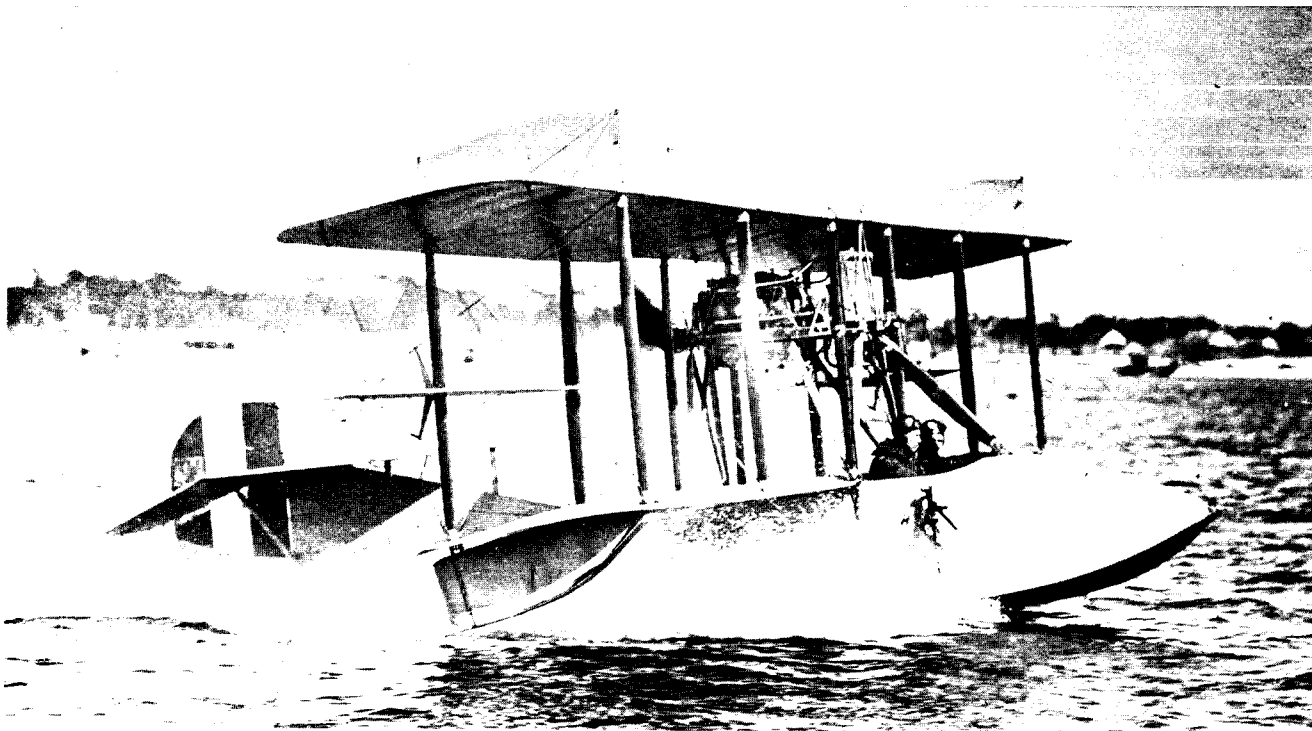
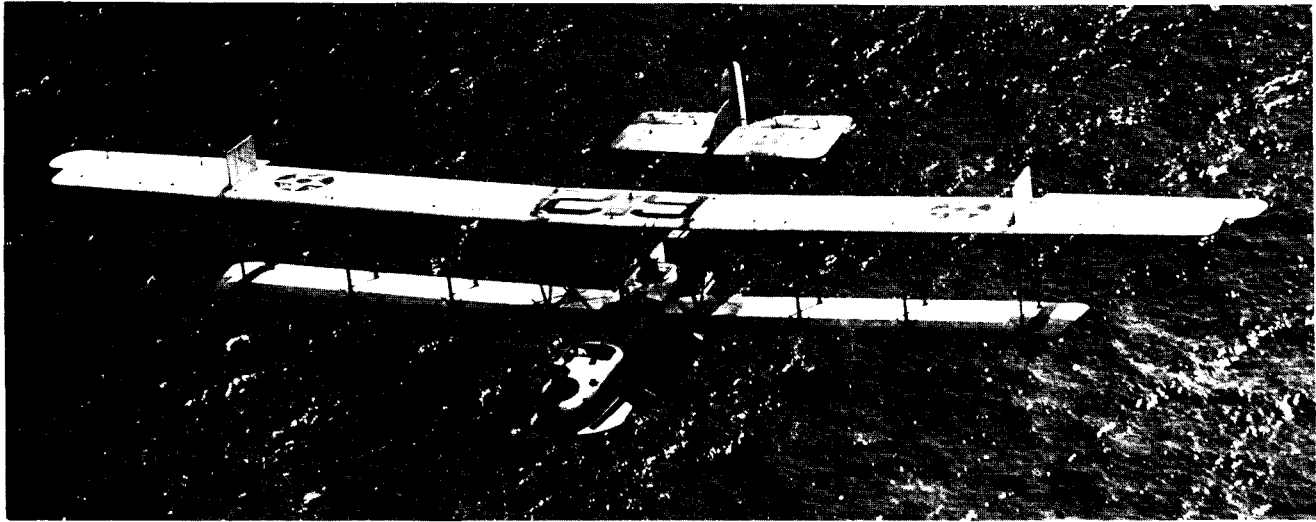




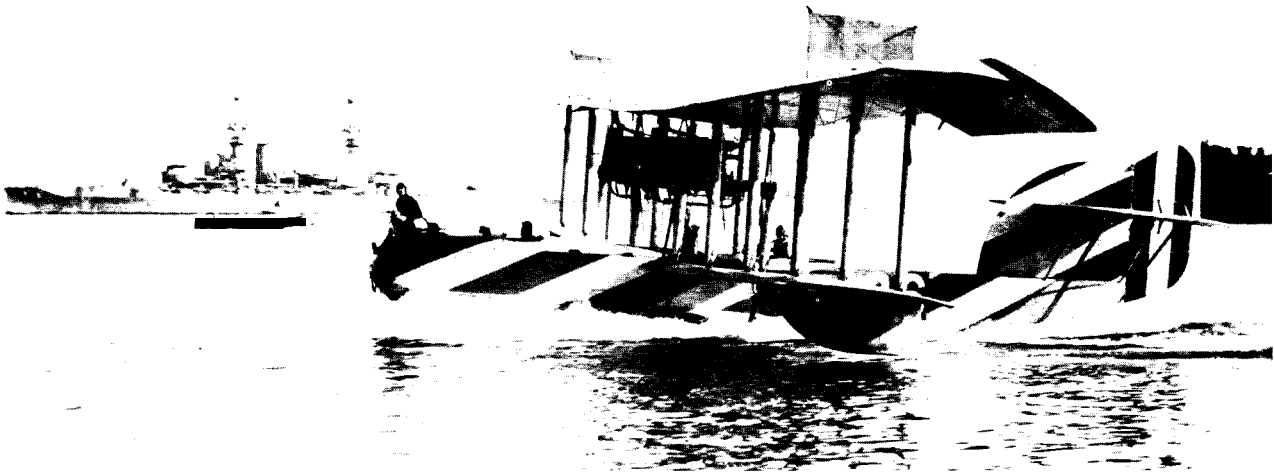
U.S. NAVY VERSIONS OF H-12 WERE USED FOR TRAINING AND DID NOT GET OVERSEAS



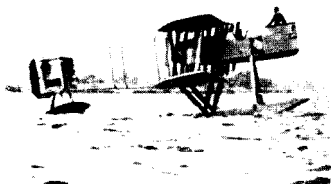
THE F-BOAT, ANOTHER CURTISS DESIGN, WAS PRIMARILY A TRAINING CRAFT



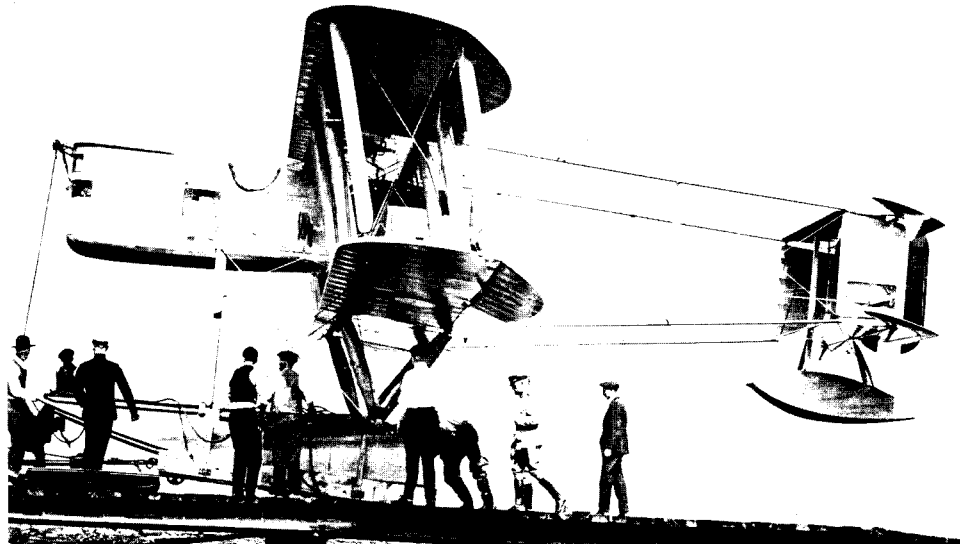
F5L WAS BRITISH DESIGN ADAPTED TO AMERICAN MANUFACTURE



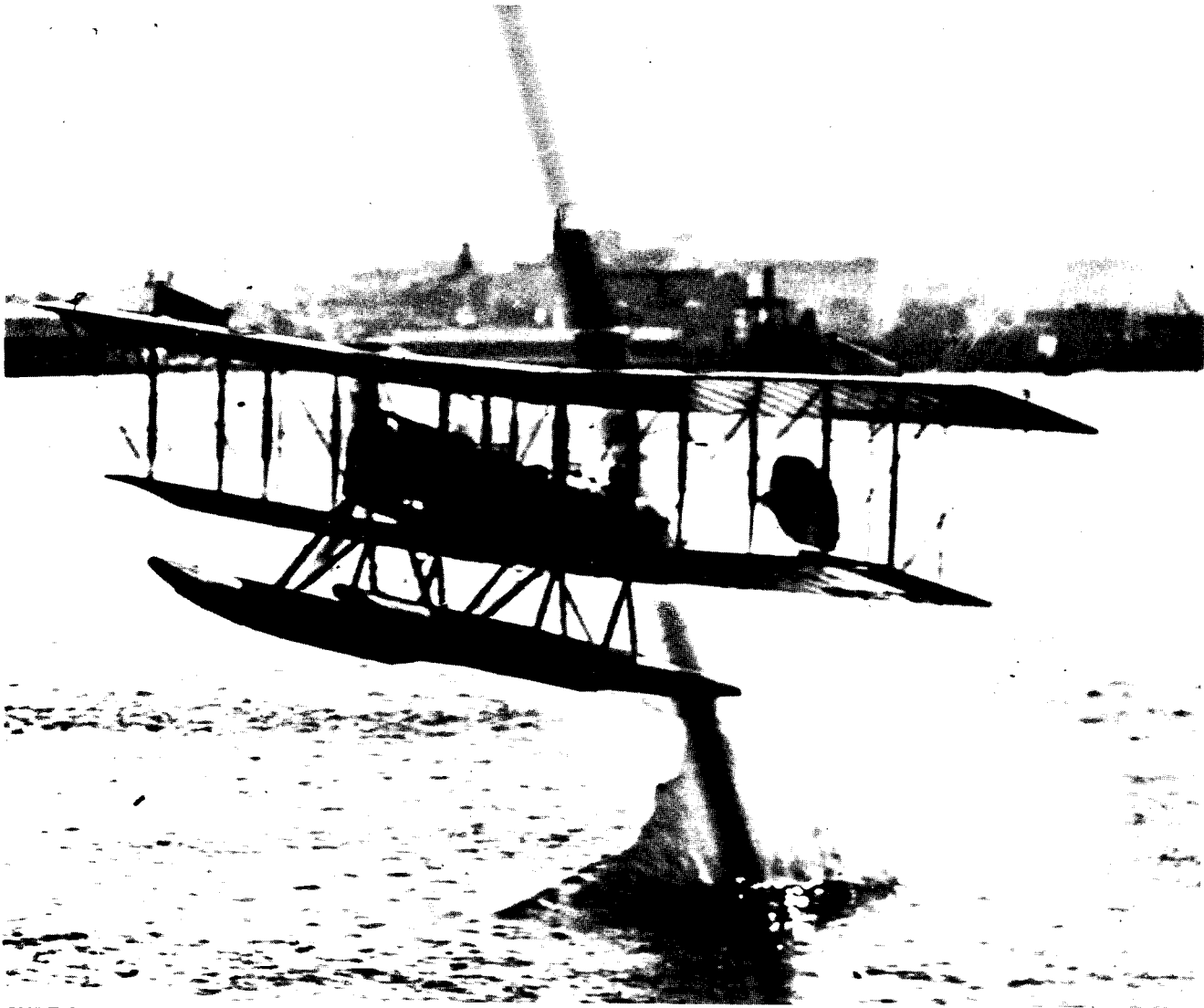
POSTWAR MARKINGS ON F5L IDENTIFIED STATUS OF AIRCRAFT COMMANDER



THE NAVY N-1, one of several wartime experimental aircraft, was designed especially to use the Davis recoilless gun, mounted in the bow, against enemy submarines.



FIRST DESIGN OF NAVAL AIRCRAFT FACTORY WAS N-1



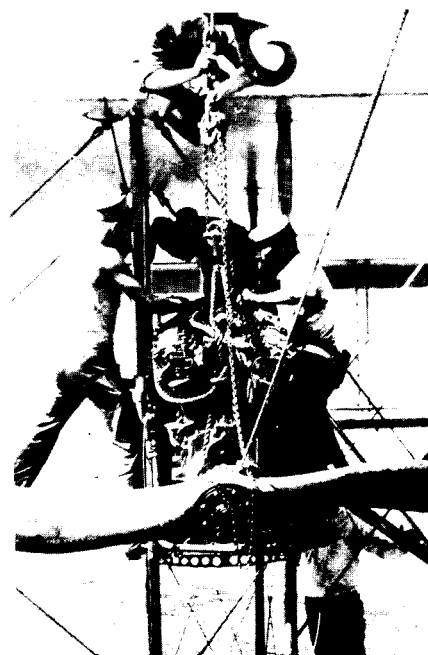
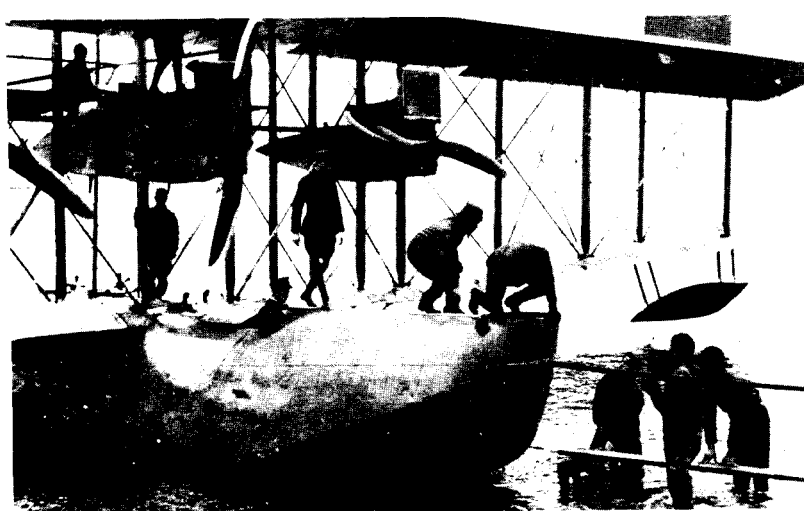
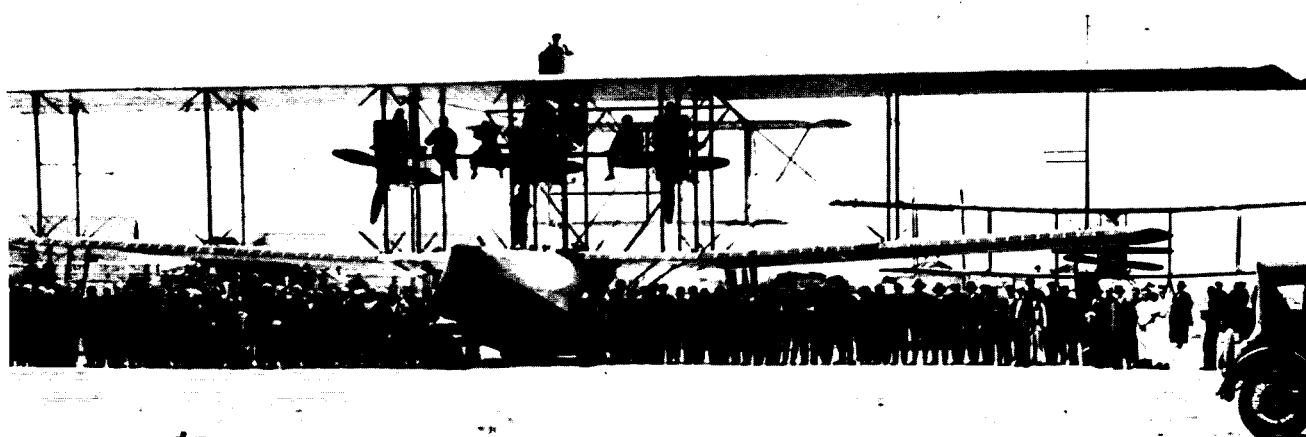
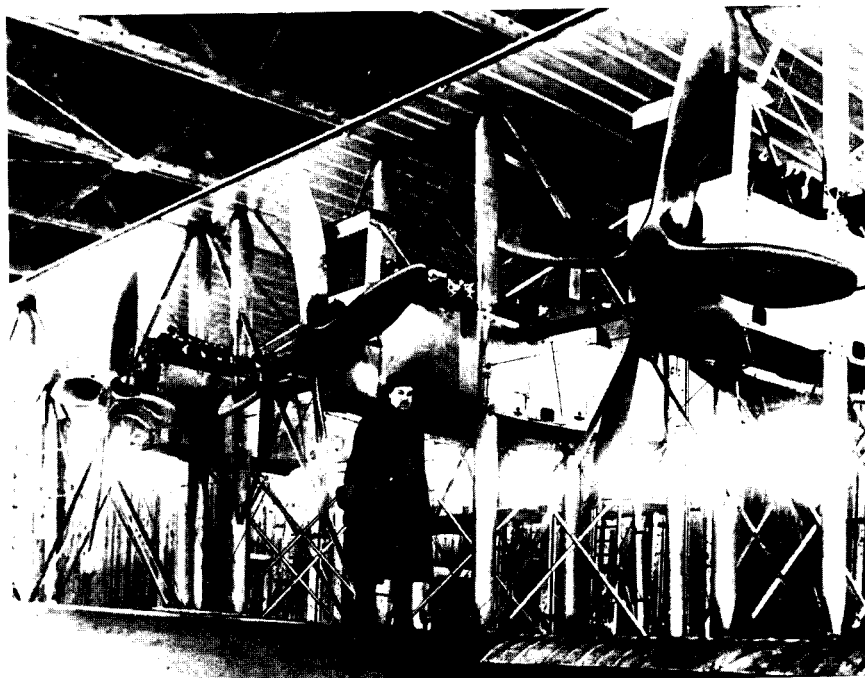
CURTISS R6L DROPS TORPEDO IN SAN DIEGO HARBOR

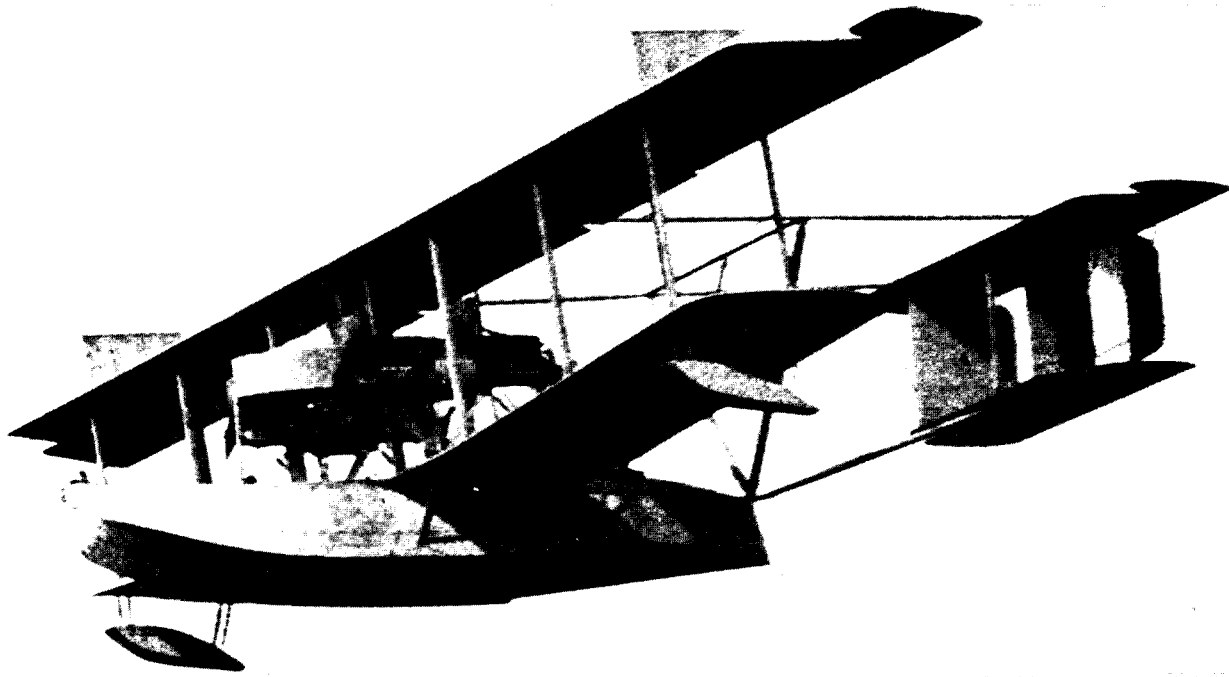


DH-4, ANOTHER BRITISH DESIGN, WAS BUILT FOR NAVY BY DAYTON-WRIGHT

GIANT FLYING BOATS

As a result of wartime requirements for an antisubmarine aircraft capable of flying the Atlantic, the NC seaplanes emerged as the largest flying boats of their time. Developed by Naval Constructors in cooperation with the Curtiss Aeroplane and Motor Corporation, the first (NC-1, right) was completed in September 1918, flew in October, and on November 27 carried a record 51 men into the air (below). Of the ten NC's built, three four-engined versions attempted the postwar trans-Atlantic flight; the NC-4 succeeded in May 1919. While most later NC's had three engines, the NC-9 was configured in a manner similar to the NC-4. Final flights were made in 1922.





THE NC-2, WITH TWIN TANDEM ENGINES, IN APRIL 1919



AT BUFFALO: Rear, L to R: beach boy, dear old Bill, Woodhouse (advisor), Rodman, Fuller, McCormick, Depew, Potter, Knox, Otis, Lufkin, Goodyear, Scratt (instructor), Schieffelin, Farwell (1st Yale); front: beach boy, De Cernea and Chip, Smith (mech), Smith, Hawkins.

THE SECOND YALE UNIT

The story of the First Yale Unit and the accomplishments of its members are well known. Few know that there were also Second and Third Yale Units. A change in Navy policy prevented the Third from completing its training as a unit and only a narrow margin separated the Second from the same fate. But, like its earlier and larger counterpart, the Second completed its own training under Navy supervision and its members served in many capacities at home and abroad, compiling a record equally embellished with promotions and citations. This is its story as told by one of its members.

EARLY IN 1917, the Kaiser's U-boats were sinking Allied merchant ships in the North Atlantic faster than new ones were being built. The lifeline of the Allies, England, France and Italy, was in mortal danger.

In February, Admirals Robert E. Peary and Bradley A. Fiske visited the Yale campus, describing to groups of students the submarine peril and pointing out how useful Naval Aviation could be as a counteracting force. A group of 11 undergraduates, ten of them sophomores and one a freshman, plus two recent graduates, were fired

By RAdm. J. J. Schieffelin
USNR (Retired)

with ambition to serve as "the eyes of the Navy," a phrase used by the Admirals. They decided to form, under the leadership of Ganson Goodyear Depew of Buffalo, N.Y., one of the sophomores, a unit styled "Aerial Coast Patrol Unit #2." In doing this they were following the example set by the already existing "Aerial Coast Patrol Unit #1," organized by F. Trubee Davison in 1916.

The idea was presented by Depew to CNO, Admiral W. S. Benson, who

approved it and caused orders to be issued to all members of the group to report for training to Lt. Wadleigh Capehart, Naval Aviator No. 19, at Buffalo, N.Y. The members of the unit enlisted in the United States Naval Reserve as seamen, second class, on April 16, 1917, just ten days after the declaration of war. Capehart was on duty in Buffalo, supervising the production of naval aircraft at the Curtiss aeroplane factory. The cost of instruction and equipment came mainly from private sources.

Lt. Capehart was a godsend. He

ated the enthusiastic sophomores with amused tolerance, never losing sight of their dedication and potential. He displayed practical common sense in persuading Curtiss to admit the unit members as temporary factory hands. This enabled them to learn the essentials of aeroplane construction. This apprenticeship, combined with periods at the factory at Hammondsport, N. Y., where the OX and OXX motors were manufactured, constituted their grounding in technical fundamentals. Manuals, pamphlets and textbooks, sent up from NAS PENSACOLA, completed the indoctrination.

The unit lived in tents behind a rented seaplane hangar on the Lake Erie shore of the city of Buffalo, the location being protected by a breakwater providing smooth water for takeoffs and landings.

Flight operations, using a second-hand Curtiss F boat, began on Decoration Day, May 30, 1917, with misfortune. The flight students were being given initial short hops, going in alphabetical order for a ride with their first instructor, Fred Zimmer, at the controls. On the fifth flight, the F boat crashed, causing Zimmer's death and such serious injuries to his passenger, Seymour Knox, the freshman member, that he was eliminated from further participation in the war.

It was only through prompt action that Ganson Depew saved the unit from oblivion. The crash caused naval authorities to consider abolishing the unit and sending its members to the new ground school at MIT in Boston. However, Depew obtained the services of Harold Kantner, a well-known civilian flying boat pilot with 1,500 hours flying time, a fabulous score in 1917; wangled the purchase of a brand-new flying boat; and succeeded in persuading Adm. Benson to allow the continuance of training in Buffalo.

Ganson Depew, the organizer and acknowledged C.O. of the unit, was a young man with so forceful a personality, supplemented by extraordinary powers of persuasion, good looks and charm of manner, that he might very possibly have achieved his ambition to become President of the United States had not his life been cut short by illness in 1924. In the Navy, his administrative talent, spotted early, resulted in his being kept in the United States throughout the war. At Pensacola he was quickly promoted to lieu-

tenant junior grade, and ended the war as Exec and acting C.O. of NAS HAMPTON ROADS.

"Gans" Depew projected his ideas in a way that made the listener want to go along with him. It was not only the national emergency that produced the almost miraculous approval of the conservative and cautious CNO, Adm. Benson, and continued this support when disaster struck the unit on May 30. It was Gans' silver tongue, concise presentation and irresistible enthusiasm that carried the day. He was the Trubee Davison of the Second Yale Unit. Thus the 12 remaining members of the unit completed training in October 1917, passing all the exams sent up from Pensacola and successfully taking the flight tests with considerable gusto.

The "payoff" in the test for qualification for Navy Wings was to take the F boat up to almost its ceiling, 6,000 feet, cut the switch and glide down in a spiral, then to cause the aircraft to fetch up without power within 20 feet of a marker buoy. While at other schools the distance allowed from the buoy was 100 feet, the tests at Buffalo required that the nose of the F boat be within 20 feet of the mark. All 12 of the unit were successful, three actually nosing against the buoy.

IN NOVEMBER 1917, after receiving commissions as ensigns, USNRF, five of us were immediately ordered overseas, six to Pensacola, and one to Washington, D.C. Two of the Pensa-

About the Author

J. J. Schieffelin, Class of 1919, Yale, and Naval Aviator No. 124, served overseas during WW I from late 1917 until after the Armistice. After a brief assignment to the training station at Moutchic, he served at Felixstowe and later at Killingholme from which bases he flew patrols over the North Sea and was an active participant in the antisubmarine campaign.

In WW II, he served from February 1941 through June 1946 with assignments involving training of AvCads at NRAB ATLANTA and AVS and ACI officers in the indoctrination school at NAS QUONSET POINT, duty on the staff of ComForward Area, Central Pacific, and, in the post-war period, further staff duty in Japan. He was placed on the retired list, USNR, with the rank of Rear Admiral in 1959.

cola contingent were sent abroad a few months later.

The first five, after reporting at Admiral W. S. Sims' headquarters in London, were detailed to Moutchic, France, for bombing practice in French FBA flying boats. Upon arrival at Moutchic, the green aviators found the beach where the new air station was located, close to a lake, littered with the wrecks of FBA flying boats.

Discreet inquiries disclosed that these aircraft, equipped with rotary Clerget motors (the whole motor revolving with the propeller around a stationary shaft) apparently had a tendency to spin in when doing a turn to the left. The new Yale pilots survived this phenomenon by executing flights that involved nothing but right turns, wherein the powerful torque caused by the whirling motor tended to work against the bank of the aircraft rather than accentuating it into a spin. It proved feasible to carry out the bombing exercises without ever turning left. After a few weeks, three were ordered to the Royal Naval Air Station at Felixstowe, England, and two to the U.S. Naval Air Station at Dunkerque, France.

Ens. Stephen Potter was in the Felixstowe contingent and soon became second pilot to an excellent Canadian, Flight Lieutenant Norman Magor. Potter specialized in gunnery, being on the practice range at every opportunity, learning precision in "leading the target." This paid off in March 1918 when he shot down a German two-seater seaplane, probably a Friedrichshafen, in an aerial duel off the north coast of Holland. Potter was flying a British F2A flying boat, like our H-16's, against a German biplane seaplane with two pontoons. Since the airspeed of the two planes was apparently equal, they flew along side by side on parallel courses, shooting at each other. Potter's gunnery was better than the German's; the seaplane caught fire and plunged into the water. A few weeks later, on April 25, Potter and Magor's flying boat was shot down in flames by seven Brandenburg monoplane seaplanes that flew at 100 knots, a decisive advantage over the 80-knot flying boat.

Potter's death, the first fatality in the unit, changed the attitude of its members from one of being on an adventurous lark to one of grim determination to win.



CURTISS F BOAT, THE TYPE IN WHICH THE UNIT WAS TRAINED AT BUFFALO, N. Y.

The pilots at Felixstowe were privileged in that they were at the Royal Naval Air Station where the two-engine flying boats, perhaps the finest invention in WW I, were perfected by Wing Commander J. C. Porte, RN. He started with the pre-WW I *America* flying boat designed by Curtiss to attempt a trans-Atlantic flight. It had been purchased by the British at the outbreak of the war in 1914. Porte improved the Curtiss boats with better shaped hulls, more power, and better flight characteristics. The ultimate F2A flying boats (F for Felixstowe) were not only seaworthy, but they could also do routine patrols lasting five hours, carrying two 230-lb. depth bombs and armed with up to six Lewis machine guns. With a cruising speed of 60 knots, a maximum speed of 80 knots and a landing speed of 45 knots, these aircraft were the workhorses of the North Sea patrol, flying thousands of convoy escort patrols, plus many a search and long-distance reconnaissance mission.

It was at Felixstowe that "lighter stunts" originated. The radius of the flying boats was limited to a maximum of seven and a half hours in the air, covering 450 miles. Since the distance from Felixstowe to the Danish coast northwest of Heligoland was 340 miles, the aircraft could not fly reconnaissance missions far enough to sight ships making sorties from Germany northward, up the coast of Denmark.

To overcome this deficiency, Wing Captain C. R. Samson, RN, and Wing Commander Porte together devised a lighter that could carry an F2A flying boat and be towed at high speed by a destroyer. These lighters were in use in the spring of 1918 and American pilots were selected to take part in several of the "lighter stunts." The flying boats were placed aboard the lighters in the evening, the air crews

going aboard the destroyers which furnished the towing.

The formation of three destroyers, each towing an F2A sitting on a lighter, crossed the North Sea at 30 knots to a point north of the Dutch coast. Before dawn, the aircrews were put aboard the lighters to man their aircraft which were then offloaded from the lighters. Motors were started, warmed up, and the three-seaplane patrol took off, if sea conditions permitted, which they did more often than not. Thus, patrols were flown to within sight of the Danish coast, Blaavand Point usually being sighted. The F2A's made it back across the Bight of Heligoland to Holland and thence to Felixstowe, landing with fuel tanks almost dry.

These flights were highly regarded at Felixstowe, especially by the Americans. The Admiralty liked them, too.

The two pilots at USNAS DUNKERQUE, where they reported to Lt. Artemus L. Gates, USNR, of the first Yale Unit, and later Assistant SecNav for Air, were Ensigns Edward de Cernea and Traver Smith. "Shorty" Smith flew fighters with British Air Squadron 213 and earned promotion to lieutenant, junior grade, in December of 1918.

"Eddo" de Cernea was attached to French aviation and distinguished himself in antisubmarine and other missions to such a degree that France showered him with honors. He was seriously injured in a crash in August 1918. This writer has no knowledge of the work that earned him such appreciation from the French, but he does know that the population of Dunkerque literally idolized de Cernea. On a special mission to Dunkerque shortly after the crash, "Eddo" de Cernea was discovered in a hospital cot in a room banked from floor to ceiling with flowers brought in by the

French people of Dunkerque to cheer him up. A voice from underneath a mass of bandages that covered his face came from him, saying 'I'm O.K., no kiddin'.' That was true. He made it home later in pretty fair shape.

ENS. J. Sanford Otis, who went overseas with Ens. Alexander McCormick in June 1918, flew with the Northern Bombing Group, under LCdr. Robert A. Lovett, USNRF, of the first Yale Unit, who became Secretary of Defense in 1951.

"Shorty" Otis, who was extra tall, also made two successful trips ferrying Italian Caproni bombers from Italy over the Alps to northern France. It is a wonder he lived to tell the tale. For these planes were faulty and caused many casualties. Luck had to be combined with skill to fly one over the Alps.

Ltjg. McCormick, after being in charge of a division at Pensacola, also flew two Capronis up from Italy and was then assigned to RAF Squadron 214, flying bombing missions from Calais in large British bombers. Upon returning from one of these flights, his plane crashed in a forced landing at night. He survived the impact, got safely out of the plane, and was running forward to aid the pilots caught in the wreckage of the nose when he was struck by the blade of a propeller still rotating in the darkness. His death was the direct result of his effort to help his British friends.

Ens. Percival S. Fuller, known as "Perce," had the oddest adventure in the record of the unit. After instructing at Pensacola and making lieutenant, junior grade, he went to NAS Coco Solo, C.Z., where he became squadron commander. While taxiing a float seaplane in a lagoon, his plane was drawn irresistibly toward a waterspout. The pilots jumped overboard when the plane was whirled upward by the spout which then collapsed, dropping the plane back into the water in a wrecked condition. This episode was not held against "Perce," who was promoted to lieutenant in Dec. 1918.

Ens. Chauncey Lufkin, Yale '15, with an engineering degree, was first assigned to the Bureau of Steam Engineering in Washington, D.C. In April 1918, he went to Moutchic where he was injured in a crash in August. He finished the war at Naval Aviation Headquarters in Paris and was pro-

meted to jaygee in October, 1918.

Frank H. Goodyear, also with an engineering background at Yale in the Class of 1916, after instructing at Pensacola, was assigned to NAS SAN DIEGO, Calif., as navigation officer.

Ens. Clifford Rodman, a hard-driving Chicagoan, rose during 1918 to the position of C.O. of the Service Flight School at NAS PENSACOLA, and was promoted to lieutenant, junior grade, on May 20 and to lieutenant on July 1. He was four times recommended for lieutenant commander.

The ablest natural pilot in the unit was Ens. Ashton W. Hawkins from El Paso, Texas. A sandy-haired, tall, wiry westener, he soaked in every drop of information during training and became an artist in the handling of flying boats. He was one of the pilots assigned to Felixstowe whence he went on to Killingholme, where he reported for duty to Cdr. Kenneth Whiting in June 1918. "Tex" was credited by Adm. Sims with having done more war flying than any other U.S. Navy pilot working from North Sea bases. His feats at Felixstowe included going out in stormy weather, in fog, at night, and truly made him an all-weather pilot before all-weather flying was considered feasible. He also went on several "lighter stunts" and this experience qualified him, in Whiting's opinion, for the most difficult assignments.

ON ONE OCCASION, for example, he was assigned to hunt for a Zeppelin airship reported to be headed for the Killingholme area. With Ltjg. G. Francklyn Lawrence, of the first Yale Unit, as his second pilot or navigator, with a radioman and a machinist's mate, he took off in an H-16 flying boat at midnight in a tempest of wind and rain. "Tex" flew "by the seat of his pants" up through the rough air until the flying boat emerged into the clear above the clouds at close to the aircraft's ceiling, 10,000 feet. There was no moon and they searched the starry skies for signs of a Zeppelin. A reddish speck close to the cloud horizon attracted their attention and they headed for it, believing it might be the exhaust glow of a Zep's motors. After maintaining this heading for some 30 minutes, both pilots agreed that the speck was the planet Mars. After several hours of fruitless search, as dawn was breaking, they dove into

the overcast, heading westward for England, but with no idea of where they had drifted in the high winds.

Levelling off just above the waves in thick fog, ceiling zero, they continued westward. They sighted close aboard a British trawler, followed by another and again another. Altogether, they counted seven trawlers steaming in column. Lawrence deduced that, being in such neat formation, these little ships might be leaving a port, so they flew along the reverse course astern of the trawlers. A rock breakwater loomed up in front of them. They hopped it and made a landing in the smooth waters of a harbor. Taxying forward, there loomed, dead ahead, a seaplane ramp, back of which could be dimly seen the gaping open front of a seaplane hangar!

At the ramp, their flying boat was hauled up onto the concrete apron, where an amazed British duty officer greeted them with the question: "However did you find this place in this weather?" With a slow smile, Tex replied: "They taught us to navigate in the United States."

They were at the Royal Navy air station at South Shields, near the mouth of the river Tyne, 80 miles northwest of Killingholme, the only seaplane station on the coast for many miles in either direction. Moreover, there are many rocky cliffs girding the nearby coasts. Luck combined with quick thinking got them there. So, we can brag that on a stormy night in 1918, two Navy pilots, one from each of the two first Yale Units, unwittingly set a course for Mars, which even the most advanced astronauts have not yet tried to do. Our boys did not make Mars, but they did make it back to base—or, rather to a base.

All but one of the members of the unit earned promotion. Some, Depew and Rodman in particular, received assignments of great responsibility. The ones who went overseas earned the respect of the British and the French.

Four were awarded Navy Crosses (two posthumously). De Cernea was made a Chevalier, Legion d'Honneur, given a French Army citation, and awarded a Croix de Guerre with palm. A destroyer was named "McCormick" and another "Stephen Potter."

By and large, Yale Aerial Coast Patrol Unit #2, the kid brother of Trubee Davison's renowned Unit #1, is well able to stand on its record.



GANSON G. DEPEW



STEPHEN POTTER



EDWARD de CERNEA



ALEXANDER A. McCORMICK, JR.