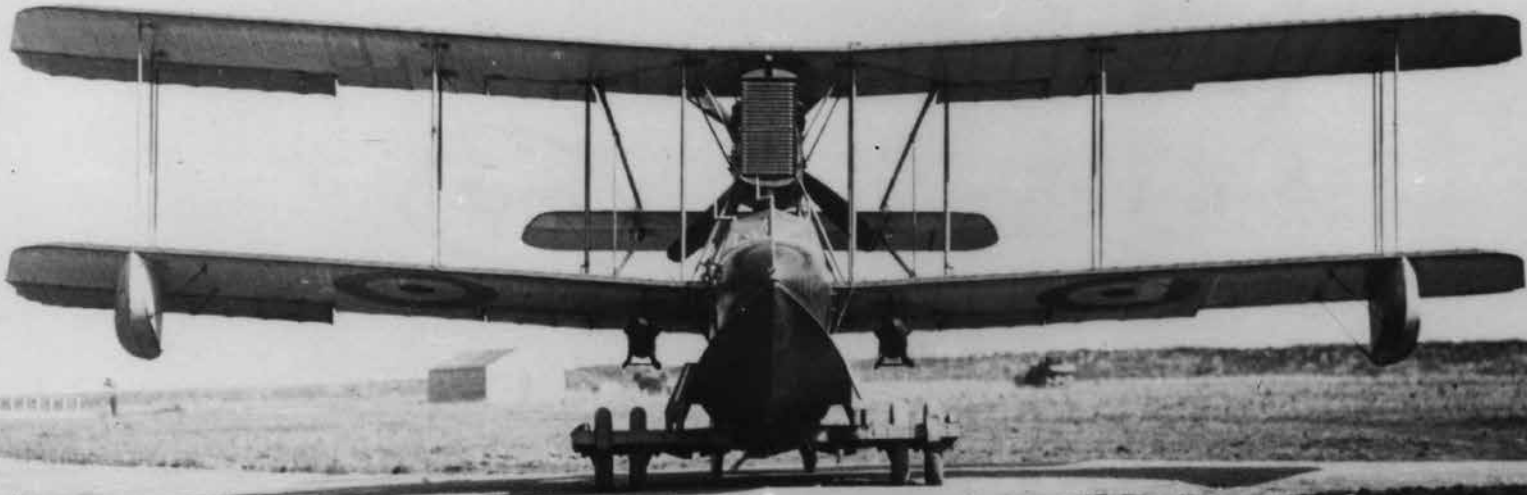


FARNBOROUGH'S FLYING BOAT



The Royal Aircraft Factory CE1

by Paul R. Hare

ON 31 JANUARY 1917, Germany announced that it would resume the policy of unrestricted submarine warfare, which it had previously abandoned following the world wide outrage at the sinking of liner *Lusitania* two years earlier, with effect from the following day. Under this policy, merchant ships, of any nationality, sailing in British waters, and even hospital ships, would be attacked without warning, rather than being stopped for examination, and the crews allowed to take to the lifeboats before their vessel was sunk.

The German Navy had over eighty submarines based in ports around the North Sea, including those in Belgium, although they not only had a limited under-water endurance, but could only detect the presence of their targets by visual observation, and so spent much of their time cruising on the surface, re-charging their batteries, and scanning the horizon, submerging to periscope depth to make their attack only when a target was spotted. Although sinkings by aeroplanes were rare, the presence of a patrolling British aircraft in the skies above them still posed a sufficient threat to force the submarines to submerge, reducing their speed and range, and eliminating their ability to detect potential victims. However, Britain was unable to provide sufficient anti-submarine patrols to counter the increase in activity and, by April, submarines were sinking an average of almost 30000 tons of shipping, in British coastal waters, every day.

The RNAS operated a number of seaplanes, mostly Short 184s, from bases along the East coast, together with a few Curtiss flying boats, with which to patrol, while the RFC also carried limited anti-submarine patrols with land based aeroplanes. Some effort had been made to fit these with flotation devices to improve the crews' chances of survival in the event of engine failure when out of reach of land but these were largely unsuccessful, and generally unsatisfactory.

What was needed was a better flying boat, operated in greater numbers, and, almost at once, the Royal Aircraft Factory set about designing one. Many of its key personnel had disbursed into industry following the enquiry, headed by Richard Burbidge, into its affairs the previous summer, and Henry Folland had resigned over the tragic death of Frank Goodden, at the end of January, in the SE5 he had designed, and so design

of the new flying boat, named Coastal Experimental No1, or CE1, was undertaken by William S. Farrren, who had taken over as head of the aerodynamics department, following the death of E.T. Busk in November 1914. It was Farrren's first, and only, design, with the drawings being produced by the drawing office staff, and their approval signed off by John Kenworthy, the Chief Draughtsman, as was usual practice.

Design work began in earnest during June 1917, with Farrren apparently taking inspiration from the Sopwith Bat Boat of 1913 in producing his own design, a pusher with a fairly short hull and with the tail surfaces carried on booms. The hull was a wooden planked structure, clad in mahogany, with a single step, the aft portion having a slightly concave underside, tapering almost to a point, with a water rudder fitted at its aft extremity. Planing surface was provided by lateral fins extending along each side of the hull, from the bow to the step, the completed hull weighing 527lb. Tandem cockpits were provided, with the pilot in the rear; glazed panels to the front and sides affording the crew some protection against spray. The armament comprised three pillar mountings for Lewis guns, one on the centre line ahead of the forward cockpit and one at each side between the seats. A bomb sight was mounted on the starboard side and underwing bomb racks allowed bombs of up to 230lb to be carried.

CE1, N97, with wings folded.

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