

R.100 CANADIAN FLIGHT, 1930

Journal written on board the ship. Nothing has been added since.

BY

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(Certain editorial abridgments have been made.)

MONDAY JULY 28TH, 1930.—At Cardington—having spent Sunday morning on the ship after the last trial flight. A few eyelets damaged on that flight—nothing serious. One petrol tank leaking at the centre joint, to be changed on Monday. With so many tanks it would be odd if *one* was *not* leaking.

To the ship early this morning by taxi; worried about the sealing strip repair which carried away on Saturday. Saw Both and Meager about this on board. Prospects good for start at dawn on Tuesday. Back to the Bridge Hotel, and on to station, buying rubber shoes and overall on the way. To London on 10.23, first to the Club and then to London Office. No confirmation of flight. At about 7.30 two calls, Bamber and Burney—flight confirmed for start 3.30 Tuesday.

Down to Cardington with Burney, Bomber, and Lady Burney. Rain on the road, but fine at Mooring Tower, which we reached about 11.45 p.m.

(This is the 8th flight of this ship).

TUESDAY, JULY 29TH.—Went on board shortly after midnight and changed into easier clothes. Customs officer (!) came round as I was sorting out a bit. Nothing to declare.

We slipped at 3.50 a.m., summer time. We have 34.5 tons of petrol on board, which should be ample. The passenger list is: Colmore, Burney, Self, Wann (who is on leave from the A.M. and has been worked in as a watch-keeper), McWade (A.I.D.), Prentice (Admiralty), and I think that is all, apart from the usual officers and crew.

At the last moment the ship was light, and we delayed some time in filling up two emergency water bags ($\frac{1}{2}$ ton) forward. We slipped with practically full emergency ballast, dropping one bag aft to get the tail up. (Later.) Slipped with 5.3 tons emergency ballast—*not* full.

It was just light enough to see the fields. The preparations were better done than I have ever seen them: nobody but the officers and coxswains in the control car, and everything smart and efficient in the dim light. We slipped, and a great cheer from the tower told us we were clear. Booth rang on all engines and put her nose up, and we forced her up to about 1,000 feet in the half darkness. Our course will take us over Liverpool. There is a small depression N.W. of Ireland; by passing north of this we should get a favouring wind this afternoon. We hope to make a good time.

Colmore, Burney and I have all forgotten our passports! Thank God I'm in good company. They made a very good job of the sealing strip repair yesterday morning. A small scare when we forced her up to height on leaving, when gas was smelt from Bag 6 on coming up to pressure. A tear was suspected, but now we think it was just escaping from the auto valve tank into the keel.

Giblett (Meteorologist) is pleased with the forecast and everyone very optimistic. We are running on four engines at 1,600 at about 52 knots (60 m.p.h.) at about 1,300 feet. Time 3.25 G.M.T. To bed.

9.15 G.M.T.—We passed Chester at 6 a.m., where the railway whistles to us woke me. Steff and I went out on to the balcony in pyjamas and watched as we approached Liverpool. We passed straight over the town at about 6.20, by the unfinished cathedral and the docks. From the air they seem to have built that cathedral in the middle of a slum, on a bit of ground suspiciously like a rubbish tip. From Liverpool we passed out to sea on a course for the Isle of Man. That was the last of England, and I went back to bed.

Called at 8 to pump petrol; at 8.5 we passed Isle of Man, but I was pumping and didn't see it. About 8.45 we passed Mull of Galloway. It is cloudy at about 2,000 feet, with occasional slight rain, but good visibility generally. Sea calm, and the trawlers we pass mostly hoot at us. The wind seems to be getting round abaft the beam, in accordance with the forecast. Our course should take us to Rathlin Island, on the north of Ireland. So far no damage or incident of any sort. Still running on same four engines, making about 50 knots at 1,500 feet.

There are 45 people on board in all, I am told. The cover is wet from the cloud fog and streaming over the windows; it would fill our ballast bags if we wanted it, but I don't think we do. Greenstreet's collector works splendidly, and must be made a design feature on the next ship. My bunk lacing broke in the night, letting the canvas sag down; it is laced with a continuous cord, which is silly. We can smell dinner cooking all over the coach, which might be unpleasant but which I find more tantalising. You get as hungry on an airship as on a ship. We have just passed a few rocks, a lighthouse, and a wreck. Temperature is mild, and we are all wearing our normal clothing for the time of year. These rocks were The Maidens.

Later—10.20 a.m.—we are abeam of Rathlin Island.

11.0.—We are off Oversay Island (Islay) and have turned west, course 290° mag. This is the last we shall see of Europe. A grand, desolate landscape in sun and cloud; no evidence of man or cultivation at all. We have passed more or less through the depression and are north of it, as is shown by a slight following wind. We have reduced speed to 45 knots on the front engines only. Weather sunny, with clear shadow of ship on blue sea.

A small cocktail party in the saloon to celebrate departure.

11.45.—Premature about leaving Europe. If we were not in cloud we should be able to see the island of Inishtrahull (N. Ireland) and on the same course is another one further on (Tory I.). The following wind is about 18 knots, so that we must be making 60-63 knots (70-75 m.p.h.) over the sea. Greenstreet tells me that on the last flight the water pipe of his collector from the top of the ship became choked with oak leaves; we were never below 1,500 feet on that flight. Now that seems to me to be very odd, because an oak leaf is heavy. An upward vortex? I have advised him to take out a provisional patent on the collector.

1.25 p.m.—A good lunch—soup, stewed beef, peas, potatoes; greengages and custard, beer, cheese, coffee. Argument with Scott, who laid down that every form of transport reaches limiting economic cruising speed: car, train, aeroplane, and the latter will not get faster. In general, I think he is right. We are butting along in low cloud at about 1,300 feet on four engines at 50 knots. The wind is strong and northerly; we are off the N.W. corner of Ireland making good about 40 knots on 270° mag. Probably we shall head a little south soon and get south of a high pressure area down there, and so find a favouring wind. Sea about Force 5 and very desolate; it beats us all how anyone should have the courage to attempt the Atlantic in an aeroplane. We are exposing Petrie saucers every few hours and sealing them up, in order that bacterio-

logists may be able to examine the bugs that live in this desolate part. There is absolutely no sensation of being at sea—no salt smell, or wave sounds—or anything.

2.45 zone time (G.M.T. + 1).—At 2.50 G.M.T. our position was about $55^{\circ}\text{N.} \times 11^{\circ}30'\text{W.}$ Sea rather calmer and apparently making good about 42 knots at 270° mag. The above position was got by a position line during a sunny period; it is now dull and overcast. Since leaving the Scotch coast we have seen no ship, and now we are not likely to as we are a long way to the north of steamer routes. Pumped petrol with Lt. Cmdr. Prentice for one tank. Still cruising at about 50 knots A.S.I. on four engines at about 1,300'. We have left all the birds—seagulls, gannets, etc.—behind, and now there is no sign of any life in these waters. The weather is mainly fine, though dull, and we are getting no more water in the collector. Scott comments on the immense difference in comfort to when he crossed in R.34 ten years ago. The meteorological chart made at 13.00 hrs. G.M.T. is poor, showing beam winds (northerly) for the next few hundred miles and probably head winds after that. But by the time we get there it will all have developed and changed. Everybody is sucking sweets in lieu of smoking.

5 p.m. zone time.—Lat. 54° , Long. $15^{\circ}20'$ D.R. Still cruising under same conditions and course, making good about 44 knots. A fine evening with decreasing wind: sun and low cloud. A very rough calculation on the present rate of progress shows that we should pick up Newfoundland to-morrow evening. We are about 200 miles off the west coast of Ireland (Connemara); it is getting much colder. We have now been going for about 16 hours. Most of the passengers and officers off duty had a sleep this afternoon.

8.30 zone time.—Still holding the same course and speed 50 knots on four engines. We are passing into a region of relative calm; the N.W. wind has fallen light and we are making good about 48 knots. Later we may get a favourable wind. It is clear, but very cold and a grey evening—bleak. The temperature must have dropped a lot. This emphasises the effect of the Gulf stream on the British Isles. The course we are on runs from the north of Ireland to the south of Newfoundland, and is considerably south of west. In spite of this southerly trend it is getting colder and colder, and from the chart warnings we may expect to see icebergs and possibly pack ice off Newfoundland to-morrow. We shall then be in the same latitude as Lyon in France, in the height of summer. We may expect a cold fog.

There are several ships in the neighbourhood, who wireless meteorological information as a matter of routine to the Air Ministry, who relay it to us in batches. So far we haven't seen any of them, but Caledonia sent us a wireless of good wishes just now.

10.30 zone time.—Several of these ships have been in touch, but have given no wireless D.F. bearings to fix us. The Arabic is dead ahead on our course, and we expect to overtake her in the early morning. Bed.

WEDNESDAY, JULY 30TH.—8.40 a.m. zone time (G.M.T. + 2). We passed to another zone in the night. This time business is complicated when you change so quickly from one zone to the next.

Position about $54^{\circ}20'\text{N.}$ and 35°W. We altered course a little in the right to steer rather more northwards, heading for Belle Isle at the north of Newfoundland and at the entrance of the St. Lawrence. This because the meteorological chart made up at 1 a.m. disclosed a shallow depression east of Newfoundland. By going round the top of this we shall get a following wind, and this we have now actually got and have had for about a couple of hours. We are cruising at 50 knots on four engines, but are making good about 74 knots

over the ground, on practically a due westerly course. This is fine, and we hope to pick up Belle Isle, about 900 miles from here, this evening.

We are running in thick fog. We saw the *Ausonia* early this morning, which left England on Friday bound for Montreal—I didn't see her myself because I was in bed. The *Laurentic*, bound east, is somewhere ahead of us and we may see her. At the moment the fog is so thick that we couldn't see anything; we have been down to about 700 feet to try and get under it, but it appears to go right down to the water.

This fog is making the ship very wet, and we have collected $1\frac{1}{2}$ tons of water in the collector so that we have now 7.2 tons of water ballast on board and still coming in well. Gasbag 7 appears to be leaking, as it was when we started, and has risen a good bit; the others are holding well.

There has been no motion of the ship whatever on this flight. Pumped petrol before turning in, and again before breakfast this morning. The comfort of this flight is almost staggering. Sleep all night in bed, get up, shave in hot water, dress and eat a normal breakfast served in a Christian way. If this water collector can be developed, as I think it can, we may be able to have baths in future ships.

It does not seem to me to be quite so cold. Most of the officers and crew are wearing Teddies; I have one but have not yet worn it, not having been cold enough. A Teddy is a combination overall with a fur collar, like a Sidcot, but of fleece, or Teddy, inside and out. It is brown in colour, so that a man in a Teddy looks just like a Teddy-Bear. Most of us are wearing the fur knee boots, as one's feet tend to get cold.

11.0 a.m. zone time (G.M.T. + 3).—We have passed into another zone and put the clock back another hour; at this rate we shall never get lunch! We are in about 54.30 N. and 41.30 W., cruising at about 50 knots on four engines, with a following wind and making good 61 knots over the ground. We are north enough and have just altered course direct from Belle Isle, which we hope to reach to-night about 10 p.m. G.M.T., or 6 p.m. zone time. It is now about 530 sea miles away. We are making a splendid passage so far, and it has been achieved simply by the most careful meteorological work.

We had a sweepstake on the day's run, noon to noon, G.M.T. Eldridge won it with 1095 sea miles; we are doing much better now. Everybody in the ship seems to have a camera; I have exposed many films, but conditions are difficult. There are no external views, and inside conditions are only suitable for bulb or time exposures. Moncrieff has been over the top catwalk with a heavy reflex; I met him coming down. We are still running through fog, which I imagine is typical of the Newfoundland banks. Our height is 1,200-1,500 feet and occasionally we are above it; it has a perfectly level, white top under the blue sky. Very occasionally it wreaths apart and we can see the sea and check our drift. One or two ships give us cross bearings; Montcalm is a hundred miles or so ahead of us. The sun through the mist makes such a bright light that we have had to rig a curtain to protect the rudder helmsman's eyes from the glare, as we had to at sunset last night, and in the control car people tend to wear dark glasses or motor goggles. This very bright light is rather funny when you are in thick cloud and can't see a thing.

Everything in the ship is satisfactory. In the fins this morning I came on Deverell repairing a little chafed hole in the cover about the size of a penny; the crew are continuously on the lookout for incipient damage of this sort and take it before it has time to get very far. They did a little sewing and dopping on the top elastic hinge strip of the port elevator yesterday in anticipation of damage that had not yet happened. A good, keen crew.

2.30 p.m. zone time.—The clouds extended from sea level to about 1,500 feet; we have been in them a good deal but are now cruising above them in bright sunshine. It has grown quite warm to-day, in marked contrast to last night. We are still running at 50 knots and making good about 61 knots over the ground; the following wind still holds. We had expected to lose it by this time. We have about 250 miles to go to Belle Isle.

We have just stopped the aft engine in the aft car and put on one of the wing car engines to replace it, still running on four engines. A flexible water pipe to the radiator is chafing on the car structure and something has to be done about it. This is the first time we have had to stop an engine for adjustment or repair; the job will take about an hour. It is a pity that there is so much cloud about as it prevents us from seeing ships that we know are in the neighbourhood. From time to time we bring the ship down to about 700 feet to try and get under the clouds, but have to go up again.

4.30 p.m. zone time (G.M.T. +4).—We have passed into another zone and put the clock back an hour again—*after* tea. The fair wind has gone and we have a 20-knot wind against us, very nearly dead ahead; this is in accordance with our prediction from the depression centred about Hudson Bay. We have put on power and are now running on all six engines, the forward ones at 1,500 r.p.m. and the aft ones at 1,600 r.p.m. This gives us about 58 knots (or 66 m.p.h.) and we are making good about 42 knots over the ground. Belle Isle is just about 100 sea miles ahead, so that we should reach it at about 7 p.m. of this zone time.

The weather is clear now, but grey with high cloud. Visibility is good at the moment and we can see to the horizon in most quarters; our height is about 1,500 feet as usual. We have some hopes of landing to-morrow, but it is a toss up whether we shall be able to do this. It would be a good show if we could. Montreal is about 800 miles from Belle Isle.

6.30 p.m. zone time.—It has turned cold and grey; visibility is moderate between frequent rain showers. We are making an air speed of 58 knots on six engines as before, and making good about 43 knots over the ground. At this speed pumping petrol is serious work; in a large ship it will be necessary to put in mechanical pumps.

If the weather was clear we should probably have seen land by this time. It is not very cold although we are now in the iceberg area; we have seen no ships.

8.10 p.m. zone time.—An error in the dead reckoning puts us 50 miles further back than we reckoned; this is easily made when flying in clouds in a variable wind. This means that we cannot pick up Belle Isle before 9 p.m., if then. We are proceeding on six engines as before. Nearly dark; we shall see the lighthouse first. But not me, because I am turning in, in anticipation of a long and heavy day to-morrow. Still in loose cloud.

THURSDAY, JULY 31ST. 2.30 a.m. zone time.—We are well inside Newfoundland running up the St. Lawrence River; called to pump petrol. We are still running on six engines at 58 knots, but have a head wind and are only making good about 36 knots over the ground. The forecast is that we land at about 6 p.m. G.M.T. or 1 p.m. zone time. Johnson is asleep in a chair in the saloon, in Teddy and uniform cap. He is a splendid navigator and works like a horse; I believe he had only two hours sleep last night.

7.5 zone time.—We made our landfall last night at 9.15 p.m. zone time, at Cape Bauld, the most northerly point of Newfoundland, 46½ hours out from Cardington. Now we are running up the Gulf of St. Lawrence in the passage—Mingan Passage—between the island of Anticosti and the northern shore—Quebec province. A little town called Eskimo Point is abeam on the northern shore; we are running up about four miles from this shore. The weather is

fine and clear—blue sky and blue sea. I hear that this is most unusual in these parts, which are generally in permanent fog.

In fair weather this would be a perfect cruising ground for yachtsmen. The northern shore is mostly quite deserted and broken up with a great number of little islands and inlets. About 60 per cent. of the country is under pine woods apparently, and the rest seems to be open grass or downland. There are a large number of inland lakes, mostly small, and on the horizon, perhaps 40 miles away, the flat country rises into a considerable range of hills.

We are still running on six engines and against a head wind—58 knots in the air and about 37 over the ground. An entertaining wireless message from the Canadian Department of Civil Aviation informs us that an American aeroplane intends to fly close to us to take photographs, and we are to take his number and report him if he, or any other aeroplane, comes within two miles. In the wireless news we read that we are 250 miles from Belle Island—they get it out pretty quickly.

8.40 a.m. zone time.—We are still running under the same conditions at about 1,000 feet, making good about 38 knots. We have just passed over the north end of Anticosti—our first close view of Canada. Fine woods and natural clearings of grass and bracken, and a great number of shallow, marshy lakes. In the woods a great amount of old, fallen timber—more than one would have supposed. At this end of the island there are about two settlements of perhaps 15 houses, one on the north side and the other on the south, and a few very isolated shacks, and a lighthouse on the point, whose people come out to see us go over. It is rather noticeable that the isolated shacks and the settlements are all built on the edge of a wide natural clearing, for all the world like buildings on an aerodrome. Is this the purpose, or is it accidental? Certainly the aeroplane is the best way to reach these places, but I saw no sign of machines or hangar. Saw no animals except a group of four very large birds on a lake, perhaps wild swans.

The washing place and lavatories are smelling very bad. They need fan ventilation and good heating—heating because nothing ever gets dry about the wash basins, and that is rather unpleasant. Some means of emptying the Elsans when in flight is necessary as they are getting very full and foul. The whole coach could do with forced ventilation by means of fans that could be used once or twice a day to scour the whole place out. In the promenades the air is good, but in the saloon it is stuffy and tainted with the kitchen and the lavatories. Not sufficient to make it unpleasant to sit there, but still noticeable when you go in.

We have now 8.65 tons of water ballast, having collected 3½ tons in the collector system since we started.

11.45 a.m. zone time (G.M.T. + 5).—We have passed into another zone, and put the clock back another hour. Our course from Anticosti to Father Point took us on a long slant to the south shore. However, we saw from the smoke of steamers inshore that the wind was less strong in there and so edged in, and have been cruising along about two miles out from the south shore, making good about 45 knots against the head wind. We are now off Father Point.

A Loening flying boat, with yellow wings and grey hull, and Canadian registration is accompanying us, but keeping a discreet distance away. The south shore is pleasant enough country; fields and little villages of wooden houses—open agricultural country not unlike England. This reaches 5-10 miles inland, and then the pines commence and the country rises up into wooded hills. It is fine and sunny, but rather cold.

We passed over one fine large liner outward bound (Duchess of Bedford) and a lot of tramps. They all hoot at us, but we have no means of signalling back. Sometimes we see them waving at us, through glasses. We expect to

reach Montreal between 6 and 8 this evening. The police have sent a message to ask us for a time, for traffic control purposes. They expect a great crowd.

12.45 p.m. zone time.—We have been troubled with leaks in Gasbags 7 and 8 since we started, and 7 has risen to about 3 feet below E. So the crew set out to find them, and Hobbs succeeded in getting to and mending three holes in Bag 7 and two holes in Bag 8. They were all three-inch slits along E radial wire. To help him reach the holes we rose to 3,000 feet, to bring the bag to him. A good show on his part; those holes would fully account for the loss of gas.

We have been following the south shore from Father Point; a pleasant, well farmed country. This is the most thickly populated part of Canada, but by our standards it appears sparsely populated. A series of curious foam marks on the smooth water was shown in the glasses to be three porpoises playing together; from 3,000 feet their silvery bodies could be seen distinctly. We are making better speed now, making good about 48 knots of our 58. The Loening landed on the aerodrome at Father Point; it must have been an amphibian. They land mails there from steamers and fly them on to Montreal and Ottawa.

10.20 p.m. zone time.—Dies Irae, dies illa. At about 3 p.m., off Courdes Island, 50 miles from Quebec, we got into a wind which headed us from off some high hills on to the north shore. This was very bumpy, and gave us the worst motion that the ship has yet had. In pitch she oscillated rapidly over about 10°, coupled with a good deal of yawing and rolling. We were cruising at 58 knots, and had just increased to about 60 knots a minute or two before. To ease the motion we headed over to the south side, away from the hills, and soon got out of the disturbed air. Our height was about 1,200 feet, and she hunted over about 300 feet.

Immediately afterwards the starboard and aft cars rang for assistance and pointed out tears in the fins. I went aft with Meager and Wann: speed was reduced. In the lower fin two tapes had torn away, making 3-foot slits. I left Wann to watch these and went on after Meager to the starboard fin. Here there was a large hole in the backbone girder, lower surface, near 14. Meager went down to get help, and I went out along 14 finpost into the backbone and managed to pull the loose, beating fabric inboard and stop the spread till riggers came with Meager and relieved me.

Meager asked me to go and have a look at the port fin while he went to the top fin. I went by way of frame 15 and found a hole large enough to drive a bus through, in the lower surface, centred on 13A. It extended from the radius to the backbone and was about 15 feet long. The tapes were sound, but the fabric was hanging in rags, and the whole was beating badly.

Went down to keel and found Meager and Moncrieff: top fin was O.K. As soon as the star and lower fins were sewn and sealed the full staff of riggers came to the port fin, with several engineers. At one time we had 15 men up there. We made good all round first: Laced upper and lower hull covers to apex boom of longitudinals D and E, and laced the top and bottom fin covers up to make a leading edge if the whole of 13A went. Then, by climbing out, managed to "fuel" the rags of fabric on the tapes, and reduce fluttering. Then passed a rope or two out at the most forward split and in at the aft slit, and bowsed inwards, and so tightened the tapes. Then laced up tapes to wires. Finally passed a sheet of cotton, nearly large enough to fill the hole, out at forward slit and managed to tie it to tapes and so make good the majority of the hole. When finished it didn't flap much at 45 knots. After 2 hours standing still just stemming the wind we were able to get ahead a bit and make good about 20 knots over ground.

Quebec was reached at about 6 p.m. A smaller town than I should have thought: They were massed on all the promenades and in the parks to see us, and a tremendous hooting and sirens. Luckily our relatively sound fin was towards the town!

Headed for Montreal: It was nearly dark by 7.30. Had a sherry with Burney, Booth and Scott. They had wirelessed us that a thunderstorm was coming to us—not a very large one. While we were drinking our sherry the first pitch was felt, and Booth and Scott went down into the control car. Height about 1,200 feet, speed 40 knots. Burney and I went out into the promenade. The ship then hit a vertical gust and began to rise rapidly. Elevators were put hard down to keep her down, till she reached an angle of about 20° nose down. In that position she rose rapidly to 4,500 ft., the last 1,000 ft. being covered in 15 seconds, according to Giblett. (In this rise the ship swung eight points from her course.) She then steadied, and was brought under control in heavy rain.

Supper was laid on the centre table of the saloon, and shot off, down stairs, up the corridor, till some of it reached frame 2. Two twelve-foot tears were made in the lower fabric of the starboard fin, which were repaired later. The lights went out and put the ship in complete darkness for ten minutes, adding to the difficulties. It rained so hard that .3 ton of water came into the collector in ten minutes.

This was quite a small, normal thunderstorm—so far as we know at present. A rate of rise of 4,000 ft./min. on the ship when driven nose down was achieved, according to good evidence. This would seem to indicate air currents of higher velocity than this.

Since then we have dodged three others, and are now heading for Montreal and hope to moor at dawn. Further comment on these experiences may be deferred till we are all less tired.

FRIDAY, AUGUST 18T.—We were over Montreal about 2.30 a.m. and cruised round till dawn, the city looking very beautiful with thousands of lights and a river running through it. They have stuck a great illuminated cross on top of the hill from which the town takes its name, and this thing is a landmark for 50 miles on a clear night. The tower was brightly lit up: St. Hubert is about seven miles from Montreal proper. As dawn came we landed, at about 4 a.m. zone time. No incident in the hooking up, which was done first shot. Total time of passage about 78 hours. (We had about five tons of fuel left. Total consumption 29.5 tons.)

There was a great crowd at the airport. As we got on to the tower head we were met by an orgy of local and other celebrities. I found Hall and set him making a sketch of the new fin cover required; then down the mast to the official press conference, with unbelievably cinema-like reporters. Then the photography, and the films, and the talkies. And then breakfast in the Officers' Mess of a battalion of Canadian Rifles—on crowd control, where I sat next to an officer who spoke little English.

Then on with Hall and the fin cover. Group Captain Stedman was very helpful, and sent for Burroughes (G. S.), of Canadian Vickers. We discussed the sketches, and after lunch went to Vickers to get it in hand. Then back to the ship, then back to Vickers. A boiling hot day, and by 6 p.m. I was ready to drop: No sleep the night before. However, the cover is half made and should be delivered to the ship by 8 a.m. to-morrow. Undoped but with the stalk patches stuck on: to be doped red abide on the inside, and aluminium on the outside, with long brushes. 4.F.T. linen.

Finally to the Mount Royal Hotel for bath and dinner. All through this day Stedman and the A.I.D. were most helpful; cars placed freely at our disposal whenever we wanted them. I spent most of the day in Fords, but we got the cover going. Canadian Vickers are good people.

Their aviation is most interesting. I must spend a morning at the airport just taking photos of the machines and gadgets. In many ways they are streets ahead of us. They can hardly sell an aeroplane without an electric inertia starter

now; the pilots will not swing props. This costs about \$550, so it is an expensive gadget. Wheels are placed very far forward because of the brakes, and tail wheels are universal. Much use is made of landing searchlights. Radial air-cooled engines predominate. They are suffering a bad slump in aircraft manufacture, due to over-production of 4-6 seater cabin m/cs.

The enthusiasm here for R.100 is incredible. Every hoarding has immense welcomes to us, and the ship enters into a host of advertisements. The crowds are incredible—hundreds of sweet and hot-dog booths line the aerodrome specially for our crowds, and a circus has planted itself outside the aerodrome for the same reason. The roads to the airport are choked with traffic. People have come from the West Coast to Montreal for their summer holidays, merely to see the ship.

SATURDAY, AUGUST 2ND.—To Canadian Vickers. They had worked all night on the cover, and we were photographed with it. Key (designer), Burroughes and fabric staff and self. To St. Hubert with it: Took Key and Grant (A.I.D.) up to fin and showed them hole. Beer in the mess, and back to Mount Royal for a late lunch with Key. He then took me a drive round the mountain—shrine of St. Joseph. Back to hotel to meet Corbett; dined with him at little restaurant, and on to the Parkins after dinner. Corbett and Parkin quite unchanged.

SUNDAY, AUGUST 3RD.—Out to the ship late in the morning. Decided to make up four spare fabric panels 20 by 20 feet, with lacing edge and patches, to carry on the ship in case of accidents.

The new fin covers were made at Canadian Vickers by noon on Saturday—a good show. They could not be put on on Saturday because of rain, and to-day (Sunday) they could not be put on because of a 40 m.p.h. wind, but the old cover is stripped off. Took a photo of it to-day. I hear a tank is leaking, and is to be sent to Canadian Vickers. This is a power car oil tank.

MONDAY, AUGUST 4TH.—To Vickers in the morning, to meet Hall and fix up about four fabric panels. Angus there with oil tank. Met Frank M. Ross, their President, and arranged to show him the ship to-morrow.

TUESDAY, AUGUST 5TH.—St. Hubert with Windsor, Armstrong Siddeley agent at Ottawa, and wife. Found the fin covers laced in place mostly, and an extra panel, 1 cloth, being made up at Vickers because the seams were too wide for Greenstreet. Just as well, as they intend to put sealing strips inside, so seams should be kept small. The air scoop to feed exhausts aft car is breaking away and must be patched.

Pressy gave me an eye witness story of our last bump at Three Rivers, between Quebec and Montreal. The witness was driving his car on a road on South Shore, and stopped to watch the ship. She headed towards the storm and went in between two heavy clouds, so that there were clouds on three sides of her. She then put her nose down and began to rise rapidly, and was carried up very quickly, nose down, till she was hidden in the clouds. The witness went on his way, thanking God he wasn't in her. An aeroplane pilot flew through this storm shortly before us, and on landing reported to Pressy that he had had the worst time in ten years' experience. Upon this Pressy sent us a wireless with instructions how to dodge it, which only got through to us after it was all over.

Repairs to the fin seem to be going very slowly. All the officers are away in general, except the one officer on duty who is located in the control car. The weather is very hot and the men seem to be slack and under no control; they will not stay on the job, and there are no officers to make them.

Went round the aeroplane sheds with Windsor, and afterwards on to the Montreal Light Aeroplane Club, where I met Hopkins (Ground Engineer), who was at D.H., and Spooner, pilot instructor. Back to ship, to take round captain and officers of the *Ausonias*, who gave us wireless bearings on the way over.

Down to Burney about 11 p.m. for an hour.

WEDNESDAY, AUGUST 6TH.—Morning with Burney revising American finance scheme for Canadian use. Met Parkins and Corbett, and out to St. Hubert to ship; dopping not yet commenced.

FRIDAY, AUGUST 8TH.—Worked all afternoon with Burney on Canadian scheme for Bennett; position very discouraging.

SATURDAY, AUGUST 9TH.—To work with Burney on the Canadian Govt. proposal. He left at about noon to fly to Lakehurst to see their handling scheme and fly in the Los Angeles; I should have gone too, but difficulty about seat in aeroplane and expense account. To work with Miss Lomax in afternoon drafting letter to Bennett about our proposals; in the evening went out to Lachine and Verdun on sight-seeing car.

SUNDAY, AUGUST 10TH.—R.100 left this evening at 6.15 for Ottawa and Toronto, a 24 hours' flight. I had asked Scott if he would prefer me to go or not, as they were anxious to take as many Canadians as possible. So I remained and spent a day of sight-seeing; in the afternoon took a long motor run to the west end of the island, St. Anne's and Genevieve, with a party of Americans. To dine with the Parkins in the evening.

MONDAY, AUGUST 11TH.—Burney returned early this morning, not having flown in the Los Angeles but having spent a very valuable few hours with Rosendahl, and seen the handling scheme. Spent the whole day on the letter to Bennett with him, finally getting it typed and into shape about 7.30 p.m. Dined with him; he then left for Ottawa on the night train, having travelled from New York the night before. The little man certainly is a worker.

R.100 returned to-day and moored about 6.30, having been out almost exactly 24 hours. She flew over Ottawa, Toronto, Niagara Falls, Buffalo, and then back to Montreal, which she passed over several times in the afternoon, cruising around waiting to land. I had never seen her flying before, always having been in her on each flight; she is a very impressive sight from the ground. As they were coming in to land, the reduction gear of the starboard forward engine failed, and apparently shook the propeller so that a part of the metal sheathing flew off and penetrated the ship, touching a boom. I must go and investigate this to-morrow. In addition, when landing they did in the main ship's rope as on the second flight, but they have a spare out here.

I understand that though they have spare engines out here they did not ship out the slinging derricks for changing an engine, and accordingly it is very difficult to change the damaged engine. A pretty position to be in! For this reason they have already decided not to change this engine but to go home on five.

TUESDAY, AUGUST 12TH.—Out to the air port in morning. Found that when the reduction gear of the starboard engine failed a portion of the casing was shot up—I think through the roof of the car—and hit the fwd. base boom of girder F.G. Fr. 9, about 2ft. from F. It made a hole big enough to put my fist in, half the circumference of the tube. Mercifully this is mostly a tension case; if it had been the apex tube the girder would have collapsed and we *would* have been in a mess. Found that the repair had been left to Hall, who had gone to Vickers to get a clip made up—a sort of bandage round it. No more good than a sick headache. Stopped this and went over it with Angus and McWade; decided to put on a double hole patch plate with two 1in. holes, riveted, with up to 25 per cent. fitted bolts in awkward positions to save making up dollys.

Pressy pulled the ship's main wire in two after coupling, by a clever bit of juggling with his rams and winches. He thinks it was kinked, because

working out what he did he cannot account for having had more than 15 tons on it. They have a spare, which is being fitted.

As regards the engine, they are seriously proposing to lower the ship down to the ground, if there is a calm to-night, and change engines on the ground, using a small travelling crane. This seems very hazardous and difficult to me; it means getting the engine and substructure off and letting the ship up again, changing engines on the substructure, and hauling the ship down again and fitting new engine and substructure. The risks of damage seem to me to be very considerable, both to the substructure and to the rest of the ship. Booth and Scott are against it and would like to go home with five engines; Colmore is for it, on the grounds that this may be about to happen to all the other engines after this amount of flying—*vide* Graf Zeppelin. No decision yet made.

It is now announced that we sail for Engalnd at 10 p.m. to-morrow night. Wann is returning by boat; his leave is not yet up.

Lelliot rang me up about seven o'clock this evening to say that my patch couldn't be made to fit the tube, the whole tube being slightly bent. Could they fit Hall's, riveting it and bolting it to the tube with 1in. access holes in the manner of mine. Agreed.

WEDNESDAY, AUGUST 13TH.—3.30 p.m. Out to St. Hubert with Escala in the Ruxton bright and early. Fixed up details of the patch with Ball and Angus; Hall's is better than I thought. It will serve pretty well if bolted to the tube, but cannot be regarded as 100 per cent. repair. They decided last night not to change the engine, but to go home on five.

I would never have believed that after a fortnight's stay I should be so sorry to leave a country. I like this place; I like the way they go about things, and their vitality. The tremendous physical health of everyone. I am going home, and sorry to go; though I am leaving this country for a little time I cannot believe that I am leaving it for good. I have never been in a place that has got hold of me so much as this has done. We are going home, and there will be a great welcome waiting for us at Cardington, but it will not be like the welcome that they gave us here.

9.0 p.m.—A troubled afternoon of preparations, ending in a journey with Escala to St. Hubert. Here endless formalities—producing some documents which will have some value as souvenirs in the future. Finally I have said good-bye to everyone and come on board; the ship is full of strangers because we are carrying a number of passengers and pressmen back. They are all very excited and eager. We are warming up engines at the moment; we are due to slip at 10 p.m., Montreal Summer Time.

It has been a cloudless, hot and sticky day, but the air is cooler now. The forecast is good. Wind at the moment about south.

10.10 p.m.—Slipped at 9.28 Montreal Summer Time, and got away well, with 9,600 gallons of fuel. (32 tons fuel, 60 people on board all told. 6.3 tons ballast after getting away. This is the tenth flight of the ship.) Headed south and proceeded on a wide circle westwards to cross over Montreal from west to east. We are now heading down the St. Lawrence with a moderate following wind, and hope to be off Belle Isle to-morrow morning. We shall pass over Three Rivers and Quebec in the night. Cruising on three engines at 1,600 r.p.m., making about 47 knots with a following wind of 10 knots, say 57 knots over the ground. Height about 1,000ft.; moonlight on the river. We have just passed Sorrel.

Montreal was very pretty, just as we saw it before. The river in the darkness, the lights, and the cross on top. The depressions are such as to impose a northerly course on us to keep the following wind, and we shall almost certainly pass by Belle Isle.

THURSDAY, AUGUST 14TH.—9.0 a.m. zone time (G.M.T. + 4). We are running up the St. Lawrence on the north shore; we have passed Anticosti and are near Cape Whittle, on our course to Belle Isle. Speed about 44 knots on three engines, with a following wind of about 40 knots. The coast is a mass of innumerable deserted islands and inlets; the weather is clear and sunny. Stedman tells me that Hudson Straits would be away to the far north. The watershed hills are more or less in sight and as far as these the land is known to man; from those it slopes away into the Arctic and has never been travelled, though it was all flown over last summer.

Slept and breakfasted well, sharing my cabin with Wann. So far the voyage has been perfect. There was a little motion of the ship last night in the vicinity of Quebec as I was going to bed—nothing serious. Since then she has been perfectly steady.

12.15 zone time.—We are making good about 60 knots, and passed up the Belle Isle Straits along the Newfoundland shore. Country very desolate and half lake; very barren. Passed two or three small icebergs in the straits, gleaming very white, but not very close. Passed Belle Isle at 11.55 zone time and photographed it. Three Newfoundland Banks schooners in the strait. We have now left the land and are heading out over the Atlantic in fine, sunny weather.

Our passengers are getting bored and hang about without seeming to know what to do with themselves. Spent an hour up in the crow's nest, photographing as we passed up the Straits, with Felix Gaye and Moncrieff. We are just passing another iceberg. Our course is 100° true, which means heading for the south of Ireland.

The first wireless message received on this trip ran: "Good-bye Grey Eyes. — Joan." It was blushing claimed by a pressman.

6.45 p.m. zone time (G.M.T. + 3).—A completely uneventful trip so far. A fine sunset and about a 10-knot wind behind us. We are still cruising at about 45 knots and making good about 55 knots, course about 100° true and position about 45° W. \times 53° N. The depressions are such that we seem likely to get light winds behind us most of the way across; there is not very much that we can do to help ourselves along with change of course. We are likely to catch up the *Ausonia* again on Saturday; it will be fun to speak to her again. She left on Friday last, bound for Southampton. Our height is about 1,700ft.; so far we have hit no cloud, which is quite exceptional in this ship! A lot of flowers were sent off to us before we left, and the dining-room is bright with them. Mostly sweet peas.

11.40 p.m. zone time (G.M.T. + 3).—A completely uneventful trip so far. We have had a little rain, and hear that there is rain and low cloud in England; it's a pity to have to come back from the Canadian summer! Still running as before; the course is now a little to the northward, about 85° true, as the high pressure area ahead of us is coming up a bit north. Have had a long talk with Stedman on the future of airships, mostly technical in regard to operating in Canada.

FRIDAY, AUGUST 15TH.—9.45 a.m. zone time (G.M.T. + 2). We are in longitude about 35° W. A little depression came up behind, up from the direction of Florida during the night, moving more quickly than Giblett had anticipated, and during the night we found ourselves in a 25-knot north-easterly wind. We altered course to the south-east to get below it, and are now in a following wind. We are running on four engines at about 52 knots and according to the latest estimate making good 83 knots over the ground, but as we are flying in very thick cloud this may be in error. Throughout the night we were not making good much more than 40 knots.

It rained very heavily all night, and a lot of water came into the collector, so that our original 6.3 tons of ballast is now increased to 10.7 tons. A lot of water came down between bags 5 and 6 and soaked the back of the kitchen instrument board, causing a short circuit somewhere which has put the cooker out of commission. The electrician is too busy sending off wireless Press messages to come and look at it, so that we have had water and sardines for breakfast and shaved in cold water.

Our passengers mostly slept late to-day and the majority have not yet put in an appearance. The sense of adventure is wearing off.

12.45 p.m.—We have had a sweepstake on the day's run, which I have won with 1,250 nautical miles. We are still flying in thick cloud; occasionally we come down to about 800ft. and can see the sea. The wind appears to be south about 40 knots, and we are cruising normally at 52 knots on four engines.

It is very damp and warm. Everything is streaming water and the whole ship is very wet. The water comes in, in particular at the crew's nest, and at all the valve flaps, automatic and manoeuvring. As I write the weather clears a little, and we can see a cloudy sky and a rough sea—about Force 5. We are making a tremendous drift—about 30° - 40° .

4.25 p.m.—We are making good about 67 knots in bright clear weather. The cooling range seems to be permanently out of commission for the rest of the trip; the whole of that wall and the kitchen ceiling is soaked with water that has come down the auto valve trunk. In this respect the pressure cover system of R.101 is an improvement on ours, in that in our system water tends to be sucked in, whereas in theirs it tends to be kept out.

Our position is about 23° W. \times 52° $40'$ N.; we are coming up on the *Ausonia* again, who is giving us wireless bearings. We are about 600 sea miles from the Fastnet.

9.20 p.m. zone time (G.M.T. + 1).—We are getting near home when it is G.M.T. + 1, but there is absolutely nothing else to report. Still running on four engines at 52 knots; we expect to pick up the Fastnet at about 1 a.m. and moor at Cardington some time in the middle of the morning. We have 55 people on board in all—13 passengers and 42 crew. 260 sea miles from the Fastnet and making good about 70 knots; we have just passed the cargo steamer *Beaver Brae*.

It is surprising how little interest the pressmen take in the control car. Booth made a regulation that no more than three of the 13 passengers were to be in the car at a time. Actually there seldom are three; Burney, Wann, Stedman and myself are the only ones who take any real interest in the technical side. This probably means that the ship will be judged on her passenger quarters, and is an indication of what we may expect from passengers of the future.

SATURDAY, AUGUST 16TH—6.45 a.m. G.M.T. We passed the Fastnets at 1.30 a.m., and have now just passed over Lundy Island; it is curious how often we have come to Lundy in this ship. It is a bright, sunny morning, and we should moor at about 9.30 if all goes well. We have put on our fifth engine and are now cruising on five at about 55 knots, making good about 65 knots with a following wind. In a few minutes we shall be over Somerset. Eldridge has broken the pump handle with the violence of his efforts.

8.20.—We have had breakfast and passed Avonmouth and Bristol; two aeroplanes came up from Filton and flew beside us for a little time. We are now sliding on over Gloucestershire towards Cirencester, on a direct course for Cardington. There is some doubt as to whether we shall be able to moor in the middle of the day, on account of temperature conditions. Scott will probably make every effort to. It is surprisingly cold this morning. The air is noticeably more bumpy over the land than over the Atlantic.

This has not been a bad trip. We have done what we set out to do since we left England, more or less at the time scheduled, and at this stage of airship development I think that constitutes a good performance. It is a pity that the fin went on the way over, but one has to gain experience.

9.45 a.m.—We are within 10 miles of Cardington, and have about 3,200 gallons of petrol left. We passed over Cirencester and Bicester, and are heading straight for the mast, flying at about 2,000ft. The air is decidedly bumpy, probably due to a layer of loose, broken cloud just above us, and a bright sun.

10.0 a.m. G.M.T.—Over Bedford; 56½ hours from the time we left Montreal. We can see the aerodrome; there are not more than fifty cars in all to see us arrive. We sink in unhonoured and unsung in the English style, rather different from the welcome that we had in Montreal.

10.30 a.m.—Coupling made to masthead rope; ship hooked.

11.0 a.m.—Locked home. There are now about 200 cars in all. Time of passage 57½ hours.