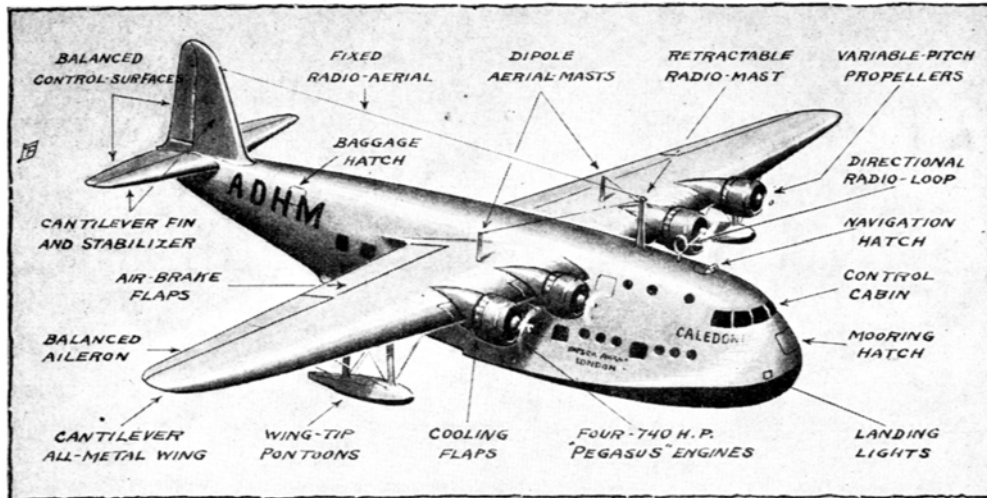


# The Short Empire Boat

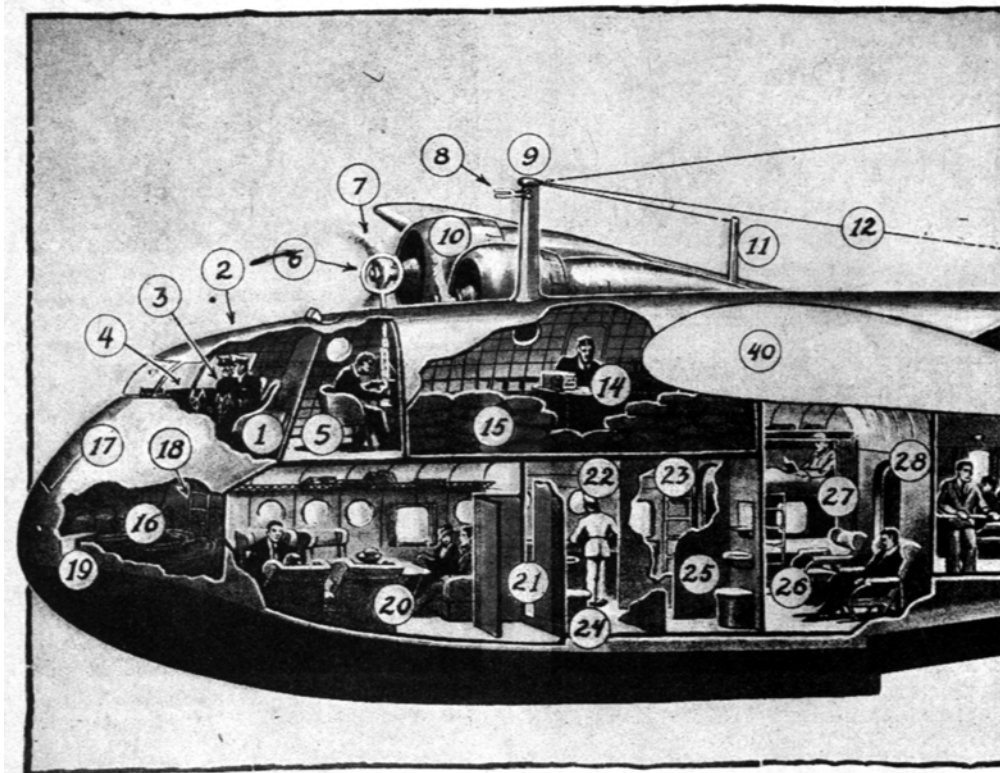
ABOUT BRITAIN'S BIG NEW LUXURY AIR-LINER FOR ATLANTIC AND  
ASIATIC ROUTES

By Frank Tinsley



AS it rapidly roars toward a neck-and-neck finish, the great international race to span the grim old North Atlantic with a regular commercial flying service has caught the interest of an air-minded world. In a sudden spurt, the field has rounded the last turn and is now pounding down the home stretch. At the present writing, Germany's entry, an experienced three-year-old from the southern circuit, is in the lead, with the colors of England and the U. S. A. riding side by side a length behind. The French horse unfortunately sprang a tendon when the giant six-engined Latecoere flying boat Lieutenant de Vaisseau, Paris capsized in Florida waters last year. As none of the other European nations seems to be actively interested in entering the race at this time, it looks as if the winner will be found among those already named.

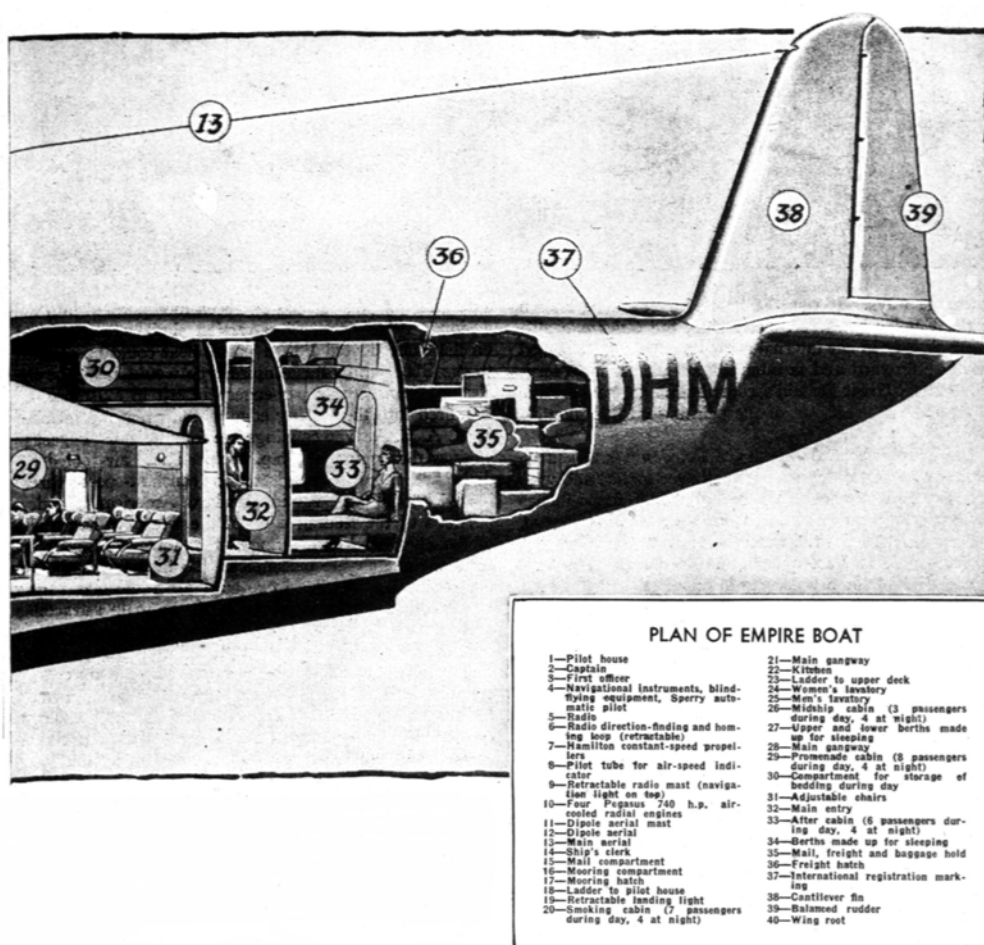
Regardless of who "cops the cup," it becomes more and more evident that when crossing the old pond by air proves popular, the successful "first" may find himself facing some good old-fashioned cutthroat competition. It is apparent by now that no one nation will be permitted by the others to dominate the transatlantic air lanes, and as Lufthansa,



Imperial Airways, Pan-American and Air France compete with more luxurious equipment, faster schedules, and lower rates, John Q. Traveling Public stands to reap the benefit.

Only recently the first of the German-Lufthansa mail planes dunked her sturdy Teutonic bottom in the sheltered waters of the Port Washington seaplane base on ' Long Island. It was the first test flight in preparation for regular airplane mail service across the North Atlantic. Profiting by several years of experience in operating a similar line over South Atlantic waters and by intensive development of the technic of launching large flying boats from catapult ships, Lufthansa planned to station several of its floating bases between New York and Hamburg and start moving the mail. The equipment employed (Diesel-powered Do. 18 flying boats) is designed for mail carrying exclusively. As no passenger accommodations are provided, the ships can hardly be compared with giant luxury boats of the China Clipper and Short Empire class.

Like the much-discussed Armstrong seadrome, basically the same idea, the use of catapult-equipped mother ships in connection with small short-range aircraft is now considered by thoughtful observers to be merely a stop-gap measure. It is evident that the successful transatlantic airliner will have to



be of enormous size, and rugged enough to keep afloat in rough water. Spacious passenger accommodations must be provided. A range sufficient to carry a maximum load at least 4,000 miles is imperative.

Until recently, the only existing types approaching these requirements were the Sikorsky S-42A and Glenn Martin's China Clipper. The former is capable of carrying 32 passengers, a crew of 5, and full cargo a distance of 1,200 miles at a cruising speed of 170 m.p.h. The Martin 130 boat accommodates 24 passengers and a crew of 5, cruises at 163 m.p.h., and has a range of 3,200 miles. The Sikorsky is powered with four 750 h.p. Hornets; the Martin with a similar number of 800 h.p. Wasps. By cutting the passenger list, either of these ships may be used on the New York-La Havre run at the present time. However, there is no doubt that Pan-American would have to be heavily subsidized to make a profit.

Traveling in shorter hops via Bermuda and the Azores is complicated by the fact that both islands are owned by

foreign powers and jealously reserved for their own national air lines. For several years now negotiations have been in progress with a view to combining the resources of Pan American and Imperial Airways and establishing a jointly operated line using the island route.

This has been slowed up by a desire evinced in certain high quarters of running an all-British line from Britain directly to Canada. Another delay was caused by the unwillingness of Imperial Airways, for understandable patriotic reasons, to use American machines.

To surmount this hurdle, the great English firm of Short Brothers, Ltd., was commissioned to produce a large commercial flying boat that would meet or better the performance of the Yankee Clippers. Recently their answer to the problem was christened *Canopus* and slid down the ways. It was the first of a new type known as the Empire boats. A sister ship, the *Caledonia*, differing slightly in her internal arrangements, was launched shortly afterward and is intended for the Atlantic service. She is Great Britain's contribution to transoceanic flying and is the subject of the painting on this month's cover.

The Empire boat, of which the *Caledonia* is an example, is an all-metal, high-wing cantilever monoplane with a gross weight of almost 18 tons. She is 88 feet 6 inches in length, measures 114 feet from wing tip to wing tip, and her height from the water line is 24 feet. Carrying a crew of 5, 16 passengers and cargo making a total pay load of about 5 tons, she is expected to hit a high speed of approximately 200 m.p.h. With this load, the *Caledonia* can fly 800 miles non-stop. By adjusting the pay load, the range can be increased two or three times. During a test run with chief test pilot J. Lankester Parker at the controls, the ship showed a normal cruising speed of some 150 m.p.h. These figures reveal that while the *Caledonia* about equals the performance of the big' American boats, she has demonstrated no great advance over the older designs. There is no doubt, however, that the Empire boat is a much roomier craft, providing more cubic space per passenger. This, of course, is a definite luxury in heavier-than-air flying. The accompanying table shows the comparative sizes and performance of the three craft.

The internally braced full cantilever wing gives the British ship a very clean appearance. It is unfortunate, however, that some type of retractable wing-tip pontoon has not been

incorporated into the design. If a system of retraction similar to that used on the Consolidated P3Y-1 patrol boat could be adapted to the Short craft, the Empire type would easily be the cleanest transoceanic passenger aircraft in existence.

Faired into the leading edge of the wing and inclosed in N. A. C. A. type cowlings are four Bristol "Pegasus" engines developing 740 h.p. each. These air-cooled radials are fitted with Hamilton constant-speed three-bladed propellers. As in standard American practice, portions of the leading edge of the wing on either side of the engine nacelles swing out to form working platform for the engine mechanics. To the rear of the inboard nacelles are placed two auxiliary radio masts from which a dipole aerial connects with the main retractable mast on the forward section of the fuselage.

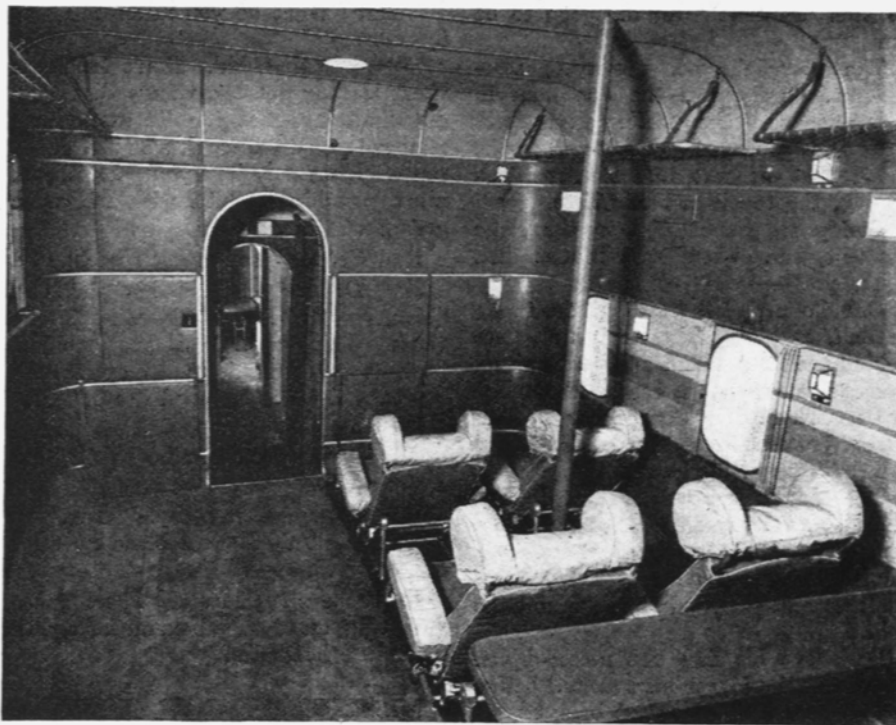
Entering the big boat through the after gangway, we find ourselves in a small lobby crossed by a main central corridor which extends from stem to stern. Turning toward the tail of the ship, we enter the after cabin, a comfortable high-ceilinged room decorated in a restful green color enlivened by bright chromium bands. The cabin is arranged for daylight travel and is provided with seats for six passengers. It is lighted by four large windows and provided with an overhead rack on either side in which are stowed the traveler's hand luggage. A white-coated steward politely explains the system by which berths are installed at night, transforming the compartment into a cozy, four-bed sleeping cabin.

We peep for a moment through a door in the rear partition and catch a glimpse of the capacious after cargo hold. It is piled high with trunks, cases and mail sacks destined for America.

Moving toward the bow, we again cross the entry and step down into the large promenade cabin which occupies the center section of the boat. A double row of adjustable chairs fills one side of the room. More chairs and a promenade space provided with steadying hand rails occupy the balance of the space. Reading lights, tables and maps are provided for the convenience of the traveler. This cabin accommodates eight passengers during the day and sleeps four at night.

Another move forward and two more steps down bring us into the midship compartment. This is smaller than the one we just left, containing but three chairs. The ever-attentive steward explains, however, that berths for four are available at night.

Continuing our progress toward the bow, we find the main corridor flanked by narrow side rooms. On the port side are two lavatories luxuriously outfitted for the comfort of the voyager. A door on the starboard side opens into the ship's galley.



The Empire Boat's promenade cabin is spacious.

We notice a vertical ladder fastened to the wall and are informed that it leads to the upper deck. Mounting the aluminum rungs, we climb through a hatch and find ourselves in the domain of the ship's clerk. He is ensconced behind a workmanlike desk covered with ship's papers and files. Behind locked partitions of steel caging, mail bags are stacked up to the ceiling. We step forward through a door into the radio room, with its busy operator and bewildering array of gadgets, and then through another into the pilot house.

The captain and first officer sit side by side, facing the instrument board and dual controls. The Empire boat is provided with every known device for blind flying and with every navigational aid available. During the long hours of routine flying, the ship is controlled by an automatic pilot.

In order to make our survey a thorough one, we then descend a vertical ladder from the pilot house into the dimly lighted mooring compartment. Stumbling over anchors, piles of cable and miscellaneous gear, we pull open the door that leads aft to the smoking compartment. It is like entering another world.

From the dank darkness of the hold, with its mingled whiff of oil, tar and damp cordage, we emerge into the brightly lighted, tobacco-flavored atmosphere of the cheeriest cabin on the ship. Sunlight streams in through circular portholes below which are ranked more of those comfortable, adjustable chairs we saw in the other cabins.

Let's you and I sit down comfortably to enjoy the balance of the flight—and incidentally, acknowledge a toast to old England and her newest sea-child—the Short Empire airliner.