

SECOND INSTALMENT

My Flight to India

By Air Vice-Marshall Sir Sefton Brancker, K.C.B., A.E.C.

As mentioned last month, this historic flight to India left England on the 20th November, returning on the 17th March following, and in over four months' active work covered 18,000 miles. During that time they had not a single forced landing through a material defect and the aeroplane totalled over 200 hours in the air. Last month's instalment covered the flight from the start to landing at Constantinople.—EDITOR.

AFTER a very pleasant flight against a head wind, we landed at Konia. Here the aerodrome was almost an hour's drive from the city. The Turkish Air Force had most kindly sent a detachment to help us; they had put up a telephone line from the aerodrome to the town; placed a meteorological officer at our disposal, and provided fuel and oil to meet us on landing. The local Governor invited us to an evening party with Turkish music, and there we met the general officer commanding the local division and the head of an extremely holy sect of dervishes. They wanted to show us everything, and expressed the hope that we could stop at least a week. The hotel was not of the best, and I gathered that most of the bedrooms were very lively. Mine was all right, but Cobham was forced to come and share my accommodation as he simply could not face the crawling population in his own!

The next morning broke very cold, with low cloud and threatening snow, and as we flew towards Eregli, the weather got worse and worse, with rain, sleet and snow in succession. At one point we seriously considered turning back, but fortunately decided to try for another half-hour, by which time half our petrol would be gone. Then the weather began to clear, and we caught glimpses of a range of high snow-clad mountains on our right and away in front. A quarter of an hour past Eregli we turned south, and made for these mountains. The actual watershed was some considerable distance north of the main line of peaks, and we slipped over it at 5,500 feet, scarcely realizing we had crossed it. On the southern side the country got worse and worse; low clouds came rolling down on the mountains all round, and we were forced to fly down narrow gorges with precipices on either hand and a

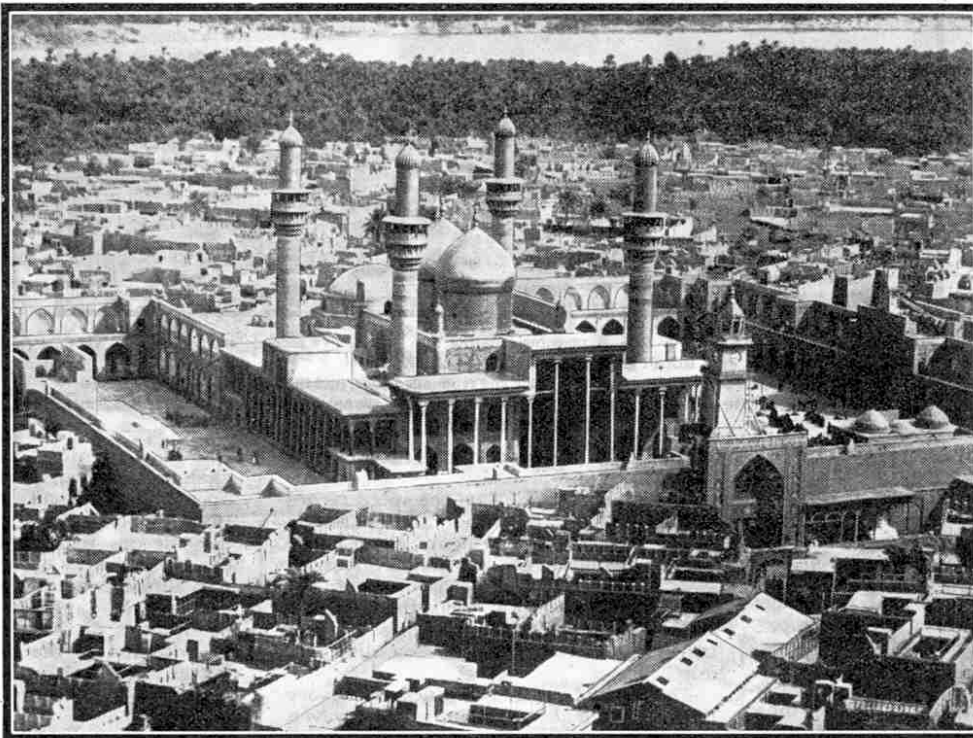
roaring torrent away down at the bottom. The lower we got, the lower came the clouds, and there were moments when I thought we should have to turn round and try to get back to the top again. Then suddenly we had a glimpse of comparatively flat country, and ten minutes afterwards we were out over the broken foothills of the north of Adana.

We had meant to push on to Aleppo, but the wind was against us, and it became obvious that our fuel would not take us there, so we turned to the south and made for Alexandretta. As we came opposite the mountains that run north from Alexandretta, we encountered a most thorough bumping—evidently an easterly gale was blowing over these mountains and coming down on top of us. Elliott, I, and the baggage began to bounce about the cabin like peas in a

tambourine, and personally I only just had time hastily to swallow some seasick mixture to avoid being thoroughly ill. At Alexandretta, the aerodrome is small and close under the mountains, and Cobham had quite a difficult feat to land safely. We encountered a tremendous down current when we were only about 200 feet up, and I thought for a moment we were going to crash.

The hotels of Alexandretta are best left undescribed, but, fortunately, the local British Consul, Mr. Catoni, insisted on entertaining us, and we had thoroughly comfortable quarters.

The next day we started for Aleppo in a high wind and heavy rain. Here the aerodrome proved to be very soft, and it at once became evident that we could not get off without a risk of breaking the propeller with flying stones. The French Flying Corps were splendid, and, whilst they entertained us to an excellent lunch,



The wonderful city of Baghdad, seen from the air

they turned out a detachment and manhandled the machine, fully loaded, across to a hard bit of ground to the north of the aerodrome. It was not until about four o'clock that we managed to get away. It was still raining, and the clouds were right down, so we flew at about 30 feet on a compass course until we struck the Euphrates, where we turned down the river and eventually landed at Rakka, a small French air post at which was stationed one escadrille. Here, again, entertainment was lavish, and we spent a very cheerful evening in the aviation mess.

The next morning we nearly had a disaster. Continuous rain had made the apparently hard aerodrome very treacherous, and, as we taxied out, one of

our wheels broke through the surface and we turned gently over on to our nose. Horrible visions rushed up before my eyes! "The propeller must be broken; but we could deal with that as we have a spare propeller. The radiators are probably leaking, the crankshaft is almost certain to be bent." We climbed gloomily out of the machine, and, with the aid of the French mechanics, who rushed up in great excitement, pulled her back on to her tail. The propeller straightened itself out miraculously, and, after looking her round and finding nothing wrong, we decided to run the engine. The propeller wobbled a little, but everything else was perfect, and within half an hour of this contretemps we were up in the air and on our way to Baghdad—a really wonderful testimony to the soundness of British design and construction.

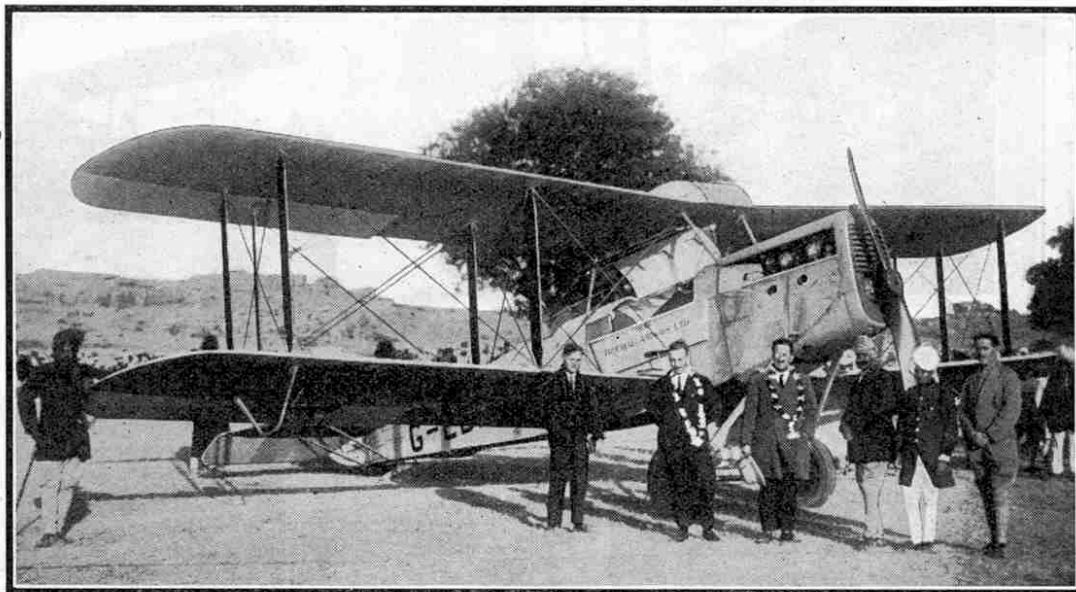
Again we were confronted with a strong head wind, and, as we neared Ramadi, we realized that we could not reach Baghdad in daylight, and so came down at the former aerodrome. The next morning it was raining again, and we went on to Baghdad in very poor visibility. Hinaidi looked terribly muddy from the air, but we managed to land without trouble.

On Christmas Day we left early, intending to lunch at Shaibah, and dine at Ahwaz. I had quite forgotten it was Christmas, and was somewhat astounded as we taxied up to the tarmac at Shaibah to find ourselves greeted by a large crowd of ladies, Turks, negro minstrels, etc. It took me some minutes to realize that the whole of the squadron was in fancy dress to celebrate Christmas Day! After a cheerful Christmas dinner, we started up the engine, but found her running very badly, and after inspection we discovered that the starboard magneto

was defective, and had to set to work to put it right. It then became clear that we should not have sufficient daylight to reach Ahwaz, so we decided to stop the night at Shaibah where I had a brain wave that this would be a good opportunity to change our propeller, which was still wobbling after the Rakka incident.

The next morning we started for Ahwaz, but we found that the engine was vibrating very badly, and on reaching Basra we turned round and came back to Shaibah.

For ten minutes every one crawled over the machine trying to find out what was wrong, and then suddenly we discovered that our precious new propeller, which we had brought out all the way with us, was slightly split! Evidently dur-



Sir Alan Cobham and Sir Sefton Brancker decorated with garlands on their arrival at Datia
H.H. the Maharajah, seen on Sir Sefton Brancker's left, received the aviators on the Parade Ground and a large crowd of natives witnessed the landing

ing our many hours of flying in bad weather, the driving rain had saturated the fabric cover and got at the propeller tip. So we had to settle down again and put our old propeller back!

On the morning of the 27th we set out for Bushire, and as we left, we received the cheering intelligence that it was snowing in Baghdad! Again we had a strong head wind, heavy rain and terrible visibility. I do not think I have ever had a more unpleasant flight than that across the huge marshes that lie at the mouth of the Shatt-el-Arab. We could only see two or three hundred yards, and below us was a seemingly unending area of marsh and water channels, from which there would have been no hope of escape if we had had a forced landing. On reaching Bushire we found that the whole place was more or less under water, and we had to land some little way off the main aerodrome. We discovered that we had struck a record year, and that no one had known such a heavy rainfall in the Persian Gulf.

Our departure the next morning was somewhat of an ordeal. Most of the British inhabitants came to see us off. There was a biting cold wind, and Cobham and I had to spend a lot of time in carefully pacing out and reconnoitring the one dry spot in the neighbourhood. However, we made a very good get-off, and set out along the coast through heavy rainstorms. The bad weather lasted right on to Bunder Abbas and the country looked gloomy and desolate to a degree. No inhabitants were visible, and every twenty miles or so there was a roaring torrent coming down from the mountains, completely stopping any form of lateral communication along the coast, which would have rendered a forced landing somewhat unpleasant.

Bunder Abbas has a small and rather sandy aerodrome. The only European house in the place was that of the British Consul, with whom we stopped. The next morning was dead still and rather warm, and the result was that we had considerable difficulty in getting-off at all from the small aerodrome. We made two efforts but the soft sand clung to our wheels and the machine refused to come-off. Fortunately, a breeze sprang up from the south, and, once we had this, all was well.

From Bunder Abbas to Chahbar took us $3\frac{3}{4}$ hours over a most interesting country. One gets the impression that at some time in the far-distant past the whole of Southern Persia was a sea of boiling mud, and that violent volcanic eruptions threw it into the extraordinary forms that it displays to-day. I have never seen such grotesque mountains in any part of the

world, and in places they are wonderfully coloured, presumably from metal deposits. The inhabitants of this section are reported to be extremely treacherous, and very little under the control of the Persian Government. We followed the coast as far as Jask, the British wireless station, and, after passing that unattractive spot, we cut off some distance by flying twenty or thirty miles inland.

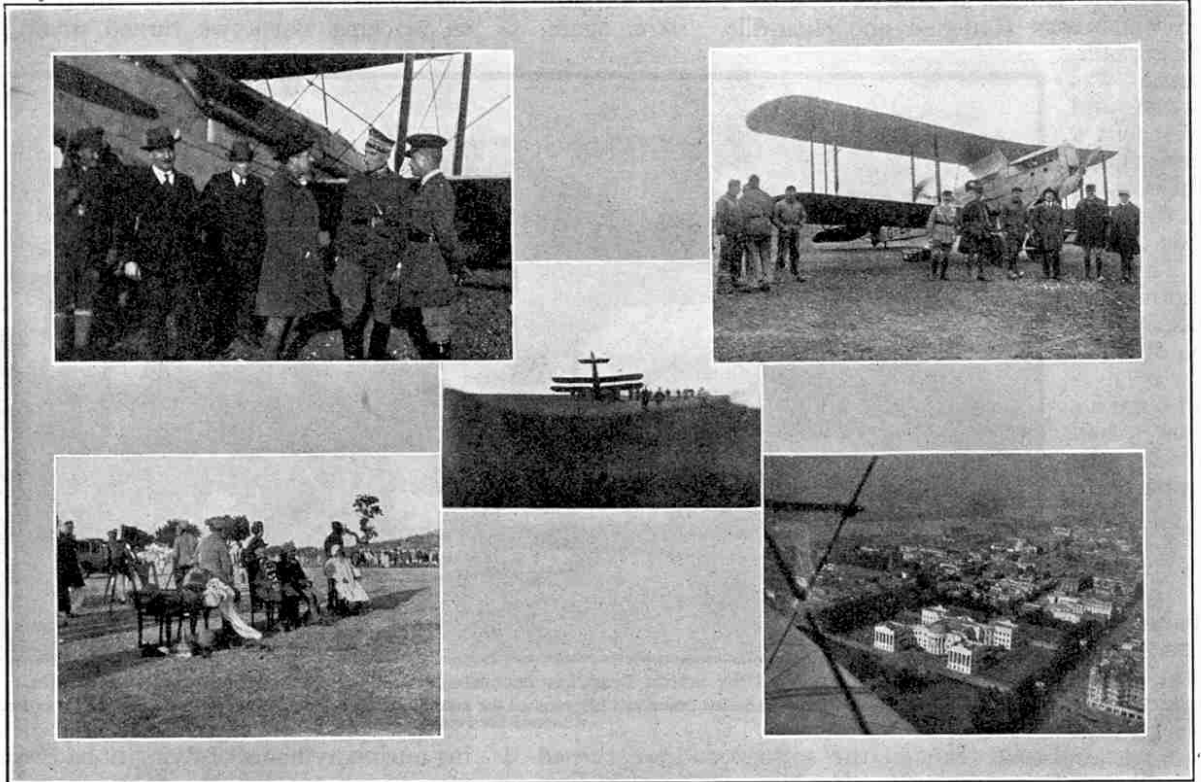
At Chahbar we found an excellent aerodrome, about the best on the whole route. Chahbar is a very small place, and the only European living there is the Superintendent of the Indo-European telegraph station, who very kindly accommodated us in his bungalow. From Chahbar on to Karachi the country is not quite so wild and rugged as that which we had already passed over. The flight took us $4\frac{1}{2}$ hours, and towards the end we struck glorious sunshine and beautiful weather. At Karachi we landed on the Royal Air Force aerodrome, and for the first time since leaving England I felt warm.

Here we decided that Cobham and Elliott should give the engine a top overhaul, whilst I took the boat to Bombay, where I had to see the local authorities, and then train on to Delhi, where Cobham would pick me up again. After remaining at Karachi for about a week, he flew on and visited Jodhpur and Nazirabad, arriving at Delhi a couple of days after me.

At Jodhpur he found an open space with a huge crowd round it and a band playing, and, just as he was about to

land, somewhat amazed at so enthusiastic a welcome, he suddenly saw a pony gallop on to one angle of the open space, and he realized he was alighting in the middle of a polo match! He stopped just in time, and found the real aerodrome.

On the 12th January we flew on to Allahabad, having a look at Cawnpore on the way, and on the 13th arrived



Courtesy]

(Top left) Sir Sefton Brancker talking to Turkish officers at Constantinople. (Sir Alan Cobham on the left and the late A. B. Elliott between). (Top right) The departure from Rakka, showing officers of the French escadrille. (Centre) The false start at Rakka. (Bottom left) H.H. the Maharajah of Datia watching some of his ministers joy-riding. (Bottom right) Government House, Calcutta, with the River Hooghly in the background

["Halton Magazine"]

at Calcutta, via Benares, after a journey of $6\frac{1}{2}$ hours. We landed on the racecourse and came to a stop within a few yards of the tree under which Jullerot and I had erected an old Bristol box kite at the end of 1910. We had a most enthusiastic reception, and, although I was very ill, I had to face up to a State dinner at Government House that night, and a meeting with the Chamber of Commerce the next morning. After this I gave up and went sick, to discover that I had pleurisy and pneumonia. I was taken to hospital, where I stopped for just a fortnight, during which time Cobham took the opportunity of flying up over Sikkim towards Kungchentsenga, and having a look at Everest from the distance.

I managed to persuade the medical authorities to let me out of hospital on 1st February, on the condition that I travelled as far as Rangoon by sea. The three days at sea proved a most excellent convalescence, and I was really feeling very fit by the time I got to Rangoon. Cobham arrived three days later, and had to land on the old racecourse, a somewhat cramped area surrounded by trees and buildings. It was pretty obvious that we could not get off it with a full load, so we arranged for him to fly the machine light, over to the new racecourse, where a run in one direction of about 500 yards was possible, and to fill up there before our departure to Calcutta.

When we left Rangoon on 8th February it was already getting very hot and the air was still, with very little lift.

We had to carry a lot of petrol to make sure of getting to Akyab, and the surface of the new racecourse was none too good. Cobham flew the machine up light from the old racecourse, and then we had to set to work to fill her up with petrol in the blazing sun. By the time we were ready to start, the getting-off conditions were about as bad as they could be, but we just screwed out over the rails and got away, flying unpleasantly close to the tree-tops for some distance. We struck straight across towards the sea, and, once clear of the flat valley of the Irrawaddy, passed over the most beautiful jungle-covered hills I have ever seen anywhere. We struck the coast near Gwa, and then turned north to Akyab. The scenery was magnificent, and, except for the crossing of the Taurus, I enjoyed this stage more than any other.

At Akyab there was quite a good aerodrome, and also excellent sheltered water for the operation of seaplanes. We had glorious weather and a perfect full moon night, but one cannot judge Akyab by its behaviour during February—from June onwards till the end of the

summer, I believe the rainfall is over 250 inches. The next day we passed over Chittagong and then west to Calcutta over the northern part of the Sunderabunds.

After Chittagong, the flight was somewhat dull, but gave one a vivid impression of the enormous population and agricultural wealth of lower Bengal. Calcutta was now quite hot, and we came to the conclusion that it was not worth risking a take-off from the Maidan fully loaded. The machine was therefore flown light to Dum Dum, where there is quite a big, but very rough, aerodrome.

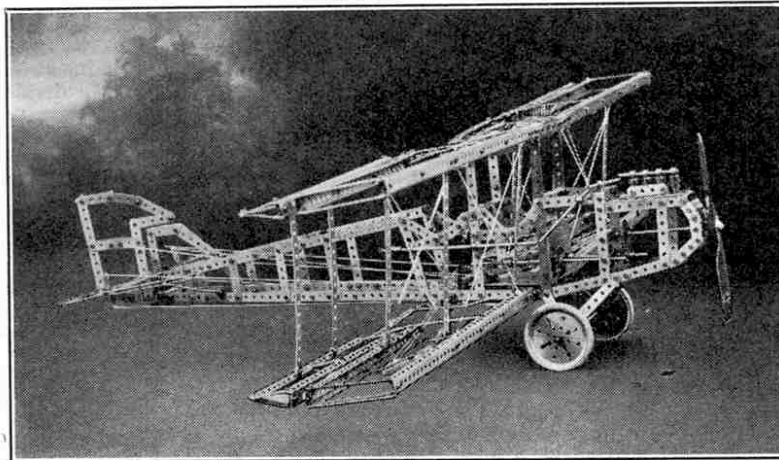
We had a very interesting flight from Dum Dum on a compass course across the Bengal jungles and landed at Benares, where we had promised to visit the local Maharajah. The only possible landing-place was the garrison parade ground, which was surrounded by high trees, and, as a result, the next morning saw the most exciting take-off of the whole trip. Fortunately for us, a good, strong, bumpy wind blowing from the west lifted us over the trees considerably better than either of us had expected.

We got off with only 1½ hours' petrol, and so we had to land at Allahabad to fill up, in a very high wind and a dust-storm. From there on to Jhansi we had a bumpy passage. I had been quartered at Jhansi in the old days, and it was most interesting to fly over all my old pig-sticking and shooting haunts. We landed on Jhansi aerodrome, but found that the Maharajah of Datia, who lives about twenty miles to the north, had prepared a special ground for us, and was expecting us there, so we got off at once and landed just outside the Palace at Datia before a huge crowd

of local inhabitants, practically none of whom had ever seen an aeroplane before. The indefatigable Cobham then proceeded to give joy-rides to various royal princes, members of government, etc.

The Maharajah was most hospitable and wanted us to stay for as long as possible, offering us shooting of every description. But time was flying, and my unfortunate illness had delayed us for practically a month, so we had to push on after taking only one day off to look round the old city and palaces.

Interesting Model of a D.H. "Moth"



This Meccano model of the famous de Havilland Type 60 "Moth" Aeroplane secured First Prize for T. R. Thompson, of Ramsgate, in a recent Meccano Model-building Competition. It is an excellent example of Meccano construction and is not only built to scale, but includes most of the necessary mechanical details. The propeller is driven from a Clockwork Motor built into the floor of the fuselage beneath the forward cockpit, with its winding spindle projecting beneath the aeroplane. The 3" Pulley Wheels with Rubber Rings are mounted loosely on an 8" Rod, the supporting Strips being splayed to the required position.

One of the most interesting features of the model is the realistic reproduction of the de Havilland patent differential aileron control. In actual practice this device has been evolved to obtain better and easier lateral control of an aeroplane at all speeds, especially round about stalling speed.

Spinning Tops that Steer Ships—

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north, and during alterations of course, the spider, being secured to the ship's frame, with the ship moves round the gyro. But if we were down in the gyro compartment, unable to see land or sea or sky, we should be unaware when the ship happened to alter course, except that we should suddenly see the gyro, as it appeared to us, without warning set itself in a new direction.

In conclusion, one more point may be mentioned. The magnetic compass has proved most unreliable in aircraft because their rapid acceleration, dipping and rolling, and the metal of their engines—which needs must be within a few feet of the compass—cause wild swings and

oscillations of the card and create large and varying deviations. A gravity-controlled gyro-compass is also unsuitable, because this same acceleration, dipping and rolling causes the weight to lag behind and thus set up incorrect precession. Experiments are being carried out to produce a gyro so nearly perfectly free that the little friction remaining will only cause it to wander from the meridian very slowly, and at a fixed rate which, for some hours at any rate, can be calculated and allowed for.

Mapping Alaska from the Air—

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with ice cut out of small bergs from the Taku glacier.

As already stated, the expedition was in

the field four months and constituted the largest aerial survey yet made by the air service of a government. Apart from the actual mapping of much hitherto unknown territory, hundreds of oblique views were made for the Lighthouse Service; for the Forest Department, to enable it to determine the quality, quantity and type of timber; for the Roads Department; and for the Bureau of Fisheries, which desired photographs of its hatcheries and contiguous lakes and streams.

This Alaskan survey is a striking object lesson of the use to which military aeroplanes may be put in time of peace for the benefit of the country and the people generally. All told, the machines covered 50,000 miles, equivalent to twice around the globe at the Equator.