

# SPENCER

## man behind the Seabee

By Seth Babits



P. H. Spencer beside a model of Seabee.

**U**NPRETENTIOUS P. H. Spencer, designer of the Seabee prototype, has led a thrill-blazed career in the pioneering of aviation.

Connecticut's number one man of the skies, he gave the Nutmeg State its first air jitney service thereby prodding state legislation to license aircraft. His career in aviation goes back to an early age. At 13, Spencer designed and built his first water plane. At 17, he turned down a \$400 a week scouting job which would have meant flying for Carranza during the Mexican revolution. In 1928, Spencer broke the world's height record for Curtis OX5's with 18,671 ft.

In following his convictions over air-lane trails, "Spence", as he is usually called, has risked his life on experimental work more often than the inventors of the A-bomb . . . and has had enough hair-breadth escapes to supply cartoon creators with a lifetime of material.

In 35 years of designing and flying planes, the Seabee designer has received fan mail comparable to that of a Hollywood movie star and attended more "inaugurals" than a White House politico. He is one of the country's top-ranking instructors and his "boys" have "de-

livered" on all the fighting fronts of the war. Not only is Spence sought out by youngsters eager to earn their wings but he is in demand by recognized experts who respect his uncanny instinct for design.

Contrary to general opinion, Spence's design for the Seabee is not a recent inspiration. It happened 14 years ago while playing "Twist", a parlor game, with a friend in Boston. As he was studying strategic moves on the game board, the center piece of which resembles a ringed air-current, the thought came that if the prop was placed on an amphibian in such a manner that it would be behind the pilot and shielded from currents, it would reduce drag, achieve greater cleanliness of operation

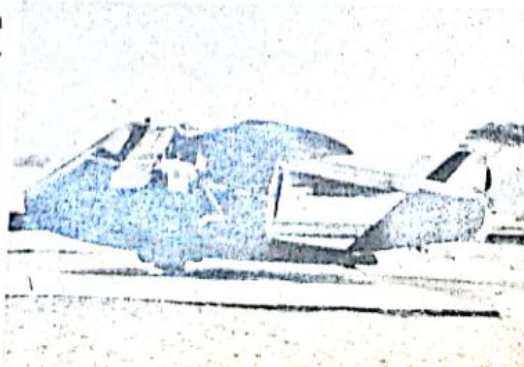
and economy of fuel. That was the key to the eventual design of the Seabee which fired a deliberate plan to create an amphibian "equally at home on water, land and in the air." To achieve this end, Spence resigned from a lucrative position as vice-president of the Ireland Aircraft and for the next five years devoted himself exclusively to furthering his pet project.

"I've got four filing cabinets filled with experimental designs that led to the Seabee," he said. "I'd work out a part and put it away for a couple of days—and then when I went back to it, it didn't seem right. It was tough going but I knew that some day there'd be a need for a personal amphibian on a broad scale."

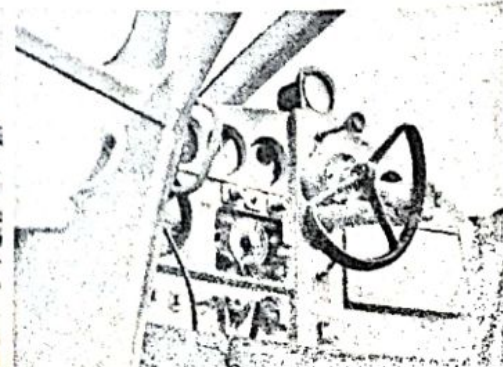
The eagerness with which the Seabee is being adopted by returning war pilots, sportsmen and civilians for passenger as well as professional use, is more than fulfilling the dreams of the tall, thin, hazel-eyed Spence. The Seabee is being welcomed by missionaries on the African veldt, as well as by doctors, lawyers and public officials in the icebound Alaskan regions. Hunters and fisherman of the verdant Canadian forests are finding the Seabee opening new lands of adventure. Sportsmen are trekking the caribou from the skies and are following an airborne trail to hunters' paradise.

Spare, New Englander Spence, began his aerial career at a time when epics of the Wright Brothers were seeping into the hinterlands and being swiftly discredited as (Continued on page 62)

Original Seabee.



Instrument panel, present model.





## SPENCER . . .

### Man Behind the Seabee

(Continued from page 20)

fairy tales. He is a native of Windsor, Conn. At the age when most youngsters cut classes to visit the "old swimming hole," Spence absented himself for the purpose of building model planes.

"When I was a kid," says Spence, "I was always fooling with mechanical things. I made paper airplanes and drove them with rubber bands. Even though aerodynamics was a strange word to me then, I was studying the characteristics of flying via the pigeon method, that is, pulling out different tail feathers and studying the birds in flight."

Spence's primers were the works of Charles K. Hamilton, Claude Graham White and Glenn H. Curtis, pioneers of aviation. If there was an airplane within a hundred miles of Windsor, Spence would get there to see it.

No better example of Spence's aeronautical inclinations would be indicated than when he learned the "Lord's Prayer." "My mother and sister had trouble teaching it to me," he grinned. "They made me recite it—and when I got to

the word 'power'—I'd say, "What power, how much horsepower?"

At 13, a pupil in Northwest School in Hartford, Spence built his first plane, the "Courant", in 1909. This was a single-surface bi-plane with a piano wire trussing. A pair of parallel members fastened to the lower wings and running fore and aft, comprised the main support for his body, lifting him by the armpits.

The results obtained with the "Courant", which was minus controls, seat and landing gear—induced further refinements and the following year, Spence designed and constructed a three wheel bi-plane with seat, elevator, rudder and aileron controls of the shoulder yoke type. For this feat the newspapers dubbed him "boy wonder of Keeny Park."

May 15, 1914 was a momentous day in the life of P. H. Spence. It was then that he soloed in his first motor driven flying boat down the Connecticut River for approximately two miles. And shortly after, the first air jitney service of Connecticut was launched. To be eligible for passenger service, however, you had to weigh less than 130 lbs.

In November of that year, the Connecticut Yankee experienced

what he describes as "the biggest thrill of my life." It was at the one-mile Charter Oak race track in Hartford, Conn., where Lincoln Beachy, Oscar Brindsly and Cliff Turpin used to take off.

"The plane I was using," he laughed, "was one which I built of parts and fittings taken from the flying boat in which I'd soloed the previous spring—the boat being substituted with a center section, tail outriggers, wheels and skid-landing gear. The combination was called, in those days, a pusher, with a Wright-type landing gear. The control system was the then famous "shoulder yoke" type, rudder on the wheel, ailerons on the shoulder yoke and elevator push-pull column. The throttle was on the right foot, open when pushed and closed automatically by springs.

"Getting off on a short run, I climbed to about 50 ft. and was suddenly confronted with trees flanking the other edge of the track completely around the turn into which I was heading. This made it necessary that I turn with the track and stay inside the trees since they were much too high for my 65 hp. crate to climb over.

"After negotiating the turn, I straightened out on the home stretch, only to see looming ahead



a cable stretched across the track 50 ft. from the ground, which was, of course, the altitude at which I was flying. I didn't climb over this obstruction either. I solved the problem by diving under it and pulling up on the other side. At this point, I was abreast of my starting place and can distinctly remember seeing the two men who had held the ship for the start of the flight, waving frantically for me to come down.

"Just then, I was struck with the idea of flying all the way around the track, making 180 degree turns at each end. I did this three times successfully but on the last circuit either the motor lost power or an air current let me down and in a 45 degree bank at the middle of the turn my wing tip hit the fence surrounding the track causing a lurch of the plane which threw me out into the air.

"My fright was terrific when I saw the ground coming up in my face and heard the plane crackling and crunching behind me. Much to my surprise what I thought was the ground turned out to be a large pile of straw and stable rakings into which I went head first.

"Instantly, I was on my feet looking for the plane. It was standing vertically on the four ends of the wing spars on the right wing tips, motor silent. Before I could run back to it, the balance it had taken momentarily, upset, and it fell back onto its wheels and skids right side up and clear of the fence!

"It was a miraculous escape," Spence concluded. "Except for a couple of loosened rigging wires and a wing strut, the plane and I were all right."

At another time, the lower wing hooked the race track fence. Spence was hurled out of the plane, again escaped injury but the plane was badly damaged.

The stories Spence could tell of his "escapes" are legion. These include a crack-up in a Dayton, Ohio cornfield, where the farmer wouldn't let him remove the wreckage until Spence paid him \$1.25 per ruined cornhill, making the bill \$30 ... and a spin into the Connecticut River where the plane was smashed and Spence had to swim to shore.

Spence doesn't relish lingering over the memory of a flight over the Florida coast, when the hub of his propeller disintegrated, one blade went diagonally through the lower right hand wing and the other blade went up into the air ... on its downward plunge it snipped off a strut and just missed Spence

by inches.

It was out of these experiences and the lessons of the first 17 planes that he built, that Spence's determination grew to design a plane of such aeronautical calibre as to offer the widest range of safety, comfort and cleanliness in operation. Nine consecutive crack-ups taught Spence that only second to prop performance comes visibility and for this reason he designed the Seabee with a pusher type screw. In the prop itself, however, Spence inaugurated a revolutionary design—prior to his Seabee, the propeller was built high above the pilot, in this plane Spence placed the propeller behind and below the roof of the cabin—thereby increasing visibility 100 per cent, reducing the noise coming back to passengers and pilot, eliminating fuel odors, and significantly, reducing drag by taking the engine out of the windstream. For general utility, Spence further designed a spacious cabin, contoured to seaworthy lines with a "nose" door. The subtle sweep of the fuselage merging with the tail section lends to the picture of a streamlined yacht on wings. Flying time of his prototype and the production model has proven his innovations to be correct.

Full credit must be given to Republic engineers, maker of the Thunderbolt, who further refined Spence's design and organized a vast scheme for its spring production. They set the Seabee on an all-metal basis. Wings, ailerons, flaps, cabin, hull, cowlings, fin, rudder, stabilizer and elevator carry out the beaded skin motif. Featuring a Franklin 215 hp. engine, the Seabee's gross weight is 3000 lbs.; climbing rate—700 ft. at first minute; cruising speed—102 mph.; high speed—120 mph.; cruising range—520 miles; and landing speed—55 mph. The amphibian is 28 ft. long, 9 ft. 4 in. high at the tail and has a maximum span of 37 ft. 8 in.

Spence's family background is probably most unusual of all airmen. Grandson of Captains George Washington Rogers and Jeremiah Spencer, both distinguished in America's annals of the sea, Spence is the son of the late Christopher Spencer, inventor of the "Seven Shot Repeating Carbine", which in the last century revolutionized the arms industry. The Spencer rifle incorporates the use of metallic cartridges and introduced the lever action principle, almost universally used in sporting rifles today. In 1863, Christopher Spencer demonstrated the rifle to President Abraham Lincoln. Shortly after, Gideon Wells, Secretary of the Navy, or-

dered 1000 guns from Spencer. The "repeating carbine" was tested in the Battle of Lookout Mountain near Chattanooga, which was followed by government purchase of 150,000 Spencer rifles. With general usage of the Spencer rifle by the Union armies, the tide of the Civil War turned. The elder Spencer also invented the "horseless buggy", a steam engine, as well as screw machines in operation today. Following the Franco-Prussian War, Christopher Spencer developed the "pump" gun from which 86 shots were fired in two minutes.

With such an extraordinary background, it seems quite natural that the son, P. H., should follow a pattern so well formed by his forebearers. Since Spence hit on the idea for the Seabee, he has in a more rugged and adventurous measure paralleled the activities of his grandfather and father. His innumerable trips across uncharted flight routes have placed him in the class of Captains Rogers and Spencer. In his contribution of the Seabee to a world of peace, he has notched up the glory of a proud family—and given the world an item for adventurous and easier living that overshadows the "horseless buggy" and "repeating carbine".

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