

# COBHAM'S PIONEER EMPIRE FLIGHTS-1

*Exploratory Air Journeys to and from Rangoon, the Cape and Australia*

**O**DDS of one thousand to one against finding employment are not a promising beginning to a flying career. These were the odds against demobilized pilots after the war of 1914-18, for the vacancies for civilian pilots numbered only about twenty-two, and there were 22,000 men qualified by war experience to fill them. Among those demobilized pilots was Alan Cobham.

How he succeeded in becoming a civilian pilot, despite such odds, is a story in itself. How he used the opportunities it gave him is evident from a study of pioneer flights. Among his records five are outstanding. They are:

First flight from England to Capetown and back.

First Capetown-England flight.

First flight from England to India and back.

First flight from England to Australia and back.

First Australia-England flight.

Before setting up these records for across-the-world flights, Alan Cobham had gained a reputation in different spheres of commercial aviation. He had been highly successful in piloting for air photography, then a new art, and he had done much striking pioneer service with the air taxi.

Touring by air taxi was then a novelty. Its possibilities were not generally recognized, and the hire service pilot of that day had to be prepared to travel anywhere at any time. Often the landing ground would be unknown to him, and the maps inadequate, so that a reputation for reliability was difficult to acquire and in almost daily danger of being lost. Cobham acquired the coveted reputation and, at the same time, he showed an instinctive aptitude for making the right decision in emergencies, which later was to explain his long list of successes.

Among his air taxi experiences some outstanding journeys caught the popular imagination. In 1921 an American visitor to Paris decided to tour the Continent by aeroplane as fancy directed; so Alan Cobham, who was to pilot the machine, spent a busy day in London obtaining a visa for every country in Europe. Having met his passenger at Le Bourget, he learned that the first objective was Brussels,

then on to Amsterdam. The remainder of their journey reads like a guide-book—Hamburg, Copenhagen, Stockholm, Örebro, Christiania (now Oslo), Berlin, Warsaw, Prague, Vienna, Venice, Brescia, Milan, Nîmes, Paris. In three weeks they visited nearly a dozen European capitals, covering more than 5,000 miles and spending only fifty-six hours in flying time.

Two years later, the same passenger and pilot set up a world's record aeroplane hire tour of 12,000 miles, without a change of aeroplane or engine.

At a time when the possibilities of air travel were being widely discussed, Alan Cobham was giving the disputants something to talk about. One of his feats was to pilot a De Havilland D.H.50 biplane from London to Tangier in thirteen and a half hours. As he had stopped for more than half an hour at Madrid to refuel, he proved that Africa was then but little more than twelve hours' journey from London by air. Bad weather delayed his return flight, but he covered nearly 3,000 miles in twenty-eight hours during this journey in the autumn of 1924. Obviously, here was a pilot who could test the possibilities of Empire communications by air.

Shortly afterwards, on November 20, 1924, Alan Cobham set out on the first of his remarkable series of long-distance survey flights. Accompanied by Air Vice-Marshal Sir Sefton Brancker, then Director of Civil Aviation, he flew from London to Rangoon and back, a distance of some 17,000 miles.

For this journey Cobham's D.H.50—which already had more than 50,000 miles to its credit—was fitted with extra fuel tanks. Its average cruising speed was 80 miles an hour, and the extra tanks gave it a non-stop range of some eight and a half hours. The machine returned to London on March 17, 1925, without having made one forced landing.

Cobham insisted that this extraordinary proof of reliability was largely due to the engineer, A. B. Elliott, who travelled with him throughout the journey. Elliott's skill and care released the pilot from all engine worry during the 220 hours of flying time. Sir Sefton Brancker's success in obtaining data about the great air



**SIR ALAN COBHAM,** K.B.E., holder of numerous records for pioneer flights across the world, including the first flights from England to India and back in 1924-25, to Capetown and back in 1925-26, and to Australia and back in 1926

**PREPARING TO START** on the England - South Africa flight. Cobham left Croydon on November 16, 1925, and flew via Paris Lyons and Marseilles to Athens. He crossed the Mediterranean between Athens and El Sollum, an Egyptian port on the borders of Libya. Thence the route was along the coast to Alexandria and inland to Cairo and the south.

route, then being surveyed for the first time, exceeded all expectations. He attributed that success to his companions and their machine.

Within six months of his return from Rangoon, Alan Cobham was in the thick of preparations for his second great survey flight. His objective this time was Capetown. The plan was to fly by way of France and Italy to Athens, and then over the Mediterranean to El Sollum (Egypt) and Cairo. Thence the route lay along the valley of the Nile to Khartoum, Bulawayo, Pretoria, Johannesburg, Kimberley and Capetown. The return was to be made along the same route.

Africa's Cape to Cairo route presents along the 11,000 miles of the double journey a continuous succession of flying problems. Many of these have since been solved by the provision of adequate landing facilities, but Cobham had no such assistance. He was to fly over virtually unknown country, where nearly every landing would be an experiment.

He decided that the best aircraft for this purpose was the De Havilland type D.H.50, which had already proved so successful on the Rangoon survey flight. He took the identical machine, but it had to be modified in one important point.

On the Rangoon journey he had used a 230 horse-power Armstrong Siddeley Puma engine, but this was not suitable for Africa. One of the African problems was that of taking off at high altitude, a problem which had not arisen on the route to Burma, as the landing grounds throughout were near sea level.

On the great plateau of central and southern Africa the atmosphere at ground level, in the heat of the day, is so rarefied that its equivalent in Great Britain would be found at a height of 10,000 feet. In such conditions the take-off needs considerable extra power. To supply sufficient power a 385

horse-power Armstrong Siddeley Jaguar engine was fitted. This was one of the air-cooled type, giving an addition of more than 150 horse-power without any increase in weight. Elliott was again the engineer, and the third member of the party was B. W. G. Emmott, of the Gaumont Company, who took cinematograph equipment to make a film of the flight.

#### Restrictions on Air Photography

WEIGHT was of such paramount importance that each man had only one small suitcase, measuring about 20 in. by 14 in. by 6 in., and weighing not more than 20 lb. A gun, rifle and revolver were taken also, because they might be needed for protection or, in the event of a forced landing in the wilds, for obtaining food after the emergency rations had gone.

The machine was loaded at Stag Lane Aerodrome (near Hendon) but the official starting-point was Croydon, so that the first stage of the flight was a hop from one London aerodrome to another. Having taken off from Stag Lane, Cobham found that London was enveloped in fog and smoke, and it was only after difficulties and a detour that

he was able to locate Croydon by the rockets fired to guide him—not a promising start to a flight of over 16,000 miles. He left Croydon on November 16, 1925, and stayed that night in Paris. On the following day he flew on to Lyons and Marseilles.

Thereafter the journey proceeded as planned, the Mediterranean being crossed between Athens and El Sollum, a distance of 480 miles. From El Sollum the route was along the coast to Alexandria, and thence inland to Cairo. At Cairo the photographic experiments began. The fliers had to wait until Africa was reached because of the various European restrictions on air photography.

Christmas 1925 was spent at Khartoum, and the New Year found the fliers facing the most difficult stretches of the journey. At Malakal, 430 miles south of Khartoum, they landed beside the River Nile on a strip of ground prepared for them only a few weeks before. Here the D.H.50 was drawn up close to the native huts, for the sake of shelter from the wind, but the natives showed little or no curiosity in the machine. It was beyond their imagination. What had impressed them,



however, was the recent installation of water pipes by the white men. From time immemorial the womenfolk had carried water laboriously from the river; so the first tap created a profound sensation. The natives would gather round this for hours, waiting for someone bold enough to turn on the tap. When this was done, and the water gushed out, their wonder was boundless; but the aeroplane was beyond them.

From the survey point of view the thousand miles' stretch south of Malakal was probably the most important part of the flight. For countless centuries this region had defied any but the most primitive road communications. Now, at one stroke, it was to qualify as one of the main air transport routes of the world. Cobham was convinced that a regular air service could be maintained, and that distances requiring at least three weeks by surface transport could be covered easily by aeroplane in two days.

Between Kisumu (Kenya) and Tabora, in the heart of Tanganyika, the D.H. 50 flew over the dense forest that extends for hundreds of miles in all directions. Near Tabora the country for 200 miles had been purposely depopulated because of sleeping sickness. The pest-bearing tsetse fly prefers the shade, and will not travel out of the forests unless it

is aided by natives, acting unknowingly as carriers of disease.

In this district aerial photography is of the utmost importance, for huge forest areas can be surveyed and the necks joining forest to forest can be located. By cutting through such necks it is hoped to isolate the tsetse fly, and restrict it to the infected areas. These clearings have been made possible only by survey from the air.

#### Danger from Zambezi Spray

ABOUT 1,000 miles beyond Tabora the D.H. 50 descended to circle over one of Africa's greatest sights, the Victoria Falls. The natives call them the "Smoke Falls," because of the great clouds of spray thrown up where the mighty Zambezi drops sheer over a 400-foot cliff into a narrow ravine. The river is about a mile wide at this point, and for ten miles round the roar of the waters can be heard. The spray rises continuously to some 3,000 feet.

This spray might easily have had serious consequences for the fliers. Intent upon securing good photographs of the great spectacle they ventured to fly down to 50 feet, and within 50 feet of the brink of the chasm. Suddenly, the spray enveloped them in a great cloud, and simultaneously the

engine spluttered and threatened to fail, for the first time since the fliers had left London. The water of the spray had entered the carburettor.

Engine failure in such a position would probably have proved fatal, and there were some anxious moments while the spluttering continued. Cobham had instinctively pulled back the control lever, and the machine climbed rapidly. He had opened the throttle full out to give the propeller momentum, and the maximum chance of overcoming engine failure while the carburettor cleared. He was successful, and within a few minutes had gained sufficient height to glide down to the landing ground at Livingstone.

Proceeding via Bulawayo, Cobham flew on to Pretoria, where an enthusiastic welcome was made memorable by the presence of Sir Pierre Van Ryneveld, who had made the first flight to Capetown, in 1920. Sir Pierre suggested that the D.H. 50 should have an official escort of aeroplanes from Pretoria to Johannesburg—a signal compliment that took the public fancy.

On February 17, 1926, the D.H. 50 touched down at Wynberg Aerodrome, Capetown, at the scheduled time. The survey for Imperial Airways had been virtually completed, and the



**LEAVING ALEXANDRIA** for the flight south through Egypt and the Anglo-Egyptian Sudan. Christmas 1925 was spent at Khartoum, and the New Year found the fliers facing the most difficult part of their journey. At Malakal, 430 miles south of Khartoum, they landed beside the Nile on a hastily prepared strip of ground. The natives, who had never before seen an aeroplane, showed little or no interest in the machine.



**TO FACILITATE TAKING OFF** in the rarefied atmosphere of the great plateau of central and southern Africa, Cobham fitted a 385-horse-power Armstrong Siddeley Jaguar engine to his D.H.50 biplane. On his previous flights to India and back a smaller engine had been adequate. The photograph shows the D.H.50 being refuelled at Cairo.

flight had demonstrated the advantages of an air route to the Cape.

The return journey, along the same route, was much speedier than the outward trip. Despite dust storms, tropical rain and other hazards, Alan Cobham arrived at Croydon on March 13, 1926, with his machine intact and the engine in perfect condition. This was a great feat; but, instead of resting on his laurels, he set out, only three months later, on what has been described as his greatest flight, London to Australia and back.

Only a born organizer could have arranged this flight in the time. It was to be by seaplane, and no seaplane had ever been seen in the majority of the stopping places. Instructions for laying down the necessary moorings, buoys and so forth all had to be given by letter or cable, and, as there are special difficulties in handling seaplanes on the water (see page 40), the instructions had to cover all contingencies.

The choice of machine again fell on a De Havilland D.H.50, fitted with floats, and powered by an Armstrong Siddeley Jaguar engine. The engine was, in fact, the same one which Cobham had used on his flight to Capetown. He had only one companion—his trusted engineer, Elliott.

One of the extraordinary features of this flight is that when Cobham took off from Rochester, Kent, on June 30, 1926, he did not pretend to be an experienced seaplane pilot. His experience of taking off from and alighting on water was limited to about four trial flights, fitted in somehow during the week before departure. Similarly, Elliott had no seaplane experience; he was unused to overhauling a machine while she rolled at her moorings, where if some vital piece of the machinery were dropped it would never be seen again.

The first part of the flight was notable for some long stages, well timed. Having followed the course of the Seine to Paris, the fliers did not stop at the seaplane base there, as first planned, but pushed on instead to Marseilles. After a brief stay to refuel they headed out to sea for Naples, 450 miles away, which they reached as light began to fail. The next stage was to Athens, and



then along the south coast of Turkey to Alexandretta, Syria. Here the fliers left the coast, climbed over the mountains, and headed for the valley of the Euphrates, down which they planned to fly for 400 miles before striking across to the River Tigris and Baghdad. They alighted at Baghdad successfully, although the mooring was adventurous, and after one day's rest took off for the 500-mile stretch down the Tigris to Bushire, on the Persian Gulf.

On this stage of the journey tragedy intervened, without warning. Dust storms, which hid the horizon, compelled them to consider alighting at Basra instead of at Bushire. Above Basra there is a swamp area, where the river is one indistinguishable channel of many, and it was necessary to fly low to distinguish the "coastline" of reeds—almost invisible in the dust-laden air. Cobham had successfully emerged from the swamp area, and was

congratulating himself on being on his course again, when there was a violent and alarming explosion, apparently behind him.

He shouted through the connecting window to Elliott, who replied in a weak voice that a petrol pipe had burst. Then Elliott passed out a leaf from his message pad saying he was hit in the arm, and was "bleeding a pot of blood." When Cobham saw his face, and noticed how terribly pale it was, he was faced with a grave problem.

Elliott was evidently badly hurt. Would it be better to attempt to alight and render first aid, or to press on to Basra, where there was a hospital?

Cobham had to solve that problem while flying low, in intense heat, over strange country which he could scarcely see. He decided—rightly, it proved—to make Basra as soon as possible, and though it was nearly 100 miles away he was there in about forty minutes.

On the crowded river there appeared to be no chance of alighting; but Cobham saw a small mud bank and somehow he brought the machine down to a perfect landing, with its floats high on the firm mud. Having switched off, he clambered into the cabin, to find Elliott in a terrible state from loss of blood.

After the injured man had been taken to hospital the seaplane was examined, and it was found that it had been fired at. The damage to Elliott's arm and side had been caused by a bullet, which had also pierced the petrol pipe. Elliott died the next day.

The shock of this blow almost ended the flight, but Cobham decided to continue. Elliott's place was filled by Sergeant Ward, who was lent for the flight by the Royal Air Force; and little more than a week later the fliers took off for Bushire, on the Persian Gulf.

Between Bushire and Karachi, India, two more stops were made on the shores of the Indian Ocean; but at Karachi they turned inland, to fly across northern India for nearly 2,000 miles. This part of the journey was done in four stages, and it involved alighting on rivers where room was restricted and strong currents were a menace.

To pioneer with a seaplane in such conditions called for superlative flying skill. On one occasion a native helper, too frightened to let go on the floats, was

almost carried unnoticed into the air; but Ward managed to dislodge him just in time, and he was picked up by his friends, terrified but unhurt.

From Calcutta, flying almost daily in stages of 400 or 500 miles, Cobham pressed southwards down the coast of the Indian Ocean via Rangoon and Singapore to the Dutch East Indies. Then, working eastwards, he reached the island of Timor, and faced nearly 500 miles of open sea that separated him from Darwin, Australia.

#### Flying Through the Monsoon

STRONG head winds, veering all the time, compelled him to fly low on this decisive stage of the flight, and his average height above the ocean was only between 50 and 100 feet. For hours his engine purred steadily, but petrol was getting low and he was becoming anxious when a faint shade on the horizon proclaimed that the goal was in sight. Despite the veering head winds, they found they were within five miles of their desired landfall. Having followed the coast for another 100 miles, they alighted in the harbour of Darwin, on August 5, 1926.

Lying in the harbour was H.M.A.S. *Geranium*, and the Australian Government had arranged that she should help to convert the seaplane into a landplane. The machine was lifted by a

crane, while her floats were slipped off and an undercarriage with wheels was fitted in their place. Thus equipped, the D.H.50 was flown by stages right across the Australian continent to Sydney, and on to Melbourne.

A fortnight after his arrival, Cobham took off again, on August 29, to fly up the coast to Adelaide, and thence inland by a route some 500 miles west of that taken on the outward journey. From Alice Springs, in the Northern Territory, he began to converge on his former tracks, and when he reached Darwin the *Geranium* was there again to make the conversion from wheels to floats.

From Darwin to England the route was, in the main, the same as that of the outward journey. In the earlier stages violent storms caused delay. Not until India was reached did the monsoon abate and give place to normal flying conditions.

Good time was kept on the later stages. On October 1, 1926, thousands of cheering Londoners saw Cobham alight on the River Thames. In 320 flying hours he had covered 28,000 miles. A few days later he received the honour of knighthood, being created a Knight Commander of the British Empire.

Sir Alan Cobham's third long-distance survey flight, in a flying boat, is the subject of a later chapter.

**HAVING COMPLETED THE ENGLAND-AUSTRALIA-ENGLAND FLIGHT**, Cobham alighted in London on the River Thames on October 1, 1926. In 320 flying hours he had covered 28,000 miles. For his survey flight to and from Australia Cobham again used a D.H. 50 biplane, but he fitted seaplane floats instead of a land undercarriage, as he had decided that a seaplane was preferable to a landplane for the journey. For the flight across Australia from Darwin to Sydney, Melbourne, Adelaide and back to Darwin, the D.H. 50 was temporarily converted into a landplane.

