministry of Transport; and, if not, when it is to be published?

Major Sir Philip Sassoon: The answer to the first part of the question is in the negative. As regards the second part, I am not in a position to state when sufficient material will have been collected to warrant the issue of a further Report.

LIGHT PLANE CLUB DOINGS

London Aeroplane Club

The flying time for the week ending 14th inst. was 17 hours 30 minutes. The following Members had dual instruction:—L. G. Anderson, J. Barros, S. de la Hoya Rhodes, E. D. Moss, J. P. O. Blyth, S. G. Bradway, Mrs. Elliott-Lynn, K. Kennedy, R. Malcolm, G. W. H. Wallcoussins, J. S. M. Michie, T. H. O. Richardson.

The following Members made solo flights:—N. Jones, Mrs. Elliott-Lynn, G. Warwick, Squad-Leader M. E. A. Wright.

The Club machine piloted by Capt. F. G. M. Sparks formed one of the escort which met Air C. Johnson on his return from South Africa on Saturday, 1925, and W. E. P. Johnson have been given commissions in the Royal Air Force and G. Warwick has been given a commission in the Royal Air Force Reserve. David Kittell, who has recently taken delivery of his D.H. "Moth," has March 19 put up 10 hours flying.

The subscriptions towards the purchase of the third D.H. "Moth" are coming in very satisfactorily. Subscriptions already published, £585. Since received:—Capt. G. de Haver, £50; V. H. Dorre, £20; O. H. H. Pollard, £10; R. P. Cooper, £5; S. C. Richards, £5; Commandant Allen, £3; Miss Tagart, £3; R. Malcolm, £3; L. C. J. Mitchell, £3; A. Southgate, £3; L. G. Anderson, £2; E. K. Blyth, £2; A. Less, £2; H. K. Thompson, £2; C. F. Murrell, £2; W. E. D. Johnson, £2; J. Barros, £1; E. D. Moss, £1; R. L. Preston, £1; G. H. Wallcoussins, £1; Capt. Lamplough, £1; Mr. O'Brien, £1. Total to-date, £678.

The Lancashire Aero Club

The weather has been exceptionally bad, a gale preventing any flying except on Saturday and Sunday. On Wednesday the small hangar was blown down and completely wrecked. Fortunately, the three "Moths" had been removed a short time before, and so escaped, but the L. P. W. lies among the fallen girders.

Instruction by Mr. Stack:—C. Barros, 1 hr. 5 mins.; M. C. Parker, 55 mins.; J. Leeming, 1 hr. 5 mins.; A. Macnair, 40 mins.; C. Agar, 25 mins.; P. Nicholson, 40 mins.; F. Gattrell, 30 mins.; W. Colley, 50 mins.; A. Slater

40 mins.; C. Brown, 30 mins.; R. Williams, 20 mins.; D. Dyson, 10 mins.

A. Goodier, 25 mins.

Instruction by Mr. Cantrill: A. Goodier, 30 mins.

Instruction by Mr. Scholes: A. Macnair, 25 mins.; W. Harden, 25 mins.;

F. Davidson, 30 mins.; C. Agar, 20 mins.

Solo flight by Mr. M. C. Barros, 1 hr. 5 mins.; A. Goodfellow, 20 mins. Tests

occupied, 25 mins. Joy rides: Miss Betty Chubb, 15 mins.; Miss Barbara,

20 mins.; Mr. B. Smith, 15 mins.

Total dual, 10 hrs., 45 mins. Total solo, 1 hr. 55 mins. Tests, 25 mins.

Joy rides, 40 mins. Total time flown, 15 hrs. 25 mins.

A new Avro bi-plane will be presented to the Club by Sir William Letts

on April 16.

The Newcastle-upon-Tyne Aero Club

The flying season was opened on March 13. The gale which has been experienced for over a fortnight continued during the week, until Saturday, when it abated a little. Previous to that all the flying which had been possible was one hour on Wednesday evening and one hour on Friday. Sunday brought much better weather, although it was very dull, and over six hours was put in on the one machine in service, G-E.B.L.V. Total time for the week: 10 hrs. 5 mins.

Dual with Major Packman: Mrs. Marks, Mr. Sandlands, Mr. C. Thompson,

Mr. Bruce, Mr. L. Smith, Mr. W. Todd, Mr. M. G. Thirlwell, and Mr. Bain-

bridge. Total, 6 hrs. 10 mins.

Secondary dual, also with Major Packman: Miss Leather and Mr. W. Mackay. Total, 35 mins.

"A" pilots: Mr. R. N. Thompson, Mr. W. Baxter Ellis, Mr. N. S. Todd,

Total, 3 hrs. 5 mins. All, of course, flew with friends as passengers.

Mr. Owen was the only passenger and had one 15-minute flight.

Further straight flights were carried out on Mr. Ellis's "Gull" on Sunday,

but before anything further could be attempted two of the rubber shock

absorbers, which are very old, broke.

Repairs to LX are well in hand and with a return of good weather conditions

it is hoped that it will soon be possible to make up for all the time lost during

the past two or three weeks.

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.

"DEVELOPMENT" OF AIR [SENSE]

[2129] Much has been written on the development of air sense of the nation, but until now an important educational feature appears to have been overlooked. I refer to practical model aeroplane construction and flying.

The Air Ministry realising the importance of the matter have given valuable assistance to "Light Plane Clubs," and by so doing have managed to secure the interest of a great many young men, who are now able to satisfy to a certain extent their practical interest in aviation and incidentally pave the way for the future generation. But what of the future generation? It appears nothing is being done to initiate them into the rudiments of aeronautics, nothing with the exception of an occasional article in FLIGHT or other technical paper, usually too far advanced for them. Recently, in London, there was held under the auspices of the Air Ministry, the school-boys' exhibition, which, I believe, was organised for the special purpose of interesting the boys from our public and elementary schools in aviation. Why was not the "Society of Model Aeronautical Engineers" invited to give a representative show of actual flying models?

Hasn't the Air Ministry and the Director of Civil Aviation heard of this Society? because if not, it is time they duly. The Society was founded some years back by a keen body of pre-war model-flying enthusiasts to take up the threads of this most fascinating hobby from the point where they were dropped in August, 1914.

The Society is recognised by the Royal Aero Club as the governing body of model aeronautics in Great Britain, and they hold a great many challenge cups, including one given by FLIGHT for competition.

Surely, here is the starting point for educating the potential light plane club, Royal Air Force members and airway users of to-morrow.

I feel sure the Hon. Sec. of the S.M.A.E. would be only too pleased to arrange a demonstration of flying models for our sporting Director of Civil Aviation to witness. Perhaps he may be impressed enough to suggest to the Air Ministry that they offer prizes for model design, construction and flying throughout the country among schoolboys and apprentices, thereby striking at the vital points.

Model engineering has always held a great fascination for Young England, and when it is combined with an up-to-date science and introduces plenty of outdoor exercise, surely it must be worth considering. I know there are many sceptics, but I also know that in other countries interest in model aviation is very keen, as it was in this country until the outbreak of war. One has only to glance back to the old copies of FLIGHT to prove this. This brings me to another important item. From whence are the youngsters to obtain their information? Time was when one could refer an interested spectator to FLIGHT for information, but as there is no weekly model page published at the present time, it is impossible.

I am continually being asked by all classes of people, especially youths of about sixteen and seventeen years of age, where they can obtain information which will help them to build models and learn a little of the science of aeronautics in a simple and straightforward manner. I know that the interest is there and only wants stimulating.

Now then, Mr. Editor, production costs are high at the moment, I know, but if some encouragement and information

is not given to these young people, who are most anxious to absorb the mysteries of this modern science, how can you expect to develop an air sense?

I am sure you will find no difficulty in getting some one to write it up weekly, and no lack of material.

I really do feel that it will do a great deal to stimulate public interest, for, on any fine day, model flying attracts large numbers of people.

I have been a keen model enthusiast and reader of FLIGHT since 1908, and was a founder member of the Blackheath Model Aero Club, which at the commencement of the war had a large membership, many of whom, including myself, as a direct outcome of model study, were able to join the Air Services, some serving with distinction.

Trusting you will find the foregoing interesting enough to publish.

CHARLES A. RIPPON

Crouch End.

March 6, 1926.

SLOTTED CONTROL AND STALLING

[2130] If Mr. Courtney had read my reply carefully, in your issue of March 4, where I state "that when ailerons are used above the stall the down aileron has the effect of producing a very high value of drag, and, in consequence, reducing the speed of the wing on that side, which is the opposite effect to that desired" and "the slot control produces a very high rolling moment and at the same time reduces the drag on the side of the wing with the aileron down, making all motions in the direction of turn," he would not have written "that a reduction in a positive does not necessarily make a negative."

As I state quite clearly that the drag has been reduced to a value, making it in the direction of turn. It is evident, therefore, that the sign has changed.

This statement is confirmed in the following R. and M., No. 858: "Some experiments on a model biplane having slotted wings, with particular reference to the improvement of lateral control at low speeds," by H. B. Irving, B.Sc., and A. S. Batson, B.Sc., No. 916 "Slot control on an Avro with Standard and Balanced Ailerons," by F. B. Bradfield, of the R.A.E.

Also in Mr. Handley Page's article in THE AIRCRAFT ENGINEER for January 28, 1926, where a vector diagram is given showing slotted control tests on a $\frac{1}{8}$ scale model biplane of rolling moment against yawing moment.

As regards sinking velocity, a few minutes spent on $V \frac{L}{D}$ with different values of maximum K_l (not of course forgetting the slot) and various loadings for the determination of V_l would enlighten him. There was no suggestion that the machine should remain stalled.

"Pancaking" is not always associated with stalled flight.

A glide can be executed at an angle approaching maximum lift coefficient, and a bump or carelessness can cause a stall. The point was that with "stalled control" the wing could be picked up when the machine was stalled in the manner stated above and the glide continued at the maximum lift angle. This resulting in a pancake landing.

Having had a fair amount of experience as a pilot and still enjoying the privilege, I get ample opportunity of studying both sides of the question: theoretical and practical.

Cricklewood.

R. REYNOLDS

March 15, 1926.

Royal Aeronautical Society

MR. ALAN J. COHMAN is giving his lecture on "Long-Distance Aeroplane Flights" before the Society this evening, at 6.30 p.m., at the Royal Society of Arts, Mr. H. T. Tizard, A.F.C., F.R.S., F.R.Ae.S., in the Chair.

Capt. G. T. R. Hill's lecture on "The Tailless Aeroplane" will be given at 6.30 p.m. on April 22 at the Royal Society of Arts, instead of on April 15, as previously announced.

R.Ae.C. Monthly House Dinner

THE next monthly house dinner will be held at the Royal Aero Club on Tuesday, March 23, 1926, at 7.15 p.m. The subject for discussion will be "The Future of Flying," and the debate will be opened by the Right Hon. Sir Samuel J. G. Hoare, Bart., C.M.G., M.P., Secretary of State for Air.

The Duke of Sutherland, the chairman of the Club, will preside. The number is limited to 60. Tickets 6s. Apply. Secretary, Royal Aero Club. Morning dress.

The 28th Squadron (R.A.F.) Old Boys' Association

ON April 10 next the 28th Squadron (R.A.F.) Old Boys' Association will be holding a social evening at Slater's Restaurant, 34-5, High Holborn (adjoining Chancery Lane Tube station), commencing at 7 p.m. Tickets, 3s. single. 5s. 6d. double, including refreshments. Members and their friends are invited.

A Copenhagen-Tokyo Flight

TWO Danish Army pilots, Botved and Herschend, left Copenhagen, in two aeroplanes, en route for Tokyo, and reached Berlin that afternoon.



THE ROYAL AIR FORCE

London Gazette, March 9, 1926

General Duties Branch

Flight-Lieut. E. F. Turner is granted a permanent commission, in this rank; Jan. 1. The following Pilot Officers are promoted to rank of Flying Officer: C. W. L. Trusk, R. W. Steele; Feb. 8. A. O. Pollard, V.C., M.C., D.C.M. (Capt. T.A., Res.), E. H. Newman; Feb. 15. Pilot Officer on probation E. L. J. Irem is confirmed to rank; Feb. 18. Pilot Officer, R. N. T. Gape takes rank and precedence as Pilot Officer, as if his appointment in that rank bore date Sept. 1, 1924. Reduction to take effect from Feb. 23. Flying Officer H. Ford, D.F.C., relinquishes his short service commission, on account of ill-health, and is granted permission to retain rank of Flight-Lieut.; Mar. 10. Pilot Officer on probation G. C. Crackanthorpe resigns his short service commission; Mar. 10.

Stores Branch

Flying Officer C. F. Tidy is granted a permanent commission, in this rank; March 10. The following Pilot Officers, on probation are confirmed in rank (Feb. 10):—K. H. Clay, E. G. M. Charleston. Flying Officer M. W. Keay is restored to full pay from half-pay; March 8.

Accountant Branch

Flying Officer R. E. Stegall, M.B.E., is transferred to Reserve, Class C; March 5.

Medical Branch

Flying Officer G. P. O'Connell, M.B.E., is granted permanent commission, in this rank; March 10. The following are granted short service commissions, as Flying Officers—three on active list, with effect from and with seniority, of Feb. 23:—J. P. Hederman, E. J. Moeckler, M.B.

Memoir Branch

Sect. Lieut. A. Barnett relinquishes his hon. commission, on enlistment in Supplementary Res. Army; Feb. 17.

Reserve of Air Force Officers

Flying Officer K. C. Whitwell is transferred from Class A to Class B; March 9. The following are transferred from Class A to Class C:—Flight Lieut. C. F. Briggs; March 6. Flying Officer R. V. D. White; March 4. Flying Officer C. H. Boreham is transferred from Class B to Class C; Dec. 17, 1925. Flight Lieut. P. Worthington, M.C., relinquishes his commission, on completion of service; Feb. 1. Pilot Officer A. Lewis resigns his commission; March 9.

ROYAL AIR FORCE INTELLIGENCE

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

General Duties Branch

Wing Commanders: J. O. Archer, C.R.E., to No. 3 Wing H.Q., India, to command; 26.1.26. D. Harries, A.F.C., to R.A.F. Depot, Egypt, for administrative duties; 10.2.26.

Squadron Leaders: R. S. Booth, A.F.C., to No. 5 Flying Training School, Sealand; 15.3.26. G. W. Murlis-Green, D.S.O., M.C., to H.Q., India; 5.3.26. A. W. Mylne, to No. 28 Sqn., India; 15.2.26. J. S. T. Bradley, O.B.E., to H.Q., Air Detachment of G. Britain; 1.3.26. V. S. Brown, to R.A.F. Depot, on transfer to Home Establishment; 22.2.26.

Flight Lieutenants: A. M. Blake, A.F.C., to Superintendent of Res. Northolt; 15.3.26. W. R. Cox, M.C., A.F.C., R. W. Edwards, T. A. Langford-Sainsbury, D.F.C., A.F.C., and A. Bayley, to R.A.F. Depot, on transfer to Home Establishment; 14.2.26. H. V. Pendavis, D.S.O., to No. 7 Group H.Q., Andover; 17.3.26. J. E. MacLennan and W. J. Millen, to R.A.F. Depot, on transfer to Home Establishment; 14.2.26. R. E. C. Fulljames, M.C., to Aircraft Depot, India; 28.1.26. R. E. Ward, to H.Q., Iraq; 5.3.26. A. C. B. Harrison, M.C., to H.Q., India; 5.3.26. N. S. Seward, to No. 1 Sqn., Iraq; 5.3.26. G. M. F. O'Brien, D.S.C., to R.A.F. Depot, Egypt; 16.2.26. P. Murtaghroy, to H.Q., Mediterranean; 13.2.26. G. Archer, to No. 7 Sqn., Birchen Newton; 18.2.26.

Flying Officers: H. T. Satterford, to No. 4 Apprentices' Wing, Cranwell; 14.3.26. R. J. Wilson, to No. 29 Sqn., India; 30.1.26. (Hon. Pil. Lieut.) E. L. Wolegate, to No. 8 Sqn., Iraq; 5.3.26. C. K. J. Coggle, to No. 47 Sqn., Iraq; 5.3.26. R. A. Ford, to No. 84 Sqn., Iraq; 5.3.26. H. M. G. Parker, to No. 30 Sqn., India; 5.3.26. W. J. Jones, to Recruit Office, Ruislip; 15.3.26. R. G. Mollard, to R.A.F. Depot, on transfer to Home Establishment; 14.2.26. R. M. Trundle, to No. 4 Flying Training School, Egypt; 24.2.26. J. P. Tadmam, C.G.M., to R.A.F. Depot, Egypt; 6.1.26. E. E. Arnold, D.F.C., to H.Q., Egypt; 24.2.26. F. C. T. Rowe, to No. 14 Sqn., Palestine; 15.2.26.

Stores Branch

Squadron Leader: F. Tedman, M.B.E., to H.Q., Cranwell; 12.3.26. **Flight Lieutenants:** J. London, to R.A.F. Depot, on transfer to Home Establishment; 14.2.26. C. H. Pownall, to H.Q., India; 16.2.26. D. W. Wilson, to R.A.F. Depot, Egypt; 23.12.25.

Flying Officers: M. W. Keay, to R.A.F. Depot; 8.3.26. R. Bassett, to R.A.F. Depot, Egypt; 10.2.26.

Accountant Branch

Squadron Leader: T. C. Miller, M.C., to No. 3 Stores Depot, Milton; 18.3.26. **Flying Officers:** W. J. Heneghan, to Brigade Accountant Office, Iraq; 5.3.26. M. H. Luker, to No. 47 Sqn., Egypt; 22.2.26.

Medical Branch

Flight Lieutenants (Dental): S. H. Medhurst, to R.A.F. Depot, Egypt; 29.1.26. **Flying Officers:** M. J. Marren, M.B., and G. S. Strachan, M.B., to Research Lab. and Med. Officers' School of Instruction, Hampstead, on appointment to Short Service Commissions; 1.3.26.

NAVAL APPOINTMENTS

The following appointments were made by the Admiralty on March 13:—**Lieut. R.N. (Flying Officer, R.A.F.):** R. A. Aldridge, to *Furious* and for No. 404 Flight; March 15.

Royal Air Force

Flight Lieut. E. H. Bryant, to Eagle, for No. 460 Flight; Feb. 24.

THE CASE OF MISS

REGARDING the case of Miss Douglas-Pennant and her dismissal from the W.R.A.F. the following letter has been issued to the press:—

Although the Douglas-Pennant case has been clouded and camouflaged by many side-issues, no one can ignore the revelations recently published. To realise that an officer has been condemned and has suffered punishment so severe as summary dismissal from a branch of His Majesty's Service without being informed of the charge against her—a privilege accorded even to the criminal—must come as a shock to all honourable men.

It is now evident that Miss Douglas-Pennant was dismissed summarily from the command of the Women's Royal Air Force and from the corps on secret and uninvestigated information which has never been disclosed to her. This was stated in the Report of the House of Lords Select Committee to have been the cause of her dismissal, but was neither revealed nor investigated at that inquiry. We associate ourselves with the demand of Miss Douglas-Pennant's friends that the secret allegations should be formulated and the evidence in support of them fairly considered, in order that Miss Douglas-Pennant may be given an opportunity of refuting them, and a matter which is disturbing all justice-loving men and women be cleared up to their satisfaction.—Yours, etc.,

Aberdare (Lord Aberdare, President, University of Wales).
Bathurst (Earl Bathurst, C.M.G.).
Charles Barrington (Sir Charles Barrington, Bart.).
St. Clair Baddeley.
Daniel Bangor (the Bishop of Bangor).
Fred. Bligh Bond.
Henry Burnley (the Bishop of Burnley).
Wilmot H. Fawkes (Admiral Sir Wilmot Fawkes, K.C.B., K.C.V.O.).

DOUGLAS-PENNANT

Everard Feilding (the Hon. Everard Feilding).
J. Fortescue (the Hon. John W. Fortescue, C.V.O., Librarian to the King).
T. C. Fry (the Dean of Lincoln).
Stanley Fuller (ex-Serjt.-Major, R.A.F., Hurst Park Motor Transport Depot).
Peter Green (Canon of Manchester, Chaplain to H.M. the King).
R. T. Gunther (Dr. R. T. Gunther, LL.D., Fellow of Magdalen College, Oxford).
H. J. W. Hetherington (Professor Hetherington, Principal, Glasgow University).
Laurence Housman.
E. T. Jensen.
J. M. Kenworthy (Lieut.-Commander the Hon. J. M. Kenworthy, R.N., M.P.).
Kenyon (Lord Kenyon, K.C.V.O., Pro-Chancellor University of Wales, President University College of North Wales).
David Lamb (Commissioner David Lamb, Salvation Army).
Lambourne (Lord Lambourne, C.V.O.).
Herbert Charles Lott.
W. Manchester (the Bishop of Manchester).
Hewlett Johnson (Dean of Manchester).
Frederick Milner (Right Hon. Sir Frederick Milner, Bart.).
Mostyn (Lord Mostyn, K.C.V.O.).
Henry W. Nevinston.
W. G. Carwardine Probert (High Sheriff of Suffolk).
H. R. Reichel (Sir H. R. Reichel, Principal University College of North Wales).
Arthur Sandbach (Major-General).
Esme Wingfield Stratford (ex-Fellow of King's College, Cambridge).
D. Watts-Morgan (Chairman of the Welsh Party).

AIR POST STAMPS

By DOUGLAS B. ARMSTRONG

More Uruguayan Air Stamps

ALTHOUGH the regular air post service was suspended in Uruguay as far back as March, 1924, the authorities continue to promote special air mail carrying flights upon occasions of national fêtes and anniversaries. Lately, particular aero stamps have been introduced for use on these extraordinary air posts.

The vignette issued for the Montevideo-Florida flights on August 25 last is a diminutive oblong label showing a heron in flight, together with the letter "R," denoting "Recomando," and the value 14c, which was the registration fee. It is printed in black and blue, perforated 12½, and exists in two types bearing the names "Montevideo" or "Florida," respectively. The total printing is said to have comprised 8,000 stamps. Of these 3,000 were affixed to letters flown from Montevideo to Florida, and about 2,000 to those carried on the return journey. The air post cachet employed upon this occasion was oval in form, struck in red, and inscribed "CORREO AEREO 1825 25 De Agosto 1925—MONTEVIDEO (or FLORIDA)".

An effective picture of an Indian warrior watching the flight of an aeroplane across the Pampas is the subject of the design of another special air post stamp of 45 c. green, also oblong in format and lettered "CORREO AEREO," which was created for an exceptional air post flight that took place between Montevideo and Rincon upon the centenary of the Battle of Rincon, September 24, 1925. The fee for air-post letters was fixed at 30 c., made up by the addition of a commemorative 5 c. postage stamp bearing a portrait of General Rivera. The air post stamp was not on sale to the public, but was affixed to flown covers only by the postal officials themselves.

Central American Mail Flights

In a country where railways are few, roads bad, and land communications generally inadequate, the aeroplane offers a practical solution of the transport problem. Central American Governments are waking up to the advantages of the air post service, and many new routes are on the point of being opened up.

An air mail between the Canal Zone and Costa Rica was put in operation on December 29, 1925, reaching San Jose on the same day, where a special cancellation was applied to flown letters, inscribed "San Jose—Servicio Aero Transito." The inauguration of an air mail service between Colombia and Central America on August 10, 1925, was signalled by the use of a special cachet lettered:—

PRIMER CORREO AEREO
COLOMBIA
AMERICA CENTRAL

A SURVEY flight over a possible air mail line linking the principal cities of Central America was carried out by three U.S. Army planes as far back as February 4-16, 1924, starting from the Canal Zone and terminating at Guatemala City, where a special mail was made up at the G.P.O. for the return flight.

Owing to the late arrival of the train bringing further airmail matter a total of only 28 letters was transmitted. These received a special cancellation reading "Correo Internacional, February 16, 1924, Guatemala, A.C.," and on receipt at Balboa Heights, C.Z., were back-stamped with the receiving mark dated "February 29, 2.30 p.m." It would seem from these particulars that the experiment was in every way an official one, and the covers a worthy addition to the air post records of pioneer flights.

Italian Aero Stamps

THE development of the Italian air post service is foreshadowed by the introduction of special stamps for franking air-borne correspondence. As yet these are but four values, viz., 60 centesimi green, 1 lira blue, 1-50 lire yellow, and 5 lire green, and the issue is of a more or less temporary nature, the design being an adaptation of the pneumatic despatch stamps of 1913, with the words "Posta Aerea" substituted for the former inscription. Ultimately something of a more appropriate character may be expected.

Aero Philately at the New York Stamp Exhibition
It is a striking tribute to the increasing popularity of air post collecting that the Committee of the forthcoming International Stamp Exhibition, to be held in New York in October, has decided to relegate such collections to a class of their own, whilst prominent American air post authority is to be co-opted on the jury. This is the first time that aerophilately has been raised from the rank of a sub-section in the miscellaneous class, and it may be taken as a happy augury.

IMPORTS AND EXPORTS, 1925-1926

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910). For 1910 and 1911 figures see "FLIGHT" for January 25, 1912; for 1912 and 1913 see "FLIGHT" for January 17, 1914; for 1914, see "FLIGHT" for January 15, 1915; for 1915, see "FLIGHT" for January 13, 1916; for 1916, see "FLIGHT" for January 11, 1917; for 1917, see "FLIGHT" for January 24, 1918; for 1918, see "FLIGHT" for January 16, 1919; for 1919, see "FLIGHT" for January 22, 1920; for 1920, see "FLIGHT" for January 13, 1921; for 1921, see "FLIGHT" for January 19, 1922; for 1922 see "FLIGHT" for January 18, 1923; for 1923, see "FLIGHT" for January 17, 1924; for 1924, see "FLIGHT" for January 22, 1925; for 1925, see "FLIGHT" for January 21, 1926.

	Imports.		Exports.		Re-Exports.	
	1925.	1926.	1925.	1926.	1925.	1926.
Jan. . .	3,548	494	83,728	130,648	291	—
Feb. . .	985	2,089	85,639	40,416	20	6,341
	4,531	2,583	169,367	170,465	311	6,341

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PUBLICATIONS RECEIVED

Skyways. By Alan J. Cobham. Nisbet and Co., Ltd., 22, Berners Street, London, W. Price 15s. net.

Aeronautical Research Committee Reports and Memoranda: No. 978 (*Av. 190*).—Some Experiments on a Model of a B.A.T. "Bantam" Aeroplane with Special Reference to Spinning Accidents. November, 1925. Price 1s. 3d. net. No. 988 (*M.31*).—The Air Bubble Viscometer. By G. Barr. April, 1925. Price 9d. net. H.M. Stationery Office, Kingsway, London, W.C.2.

The Air Pilot Monthly Supplement. No. 17. March, 1926. The Air Ministry, Kingsway, London, W.C.2.

Official Gazette of the United States Patent Office. February 23, 1926. United States Patent Office, Washington, D.C., U.S.A.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.e. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1924

Published March 18, 1926
30,710. C. LORENZEN and LORENZEN-TURNER-ACHT-GES. Propulsion of aircraft. (247,699.)

APPLIED FOR IN 1925

Published March 18, 1926
2,930. R. CHILLENWORTH. Aircraft capable of vertical and horizontal flight. (245,053.)
3,112. E. D. MOORE. Engine turning gear. (247,730.)
8,379. R. J. L. MONTEAT. Flying machines. (231,885.)
13,631. J. A. PRESTWICH. Lubricating systems. (247,805.)
16,143. GE. L. APPLICATIONS MECANQUES. Mounting of rotating bodies. (236,541.)
16,239. W. JOHANSEN and A. P. JENSEN. Parachutes. (247,819.)

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