

One of the towed lighters designed by John Porte for the transport of flying-boats in order to extend their operational range.

## THE FELIXSTOWE FLYING-BOATS . . .

Solent during July and were so successful that it was proposed to order fifty immediately; but the Admiralty required further trials to be made in the North Sea.

These trials were conducted under Commodore R. Y. Tyrwhitt on September 3rd, 1917; and a lighter with a flying-boat (presumably a Curtiss H.12) on board was towed at speeds up to 32 knots. An order for 25 additional lighters was placed immediately; the number was later increased to 50. The lighters were built by Royal Engineers at a new Government shipyard at Richborough. The first was not delivered until May 1918, and only 31 had been received by the time of the Armistice. Of that total, twelve were modified for use with Sopwith Camels (see *Flight*, April 29th, 1955, pp. 560-561).

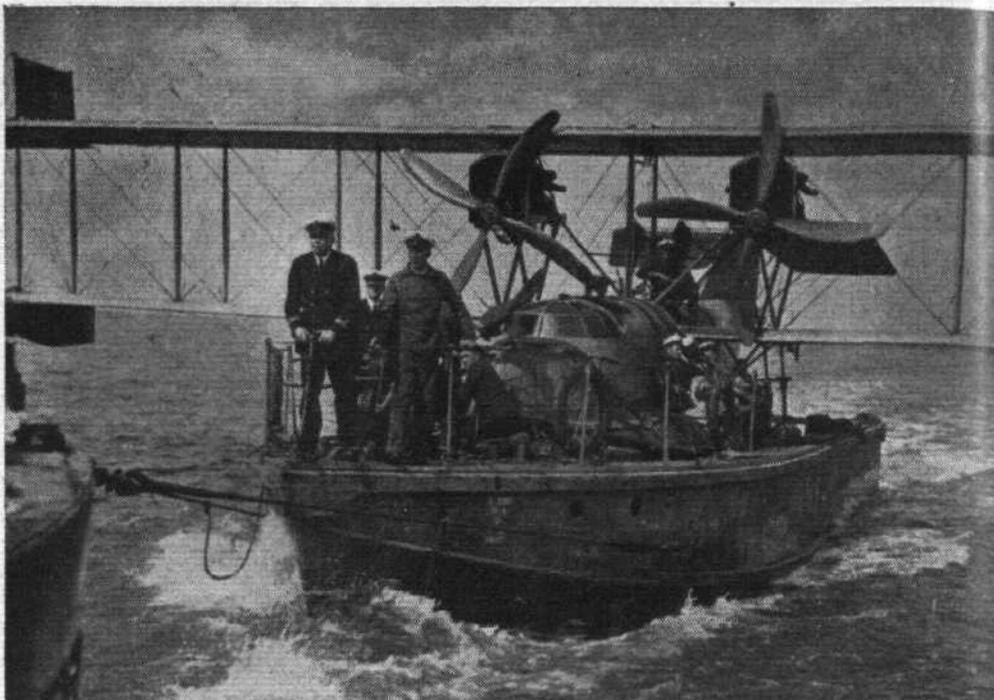
The lighters offered a reasonable hope that it would at last be possible to make a bombing offensive against German bases in the North Sea. In order to give the flying-boat and lighter crews practice in this new technique, however, it was decided that the aircraft should first be employed on extended reconnaissance flights over the Heligoland Bight; and plans for these operations were drawn up in February 1918.

The first operational trial was made on March 19th, 1918. At 5.30 a.m. three flying boats from Felixstowe air station were towed on lighters to a point off the German coast; presumably the lighters were three of the four prototypes. The boats were airborne at 7 a.m. and maintained their reconnaissance patrol until 8.30 a.m., when they were attacked by two enemy seaplanes from Borkum. One of the German machines was shot down in flames; the other fled. The flying-boats continued their patrol. For an hour Capt. Magor, U.S.N., flew his aircraft on one engine whilst his flight engineer, Anderson, battled against the air-stream to repair the other, which had been damaged in the fight. Despite his complete exposure to the gale and a lack of hand-holds, Anderson achieved the near-impossible and the engine was re-started some 200 miles out from Felixstowe. As was intended, the three boats flew back to their base.

The operation was repeated on March 21st, and thereafter the lighter-borne Large Americas made several successful flights. The original plan for bombing German naval bases was abandoned in July 1918: it had proved impossible to provide reliable forecasts of the weather over the North Sea, and by then land-planes such as the Handley Page V/1500 were in prospect, with a potential ability to attack the enemy from aerodromes in France.

As the year 1918 advanced, the big flying-boats fought an increasing number of engagements with the enemy fighting seaplanes. After enemy successes on April 25th and May 30th, 1918, the Germans made some transparent attempts to lure British aircraft into their waters, with the obvious intention of attacking in force once the trap had been sprung. Capt. Robert Leckie suggested that a squadron of five flying-boats should "go over and deal with the situation in the appropriate manner"; this suggestion won the ready agreement of Lt-Col. C. R. Samson, O.C. 73rd Wing.

On June 4th, Leckie led a force of four F.2As and a single Curtiss H.12 on an offensive patrol towards the Haaks Light Vessel. Two of the F.2As, N.4289 and N.4295, were from Great Yarmouth; the F.2As N.4302 and N.4533, and the H.12 No. 8689, came from Felixstowe. After two and half uneventful hours N.4533 was forced down with a broken petrol feed-pipe, and its pilot, Capt. R. F. L. Dickey, had no choice but to taxi to Holland, where he burned his aircraft. Five enemy seaplanes appeared, but seemed more anxious to shoot up the lame duck on the water than to try conclusions with the four remaining British machines. The F.2As and H.12 circled the labouring N.4533 until ten more German seaplanes appeared. Only the three F.2As turned to fight the numerically superior enemy force, because the H.12 (Ensign Eaton, U.S.N.) had flown off in pursuit of one of the original five Germans. (The Curtiss was eventually forced down in Dutch waters and its crew interned.) Of Leckie, one of his pilots said: "He went hell-for-leather for them, and drove clean, slap-bang through the enemy formation, splitting it right up, carrying away the wireless aerial of his boat on the top plane of the leading enemy machine."



For forty minutes the F.2As fought superbly. Two enemy machines were shot down, and it is believed that four others never returned to their bases. A broken petrol pipe sent N.4302 down on to the Zuyder Zee between Terschelling and Vlieland, but the engineer, Pte. Reid, effected a quick temporary repair which enabled the pilot (Capt. A. T. Barker) to rejoin Leckie at the Haaks. Engine trouble was also experienced by N.4289, but Capt. J. Hodson flew it on one engine while repairs were effected.

At 5.15 p.m. Leckie decided to return to base, but by that time the enemy had had enough. The victory was to the warrior boats, which landed in Great Yarmouth roads at 7.10 p.m. after one of the greatest (yet least-known) aerial battles of the war. Even N.4533, down on the water, had shot down one of the enemy. What might have happened had all five British boats been available to engage the enemy is a matter for conjecture. Leckie concluded his report with the acid observation ". . . these operations were robbed of complete success entirely through faulty petrol pipes . . . It is obvious that our greatest foes are not the enemy, but our own petrol pipes . . ."

One colourful result of this action was the decision that all flying-boats should have their hulls "dazzle painted". The chief object of this idea was to enable pilots to distinguish other machines in combat and to know the identities of their occupants, for the choice of markings was left to the individual pilots. On the Great Yarmouth boats this freedom of choice led to some gaudy and bizarre markings, but Felixstowe ultimately arrived at a more or less standard colour scheme.

The pioneer in this matter had been Capt. Hodson, whose F.2A (N.4289) "was terrible in appearance, painted post-box red, with yellow lightning marks running diagonally across her . . . he fondly hoped that this would put the wind up the Hun". It is doubtful whether Hodson's colour scheme contributed directly to the defeat of the enemy on June 4th, but it certainly enabled his comrades to identify his aircraft immediately and positively, and set a fashion for flying-boats which endured until the Armistice.

In continuation of experiments with hydrophones which had begun as early as the beginning of 1915, a few Large America flying-boats were equipped with the instruments. Others were later similarly equipped, but the development of a promising device was prevented by shortage of flying-boats (their numbers barely sufficed for normal patrol duties) and the need to stop the engines while listening for submarines, with the attendant uncertainty of restarting them.

In 1918, an F.3 was used at the Isle of Grain to test an automatic landing device invented by Maj. A. Q. Cooper. This consisted of a long arm which trailed below the aircraft in flight and was connected to the pilot's control column by an elastic linkage. The aircraft was flown at a shallow gliding angle, and when the trailing arm struck the water its movement was transmitted to the control column in such a way that the flying-boat flattened out. Ultimately, successful landings were accomplished with the device.

An F.3 was also used in tests with servo-operated flying controls.

(To be concluded)