NAVY'S FIRST FIGHTER

By PAUL R. MATT

8:30 P.M., April 2, 1917 - President Woodrow Wilson appeared before Congress, read his message, "God helping her, she can do no other". The recommendation, a state of war to be declared between the United States and the Imperial German Government.

To the tune of Irving Berlin's "Over There", America went to war. Without suitable equipment America's first military unit arrived at Pauillac, France on June 6, 1917. It was known as the U.S. Naval Aviation Forces, Foreign Service.

On November 18, 1917, the U.S. Navy and Marine flyers began their first patrols of European waters with French built and sometimes unfit, Tellier seaplanes. The most activity was encountered in Northern France and through the English Channel. Dunkirk and Killingholme were constantly encountering enemy activity. From the very beginning of American patrol activities there arose the need for aircraft suitable for use against rising encounters with German Brandenburg seaplane fighters. If air control over the Dunkirk-Calais area was to be gained, the Navy had to develop a fighter type plane.

The task was begun in December 1917 at the newly created Naval Aircraft Factory and in March the experimental fighter was brought forth and launched into the water, with the aft end of the main float almost submerged. It was a Curtiss design, and Glenn Curtiss' experience had been that, once the engine was given throttle the airplane would level off and a normal takeoff could be made.

With Roland Rohlfs, Curtiss' test pilot, at the controls and Lt. B. L. Smith, U.S.M.C. in the rear (gunner's) seat, the throttle was opened and on March 21, 1918, the "Dunkirk Fighter" made its first flight. Up and down. Bouncing along the water near Port Washington, Long Island, she took one bounce too many. The original Navy fighter became airborne, fell and crashed - tail heavy. Rohlfs and Smith clambered to safety and the airplane had to be returned for repairs and modifications. Its official designation, a Curtiss symbol, was HA. The Navy allotted serial number A-2278.

Wind tunnel model tests were run again, mathematical computations were checked, and it was ascertained that the "Liberty 12" engine unsuitable. Report 68, issued March 23, 1918, showed the HA to be unstable longitudinally, definitely tail heavy, and should be given an increase in negative setting of the fixed stabilizer. The Navy immediately ordered all changes made and a second plane to be built. In late 1918, the two new HA's emerged. A-2278 had a complete face lifting, assigned a new number - A-4110. The second prototype was given A-4111.

In November the War ended. The "Dunkirk Fighter" hadn't made it. The two HA's are now obscure in the annals of Naval aviation history. A-4110 and -4111 were accepted by the Navy in late 1918 at a cost of $42,900 each. Both were still on the official roster in late 1920 but further records have not been found.

An evaluation of this fighter type at this date indicates that the "Dunkirk Fighter" could have made a considerable contribution if carried out in time. The Navy had procured two Curtiss Model 18-T triplanes, with the new Kirkham K-12 engines. These had a dry weight of 680 pounds which, in comparison with the 844 pounds of the "Liberty", represented quite an advancement in engine design. The K-12 developed 400 HP at 2500 r.p.m. and the Curtiss-Kirkham triplanes had wonderful performance, for that date.

During official acceptance trials held in late 1918 and throughout 1919, both HA prototypes turned in surprising performances. Top speed at sea level was 131.9 mph with full military load. Under the same conditions, 4,012 pounds gross weight, the official climb was claimed at 8,500 feet in ten minutes. Credit was therefore given, on an average basis, of 1,000 feet per minute climb. Landing speed was 62 mph.

The most notable change was the supplanting of the Kirkham K-12 engine. The horizontal stabilizer was adjustable from the cockpit and while in flight, correcting much of the uneasiness that occurred during take-off and landing. The adjustment was only plus and minus 1°, but quite sufficient.

Many and varying propellers were tested on the HAs, the two-bladed Charavey of 9'2" diameter, with 7'7" pitch giving the most satisfactory all around performance. A-4111 was used for many trials with a three-bladed propeller of 8'6" diameter and 7'6" pitch. A four-bladed prop was on the original airplane and was used "off and on" on the second pair, and was abandoned when both two and three bladed propellers proved just as efficient.

A-4111 underwent the most rigorous tests, and had many face liftings, the most notable being the raising of the upper wing above the fuselage on cabane struts. Ailerons were incorporated on both upper and lower wings. A-2278 had them in the upper wing panels only.

For those interested in color schemes and markings, A-2278, as far as can be ascertained, had clear doped wings and no national markings applied to either wings or fuselage. The fuselage, empanage surfaces (except rudder) and floats were a dark, almost colorless battleship gray, pigmented varnish. Interplane struts were left natural clear varnished spruce. The rudder had the three standard vertical stripes, blue to the rudder post. BuNo. A-2278, in three inch black letters was placed within the white rudder stripe. All flying wires were "double", spaced about three inches apart. Tape was wrapped around both wires thus reducing flutter.

When A-4110 and 4111 made their appearance, the national insignia then in effect included cockades on the wings, and reversed coloring on the rudder and both of these aircraft sported these markings. The concentric circles on the wings, red outer-most, blue to the center with a white dot, was employed on upper and lower wings. The red rudder stripe, however, was nearest the rudder post at this time. The gray on fuselage and floats was of a somewhat lighter shade, and the wings were now silver colored. Large (12 inch) BuNo.'s numbers in white were placed on each side of the fuselage midway between wings and empanage.

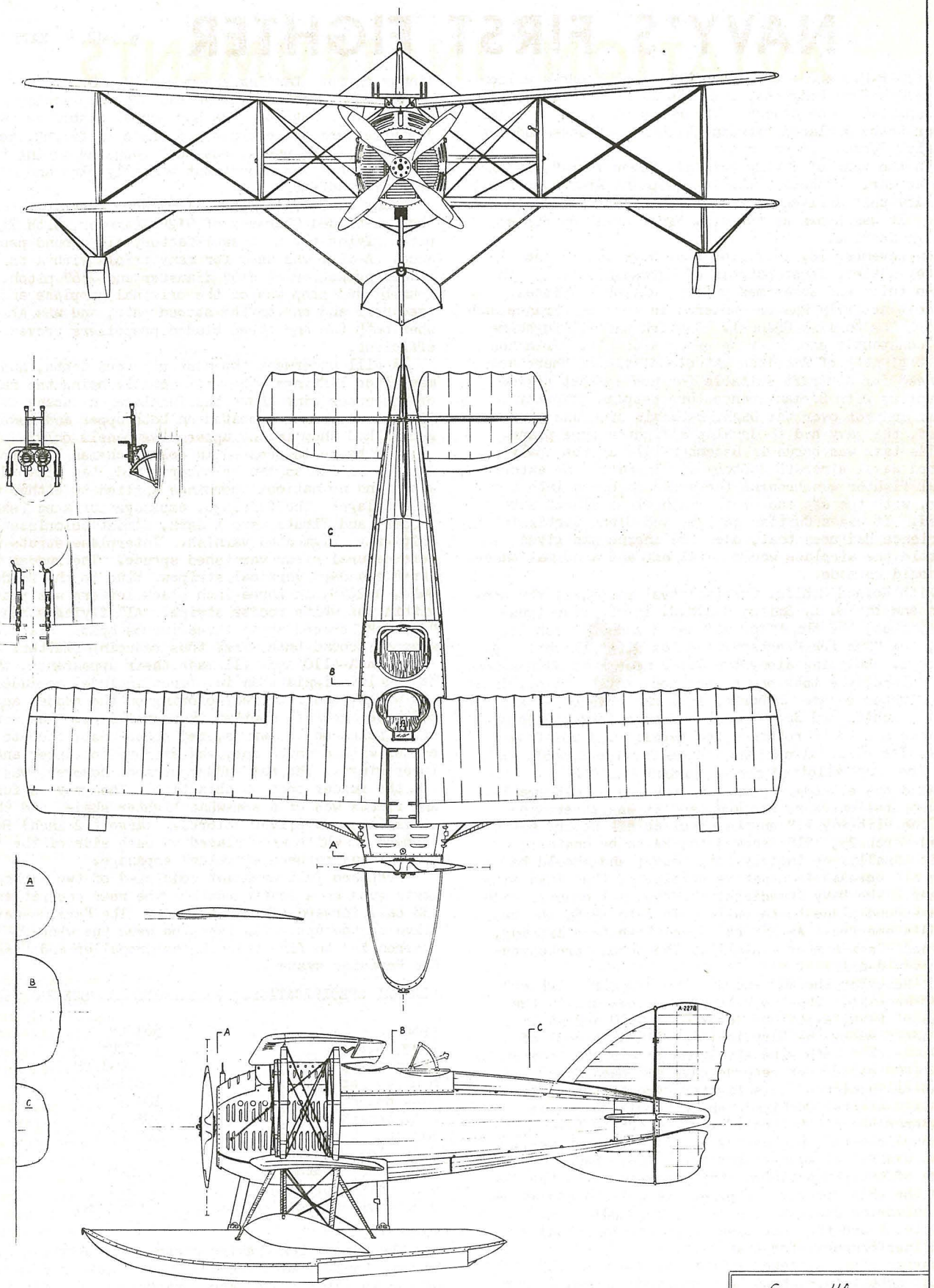
Proposed full armament consisted of two .30 cal. Lewis guns on a scarf mount in the rear cockpit and two .30 cal. forward firing Marlin's. The Marlins were fixed to the upper fuselage, between the wing fittings, syncronized to fire through the propeller and based on the Berthier system.

GENERAL SPECIFICATIONS FOR CURTISS HA "DUNKIRK FIGHTER"

Span	36' 0"
Wing chord	72"
Maximum gap	70-1/8"
Minimum gap	55-1/2"
O.A. Height	10' 7"
O.A. Length	30' 9"
Engine - Kirkham K-12	400 HP @ 2500 rpm
O.A. Float length	20' 0"
Float width	24"
O.A. Height of float	30"
Weight of aircraft empty	2,638 lbs.

NOTE:

The three-view drawing shown here is by A.A.H.S. Member, Paul R. Matt who is, in the opinion of many, one of the world's finest model craftsmen. His detailed research into the subject of markings insures the maximum in authenticity in color schemes and insignia for his model aircraft. He is currently at work on a large series of drawings to be published in a forthcoming book by Harleyford Publications. Editor.



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SCALE FEET

CURTISS HA
"DUNKIRK FIGHTER"

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