

Flight, June 5, 1931

FLIGHT

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DIARY OF CURRENT AND FORTHCOMING EVENTS

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

1931

June 5-6. Scottish Flying Club Air Display, Glasgow.
June 5-6. Cricket. R.A.F. v. Incogniti at Halton.
June 6. Brooklands Air Display.
June 6. Lincolnshire Ae.C. Meeting at Cleethorpes.
June 6-12. F.A.I. Conference, Bucharest.
June 7. N.F.S. Air Pageant, Hull.
June 8. International Rally, Bucharest.
June 9. Air League "Speed" Ball at the Dorchester Hotel.
June 13. May Week Meeting, Marshall School, Cambridge.
June 13. Close of Royal Tournament at Olympia.
June 13-14. Leicestershire Ae.C. "At Home" at Desford.
June 18. R.A.F. Flying Display and Polo Gymkhana at Halton.
June 19. Flying Display, Andover.
June 20. Flying Display, Bristol Airport S.B.A.C. Cup Race.
June 21. N.F.S. Air Pageant, Reading.
June 22. Entries Close for King's Cup Race.
June 26. R.A.F. Dinner Club Annual Dinner, Connaught Rooms.
June 27. Royal Air Force Display, Hendon.
July 4-6-7. Cricket. R.A.F. v. Army at the Oval.
July 10-19. Circuit of Italy.
July 15-16. Cricket. R.A.F. v. Civil Service at Uxbridge.
July 22. Household Brigade Flying Club Meeting, Heston.
July 25. King's Cup Race.
July 25-Aug. 9. Rhon Gliding Competitions, Germany.
July 27-28. Cricket. R.A.F. v. Free Foresters at Camberley.
Aug. 3-4. Cricket. R.A.F. v. R.N. at Halton.
Aug. 18. Manchester-Liverpool Inter-City Race.
Aug. 22. Newcastle-on-Tyne Meeting.
Aug. 29. Norfolk and Norwich Club Meeting at Yarmouth.
Sept. 5. Haldon Flying Meeting.
Sept. 12. Schneider Trophy Contest.

EDITORIAL COMMENT



APT. DIEUDONNÉ COSTES, the new

Inspector General of the Air Union, is a man of ideas as well as a man of action. He can not only fly non-stop from one end of the earth to the other, but he can think about what are the essential needs of air transport, and can put his ideas into

words. Perhaps there is nothing strange about that. The old distinction between the man of action and the man of ideas is now less clearly marked than it once was. Moreover, it must be well-nigh impossible for any man to travel across great stretches of the globe without having his imagination stirred. When the vehicle which carries the traveller is the very latest of the many inventions which the present age has seen, the impulse to ponder on the meaning of it all must be irresistible.

In a speech on the occasion of his formal welcome at Croydon on May 30, Capt. Costes delivered himself of two maxims. One was that transatlantic and other long flights can be defended on the ground that the "stunt" of to-day becomes the regular air service of to-morrow. The other maxim was that speed is the only commodity which an air line has to sell, and that all considerations except safety should be subordinated to speed. In addition, Capt. Costes indulged in a vision of future regular air services across the Atlantic flying at a height of seven miles and at a speed of 400 to 500 m.p.h. with passengers enclosed in an air-tight cabin. Without doubt, Capt. Costes is a man of ideas.

Some devotion of thought to these maxims of one of the greatest pilots of the age should be profitable to all who take a live interest in air transport. For our own part, we cannot accept either maxim in its entirety and without qualification. In the first place we should not place all spectacular flights in the same category, which Capt. Costes seems to do. We should make a sharp division between those flights which involve an undue risk of fatality and those which only involve a reasonable degree of danger.

Long flights across an ocean in a single-engined landplane must be put into the first category. We use the words "single-engined" and "landplane" with some hesitation, for we do not forget that a single-engined aeroplane which has a reserve of power above what it needs for cruising speed has its advantages. We are also aware that in a heavy Atlantic storm a flying boat of any existing type would probably not remain afloat for any very lengthy period. At the same time we cannot forget that all the three-engined Fokkers which have attempted the crossing of the Atlantic and the Pacific have brought their crews safely to land; and also that several crews of flying boats (e.g., Locatelli, Courtney, Franco, and two of the consorts of Commander Read) would probably not now be alive if they had not been flying in boats. Among the single-engined landplanes the proportion of fatalities in the Atlantic and Pacific has been appalling. Capt. Costes made a good point when he instanced the risks taken by Blériot on his first flight across the Channel; but the circumstances then were exceptional, and various precautions were taken to minimise the risks. We are not immutably opposed to the taking of certain risks by pioneers, as apart from regular "stunt" pilots and record-breakers. Pioneering is a cause, and stunt flying is not. On the other hand, long-distance flights by landplanes over land do not necessarily involve an undue amount of risk; at least not more than is worth taking in order to test out the capabilities of the machine and engine. We quite agree with Capt. Costes that long flights do test out the aeroplane and engine, and so long as they are not made in such conditions that an engine failure means almost certain death, we admit their utility and applaud the brave pilots who undertake them. Our admiration for Capt. Costes is very great. It would have been greater if he had left the Atlantic alone.

As for the prophecy that eventually there will be a regular transatlantic service flying at an enormous height and an enormous speed, we are content to leave that in the realm of prophecy until it actually enters into the world of fact. He is a rash man who denies future possibilities to aircraft. But if that sort of service ever comes to pass it will not be as a result of the risks taken by such men as Lindbergh and Costes—to say nothing of Alcock and Brown.

Though Capt. Costes has himself taken risks which we consider to have been unjustifiable, yet as Inspector General of the Air Union he definitely puts safety as the first essential of air transport. That is good. It is, he holds, the only consideration which should not be subordinated to speed. The luxuries, and even the comforts, of passengers must be held of less account. Capt. Costes seems to think that in these days of large passenger aeroplanes the claims of speed have been somewhat overlooked in favour of magnificent buffets and luxurious cabins. Possibly he is right; though we should think that it was pay load rather than speed which had been made to suffer by these *Persici apparatus*. Of course, better streamline shapes and consequent higher speed could be achieved by some sacrifice

of cubic air space per passenger; but it is doubtful if such a policy would lead to increased bookings. Perhaps it might do so where French passengers are concerned, for on Continental railways French travellers have the reputation of not being over fond of ventilation. British travellers, on the other hand, have an intense dislike of stuffiness, and are not likely to buy speed at such a price.

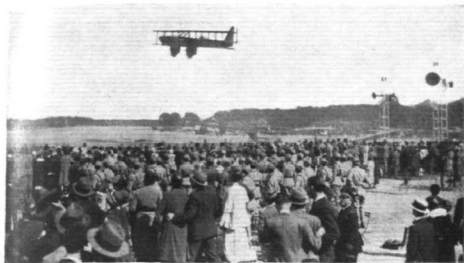
Capt. Costes' second maxim was that speed is the only commodity which an air line has to sell. We cannot admit that that is an absolute rule. So far as mails are concerned, we are in hearty agreement, and we are eagerly awaiting the day of the special mail aeroplane which will average 150 miles an hour. Again, so far as European air lines are concerned, speed must be the chief attraction to passengers, though we have heard not a few travellers by air give various considerations of comfort—such as ease of Customs, freedom from tipping, the view, etc.—as their chief reason for preferring to travel by aeroplane. Admittedly, however, unless the aeroplane can beat the train by a substantial margin, at least during the hours of daylight, the air line will have a not too easy task to earn profits in Europe.

There are other parts of the world where an air line has other commodities to sell as well as speed. Doubtless Capt. Costes had forgotten to take into consideration the very successful air lines of Australia. They do sell speed in a sense, for on most of the lines the only alternative to air travel is a leisurely and sometimes irregular coasting steamer. The aeroplane could not possibly be so slow as that. But the comparison lies, not so much with the existing coasting steamers, as with the possibility of running railway lines into the districts served by the air lines. To do that would be impossibly expensive. Therefore the air line has another commodity to sell, namely, cheapness of transport; and that may almost be considered its chief commodity in such a country as Australia.

In fact, the question arises whether it is ever economic for a passenger aeroplane to aim at the greatest speed which it could attain. There is a certain minimum speed below which it is not economic to fly; but above that surely the maxim for a company should be to fly at the lowest speed which gives a clear advantage over ground transport, and to put the fares as high as the public is willing to pay for that advantage. If the gain in speed is not attractive, the public will not fly in any numbers; and if the fares are too high in proportion to the gain in speed, again the public will prefer the train. That principle is of general application, but it will work out one way in highly developed lands such as Europe and another way in sparsely populated lands like Australia.

Each air line has to study its own problems and to seek the solution which is most likely to produce dividends. So far as the Air Union is concerned, it has found in Capt. Costes an Inspector General with ideas which seem suited to its peculiar problems. He may well set a standard which his competitors will find it hard to surpass.





AT VINCENNES: A view of a portion of the crowd and the Grand Stand. The machine in the air is the Le O 20-3 bomber.

THE VINCENNES AVIATION MEETING

FAVOURED by fine weather, with the exception of a short period on the morning of the first day, the Annual National Aviation Meeting, known as "Les Journées (Days) Nationales de l'Aviation," passed off without a hitch on Sunday and Monday, May 24 and 25 last. It was, as usual, the big aeronautical event of the year. All the different branches of aviation, military, commercial, and tourist, were represented, from the diminutive two-seater Mauloussin cabin monoplane, equipped with a Salmon 40-h.p. engine, to the giant Loire & Olivier 4-engine bombing plane, which transports a load of 2,000 lb. for a flight radius of 1,250 miles. All the leading pilots of France took part.

The big Vincennes (Paris Suburb) Polygone, with its enormous stretch of level sandy surface, had been, as usual, specially prepared for this event. The Official Grand Stand was erected on the westerly side of the field, and other stands had been put up at intervals around the grounds, which had been fenced off in preparation for an attendance of several hundred thousand spectators. A number of the planes taking part were ranged in front of the Official Grand Stand, while others were grouped to the south of it.

The management was excellent. The various events were run off on schedule time, and the programme, which was full and varied, contained a number of new features that pleased the spectators immensely. The exhibitions of stunt flying by Detroyat, which were executed in accordance with requests, transmitted to him by radio, from the Official Announcer in front of the Grand Stand, were followed intently by the spectators, and the speed race, consisting of four laps flown in full view of the field, all the time provided the crowd with thrills. The aerial combat between five bombing planes and nine pursuit planes, also especially caught the fancy of the large audience, and the arrival by plane of the Moroccan Chiefs, dressed in their native costumes, gave an added picturesque touch of colour to the scene.

The first event on the programme was a competition between groups belonging to several aviation regiments, termed a demonstration of "Liaison with an Artillery Force." Fuses were set off within a space marked off on the ground, and the observers in the planes were required to photograph them.

Squadron No. 1 of the 31st Regiment of Tours, composed of Potez type 25 planes (450-h.p. Lorraine), was awarded the first prize. The 32nd Regiment of Dijon, flying Breguet 19's (480-h.p. Renault) was second, and the 36th Group of Pau, equipped with Potez 25's (450-h.p. Lorraine), was third. The prizes consisted of art objects offered by the Aero Club of France.

A High Altitude Handicap Climbing Contest for Pursuit

Planes, in which the machines were required to mount to at least 6,000 metres, took place next. The entries consisted of groups of three planes each, from seven squadrons which had been designated by the General Staff of the Air Force, the average time of all three planes to be taken as the time of the group. The prizes consisted of art objects offered by the Aero Club of France.

Unfortunately, after three of the groups had taken off, the weather became so thick and foggy that the contest was postponed until a future date.

The Aviatrix Race was the next on the programme. This contest was open to aviatrixes holding the F.A.I. licence for 1931. The course was from Vincennes to Etampes and return, a distance of 103 kms. (65 miles). There were but two entries:—Miss Maryse Bastie, flying a Caudron 230 plane, 95-h.p. Salmon; and Miss Maryse Hiltz, flying a Morane Moth plane, 85-h.p. D.H. Gipsy.

As Miss Bastie did not put in an appearance, being held up at Orly by some engine trouble, Miss Hiltz went over the course alone. It was later decided, however, that this contest should be postponed to a later date.

M. Jacques Louis Dumesnil, the Air Minister, arrived shortly after 11 o'clock, accompanied by M. Etienne Riche, the Assistant Air Minister. After being received by the officials of the meeting, the Ministers went out on the field, and made an inspection of the various machines. They were accompanied by MM. Gabriel Amand, the Commissioner-General of the meeting; Ferdinand Lioré, President of the Aeroplane Constructors' Association; General Bares, Chief of Air Force; and General de Goys, in charge of the military forces at the meeting; and by MM. Louis Blériot, Henry Potez, Rene Caudron, and numerous other prominent constructors.

The "Take-Off" Competition was the first event on the afternoon programme. This was limited to six machines, and the contestants were started in groups of three.

The planes were required to fly over a cord stretched between two posts, 8 metres (26 ft.) high and about 300 ft. apart, which had been erected in the field 400



Michael Detroyat and his Morane Saulnier 230 on which he gave demonstrations of aerobatics.

metres (1,300 ft.) distant from the starting line. The planes were placed on the starting line with their engines running, and the pilots were ranged about 250 metres (800 ft.) distant, with their parachutes alongside of them. At a given signal they put on their parachutes, ran to their planes, and "took off."

The plane that passed over the cord in the best time after the starting signal was adjudged the winner, the others being classed accordingly. The entries were as follow:—Quatremarre, Spad #22 (230-h.p. Salmson); Detroyat Morane 230 (230-h.p. Salmson); Baptiste, Bernhard 73 (300-h.p. Gnome-Rhone); Vanlere, Caudron 125 (130-h.p. Clerget); Delmotte, Caudron 125 (130-h.p. Clerget); Rene Paulhan, Nieuport-Delage 481 (230-h.p. Lorraine).

The contest was won by Detroyat, who accomplished the "jump" in 37 sec. Paulhan was second in 41 4/5 sec., Delmotte third in 42 2/5 sec., and Vanlere fourth in 47 1/5 sec.

A demonstration of the facility of manoeuvring a commercial plane was then given by Andre Bailly, the well-known amateur pilot, who has made a number of long-distance flights during the past two years. M. Bailly went through the entire list of aerobatics on a Morane Saulnier 230 plane, equipped with a Salmson 230-h.p. motor.

Rene Paulhan, flying his Nieuport-Delage 481 plane (230-h.p. Lorraine), followed Andre Bailly, and also gave an interesting exhibition of stunt flying.

The Handicap Speed Race for the George Dreyfus was the next event on the programme. This contest consisted of four laps of 6 km. (3 1/2 miles) each over a course laid out around the Vincennes Castle and two posts erected on the Polygone in front of the Official Grand Stand. The total distance was thus 24 km. (nearly 15 miles), and the contestants were required to fly at an altitude of at least 100 metres (328 ft.), and finish in front of the Grand Stand; the competing planes were thus in full view of the spectators all the time. The starters were:—Lasne, Nieuport-Delage 641 (230-h.p. Lorraine); Quatremarre, Spad #22 (230-h.p. Salmson); Paillard, Bernard S73 (350-h.p. Gnome Rhone); Doret, Dewoitine 272 (400-h.p. Hispano).

The race between Doret and Paillard was most interesting, Paillard gaining on the straight stretches, but losing at the turns; the spectators applauded continuously.

The contest was won by Lasne, with Quatremarre second and Paillard third. Doret was disqualified for missing a post on a turn. The prizes were as follow:—First prize,



The late Marcel Lalouette, winner of the Reserved Officers Associated Section in the Inter-Club Speed Contest (Vincennes-Tours and return) for the President's Prize. He was flying a Farman 231 (95 h.p. Renault).

15,000 francs (£80); second prize, 6,000 francs (£48); third prize, 4,000 francs (£32).

The Presentation of New Planes followed, these encircling the field in turn. The Potez 39 was among the first to "take off." A new observation monoplane of metallic construction throughout, this machine has been designed for service in the French Colonies, and has a large and roomy cockpit, which enables it to be put to various uses. The landing gear is of the split-axle type, with a wide gap between the wheels, which facilitates "take-offs" from rough fields. This plane is equipped with a 500-h.p. Hispano-Suiza engine, and can transport a useful load (crew, fuel, and instruments) of 660 kg. (1,450 lb.). The maximum ground speed is 239.5 k.p.h. (150 m.p.h.), and at 3,590 metres, 228 k.p.h. (142 m.p.h.). The climb to 5,000 metres is 20 min., and the ceiling 7,700 metres.

Amongst other new planes that encircled the field were: The LeO (Lioré & Olivier) 20-3, a four-engined all-metal biplane, equipped with Gnome Rhone Titan Major K7 engines. It carries a military load of 1,650 kgs. (3,600 lb.) for a flight radius of 1,000 km. (620 miles).

The Wibault 280T, three-engined low-wing, cantilever construction, all-metal commercial transport plane is equipped with three 250-h.p. Wright-Hispano engines, or with three Gnome-Rhone 300-h.p. Titan Major K7 motors, and has a ground speed of 237 k.p.h. (147 m.p.h.), with a cruising speed of 206 k.p.h. (128 m.p.h.). It is fitted for the transport of 10 passengers, and has a flight radius of 1,000 km. (620 miles). The official tests have just been completed by the Service Technique, and it is said that this plane will be put in service shortly on one or more of the air lines.

The Marcel Bloch type 61 three-motor all-metal postal



NEW SERVICE MACHINE AT VINCENNES: On the left the Potez 39 all-metal observation plane (500 h.p. Renault) and on the right the Le O 20-3 4-engined bomber (Gnome-Rhone "Titan K7").

plane is equipped with three 120-h.p. Lorraine motors, and has a maximum ground speed of 200 k.p.h. (124 m.p.h.), and a cruising speed of 175 k.p.h. (109 m.p.h.). The plane encircled the field easily with but two motors running. It is designed for the postal service on the Bordeaux-Geneva line, and carries a commercial load of 350 kg. (772 lb.).

The Blériot Co. also made an interesting exhibit, presenting their Spad 922, a fast pursuit ship, which finished second in the George Dreyfus Speed Race, their new mono-motor low-wing transport plane, Blériot 111, and the Blériot 125, the new big two-fuselage bi-motor transport plane, equipped with two 500-h.p. Hispano-Suiza motors. This latter machine excited great interest as it "took off" and maneuvered easily around the field.

Lucien Bousstrot, the chief pilot of the Blériot Co., also exhibited the 110, the plane in which he and Rossi recently established the international long-distance endurance record, and which was described in FLIGHT.

Dieudonné Costes and Maurice Bellonte, the transatlantic fliers, arrived early in the afternoon, and were given a great ovation by the crowd.

At 2.30 p.m., a postal plane, of the Cidna air lines, a Bernard cabin monoplane (429 h.p. Gnome-Rhone "Jupiter") landed on the field. A Post Office automobile drove up and transferred several sacks of mail to the plane. The contents consisted of postal cards, carrying French and Roumanian stamps, which, being mailed at the field, were to be returned from Bucharest the next day. After receiving its cargo the Cidna plane left immediately for Bucharest. It was flown by Marcel Durmon, the chief pilot of the company.

About 4.15 o'clock on each day the Official Announcer asked the spectators, through his series of loud speakers, to look toward the North and see the arrival of the air squadrons. The planes appeared almost immediately afterwards. Flying in perfect formation, with the Observation Group of the 34th Regiment of le Bourget in the van, about 200 machines from the 11th, 12th and 22nd Aviation Regiments in addition passed over the Polygone. A group of Blériot 127's, bi-motor bombing planes, equipped with 500-h.p. Hispano-Suiza motors, flew at a somewhat lower altitude and passed immediately in front of the grand stand, while the formations, consisting of Breguet 19's, observation planes (450-h.p. Lorraine) and Nieuport-Delage 62's, pursuit planes (500-h.p. Hispano-Suiza), flew at higher levels directly over them. A number of Liore and Olivier 20 BN's, bi-motor night bombing planes (420-h.p. Gnome-Rhone "Jupiter") brought up the rear. The general staffs, occupying three planes each, flew in front of their respective regiments in V formation, while the other planes followed in groups of 5 and 7 each, also in V formation. The distances between each of these groups were rigidly maintained, and the squadrons passed quickly out of sight, disappearing as they had arrived in perfect formation.

Next followed a new and very popular number of the programme. Michel Detroyat, the well-known ace, took the air in his Morane-Saulnier-type 230 plane, 230-h.p. Salmson engine, and began to perform the different aerobatic stunts as requested by Captain le Petit, the Official Announcer, which were transmitted to him by radio.

Dieudonné Costes and Jean Assolant also transmitted requests to Detroyat, which he performed very quickly to the great applause of the spectators.

Marcel Doret also gave an exhibition of stunt flying, of which he is a past master, and a Pursuit Squadron of the 34th Regiment from Le Bourget, composed of three groups of three planes each, making nine machines, in addition to the plane of the Commanding Officer, next went through some very interesting evolutions. Nieuport-Delage 62's (500-h.p. Hispano-Suiza motors) were used, and the various exercises were performed with great precision. Flying first in groups of three, then all the planes ranging in the form of a semi-circle, and then finally in the shape of a square, these evolutions were greatly admired by the crowd.

Captain Joseph Thoret, the well-known "air current" specialist, then gave an exhibition of gliding when towed by an automobile. Thoret's glider was constructed from plans of the Avia Co. After making several good starts, the towing cable did not prove strong enough, and the Captain glided to the ground without accomplishing the full distance.

At 1 o'clock on the afternoon of the second day the tourist planes entered for the prizes offered by the President of the Republic, and the Aero Club of France "took off." The Contest consisted of a speed race from Vincennes to Tours, a distance of 404 km. (251 miles), and return, making about 500 miles in all. It was limited to 20 entries, which were divided into various classes, calculated so as the various planes could make the race under as even conditions as possible.

These series comprised: (a) 5 Farman low wing two-seater monoplanes equipped with 95-h.p. Renault engines; (b) 3 Potez two-seater cabin monoplanes equipped with 95-h.p. Salmson engines; (c) a Farman 204 (110-h.p. Lorraine), and a Caudron 193 (130-h.p. Clerget); (d) a Morane "Moth" (85-h.p. Gipsy), and a Caudron 125 (130-h.p. Clerget); (e) a Farman 230 low wing two-seater monoplane (40-h.p. Salmson), and a Douchy X (40-h.p. Salmson).

Marcel Lalouette, the well-known Farman pilot (who unfortunately met with a fatal accident on May 30), was the winner in the first series. He arrived back at the Polygone about 6.30 o'clock. The pilots De Ridray and Gioux, of the Aero Club of the West, flying a Potez 36, landed shortly afterwards, thus winning the second series. Jean Moreau, of the Aero Club of Yvonne, flying a Farman 204, won the third series, Jean Roques, of the Aero Club of France, piloting a Morane Moth, won the fourth series, and Georges Reginensi, of the Aero Club of Provence, won the fifth series. Cash prizes were also distributed to the winners in the various series of this race.

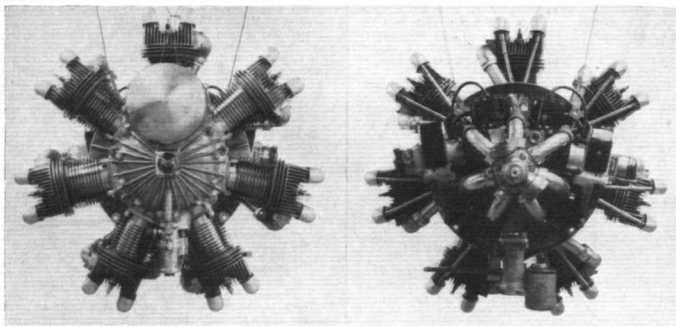
Other events of the two days' programme consisted of a mimic battle between five Blériot type 127 bi-motor bombing planes and nine Nieuport-Delage type 62 pursuit planes, some contests of balloon punching and of landing as near as possible to a given point. These were all well performed, and passed off very successfully.

Captain Frank M. Hawks, the American speed ace, flew over from Le Bourget in the afternoon of the first day. After paying his respects to the officials and inspecting the planes, the Captain encircled the field at top speed, to the great delight of the crowd, and "took off" again for Le Bourget.

R. C. W.



NEW COMMERCIAL MACHINES AT VINCENNES: On the left the Wibault 3-engined (250 h.p. Wright Hispano) all-metal transport, and on the right the Marcel Block 3-engined (120-h.p. Lorraine) all-metal postal plane.



FRONT AND REAR VIEWS OF THE POBJOY "R" ENGINE: Note that the propeller hub is raised in relation to the centre of the engine.

THE POBJOY "R" TYPE ENGINE

Having passed the British Air Ministry Type Tests recently, this engine is now available for use in light aircraft, with full Certificate of

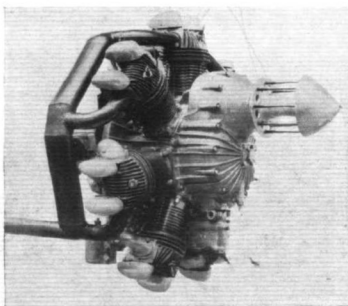
Airworthiness. For an overall diameter of 647 mm. and a weight of only 130 lb., the engine develops a normal power of 75 b.h.p. at a speed of 3,000 r.p.m., while the reduction gearing reduces the corresponding propeller speed to 1,400 r.p.m.

THE Pobjoy "R" engine, which was illustrated in our issue of April 3, 1931, has recently passed the type tests imposed by the British Air Ministry, and as a result the engine is now available for use in aircraft, with full Certificate of Airworthiness. Remarkable features of the Pobjoy "R" type engine are the very low specific weight (1.73 lb./h.p. on "normal" power), and the fitting of a reduction gear which allows of good propeller efficiency, thus giving very good thrust horse-power for take-off and climbing. The normal engine rating is 75 b.h.p. at 3,000 r.p.m., and the maximum permissible speed for short periods is 3,300 r.p.m., at which speed the engine develops 85 b.h.p. The type tests were carried out without a single hitch, and without replacement of any kind. Upon being stripped, the engine was found to be in excellent condition. During the 50 hours' run neither the K.L.G. plugs nor the contact breakers of the B.T.H. magnetos were cleaned or adjusted in any way. The petrol consumption was remarkably low, i.e., 0.53 pint per b.h.p. per hour, which corresponds to about $4\frac{1}{4}$ gallons per hour at cruising revs. This very excellent fuel consumption is doubtless due in no small measure to the Claudel-Hobson carburettor, which has been specially designed for the Pobjoy "R" engine. One somewhat remarkable feature of the type tests was that they were carried out with the special Pobjoy exhaust collector in place, so that future purchasers may regard the silencer as having been type tested as well.

The fitting of this exhaust collector reduces the noise very greatly, and prevents oil being thrown back on the machine. In fact, the engine is remarkably clean in this respect.

Although the Pobjoy "R" type of engine is of small capacity (2,835 c.c.), its normal power is such that it should suffice for light two-seater aeroplanes, the more so as the propeller reduction gear fitted results in good airscrew efficiency, and consequently a useful thrust horse-power during take-off and climbing. From this point of view, the nominally smaller power of this engine is largely illusory, and in practice the engine is equivalent to an engine developing a good deal more power, but having direct airscrew drive. Add to this fact the low weight (130 lb. complete), and it will be realised that in the Pobjoy "R" we have a new engine of quite exceptional promise. Not only is the engine very suitable for single-seater and two-seater aeroplanes, but the very low specific weight makes it a practical proposition to produce twin-engine or three-engine aircraft of relatively small size, thus securing in smaller machines the same advantages of multiple power plants as have hitherto been the prerogative of "giant air liners," as the general Press loves to call our commercial aircraft.

The Pobjoy "R" engine is of the seven-cylinder radial air-cooled type, but differs from other engines of this type in that a plain reduction gear is fitted, which raises the propeller shaft and hub above the centre line of the engine. The argument has sometimes been



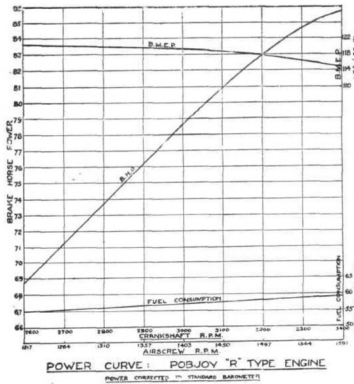
THE POBJOY "R" TYPE ENGINE: The exhaust collector shown was in place throughout the type tests of the engine.

advanced against this arrangement that, with the propeller eccentrically placed, even cooling of the cylinders is difficult. Practical experience with the Pobjoy does not appear to bear this out, as no cooling troubles have been encountered, or, if they were, they have now been overcome, the engine passing its type tests without trouble. Pobjoy Airmotors, Ltd., have, in conjunction with the Comper Aircraft Company, carried out experiments with a special type of cowling which promises to give extremely good results both in the matter of reducing drag and in keeping the engine cool. Moreover, the eccentric placing of the airscrew does not appear to interfere with the symmetry of the cowling, as the photographs of the Comper "Swift" show.

The cylinders of the Pobjoy "R" engine have steel barrels, with aluminium heads screwed on and locked in place by a special patented method. The pistons are of the slipper type, and are made of special hard-wearing aluminium alloy. The combustion chamber of the cylinders is of very clean design, a fact which contributes to the large power output at high speeds, while the effective arrangement of the cooling fins gives freedom from overheating and detonation. There are two valves per cylinder.

In the design of the overhead valve gear, special care has been taken to avoid wear in places where this usually occurs. The tappets retain their adjustment for prolonged periods, and a patented compensating arrangement ensures that tappet clearances remain nearly constant at all engine temperatures.

The crankshaft is built in two parts, secured together by a special form of patented joint. The crank pin is hardened, and the floating case-hardened wrist pins are held in the hardened big-end ring by a patented, quick-release, positively-locked joint. All bearings in the engine, valve rockers included, are of either the ball or roller type, with the exception of those of the big end, the cam ring, and the front end of the crankshaft, which are carried on floating bushes and supplied with an ample quantity of oil at a pressure of 35 lb./sq. in. To assist in steadying the airscrew drive, a small flywheel is secured to the crankshaft alongside its gear wheel. This flywheel also acts as a centrifugal oil filter, the oil passing through this filter before going to the various bearings. This centrifugal filter separates out the very finest particles of foreign



matter, and contributes largely to the durability of the bearings and other moving parts.

The induction system of the Pobjoy "R" is somewhat unusual, and consists, as will be seen from the illustrations, of a "spider," in which all the induction pipes are of the same length and symmetrically arranged. In the centre they meet in a common exhaust-heated "hot spot," which is fed by a single-barrel carburettor. The inlet manifold forms the back cover of the crankcase, and is warmed by the hot oil.

Full dual ignition is provided by two B.T.H. magnets firing two plugs per cylinder via seven-point distributors. A hand starter is fitted, operated by cable from the cockpit, and to start the engine it is only necessary to turn it half-a-dozen times with the petrol turned on and the throttle and air

strangler closed, when an easy pull on the hand starter lever starts the engine with one pull. It is never necessary to touch the propeller when starting up.

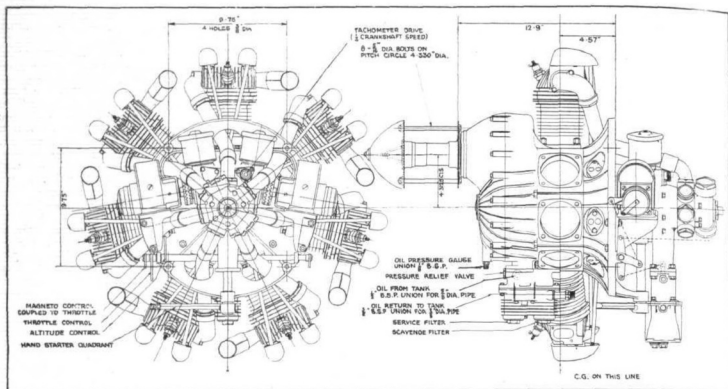
Pressure feed lubrication is used, with two gear-type oil pumps, one being a scavenge pump, which returns the oil to the service tank, and the other a pressure pump which delivers oil to the bearings via the centrifugal oil filter. Two gauze filters protect the inlets to the two pumps, and can be removed and cleaned without disturbing anything except the two screwed caps which hold them in place. The centrifugal filter flywheel is exposed for cleaning by removing the front cover of the crankcase. The oil pumps and gauze filters form a complete unit.

The airscrew reduction gear consists of a robust pair of double helical gears, which are remarkably silent, so that, in conjunction with the slow-running airscrew and very silent overhead valve mechanism and the effective exhaust collector, the Pobjoy "R" type engine is quite unusually silent when fitted in an aircraft.

A special type of exhaust collector has been designed for the Pobjoy engine, in which one branch collects the exhaust from three cylinders and the other from four cylinders, and discharges through two pipes underneath the fuselage of the aircraft. This exhaust collector, as well as cowlings, oil tank and cooler, petrol pump, etc., is supplied with the engine, and the makers have preferred to shoulder responsibility by supplying the engine complete in every way, even, if desired, to the engine mounting, so that, if he wishes, the aircraft designer need not concern himself



THE POBJOY ENGINE IN A COMPER "SWIFT": Actually these photographs show an earlier model, but the "R" type will be fitted with a similar cowling.



THE POBJOY "R" TYPE ENGINE: In this installation diagram the main dimensions are given. It will be noted that the engine is remarkably small.

with anything except a suitable bulkhead support for the engine mounting. This policy of delivering the engine complete should go far to avoid troubles arising from installation problems, and is one which deserves to be more widely adopted.

Four bolt holes are provided in the integral mounting whereby the engine can be simply and neatly secured to the aircraft. The tubular engine support incorporates four rubber shock absorbers, which further reduce the already very small amount of vibration transmitted to the fuselage.

The petrol and oil consumption figures quoted by the makers are on the conservative side, and actually the petrol consumption attained during the type tests was lower than that stated in the makers' catalogue, *i.e.*, 0.53 pint per h.p. per hour, as against 0.57 pint. For the benefit of aircraft designers, it may be stated that the average petrol consumption at cruising revs. is approximately 4½ gallons per hour, so that one may envisage a light single-seater cruising at more than 100 m.p.h. and doing 25 miles per gallon. This represents a really useful performance at very low running cost, and a Pobjoy "R" engine aircraft of this type should, apart from being a

very attractive proposition for the private owner, form a really practical training and practice machine for single-seater fighter pilots at remarkably low cost. Almost any nation in the world would be able to afford a few squadrons thus equipped, and would thereby be in a position to keep a reasonably large number of pilots in training without the need for keeping a considerable number of "full size" single-seater fighters in commission.

The main data relating to the Pobjoy "R" engine are as follows:—Seven cylinders, air-cooled, bore 77 mm., and stroke, 87 mm.; total swept volume, 2,835 c.c.; normal power and crankshaft speed, 75 b.h.p. at 3,000 r.p.m.; normal airscrew speed, 0.47 crankshaft speed, or 1,400 r.p.m. at normal revs.; normal B.M.E.P., 113.5 lb./sq. in.; normal petrol consumption, 0.57 pint per b.h.p./hour; normal oil consumption, about 1 pint per hour; maximum permissible power for 10 minutes, 85 b.h.p. at 3,300 r.p.m.; total engine weight, 130 lb. (59 kg.); specific weight (on normal power), 1.73 lb./h.p.; overall diameter, 25½ in. (647 mm.).

For full particulars, price, etc., application should be made to Pobjoy Airmotors, Ltd., Hooton Park Aerodrome, Wirral, Cheshire, England.

At St. James's Palace

At the Levée held by His Majesty the King at St. James's Palace on June 1, the following were amongst those presented to His Majesty:—Fl.-Lieut. A. Anderson, Group Capt. A. Ellis, C.B.E., Fl.-Lieut. A. Beilby, Fl.-Lieut. B. Blofield, Air Commodore F. Bowhill, C.M.G., D.S.O., Fl.-Lieut. H. Corner, Sqdn.-Ldr. C. Davidson, M.C., Sqdn.-Ldr. W. H. Davies, Aux.A.F., Fl.-Lieut. E. Davis, A.F.C., Fl.-Lieut. R. De St. Leger, Air Vice-Marshal H. Dowding, C.B., C.M.G., Sqdn.-Ldr. R. Elliott, Fl.-Lieut. B. Embury, A.F.C., Fl.-Lieut. C. Falconer, Fl.-Lieut. D. Fleming, Sqdn.-Ldr. G. Gibbs, M.C., F/O Lord Malcolm Douglas-Hamilton, Fl.-Lieut. R. Hogan, Fl.-Lieut. F. Jennings, Fl.-Lieut. A. King-Lewis, Wing Commander J. Lowe, Fl.-Lieut. L. Maxton, A.F.C., Fl.-Lieut. J. McDonald, Fl.-Lieut. J. McFarlane, M.C., A.F.C., Fl.-Lieut. G. Mercer, Royal Canadian A.F., Fl.-Lieut. W. Millen, Fl.-Lieut. J. Rogers, Fl.-Lieut. G. Shaw, Fl.-Lieut. A. Symington, M.C., Sqdn.-Ldr. T. Thomson, Group Capt. R. Verney, O.B.E., Sqdn.-Ldr. G. Wait, Royal Canadian A.F., Sqdn.-Ldr. R. Whitham, M.C., Sqdn.-Ldr. J. Williamson, A.F.C., Fl.-Lieut. W. Yool. Amongst others present were:—Air Marshal Sir E. Ellington, Principal Air Aide-de-Camp, Group Capt. E. D. M. Robertson and Wing Commander Louis Greig.

The Royal Tournament

On May 28 their Majesties the King and Queen opened the Royal Tournament at Olympia. Guards of honour from all three Services were stationed in line in the arena, and presented arms while the National Anthem was played, while the King, in the uniform of an Admiral of the Fleet, inspected them before joining the Queen in the Royal box. On the right was the guard of honour from the Royal Navy, with the King's Colour and the band of the Royal Marines, Portsmouth, under the command of Lieut.-Commander R. C. O'Connor, R.N. In the centre of the arena was the 1st Battalion, Scots Guards, also with the King's Colour and its band, commanded by Captain B. Mayfield. Beyond was a detachment of the Royal Air Force from Uxbridge, with the R.A.F. Central Band, under the command of Flt.-Lt. G. S. Taylor, R.A.F. This year's programme (which we outlined briefly last week) is as thrilling as ever, and their Majesties appeared thoroughly to enjoy Thursday's performance. The Physical Training displays by the Royal Air Force, as usual, evoked enthusiastic applause, while the excitement caused by the teams from H.M.S. *Pembroke* and H.M.S. *Vivid* with their gun display demonstrated that this event has lost none of its popularity. However, we will not describe the performance—go and see it.

A SENSIBLE WIND DIRECTION INDICATOR

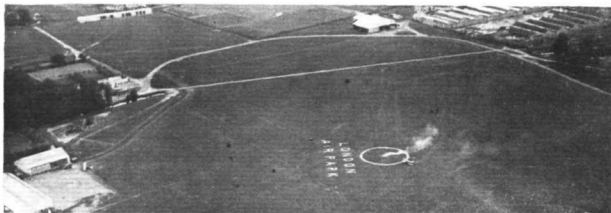
ON Friday last, May 29, the Committee of Hanworth Club entertained Dr. Ahrens, the prominent young German engineer who is responsible for the design of the smoke-emitting type of Aerodrome wind indicator, to lunch at Hanworth.

We have already mentioned the fact that Hanworth Club has been the first in England to establish one of these indicators at their Aerodrome, and during the afternoon we were privileged to make a further inspection of this, together with Dr. Ahrens.

It consists in its essentials of a triple burner consuming a low-grade oil, such as coal oil or one of the light Diesel oils, and heating a plate on to which is dropped oil of approximately the same quality. This is then emitted from a funnel in the form of dense white smoke, and, situated as it is in the centre of the landing circle, gives the pilot an admirable and accurate indication of the direction of the wind. There is no doubt that the familiar wind stocking is a crude and inefficient method, and only indicates the wind on portions of the Aerodrome which are not necessarily those used for landing, and that such a smoke apparatus as this gives the direction of the wind just where it is most needed.



Dr. Ahrens standing alongside his wind direction indicator at Hanworth. (Flight Photo.)



This shows the value of this type of wind direction indicator to the pilot who is about to land. (Flight Photo.)

AIR SERVICE TRAINING

THE ambitious flying school, which has been started by Air Service Training, Ltd., at Hamble, is already doing an immense amount of work, in spite of the fact that it is not yet officially opened. During a recent visit, we were able to see how very thoroughly everything is being done, and how no expense has been spared to make the training given to the students the very best obtainable in the world.

The old Avro buildings nearest the river have been completely redecorated and fitted out as the mess room and main offices, together with a billiard room, lounge and smoking rooms and two lecture rooms. Similarly, many of the other buildings, on the northern side of the road, have been renovated and the outsiders rough-cast to make sleeping accommodation for the students, workshops, lecture rooms and garages.

The theoretical side of the training is considered extremely important, and every care is taken that students receive a thorough grounding in the subjects concerned with flying before finishing their course, to this end, there are special lecture rooms set aside for instruction in engine work, the air frame, navigation and meteorology, and so on. In that arranged for engine lectures, we found a carefully sectioned engine, together with an array of suitable specimen parts. In the aircraft room there is a more or less complete aircraft, one wing and one side of the fuselage of which is uncovered, so that all constructional details may be explained fully. In the navigation room there is a deviascope, and maps, etc. There is also a room for giving instruction in parachute operation, where parachutes may be packed and dried and fully explained.

Further evidence of the thoroughness with which everything is being done is shown by the establishment of a first-aid room and surgery, with complete modern equip-

ment. A specially trained doctor is available at short notice in the district, and every student has to pass a careful medical examination, on R.A.F. lines, before entering the school. There is also an exceptionally fine ambulance on duty whenever flying is going on.

A large new hangar has been built on the western side of the Aerodrome, where the machines are kept. This stands behind the railway, and eventually the area of concrete paving in front will be extended and the ground levelled up to the rails, so that machines can be taken across it at any point.

Blind flying is considered most important, and for this purpose Avro Tutors are used, with a hood covering the pupil. Flt.-Lt. H. F. Jenkins, the Chief Instructor, has made a particular study of blind flying, and is, in consequence, thoroughly qualified to be in charge of this kind of instruction.

The machines used for training are mainly Avro Tutors and Avians, and Armstrong-Whitworth Atlases and Siskins, all of which are fitted with engines from the Armstrong-Siddeley range. The Avians with the new 7-cylinder Genet engine, the Tutors with the Lynx and the Atlases and Siskins with Jaguars. Several D.H. 9's are also used with Jaguar engines.

Although the instruction is undoubtedly expensive when compared with that obtainable in other schools, we are inclined to think that the expense is justified, in as much as each course includes not only flying but also a series of lectures and ground instruction covering a very wide range of subjects. Those who have learnt to fly there will be hall-marked as efficient, much in the same way as the A.I.D. stamp is treated all the world over as a standard of excellence for our aircraft.

CAPT. COSTES AT CROYDON

A GREAT reception was given to Capt. Dieudonné Costes when he flew over from Paris to Croydon on Saturday, May 30. He arrived at noon in a Lioré et Olivier twin-engined machine of the Rayon d'Or service of the French Air Union, which was escorted into Croydon by four other machines of the same type. Capt. Costes has been appointed Inspector-General of the Air Union, and this was his first visit to Croydon since his appointment. It was also his first visit to Great Britain since he and M. Bellonte (who was also present at the aerodrome) made their great flight from Paris to New York in the "Question Mark" aeroplane last year. Accordingly, the Air Union prepared a grand reception for the famous pilot, and invited a number of prominent people to witness the arrival and to be its guests at a luncheon in the aerodrome hotel.

When Capt. Costes alighted from the machine in which he had flown across, he was greeted by the French Ambassador, H.E. M. de Fleuriau, by Mr. Montague, Under Secretary for Air, by M. Albert Gauchet, General Manager of the Air Union, and by the Mayor of Croydon.

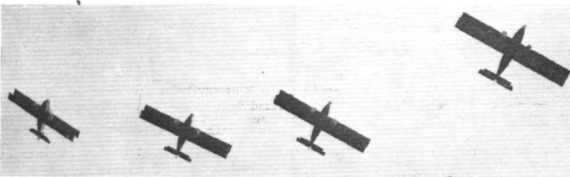
M. de Fleuriau presided at the excellent lunch, and after the combined toast of the King and the President had been honoured, he proposed the health of Capt. Costes. The toast was seconded by Mr. Montague. In reply, the great pilot said that he had a special affection for Croydon because for many years he had been a regular pilot on the Air Union cross-Channel services. But when flying just before lunch over the new buildings, he could scarcely recognise the place. He thought that the transformation



LONG-DISTANCE PILOTS AT CROYDON: Capt. Costes and M. Bellonte were given a reception at the London Terminal Aerodrome on Saturday last. Our photograph shows, from left to right, M. Bellonte, M. de Fleuriau, the French Ambassador, behind him Mr. Montague, Under-Secretary of State for Air, and Capt. Costes. (FLIGHT Photo.)

was symbolic of the progress of flying. Alluding to his flights across the Atlantic and to his non-stop flights in a straight line, Capt. Costes said that the value of those achievements might be questioned by some. The best justification for them was that the "stunts" of to-day became the regular air service of to-morrow. Hélier's flight across the Channel seemed in his day a perilous achievement; but to-day Croydon and Le Bourget were joined 20 times a day by regular air traffic. Long flights also tested out a perfect machine and engine. The Bréguet in which he flew non-stop from Paris to New York could carry passengers non-stop from London to Cannes in five hours. Eventually there was no reason why there should not be a regular service across the Atlantic. If experts were correct, the machine of the future would fly seven miles high with passengers enclosed in an air-tight cabin. At that height, he was told, speeds of 400 to 500 m.p.h. should be possible. In these days of large aircraft the importance of speed was possibly being lost sight of. Speed was the only commodity which an air line had to sell, and everything except safety should be subordinated to speed. As for safety, on the Golden Ray service a million miles had been flown, and the Channel crossed 3,500 times without the least incident. The Air Union had also experimented with a non-inflammable petrol, which it hoped shortly to demonstrate and afterwards to use on its regular services.

The Master of Sempill then proposed the health of the Air Union, which he said was already very healthy, and M. A. Gauchet responded. The Mayor of Croydon proposed the health of the French Ambassador.



THE ESCORT: Lioré and Olivier machines accompanied Capt. Costes on the flight to Croydon. (FLIGHT Photo.)

Municipal Aerodromes

IN FLIGHT for May 22 an article, heading "Municipal Aerodromes," was published, which gave a great deal of information as to the present state of municipal interest in aerodromes, and coupled Sir Alan Cobham's name with much of the work which has been done. At the end of this article we mentioned a number of public bodies and others with whom Sir Alan had been in touch, and it has been pointed out to us that the inference was that he was unable to raise a great deal of interest amongst these. We would like to point out that, although the London

Chamber of Commerce was included in the list, it was certainly not meant to appear as if this body took no interest, for actually the reverse is the fact. Lord Herbert Scott himself has gone to a great deal of trouble to put Sir Alan in touch with authorities, and particularly with those connected with the London County Council. There is no doubt that the London Chamber of Commerce is one of the leading spirits in the municipal aerodrome movement, and has done a considerable amount towards raising enthusiasm, and has also endeavoured to get something done about the establishment of high-speed air mails.



PRIVATE FLYING AND CLUB NEWS



THE LONDON— NEWCASTLE RACE

Won by
Mr. D. Kennard on a
Klemm with Cirrus III
Engine

NINETEEN entries lined up in glorious weather for the start of the London-Newcastle Air Race at Heston, on Saturday, May 30. This was the first race which has been held where the course was a straight line and did not involve one or more turns, and did not even finish back at the starting point. The handicappers, therefore, had a particularly difficult task inasmuch as they had to allow for the wind just before the start.

Messrs. Dancy and Rowarth have got handicapping of aircraft in this country down to an amazing degree of accuracy, and their work is, to use aviation parlance, quite "wizardly." As will be seen from the table, 4 min. covered the first 14 machines at the end of this race, and therefore provided one of the most thrilling races we have ever seen.

There was nothing very startling in the race, and the majority of the machines were quite standard. The start



CONGRATULATIONS: The Lord Mayor of Newcastle (Ald. D. Adams) congratulates Mr. D. Kennard on his arrival at Cratlamington.

owing to his having turned short of the turning line at Heston. Competitors were told that they must not turn before reaching the hangars, and Mr. Hope was adjudged to have done so. It is understood that he has entered a protest against this decision, but, as matters stand at present, Mr. O. Kennard will receive the "Evening World" trophy and first prize, Capt. E. W. Percival second prize and prize for fastest time, and Miss W. Brown third prize.

was without incident, and the organisation at Heston appears to have been fairly adequate. A race like this, of course, loses a great deal of interest for those who assemble at the start, since they do not see the machines come back again. The weather was glorious, and there was a following wind of some 20 m.p.h., with the result that the majority of competitors flew at anything from 1,000-7,000 ft. high, in order to gain as much advantage from this wind as possible.

We noticed that Mrs. Butler's Puss Moth had a Hamilton adjustable metal propeller, and that Mr. W. L. Hope was flying his Moth in the same condition as in the King's Cup race of the year before last. The two Civilian Coupés were in their first race, and both their pilots agreed that the view from the cockpits was admirable.

Although Mr. Hope actually arrived first, he was disqualified on his arrival at Cratlamington by the officials

THE RESULTS ANALYSED.

Registration Letters.	Aircraft Type.	Engine.	Pilot.	Starting Time.	Finishing Time.	Speed.	Final Place.
G-AAWE	Klemm	Salmon	H. R. Edwards	h. m. s. 13 00 00	h. m. s. 15 29 40	m.p.h. 101.8	8
G-AAVO	Breda	Genet II	E. H. Freshfield	13 02 44	Finished later.	—	—
G-AAVN	Breda	Gipsy I	A. U. Tomkins	13 17 09	15 42 39	104.7	16
G-ABAG	Moth	Gipsy I	T. C. Fawcett	13 18 45	15 30 45	115.4	12
G-ABGO	Spartan	Cirrus III	G. H. Stanforth	13 19 16	15 36 59	110.6	15
G-ABCI	Klemm	Cirrus III	D. Kennard	13 19 47	15 26 23	120.4	1
G-AAHA	Spartan	Hermes II	F. G. Gibbons	13 20 18	15 28 41	118.7	4
G-ABKJ	Spartan	Gipsy II	L. A. Strange	13 21 20	15 29 25	119.0	6
G-ABGN	Civilian Coupé	Genet Major	I. W. Mackenzie	13 21 50	15 29 31	119.4	7
G-ABFI	Civilian Coupé	Genet Major	G. A. Pennington	13 21 50	Ran out of petrol.	—	—
G-ABDV	Moth	Gipsy I	Miss A. Johnson	13 24 17	15 35 32	116.1	14
G-AADA	Moth	Gipsy I	J. D. Irving	13 25 43	15 30 16	122.4	10
G-AAHP	Moth	Gipsy I	W. L. Hope	13 29 22	15 24 53	131.9	disqualified
G-ABED	Avian	Hermes II	Miss W. Brown	13 30 15	15 28 07	129.3	3
G-ABLG	Pass Moth	Gipsy III	W. L. Runciman	13 41 59	15 30 21	140.6	11
G-AAYE	Pass Moth	Gipsy III	A. C. Jackman	13 42 20	15 29 44	141.0	9
G-ABGN	Puss Moth	Gipsy III	Mrs. A. Butler	13 42 41	15 28 47	143.6	5
G-ABBR	Monocoupe	Warner Scarab	J. E. Carberry	13 43 23	15 30 52	141.8	13
G-AAVT	Hendy 302	Hermes II	E. W. Percival	13 44 03	15 27 21	147.5*	2

* Fastest time of the day.

A SENSIBLE VIEW.—The Prime Minister, when opening the Blackpool Municipal Aerodrome Clubhouse on Tuesday, June 2, said: "I heard a resolution passed by some Calvinistic friends of mine, saying that it was wrong for me to take risks by flying. I have been in trains and

cars which have been nearly wrecked, and I say that it is as safe to travel by air as it is by train or car. I am a great believer in the future of air travel. Our paths will soon be in the air altogether, and air routes will link up all our Dominions."



SEEN AT HESTON: At the top on the left Mrs. Alan Butler is standing by the nose of her Puss Moth. In the middle (top) Miss Amy Johnson takes off in "Jason III," and on the right is Mr. J. E. Carberry with his Monocoupe. Below, on the left, are Viscount and Lady Ratendone who were among the many notable spectators. In the middle (bottom) the two Civilian Coupes at the start and, on the right, Mr. Percival gets into his comfortable and fast Hendy 302. In the centre Flt.-Lt. Stainforth gets ready for the race in his Spartan. (FLIGHT Photos.)



THE LOW-LIMIT: Mr. Edwardes, Klemm (Salmson), waiting for the flag. He was first man away and led for many miles en route to Cramlington. Mr. Reynolds is the timekeeper while Capt. Dancy, on his right, looks as if he was satisfied with the work he and Mr. Rowarth had done in handicapping the entries (and rightly so too!). (FLIGHT Photo.)

THE YORKSHIRE AEROPLANE CLUB'S FÊTE

A Well-Attended Meeting Held at Sherburn-in-Elmet

THE Yorkshire Aeroplane Club held their first Air Fête of the year at Sherburn-in-Elmet on Sunday, May 31. The crowd they gathered consisted of many, many thousands of people, and we imagine

that the total attendance must have been even greater than that of last year. The weather was not too good, it having rained very heavily beforehand, with the result that the Aerodrome was a mass of water, but during the actual Show it remained comparatively fine.

Following the success of Nottingham the previous Sunday, the organisation was good and, with the exception that the crowd were allowed to wander all round the machines immediately the programme had come to an end, everything went smoothly.

There was an arrival competition, for which a large cup was presented, and this was won by Mr. Dawson on his Civilian Coupé (Genet Major). Lord Grimthorpe, in his capacity as President of the Club, was fortunately able to be present to open the proceedings.

Immediately after his speech, which was again broadcast from Mr. Lindsay Everard's public address van, a fly-past of some 17 different types of aircraft was started. Other demonstrations, which followed quickly without any undue delay, were an aerobatic display on the Martlet (Genet II) by F/O. P. M. Watt, which served admirably to show the exceptional manoeuvrability of this excellent little aircraft; a race over a course of some 30 miles' length for the Yorkshire Cup, presented by Lord Grimthorpe, which was won by Flt.-Lt. Stainforth in a Spartan (Cirrus III), with Mr. Percival in the Hendy 302 (Hermes II) second, and Flt.-Lt. Gibbons in a Spartan (Hermes II) third. Once again the handicapping was done by Messrs. Dancy and Rowarth, who naturally provided a spectacular finish.

Other items were a demonstration of the Civilian Coupé (Genet Major) by F/O. H. H. Leech, and a balloon bursting competition, which was won by F/O. P. M. Watt on the Martlet, whose accurate piloting enabled him to burst all his balloons at his first contact with them.

F/O. W. E. Johnson repeated the excellent show he had given on the Lincock (Lynx) at Northampton the previous Monday, and showed the crowd that, given the right pilot and right machine, an aircraft may be flown in the inverted position almost as well as the right way up.

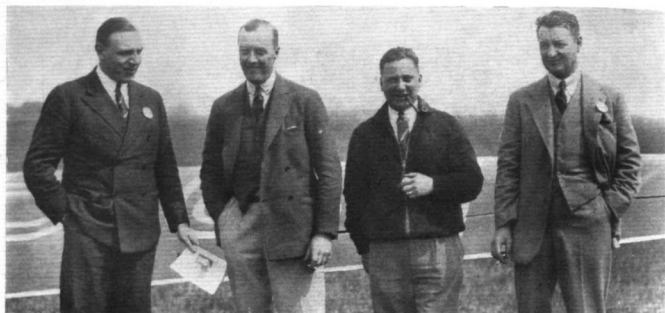
Flt.-Lt. H. M. Schofield gave a display on the Autogiro, and in doing so unfortunately provided the daily Press with just the sort of headlines they are so fond of. It is true that he crashed, but his crash was of the controlled type, and provided an opportunity of showing what a really magnificent pilot he is. Had he been otherwise, the result would have been very, very different, and would undoubtedly have meant the end of a large number of spectators. It is naturally somewhat difficult to say exactly what happened, but it appeared to us that a sudden bump, with a subsequent drop out of a steep turn, caused the rotor to slow up considerably, and thus made it impossible for Schofield to carry on in a normal manner. He appeared to be falling right on to the crowd and, had they not been there, it is possible that he would

have been able to continue in that direction far enough to have regained his flying speed, but the risk was too great, and he did not hesitate to turn into the aerodrome and pancake the machine on it some 20 yards clear of them. We are very glad to say that he himself did not suffer anything more serious than a very severe shaking and a nasty scalp wound. The whole incident was also in a way a triumph for the Autogiro, for any normal machine would almost certainly have dropped a wing, and probably dived straight into the crowd completely out of control.

Flt.-Lt. C. B. Wincott flew the Arrow Active in its first public demonstration. This is a machine which has been built by Messrs. Thornton & Oddy, of the Arrow Aircraft Co., of Leeds, and is an attempt to provide the R.A.F. with a small and cheap training machine with a high performance. It is entirely of metal construction, with the front part of the fuselage mainly of duralumin



THE OPENING WORDS: Lord Grimthorpe making the opening speech at Sherburn. Next to him is Mr. E. C. Brown who so ably did the announcing while the bellicose gentleman (can a "gentle" man be bellicose?) is Capt. Pennington of N.F.S. sales staff.



THE CHEERFUL SPIRIT (l. to r.): Mr. J. Jeffs, ever watchful for dangerous flying, Mr. D. Kennard, well satisfied with the performance of his Klemm. Flt.-Lt. Schofield, whose presence of mind averted a tragedy, and Flt.-Lt. Russell, who likes his passenger to be close alongside him.

monocoque construction and a tubular steel tail portion, the wings, of which the upper plane has the greater span, are also built up of steel, and the engine is an inverted Hermes IIa. The cockpit and centre section are on the same lines as the Comper Swift, in that the top decking in front of the pilot is brought up to a point where the two upper plane wing roots are connected. The single cockpit itself is very roomy and fitted with all the ordinary instruments. The performance given by Flt.-Lt. Wincott left one in no doubt that the controls must be adequate, and

there were very few manoeuvres that he did not do. The landing speed appears to be very low, although the top speed is evidently well over a hundred.

Capt. Stewart concluded the proceedings with a parachute descent, making a carefully-judged drop to the centre of the aerodrome. He was using an Irvin standard type of airchute, and, except for the fact that he developed a somewhat hectic swing when about halfway down, appeared to have no trouble at all, and had to slip very little to land where he wished.

L EICESTER AERO CLUB.—During May the club's aircraft have visited pageants all over the country, and five pupils, namely, Messrs. H. H. Ellison, C. H. Holyoake, H. W. Bott, R. C. Johnson, and E. A. Underwood have passed the tests for their "A" licences.

The first of the club's competitions was held on May 30 and 31. This took the form of a blindfold competition. The competitor was blindfolded and taken up in the front seat of a machine. When some ten miles away, the pilot in charge, who had been given sealed instructions as to where to take the competitor, told him to unmask, and, as soon as he had done so, a stop-watch was started, the time then being taken until the machine crossed the finishing line. There were 29 entries, and only three of these lost their bearings, the winner being Mr. Symington, with a time of 7 min. 1 2/5 sec., while Mr. S. M. Thomas was second with 7 min. 19 2/5 sec.

During the month 140 hr. 15 min. were flown, of which 81 hr. 10 min. were dual instruction, 57 hr. 45 min. solo

and 1 hr. 20 min. tests, etc. This seems very good in view of the preponderance of bad weather.

H ANWORTH.—On Saturday, June 6, the Committee and members of Hanworth Flying Club will be entertaining members of both the Houses of Lords and Commons at Hanworth. M. Biériot will also be present as a guest. An exact replica of the machine on which M. Biériot actually crossed the Channel some 22 years ago is being assembled at Hanworth, and will be flown on Saturday afternoon by one of M. Biériot's pilots, M. Quatremare. This flight will be about 5 o'clock.

A GOOD RECORD.—The London Aeroplane Club have greatly increased their flying times recently, and this year have for the past month got in 616 hours with six machines actually flying. This compares admirably with 436 hours for the same period last year, with the same number of aircraft.



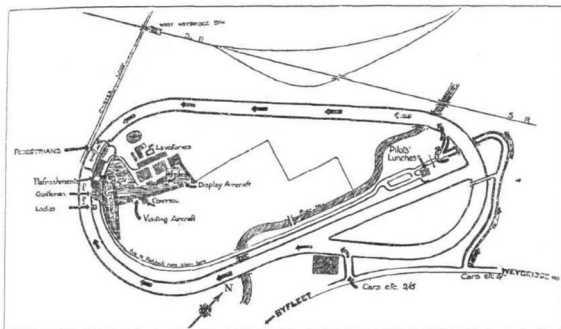
THE HIGH-LIMIT.

Mr. Percival, the last man away, loses no time in getting his Hendy 302 (Hermes II) off the ground. (Flight Photo.)

BROOKLANDS.—The number of visitors who came to Brooklands by air for the Whit Monday Motor Race Meeting was very large indeed, which fact points to the close link there is between aviators and motorists.

The display to be held on the forthcoming Saturday, June 6, promises to be one of the best of the year. Readers of FLIGHT have already been acquainted with the provisional arrangements, but since last week we have received notice of one or two further attractions. These will include a display by a Hawker "Fury," the new twin-

engined Vickers "Vellore" freight-carrying machine, and also the 12-passenger "Viastra." Balloon jumping will also be demonstrated. The programme will commence at 3 o'clock, and admission will be 2s. 6d. and 7s. 6d., the charge for cars being 2s. 6d. The final issue of the FLIGHT coupon, which enables the holders to obtain a reduction of 1s. on their entrance tickets, will be found on page V. In this connection it should be noted that this voucher cannot be used by children, for whom the admission charge is only 1s.



HOW TO GET THERE.
This diagram will help those who will be going to Brooklands on Saturday, and save them time and worry in finding their right entrance.

AIRPORT NEWS

CROYDON

WE have at last really seen "Hannibal," but he was very timid and would not land, but passed over us, just to convince us that he does exist. Perhaps one of these days he will pick up enough courage to come and live here and join all his other playmates at Croydon.

Personal Flying Services had a stroke of bad luck on Whit-Sunday. Major Clarke was landing the Desoutter at Berec, and had the misfortune to run into the fence, rather badly damaging the machine, although not to such an extent that it cannot be repaired. They hope to get it back on service soon.

Whit-Monday was a golden harvest for the companies doing joyrides, and helped to make up for some of the rough times they have had lately. Rollason Aviation Co. were hard at it all day long with two machines, and undoubtedly they were the greatest attraction of any of the companies, as they had both saloon and open-type machines to offer.

Miss Amy Johnson and Lady Bailey both paid visits during the day.

There was an enormous exodus of private owners abroad for the holidays, and all the week they have been straggling back home. On Wednesday our friend Frank Hawks arrived from Paris in time for breakfast. In less than an hour he was off again for Berlin to lunch, and thence to Paris again for dinner. He did not break his own record for the London-Berlin flight by quite a wide margin.

The new Avro X of Imperial Airways is now on service, and is putting up a good performance. The pilots speak well of it.

The thunderstorm early on Thursday morning had rather a chaotic effect. A Handley Page W.10, which

left for Paris, found its way to Luton, where the pilot made a forced landing, and the aircraft was somewhat bent in the process. The early paper machine of the Air Union from Lympe to Paris found itself somewhere near Amersham, Bucks, where it made a forced landing, but in this case normally. Mr. Abaza, an Egyptian doing his night flight for a "B" licence, also crashed at Titsey Hill. The machine was a Gipsy Moth belonging to British Air Transport, Ltd., and is a total wreck. Mr. Abaza was shaken up, but, apart from that, was little the worse. Several other pilots have successfully done their night flights for "B" licences during the week. Captain Douglas Mail made an excellent flight of seven days to Bulawayo. It will be remembered that he took out this company's second Puss-Moth to open up the South African branch.

M. Costes, who made a successful Atlantic crossing last year, arrived as a passenger by the Air Union on Saturday. He was greeted by the French Ambassador and quite a large gathering of compatriots and others (as described on p. 500). Mention of Air Union, this company held their annual party at Croydon on Saturday afternoon and evening. During the afternoon all their agents and friends were given joyrides in "Liores," and this was followed by a dinner and dance at the Aerodrome Hotel. It looked rather odd in the middle of the afternoon to see fair creatures arrayed in flowing evening gowns and wraps, and the men also in evening kit.

The weather certainly has behaved much better this last week, and it is the earnest hope of everyone that it will last, but, knowing this climate, one is inclined to be decidedly pessimistic about it.

The traffic figures for the week were:—Passengers, 950; freight, 75 tons. P. B.

HESTON SPRING CRUISE.

THE Second Spring Cruise for members of Heston Air Park ended on Sunday, May 31, after a successful tour of France. The organisation was carried out by Airwork, Ltd., with the assistance of the Société Générale des Huiles de Pétrole, the French Branch of the Anglo-Persian Oil Company. The S.G.H.P. took the greatest trouble to ensure immediate fuel supplies at every point of call, and even presented members of the Cruise with a mounted map of France in a leather envelope, with telegraph forms, telephone numbers, addresses, and complete instructions to be used in case of forced landing. Maps and aerodrome information from the A.A. reduced navigation problems to a minimum.

Nine machines started, the pilots and passengers being:

Pilot.	Passenger.
Mr. H. N. St. V. Norman.	Mrs. Norman.
Mrs. G. Vereker.	Mr. G. Vereker.
Miss F. Crossley.	—
Miss A. Barton.	—
Mr. S. Davenport.	Mr. Bamber.
Mr. Downes-Shaw.	Mr. Graham Dawbarn.
Hon. L. O. Russell.	Mr. Madle (Airwork Mechanic).
Mr. R. Faulds.	Mr. Roskell.
Mr. N. B. Fuller (S.G.H.P.)	Mr. Blackwood.

The first rendezvous was for lunch at Douai, where the party was received by M. Jacques Breguet, a representative of the French Air Ministry, and a number of French private owners, among whom was Mr. Dick Farman. In the afternoon the party proceeded to Rheims. This being a Military Aerodrome, they received a charming welcome by officers of the 12th Régiment, and afterwards drove into the town and visited the remarkable Roman cellars of Messieurs Charles Heidieck et Cie.

An unfortunate misadventure occurred when Miss Barton made a forced landing to inquire her way. On starting up, the machine ran away, and finally turned on its back. After examination by the Airwork Ground Engineer, it was decided to send the machine to England for repair.

The following morning a stop was made at Beaune, which has an excellent landing ground very close to the town. The Hotel de la Poste lived up to its reputation in providing a delicious lunch "arrosé de Grands vins de Bourgogne."

In the evening the party landed at Lyons, where they had some difficulty in finding their way to the hangar owing to the fact that the grass in most places appeared to be up to upper wing-tip level.

The next stage carried the party to Marignane, the land and sea Air Station for Marseilles, where an excellent luncheon was shared with members of the local Aero Club and officers stationed at Berre. Shortly after leaving Lyons, Miss Crossley, who had little more than 25 hrs. solo flying to her credit, gave an excellent display of air-manship. Her engine failed owing to a broken connecting rod, and she had to make a forced landing. Fortunately, she was within two miles of the emergency landing ground at St. Rambert d'Albon, and had just sufficient height to reach it. Her approach and landing were observed by members of the party, who agreed that she showed perfect judgment. Arrangements were made to deliver a new engine to St. Rambert through Imperial Airways and S.T.A.R. Considerable difficulty was encountered in overcoming obstacles raised by the

Customs Authorities, and a heavy deposit had to be paid before the new engine could be cleared. The machine was ready for flight by Thursday evening, the accident having occurred on Monday at midday.

The party were met at Marignane by Mr. Edward Bret, who won the Coupé Zenithe on Mr. Alan Butler's King's Cup Moth. He accompanied the cruise to Cannes.

Magnificent apartments were arranged at the Hotel des Anglais, and later in the evening everyone adjourned to the Palm Beach Casino for a cocktail in the new Cercle Nautique, and dinner. The following morning the cruise proceeded to Avignon. After the formal welcome by the President of the Aero Club, a group of exquisite creatures in the peasant dress of the district was discovered in the hangar. The "contadines" offered bouquets to the ladies of the party, and proceeded from then on to captivate the remainder entirely. Luncheon was served out of doors under the trees by the river side, almost opposite the famous Pont d'Avignon and the Palais des Papes. The party were extremely reluctant to leave at last for the beautiful old town of Nîmes. Here a quiet day was spent at the new Hotel Imperator. During the afternoon, by the courtesy of Mr. Harmsworth, the party visited the famous spring where Perrier water is found and bottled. The programme allowed for arrival at Carcassonne just before sunset, and the first machines to start got through without difficulty. Owing to the advent of a bank of fog from the sea, however, four machines turned back and went on to Carcassonne early the following morning.

The next stopping place was Toulouse, where there is an excellent aerodrome. After an excellent caulet the party proceeded to Bordeaux. On the way from the aerodrome to the town a visit was paid to the famous château and vineyard of Haut Brion la Mission. An inspection was then made of the claret cellars of M. Jean Calvert. M. Calvert, who personally conducted the party, told a remarkable story of a bet which he had made and won that the contents of his cellars were sufficient to offer a pint of red and a pint of white wine to every member of the population of the British Isles! At dinner that evening a delightful surprise was found in the form of a number of bottles of excellent claret which had been sent to the hotel by M. Henry de Beaufort, who had been responsible for introducing the party to M. Calvert.

The following day the tour proceeded to Poitiers for a late luncheon. In the afternoon an aerial visit was made to the principal châteaux in the valley of the Loire. It was agreed that a delightful impression of these fine old houses can be gained from the air, and that this is probably the best of all ways to visit them. At Tours that evening Miss Crossley rejoined the party, having flown from St. Rambert with her new engine.

The party assembled for luncheon the following morning at a pleasant little restaurant at Vouvray. After lunch there was time for a visit by road to the Château de Chenonceaux, and a strong following wind enabled everyone to make a punctual arrival at Orly. Departure on the last day was somewhat delayed in order to allow members to examine some of the French touring aeroplanes assembled at Orly, and to receive the good wishes of the Fédération Nationale Aéronautique, who had been of such immense assistance in organising the tour and arranging special prices for its members at the various hotels.

The journey to Heston was broken at Le Touquet, where a special final luncheon had been arranged at the Hotel de Picardy.



A new version of the Avian, which is now at Heston. It belongs to Cellon, Ltd., and has a 7-cylinder Genet Engine. (Flight Photo.)



This is the first of a Series of Maps to help those planning foreign aerial tours.



GLIDING



THE BRITISH GLIDING ASSOCIATION.—July 4 is the proposed date for a large Conference of the gliding movement, which is being arranged by the Secretary of the B.G.A., and Harrogate is suggested as the most likely place. The Conference will be open to all clubs, whether affiliated or not, to come together to discuss club organisation, finance, training, insurance, and so on. Each club will be allowed to send not more than six delegates, and although the actual Conference will only be a one-day affair, it is quite likely that the clubs in the district, that is, Harrogate, Leeds, Bradford, Ilkley and Bolton, will stage a Show on the Sunday. The agenda will include the opening address, at 10.30 a.m., by Mr. E. C. Gordon England; "Club Organisation and Finance," at 11 a.m.; "Training," at 12 o'clock; lunch from 1 to 3 p.m.; "Co-operation between Clubs" at 3 p.m.; tea and informal discussion at 4 p.m.



Mr. Mole about to take off in the Scud at Rottingdean. The small size of this glider is very evident here.

THE SCUD.—During the week-end, May 23-24, Herr Kronfeld tried the Scud at Rottingdean. He took off in a wind of some 12 m.p.h., and started to soar below the top of the hill, after which he gained an altitude of several hundred feet above the top, and soared for 15 min. before landing back at his starting point. He said he regretted that he had no time to stay up longer, as he could have done had he wished. He expressed a great liking for the machine, and said he thought that the controls were ideal and not too sensitive for anyone except the veriest novice. He also thought, he said, that it was an ideal private owners' machine, owing to its robustness and small size.

SOARING OVER BERLIN.—Herr Fuchs, on June 1, made the first glider flight over Berlin. He was towed up by aeroplane from the Tempelhof Aerodrome, and stayed one hour above the city. On June 2, at 11.30 a.m., Herr Fuchs was towed up once again, and, taking advantage of a strong wind, he directed his flight eastwards, and at 1.45 p.m. landed on the aerodrome at Frankfurt-on-the-Oder.



SOUTHAMPTON GLIDING CLUB.—Mr. Lowe-Wyde visited Southampton recently and demonstrated his B.A.C. VII two-seater glider. The weather was particularly bad on the Saturday, but on Sunday flying was possible and Mr. Lowe-Wyde gave dual instruction to several members. Quite a large number of aircraft arrived, including many from the Hampshire Aeroplane Club, and the meeting assumed the aspect of a club flying meeting. Mr. King was there with a Desoutter and did quite a lot of joy-riding.

GLIDING AT NEWCASTLE.—The Lord Mayor (Alderman Adams) opened the new ground of the Newcastle Gliding Club at Denton Burn on May 24. Mr. A. H. Bell is the club's instructor, and he made the first flight on the club's glider, which has been built by Cranlington Aircraft, Ltd. Lady Chaytor, Vice-President of the club, gave a talk on "Gliding for Women." The President of the Club is Mr. W. L. Runciman, and the Secretary, Mr. A. T. Miller.

THE SOUTHDOWN SKYSAILING CLUB.—The Southdown Skysailing Club will be holding their annual flying meeting on August 1, 2 and 3, at which time Lyons' Tea Department will also hold their demonstration, while support has been promised from several clubs and manufacturers. Competitions are being organised, and all clubs, private owners and manufacturers are invited to take part. Storage will be available for a number of machines. The club also issues a cordial invitation to all gliding enthusiasts to use their ground at any time without charge for short periods. Particulars of membership can be obtained from the Hon. Sec., Crown Hotel, Brighton.



Capt. Joseph Thoret looking over his glider before taking off, and giving a demonstration of towed gliding at the Vincennes Meeting held on May 24 and 25. Capt. Thoret will be remembered by readers of "Flight" for the trips he gives over the Alps from the aerodrome of Passy-Le Fayet in his Potez machines. His knowledge of gliding has helped him a great deal when flying round Mount Blanc, and he has often made prolonged flights with his engine throttled right down.

AIR TRANSPORT

AIR SERVICES IN BOLIVIA

IN our issue for September 19, 1930, we published an article dealing with certain air services in South America, and we are able this week to supplement this article with some brief notes relating to the operations of the Lloyd Aereo Boliviano, the air transport concern operating passenger and mail services in Bolivia.

The "L.A.B."—a company of German origin which works in conjunction with the Junkers Company—has been



THE AIRWAYS OF BOLIVIA: Some of the Junkers machines used by the Lloyd Aereo Boliviano are shown in the illustration on the left and below, while a map of the air lines is shown on the right.

in existence since 1925, when it operated a mail service between Santa Cruz and Cochabamba, since when it has developed quite a fair-sized system of airways within the Republic.

In addition to a regular weekly service between Santa Cruz and Cochabamba and Valle Grande, fortnightly services are also run from Cochabamba to Sucre, Todos Santos, Trinidad, Santa Aña, Villa Bella and Riberalta, while monthly services connect Santa Cruz with San José, Roboré, Puerto Suarez and Corumba, and, eventu-

ally, Rio de Janeiro y Yacuiba, via Charagua and Villa Montes, en route for Buenos Aires.

Services are also run to La Paz, connecting with the Chilean and Pan American lines at Arica; there is also, apparently, a loop service, Santa Cruz, San Javier, Concepcion, San Ignacio and San José.

The machines used by "L.A.B." are Junkers all-metal monoplanes, land and seaplanes. Some idea of the traffic run by this company will be seen from the accompanying table, covering the period 1925—1931.

SIX YEARS' AIR TRAFFIC IN BOLIVIA

	1925	1926	1927	1928	1929	1930	1931 (Feb. 28)	Total, Feb. 28, 1931
No. of flights	118	196	263	750	826	1,116	150	3,419
Hours flown (hr., min.)	128:10	326:05	415:20	1,162:30	1,328:10	1,816:45	242:20	5,119:20
Distance flown (km.)	19,925	52,875	60,164	151,111	192,493	223,634	39,732	739,934
Passengers carried:								
Men	580	626	856	2,553	2,547	3,306	534	11,012
Women	30	283	171	323	270	301	59	1,447
Children	11	33	53	87	92	108	18	402
Total	631	952	1,080	2,963	2,909	3,715	611	12,861
Weight carried (kg.):								
Passengers	39,080	79,645	79,495	212,796	204,865	262,905	42,360	921,146
Mails	300	415	1,194	4,714	4,439	4,341	539	15,942
Luggage	3,100	4,101	7,152	22,370	23,115	27,220	5,120	92,178
Freight	300	400	9,414	16,017	26,433	38,730	5,554	96,848
Total	42,780	84,561	97,255	255,897	258,852	333,196	53,573	1,126,114



Cheaper Empire Air Travel

IMPERIAL AIRWAYS are finding it possible, in the development of their long-distance routes, to introduce considerably lower air-fares on the Empire air-lines to India and Central Africa, and many such reduced rates are now operative. Taking London-Cairo as an example, the previous single fare was £50, whereas the new single fare is £45. It has not been possible, hitherto, to offer reductions on return fares on Empire air routes, but now long-distance air travellers can effect appreciable savings in this respect. A return air ticket to Cairo and back can, for example, now be obtained for £81, as compared with £100 previously. Another example may be taken in the case of Baghdad. Here the previous single air-fare was £81, and the return £162. These figures are now £65 and £117, respectively. Karachi, India, 5,000 miles from London, can now be reached in only a few hours over five days by air at a cost, for a reduced single fare, of £98; only £6 more, it may be mentioned, than the first-class fare by surface transport for a journey occupying 17 days. The new return air-fare, so far as Karachi is concerned, is £176 10s., showing a reduction of as much as £65 10s. on the previous return air-fare. The reduced air-fare from London to Kisumu, on the Imperial Airways Central-Africa route, is £2 less than a first-class journey by surface transport—the figures being £95 and £97, respectively; and yet the air route saves as many as 23 days. Any traveller flying to Central Africa and back by Imperial Airways can now save over 40 days as compared with a similar return journey by land and sea, and do so at a less cost than by first-class surface transport.

Air Mail to the North Pole!

You can mail yourself a letter from the north polar region under arrangements just completed between the Luftschiffbau Zeppelin Corporation, the Wilkins-Ellsworth Transarctic Expedition and the Russian Government. F. W. von Meister, special American representative for Luftschiffbau Zeppelin, operators of the German dirigible *Graf Zeppelin*, announced that souvenir mail for transportation over the Arctic or under the Arctic or for posting from Franz Josephs Land, where the northernmost post office in the world is located, would be received at his office at 578, Madison Avenue, New York City, up to July 3. The mail will be carried by the airship when it leaves Friedrichshafen and Berlin, about July 15, for her first voyage to the polar region, where it will attempt contact with the transarctic submarine, *Nautilus*, and an icebreaker which will be in the Arctic during the summer with a Russian scientific expedition. The *Nautilus* is scheduled to sail from Spitzbergen for Alaska about

July 12. If contact is established, it is planned to transfer mail from the airship to the submarine and the icebreaker, which mail will then be carried back by those craft. The dirigible will land at Franz Josephs Land, only 500 miles from the North Pole, and here more mail will be dropped to receive a Russian cachet in the Franz Josephs Land post office, and to be returned by means of dog sleds and icebreaker some time later in the summer. Special cachets for this first Arctic cruise of the *Graf Zeppelin* will be used on all the mail carried. To rates of one and two dollars per letter, there will be added a surcharge of ten cents per letter to cover the cost of handling, sorting and numbering the mail, forwarding it registered to Germany, affixing the stamps in Germany, and delivering it to the German postal authorities. Postal cards will cost one-half the letter rate. The letter price schedule follows:—Friedrichshafen via Arctic to Friedrichshafen, round trip, \$1.10; Berlin via Arctic to Friedrichshafen, \$1.10; Friedrichshafen, drop mail to *Nautilus*, \$2.10; Berlin, drop mail to *Nautilus*, \$2.10; Berlin, drop mail to Franz Josephs Land, \$1.10; Friedrichshafen, drop mail to Russian icebreaker, \$1.10; Berlin, drop mail to Russian icebreaker, \$1.10.

New U.S. Air Lines

DETROIT Aircraft Corporation officials announce the opening of two new passenger airlines operating fast Lockheed equipment, when the New York & Western Airlines and the Midland Air Express will start operations this month, according to Karl S. Betts, general sales manager. The New York & Western line, with headquarters at Pittsburgh, has already inaugurated the first high-speed run from Pittsburgh to New York, with stops at York, Pennsylvania, and Camden, New Jersey. The scheduled travel time is 2 hr. 10 min., as compared to the fastest former schedule of 3 hr. 15 min. between the two cities. The New York & Western Company will take delivery of two new Lockheed Orion transports on June 1, and these planes, with their retractable landing gear, will maintain the fastest schedule of any airline in the world. The Orion, carrying six passengers and baggage, will cruise at approximately 175 miles per hour. The Midland Air Express will operate from Fairfax Airport at Kansas City, Kansas, using two Lockheed Vegas on the run to Sioux Falls, S.D. This line will make connections with the Braniff Lockheed lines from Port Worth and Chicago at Kansas City. Lockheed planes are now being flown on eleven airlines in the United States and Mexico, carrying passengers, baggage, and mail. Operation records show that schedules are being maintained at an average speed of over 150 miles per hour.

A VICKERS INNOVATION

VICKERS, LTD., opened a Showroom which they have arranged at Vickers House, Broadway, Westminster, on Thursday, May 28. The exhibits included representative productions of all that enormous amalgamation of interests coming under the head of the Vickers organisation, and comprising so many industries that a list of them would more than fill a page of FLIGHT. The four main companies of the group are Vickers, Ltd., Vickers-Armstrong, Ltd., English Steel Corporation, Ltd., and Metropolitan-Cammell Carriage, Wagon & Finance Co., Ltd. The occasion was marked by a Luncheon given at the St. Ermins Hotel, at which Mr. Douglas Vickers made a short speech of welcome to the Press representatives and others present, and gave them a brief idea of what was to be seen in the showroom. On the aviation side, very prominently placed in one of the main windows, was a large part of the fuselage of a Vickers "Wildbeest" Day Bomber and Torpedo aircraft, which was well shown and beautifully finished, complete with a torpedo slung ready for use and two types of bombs under the stub wings.



There were also models of the Vickers Vimy, which was the first machine to make a direct crossing of the Atlantic, and the Supermarine S.6, which won the Schneider Trophy Race in 1929. Many of the aircraft accessories for which Vickers are famous are also shown, as well as a range of photographs.

The showroom is a veritable museum and well worth a visit of everyone who is interested in armaments and modern industrial machinery.

AIRISMS FROM THE FOUR WINDS

Our Flying Prince

As briefly reported last week, the Prince of Wales paid a flying visit to Southampton on May 27, in order to inspect the new Canadian Pacific liner *Empress of Britain*. The Prince flew from Hendon to Southampton in his D.H. "Puss Moth," piloted by Flt.-Lt. Fieldon, and, after inspecting the liner, he raced across Southampton Water to Hythe in a speed boat, and then boarded one of the new Short "Kent" flying boats, *Satyrus*, built for Imperial Airways, which Major Brackley had flown down from Rochester earlier in the day. Sitting beside the pilot in this machine, the Prince once again took the air, and soon overtook the *Empress of Britain*, which was steaming down the Solent. Several circuits were made over the liner, and then the flying boat returned, after having passed over Calshot air station, Cowes, and the White Star liner *Olympic*. The Prince then returned to Hamble and flew back in the "Puss Moth" to Hendon, arriving there at about 4 p.m. On June 1 the Prince, who had been spending the week-end at Burrough Court, Melton Mowbray, as guest of Viscount Furness, flew thence to Hendon from Katcliffe aerodrome.

Holiday Air Tour Round the World

MR. AND MRS. C. H. DAY, of Ridgewood, New Jersey, left Heston aerodrome on May 30 for a holiday tour round the world in a biplane specially designed for the trip by Mr. Day. Their plan is to fly by easy stages to Paris, Brussels, Berlin, Constantinople, Palestine, Iraq, India, China, where they will ship the plane home across the Pacific.

Flt.-Lt. Scott's Progress

FLT.-LT. C. W. A. SCOTT, who recently established an England-Australian flight record, is making good progress on his return flight home. He left Wyndham on May 26, reached Sourabaya the same day, Batavia on May 27, Singapore on May 28, and Rangoon on May 29. We next hear of him having left Karachi on June 1, and reaching Basra next day. Although he said he was going to "take it easy" on the homeward trip, it looks as if he will beat his own 9 days 4 hr. 11 min. for the outward trip! Scott is flying a D.H. "Gipsy Moth."

A Fast Indian-England Flight

LEAVING Karachi at 1.40 p.m. (local time) on May 24, Pilot Officer J. Grierson, piloting a D.H. "Gipsy Moth" (purchased second-hand only a few weeks previously), arrived at Lympne aerodrome at 7.40 p.m. (B.S.T.) on May 28. The time difference between Karachi local time and G.M.T. is 5½ hours. His own elapsed time, therefore, is 4 days 6 hours, plus 5½ hours difference between Karachi and G.M.T., minus 1 hour allowance England summer time = 4 days 10 hours 30 minutes. This appears to be record time for a flight in a light aeroplane from India to England. It was announced on June 2 that P.O. Grierson was placed under open arrest at the R.A.F. Depot, Uxbridge, for having left India without official leave.

Another England-Australia Flight

It is reported that Mr. Guy Menzies—who flew from Sydney to New Zealand in the Avro "Avian" *Southern Cross Junior*—is on his way to England to complete plans for a flight from England to Australia, beating Flt.-Lt. Scott's record.

South African Girl's Bid for Air Record

MISS H. SIDDLE, of Durban, who learnt to fly less than a year ago, is planning a solo flight from Cape Town to London in a "Moth," and hopes to beat the late Lt.-Com. Kidston's record of 6½ days for the outward flight.

Mrs. Montagu Proceeds

THE HON. MRS. EDWIN MONTAGU is continuing her interrupted air tour of Persia and Russia, and arrived in Moscow from Tashkent on June 1. She is accompanied by Mr. Rupert Bellville.

Tokio-Europe Flight

TWO JAPANESE airmen, Mr. Kurimura and Mr. Kuma Kuwa, left Tokio on May 28 in an aeroplane called *Young Japan* for Europe, via Siberia.

Do.X Off at Last

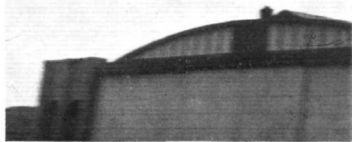
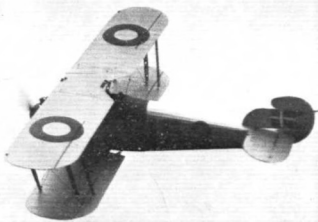
REPORTS state that the German flying-boat Do.X, which is essaying a flight across the South Atlantic, has arrived at Praia, Azores, from Polama, Port. W. Africa.

Air Stamp "Errors" at Auction

THE three Swedish air post stamps of 1920, with the overprint "inverted," realised £20, and a similar "error" of the Russian 15 kopecks (1924) £17 10s., in the Bond Street Stamp Auctions recently.

Ten Miles up in a Balloon

ON Wednesday, May 27, was made the most remarkable balloon ascent in the history of aeronautics. Two Swiss scientists, Professor Piccard and Dr. Kipfer, made the ascent in order to take observations of certain rays which can only be properly observed in the stratosphere, or altitudes at which human life cannot be preserved without artificial help. The attempt was financed by the Belgian Government. The two aeronauts (Professor Piccard had made many balloon ascents and had taken part in a Gordon Bennett race) were cased in an air-tight sphere, made of an aluminium alloy, with a diameter of less than seven feet. They carried supplies of oxygen and food as well as their instruments. The ascent was made from Augsburg in Bavaria about 4 a.m., and in the first 25 minutes the balloon ascended rapidly to a height of over nine miles. Ultimately it reached an altitude of 52,000 feet, or nearly 10 miles. A higher altitude could have been reached by dropping ballast, but the gas valve was found to be out of order, and so Professor Piccard decided to husband his ballast of lead dust. The descent could not be carried out until the gas cooled after nightfall. Meantime the balloon was carried over the Alps. Apparently the valve began to function again when lower altitudes were reached, and at last a safe landing was made at 10 p.m. on the Grosse Gurgel glacier in the Austrian Tyrol. The two men spent the night in the gondola, and next morning had begun to descend the glacier, when they were met by a search party. It is understood that the scientific results of the flight have been very satisfactory, though some observations could not be made owing to the need of attending to the control of the balloon. The complete scientific report cannot be prepared for some time.

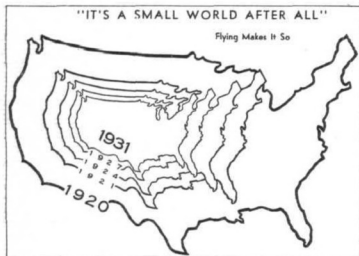


"THAT WAS A GOOD AEROPLANE THAT IS":

Reversing the now famous "Shell" slogan seems apt in connection with this Hawker "Danecock" with Armstrong-Siddeley "Jaguar" engine which, although delivered by the Hawker Company to the Danish Naval Air Service in 1924, has recently won the Nordic Cup Competition piloted by Lieutenant Erik Rasmussen, Royal Danish Navy. The course was one of 800 miles, and pilots from Norway, Sweden, Finland and Denmark took part. The "Danecock" is still the standard fighter in Denmark, and the same officer and machine still hold the Scandinavian altitude record established just over two years ago. (Flight Photo.)

The Shrinking U.S.A.

THE gradually diminishing size of the United States of America indicated in the outline sketch map on this page is not due, as might be supposed at first, to the States having gone "dry." The Volstead Act is not to blame this time, but rather the Wright Brothers. The map is reproduced from a little booklet entitled "Graphic Facts about Aviation," compiled by Carl Byoir & Associates, of New York. The booklet, a copy of which has been very kindly sent us by Mr. Lester D. Gardner, contains, in readily-grasped form, statistics and graphs of the



development of flying. The data relating to the map of the U.S.A. show that in 1920 it took a fast train 74 hrs. to cross the American Continent. By 1930 this had been reduced to an air transport time of 29 hours. In 1912 Fowler took 151 days of elapsed time to fly from Jacksonville, Florida, to San Francisco. In 1930 Hawks flew from Los Angeles to New York in 12 hours. In 1926 the air mails carried in the United States totalled 810,000 lb. In 1930 this figure had increased to 8,005,000 lb. In 1927 there were 1,600 licensed pilots in the U.S.A. In 1930 there were 16,000. Of private aeroplanes, there were 400 in 1922 and 5,000 in 1930. In 1927 there were 5,500 miles of airways, of which 2,200 miles were lighted for night flying. In 1930 the total number of miles had increased to 30,000 miles, of which 16,000 miles were lighted for night flying. The booklet is full of information of this sort, and forms an excellent picture of the recent growth of aviation in the United States.

New Endurance Record

THE world endurance record of 75 hours 25 minutes for an aeroplane flight without refuelling, established recently in North Africa by two Frenchmen, was broken on May 28 by two Detroit airmen, Mr. Walter Lees and Mr. Frederick Brossy, in a Packard Diesel-engined monoplane. They remained aloft for 84 hr. 33 min.

A Canadian Altitude Record

A NEW Canadian aeroplane altitude record was set up at Cartierville, Quebec, on May 27, when Captain J. D. Parkinson, in a small two-seater Curtiss biplane, climbed to more than 4½ miles, beating the previous record by 2,000 ft. It is reported that a similar machine has been entered for the King's Cup Air Race by a Canadian airman, Mr. J. C. Webster.

International Commission on Air Navigation

THE 19th session of the International Commission on Air Navigation was due to open on Wednesday, June 3, in London, at the Queen Anne Room in St. James's Palace. It was to be opened by Lord Amulree, Secretary of State for Air, and further plenary sittings will be presided over by Col. Sheldermine, Director of Civil Aviation. It was expected that the Prime Minister would address the Commission on the morning of Friday, June 5. Most of the work of the Commission is done by subjects sub-commissions, which consider such subjects as materials, wireless, the medical side, maps, etc. There are 27 contracting nations, including the British Dominions. Among the most interesting points which will be discussed will be the possible interference with flying of overhead electric power wires, which, with their supporting pylons are now stretching rapidly over Great Britain, as they already do over various Continental countries; and a proposal by the Czech delegates that a "B" licence should only be granted after a candidate has given practical proof of his ability to pilot an aeroplane in conditions of no visibility.

If we Win the Schneider!

IF Great Britain is victorious in the Schneider contest on September 12, the trophy will become the permanent possession of the Royal Aero Club of the United Kingdom. The series of international seaplane contests connected with this trophy would then come to an end. If that should happen, it is reported that Lady Houston proposes to offer a new trophy to take the place of that presented by the late M. Jacques Schneider. It is not certain that this proposal has yet been laid before the F.A.I., and, indeed, it would be premature for that to be done before the fate of the Schneider Trophy has been settled.

The Indian Air Force Scheme

THE Simla correspondent of *The Times* reports that when the Indian Sandhurst Committee met on June 1, Air Vice-Marshal Sir John Steel, A.O.C. in India, pointed out that a college designed to train all arms could not undertake expert technical instruction, which demanded a post-graduate course at a flying training school in England or Egypt. The cost of training each cadet at Cranwell was £1,000, a figure which would be prohibitive if applied to an Indian college. The new school at Karachi would not provide a flying course for officers.

Two Well-Known French Pilots Killed

THE well-known French pilots, M. Marcel Lalouette and M. Jean de Permange, who were attempting to establish a world's record for a flight in a straight line between Paris and Tunis, were killed on May 30 when their aeroplane crashed into the sea off Barcelona.

Japan-America Flights

LITTLE news has been to hand of Mr. Seiji Yoshizawa's flight from Tokio to San Francisco since he left Japan on May 4, except that on May 6 he was held up by bad weather at Nemuro, and reached Naibo Island (Kuriles.) on May 9.

MEANWHILE Mr. Thomas Ash, an American airman, flew on May 29 from Tokio to Sabishiro Beach, whence he will attempt a direct flight to Tacoma, Washington.

The Royal Aeronautical Society

At the last council meeting of the Royal Aeronautical Society Mr. C. R. Fairey was unanimously elected president of the society for a second term of office. Professor L. Baird, Lieut.-Colonel J. T. C. Moore-Brabazon, and Mr. H. E. Wimperis were re-elected vice-presidents. Mr. Griffith Brewer was unanimously elected a vice-president in place of Air Vice-Marshal Sir Vyell Vyvyan, who resigned from the council in March, 1931.

A Spartan in Scandinavia

A SPARTAN (Hetties) has been operated by Mr. Omsted in Scandinavia for the past eighteen months without the slightest difficulty, and on the Monday before Easter Mr. Omsted, together with Lieut. Aagenæs, made a flight over Galdhøpiggen, which is the highest mountain in Norway.

Starting from Fagernes, at about 11.30 a.m., they went in the direction of East Slidre over the mountains of Jotunheimen. The weather was clear and the visibility over the mountains excellent, and at Visdalen the machine was already 8,858 ft. (2,700 m.) high. The flight was then continued over Galdhøpiggen to Glitretind and thence via Bøverdalen back over, roughly, the same route which had been followed on the outward journey to Fagernes, the total time taken being 1 hr. 40 min. During the whole time Mr. Omsted took photographs and many feet of cinematograph film, thus obtaining a record of country over which aircraft have probably never been before.

Several similar journeys have been made over other mountain ranges, and, in all, the machine has flown some 45,000 miles without any trouble at all, under exceptionally severe conditions and always landing on ice or snow. This speaks extremely well for the Spartan and for the care which has been taken in its design to make it strong enough for arduous service in any part of the world.

The Slot in Sweden

IN our issue of May 22, in the article on the Stockholm Aero Show, reference was made to the fact that the demonstration model, showing the working of the Handley Page automatic slot, was not functioning. Handley Page, Ltd., have asked us to point out that a large description in Swedish explained the working of the model, while Herr Angstrom gave actual demonstrations twice a day. Our notes were written after a visit to the exhibition during the first day, and at that time the model was definitely maintaining an attitude of masterly inactivity. With many other calls on our time, we did not again see the model, and we are quite prepared to believe that very convincing demonstrations were being given on subsequent days.

THE ROYAL AIR FORCE

London Gazette, May 26, 1931.

General Duties Branch

The following Flying Officers are granted permanent commns. in this rank (Jan. 27):—G. Bartholomew, J. R. Whitley. The following Sub-Lieutenants, R.N., are granted temp. commns. as Flying Officers on attachment to R.A.F. (May 17):—L. C. B. Ashburner, P. H. Cardew, J. W. S. Corbett, J. N. Garnett, A. F. Hall, P. L. Jamison, F. E. C. Judd, P. G. O. Sydney-Turner, J. M. Wainour. The following Pilot Officers are promoted to rank of Flying Officer (March 27):—T. B. Cooper, P. E. Hudson (with seniority of September 27, 1930).

Medical Branch

R. N. Kinnison, M.B., Ch.B., is granted a Short-Service Commn. as Flying Officer for three years on Active List, with effect from and with seniority of May 12.

ROYAL AIR FORCE INTELLIGENCE

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

General Duties Branch

Squadron Leader J. F. Gordon, D.F.C., to R.A.F. Depot, Uxbridge; 13.4.31.
Flight Lieutenants: K. E. Ward, to R.A.F. Depot, Uxbridge; 26.4.31. F. H. Ronksley, M.C., to No. 4 Flying Training Sch., Egypt. F. F. W. Hall, to Aircraft Park, Lahore, India; 17.4.31. E. C. de V. Lart, to No. 19 Sqn., Duxford; 18.5.31.
Flying Officer A. R. Sarel, to Station H.Q., Hal Far, Malta; 1.5.31.
Pilot Officer R. H. Preller, to No. 5 Flying Training Sqn., Sealand, on appointment to a short-service commn.; 12.5.31.

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

E. W. Percival is granted a commn. in Class A as a Flying Officer on probation (April 20); Flt.-Lieut. C. A. Elliott is transferred from Class C to Class B (Jan. 16); Flying Officer J. E. Hunt is transferred from Class A to Class C (April 20); Flt.-Lieut. A. J. G. Sistrup, M.C., A.F.C. (Lt. R.A., R.A.R.O.), relinquishes his commn. on completion of service (Jan. 18); the commn. of Pilot Officer on probation W. Hill is terminated on cessation of duty (May 1).

Medical Branch

Flt.-Lieut. R. F. T. Grace, M.D., ceases to be employed with the Regular Air Force (May 19).

Stores Branch

Flight Lieutenant O. G. Ridley, M.C., to R.A.F. Depot, Uxbridge; 24.4.31.

Accountant Branch

Flight Lieutenant J. M. Hopkins, to Station H.Q., Hinaidi, Iraq; 13.4.31.
Flying Officers: J. P. Cave, to H.Q., R.A.F., Middle East, Cairo, Egypt; 27.4.31. R. Cassels, to Station Headquarters, Hinaidi, Iraq; 1.4.31. D. Sender, F.W. Judge, both to Station H.Q., Hinaidi, Iraq; 28.4.31.

Medical Branch

Flying Officer D. Breen (Quartermaster Medical), to No. 1 Stores Depot, Kidbrooke; 9.6.31.

Dental Branch

Flying Officer J. J. Lawson, to R.A.F. Depot, Uxbridge; 18.5.31.

BIRTHDAY HONOURS

The following appear in the official list of honours conferred by His Majesty the King upon the occasion of his sixty-sixth birthday:—

Order of the Bath

G.C.B. (Military Division)

Air Chief-Marshal Sir John Maitland Salmond, K.C.B., C.M.G., C.V.O., D.S.O., LL.D., R.A.F.

K.C.B. (Military Division)

Air Vice-Marshal Charles Laverock Lambe, C.B., C.M.G., D.S.O., R.A.F.

C.B. (Civil Division)

Cecil Fane de Salis, Esq., D.L., J.P., Chairman, Territorial Army and Air Force Association of the County of Middlesex.

Order of the British Empire

(Military Division)

D.B.E.

Miss Joanna Margaret Cruickshank, C.B.E., R.R.C., late Matron-in-Chief, Princess Mary's R.A.F. Nursing Service.

C.B.E.

Wing Commander William Wood Shorten, F.R.C.S.(E.), L.R.C.P., R.A.F.

O.B.E.

Squadron Leader George Frederick Law, R.A.F.
Flight Lieutenant Herbert William Heslop, R.A.F.
Flight Lieutenant Frank Woolley, D.F.C., R.A.F.

M.B.E.

Flight Lieutenant Frederick Ernest Bishop, R.A.F.
1st Class Assistant Surgeon Richard Campbell Gale, Indian Medical Service (attached Iraq Levies).
No. 1382 Sergeant-Major, 1st Class, Glendor Godfrey Nicholas Marshall, R.A.F.
No. 202144 Sergeant-Major, 1st Class, James William Dunk, R.A.F.

(Civil Division)

C.B.E.

Richard Francis Malachy Pearson, Esq., M.I.C.E., Deputy Director of Works and Buildings, Air Ministry.

M.B.E.

George Darling, Esq., for services on the occasion of the loss of the R.101.

Medal for Meritorious Service

(Military Division)

No. 364636 Corporal George William Emeny, R.A.F.; No. 365191 Corporal Robert Fairfax Lucy, R.A.F.; No. 510375 Aircraftman, 2nd Class, Charles Marsh, R.A.F.

(Civil Division)

Albert John Saunders, D.S.M., Supervising Messenger, Air Ministry.

Royal Air Force

Air Force Cross

Squadron Leader Hubert Wilson Godfrey Jones Penderel, M.C.
Flight Lieutenant James Ramage Addams.

Air Force Medal

912 Flight Sergeant (Pilot) Henry Thomas Inglis.
349707 Sergeant (Pilot) Charles Tompkins.

Princess Mary's R.A.F. Nursing Service

Royal Red Cross (First Class)

Miss Maggie Moddrell, Matron, Princess Mary's R.A.F. Nursing Service; in recognition of exceptional devotion and competency displayed in R.A.F. hospitals.

Royal Red Cross (Second Class)

Miss Dorothy Vincent Mansell, Sister, Princess Mary's R.A.F. Nursing Service; in recognition of special devotion and competency displayed in the nursing and care of the sick in Princess Mary's R.A.F. Hospital, Halton, during the recent outbreak of cerebro-spinal meningitis.

Distinctions on No. 1 F.T.S.

The undermentioned officers have been awarded special assessments, as shown hereunder, on completion of a course of *ad initio* training at No. 1 Flying Training School:—

Distinguished Passes.—Pilot Officers L. A. Hutchings, L. T. G. Barber, D. M. Gordon, G. S. Barrett, J. A. Hankins, R. C. H. Crosthwaite. Notations have been made in the official records of these officers.

Henry Leigh Carlake Prize Essay

The Admiralty announce that the subject of the essay for the 1932 award of the Henry Leigh Carlake prize for naval observers is as follows:—
"The advantages and disadvantages of small aircraft carriers (10,000 tons or less) as compared with large (20,000 tons or over), both from the point of view of the British Empire and other Powers." Essays must reach the Admiralty by February 1, 1932.

AIR POST STAMPS

By DOUGLAS ARMSTRONG

ALL over the world Air Post Collecting is enjoying an extraordinary vogue. At the international stamp bourse held in London last month, foreign visitors reported that air post stamps were the chief feature of the stamp market in their respective countries. Everyone was anxious to buy the rarer varieties, but, although there were plenty of the cheaper lines on offer, the great rarities were conspicuous by their absence. A leading American dealer stated that he had recently sold for £500 each two copies of the rarest air stamp, the 24 cents United States with "inverted aeroplane," and was open to purchase a third if it were available; which is an indication of the present strength of the market.

First Australian Air Mail

While no special stamp was provided in connection with the first Australia-England air mail, received in London on May 14, a good proportion of the 60,000 letters carried bore the new 6d. Kingsford-Smith air stamp in part payment of the postage, which varied from 1s. 10d. to 2s. 2d., according to weight. A tasteful souvenir envelope was provided by Imperial Airways, and a souvenir cachet was also applied in violet to the majority of flown covers. This is an elaborate affair, containing the inscription, "Commonwealth of Australia.—Australia-England.—First official air mail flight from Melbourne, Australia, to London, England," together with the date, "April, 1931," on a winged shield, the whole enclosed in a plain rectangular frame. A first price on these covers in the collectors' market is round about 8s., and, in view of the large mail carried, it is doubtful if they will go much higher for some time to come. Small mails were also picked up *en route* from New Zealand, Straits, and India, but in the latter instance only was a distinctive postmark applied. In the circumstances, the "stages" should turn out to be better than the through flight covers.

New Sudan Issue

An order for a set of permanent air post stamps has been placed by the Sudan Government with the London firm of De La Rue & Co., and will consist of 5, 10, 15 millimes, 2, 3, 3½, 4½, and 5 piastres. One of the designs will show, it is understood, a herd of elephant stampeding from the shadow of an aeroplane, whilst another may represent the Gordon Statue at Khartoum. It is expected that the new stamps will be ready for release in June coincident with the opening of the through air mail service from London to Cape Town.

Latest Issues

Three new values have been added to the current air stamp series of the Dutch East Indies (Java), in a fantastic design by the native artist, Mas Peringadi, incorporating a landscape view and three dragons, surface printed at Haarlem in the following colours, viz., 30 cents, deep purple; 4½ gulden, blue; and 7½ gld., green. Germany has just issued a 1-mark "Zeppelin" mail stamp, printed in carmine, in the general type of 1928, showing the airship over the world, preparatory to a special flight which is to be made to Iceland in June. Several new values are now included in the pictorial air mail stamps of Syria and Lebanon, showing aeroplanes in flight over local scenes. A supplementary tax upon inland correspondence in Roumania in favour of the development of the national air service is denoted by a handsome set of three particular stamps, bearing a picturesque vignette of an aeroplane soaring over the Carpathians, and comprising 50-bani greenish-blue for postcards, 1-Lei brown for letters, and 2-Lei blue for registered matter. With the avowed object of raising funds for the construction of two Soviet airships, the Russian Government has put on sale five stamps of striking design, of which the 10-kopeks violet depicts a dirigible flying from East to West over the Soviet Union; the 15-kop. blue, the airship passing over an industrial kaleidoscope; and the 20-kop. red, over Lenin's tomb. Aerial exploration of the North Polar regions is exemplified in the vignette of 50-kop. brown, whilst the 1-rouble stamp represents an airship under construction. From Mexico comes a special 25-centavo stamp by way of propaganda for the aeronautical exhibition promoted by the Aero Club of Mexico, printed in claret, with a panorama of the aviation field. The total issue of this publicity stamp is limited to half-a-million copies.

S.C.A.D.T.A. Stamps' New Status

By virtue of the agreement lately concluded between the Columbian Government and the Sociedad Colombo Alemana de Transportes Aereos, whereby the air mail service operated by that concern is placed under direct government auspices, will give an official status to the air post stamps of that country, which up to now have been only semi-official in character. As a result it may be expected that they will figure in future in the standard stamp catalogues, in company with the other official issues, in which case an all-round rise in value will doubtless ensue. Meanwhile, it is reported that a new set is in active preparation.

PUBLICATIONS RECEIVED

The Aviation Year Book, 1931. By Charles E. Lee. London: Sampson Low, Marston & Co., Ltd. Price 10s. 6d. net.
Strömungslehre an Hand von Strömungsbildern. By Dr. Ing. Bruno Eck, 13, Eburonenstrasse, Cologne, Germany. Price 5.80 M.
The War in the Air. Vol. III. By H. A. Jones. London: Oxford University Press. Price 17s. 6d. net.; with volume of maps, 23s. 6d. net.
National Physical Laboratory Report for the Year 1930. Department of Scientific and Industrial Research. H.M. Stationery Office, Kingsway, London, W.C.2. Price 12s. 6d. net.

NEW COMPANIES REGISTERED

AERO-ELECTRICAL EQUIPMENT CO., LTD., 46, Victoria Street, S.W.1.—Capital £100, in £1 shares. Objects: Electrical, mechanical and constructional engineers, manufacturers and suppliers of all kinds of electrical apparatus, instruments and machines for use in connection with aviation, etc. Provisional directors: E. A. B. Snowden, 7, Woodlands Road, Barnes Common, S.W.13, radio engineer, R. Hollerhead, 58, Foxearth Road, Sealdon, South Croydon, radiotelegraph traffic manager.
BRITISH ROAD AND AIR CLUB, LTD.—Capital £100, in £1 shares. Objects: to maintain and conduct a club for the purpose of social intercourse and recreation, and in particular to provide comfortable country club houses, grounds and club quarters throughout the British Isles for persons engaged in road and air travel, etc. Permanent governing director and chairman, R. N. Tebb, 88, Knightsbridge, S.W.1.

AERONAUTICAL PATENT SPECIFICATIONS

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

APPLIED FOR IN 1929

Published June 4, 1931
34,199. C. A. W. Wood. Aircraft. (348,125.)

APPLIED FOR IN 1930.

Published June 4, 1931
8,857. R. N. BULLOCK. Method of and means for reducing the air resistance of aircraft, etc. (348,233.)
10,153. SIR F. H. ROYCE. Regulation means for L.C. engines for aircraft. (348,318.)
10,630. M. J. B. BARBAROT. Variable-pitch propellers. (348,322.)
11,339. J. SCHUBERT. Two-stroke radial-cyl. i.e. engines. (348,332.)
11,801. H. BOLAS and R. J. G. CROUCH. Alighting-gear for aircraft. (348,334.)
18,213. E. SHAFER. Revolving-cyl. i.e. engines. (348,429.)
22,487. KNORR-BREMSE AKT.-GES. Control gear for aircraft. (348,472.)
27,495. R. HANCL. Balancing-devices for aerial machines. (348,490.)
28,528. R. DRYMOND. Picking up and deposition of articles by aircraft or other moving bodies. (348,492.)

FLIGHT, The Aircraft Engineer and Airships.

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

Telephone (2 lines): Holborn, 3211.

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