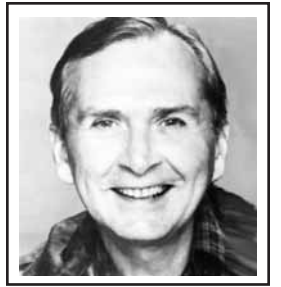


Race Rock Light (1878)

by Harlan Hamilton



The Challenge

Race Rock Lighthouse will stand forever as a monument to the courage and skill of two indomitable men: Francis Hopkinson Smith, its engineer, and Captain Thomas Albertson Scott, its construction foreman. They built a lighthouse on a location that experts said was impossible. Their engineering challenge was monumental.

The site of the proposed lighthouse was a shoal of small diameter in the center of which is a boulder known as "Race Rock," a rock 12' long, 4 1/2' wide and 4 1/2' high. Since it was under water at all tides, the rock was a dangerous obstacle to passing vessels and had been marked for years by a succession of iron spindles which had been carried away by storms and ice floes. Over this shoal swept a current known as "The Race." At times it had a velocity of 6 mph on the ebb tide which made submarine work dangerous and expensive. It also limited divers to only about two hours of work every six hours while the tide was turning.

North and southeasters in the spring and fall caused unusual heavy seas when they cut against this tide current, and during early spring, large fields of ice floating out of the Connecticut River were caught in its rip and hurled against any construction unfinished and unsupported at the end of each working season. Just establishing basic working conditions at the site proved difficult, requiring thousands of tons of riprap to secure the work-in-progress from the violent water conditions. At all times the builders were subject to the whims of nature with her winds, waves and sudden storms. Constructing the new lighthouse was not an easy task.

The Builders

Francis Hopkinson Smith (1838-1915) was a highly-regarded civil engineer, a good painter and writer, and much sought after lecturer. In addition to Race Rock Light, which he considered his greatest achievement, Smith built the Block Island breakwater; the foundations for the Statue of Liberty in New York Harbor and Penfield Reef Light, Bridgeport, CT; the sea walls at Tomkinsville, Staten Island, NY and for Governor's Island, also in New York Harbor. For 30 years he was a partner in the New York City firm of Smith & Symington which engaged in construction work, chiefly for the federal government.

In his spare moments, Smith pursued his hobby of painting and was essentially self-taught. He was known for his charming watercolors (particularly of Venice) and his charcoal studies. When he retired from the strenuous life of a marine engineer, Smith also turned to writing fiction. One of his most popular novels was "Caleb West, Master Diver," published in 1898 by Houghton Mifflin. The novel is a fictional account of the building of Race Rock Lighthouse and is a personal tribute to his friend, Captain Tom Scott, who is the hero of the book. Smith is buried inconspicuously in Woodlawn Cemetery, Bronx, NY.

Captain Thomas Albertson Scott (1830-1907) was the head of a successful marine contracting and salvage company in New London

which survived until his death. Scott was a master diver and did much of the dangerous and difficult submarine work on many of Smith's marine projects. During his career he performed many acts of heroism and received numerous citations for his bravery during the building of Race Rock Light. Smith once described him as being . . . "three parts fish and one part man - - strong as a bull, clear-eyed, honest, competent and fearless."

Construction of the Light

Work on the new lighthouse began on Monday, May 6, 1872, by unloading cargoes of riprap from a fleet of "stone" sloops and placing them on the site. By the end of August, some 10,000 tons of stone had been placed, and an artificial island made in the shape of a turtle's back was completed. But it was not until 1874 that Smith and Scott



solved the problem of building the foundation of the lighthouse. No other problem confronted them in the succeeding years of work at the light after they completed this phase of their construction.

Throughout the building of the Light, work proceeded slowly due to bad weather, disputes over the building contract and, at different periods, because of the lack of cement of the proper quality and stones for the pier. In the fall of 1876, the workmen's quarters were damaged twice by the Sound during storms, derricks were toppled and, on November 21st, the crib which served as a temporary landing wharf, was carried away by high and violent waves. Despite these setbacks, Smith and Scott completed construction of the pier on the foundation in 1877. It is 30' high.

The Light-House Board in Washington approved plans for a two-story keeper's dwelling in March 1878, but work was delayed until May when the lighthouse tender *Mistletoe* could deliver the cut stone for the face of the dwelling and tower. Operations resumed on

June 11th. The tower was completed in December 1878 and first showed its beam on New Year's Day 1879. It is worth noting that it took Smith and Scott only six months to build the keeper's dwelling and tower, but six years to build the pier and foundation upon which it rested, a further indication of the difficulties they had to face and surmount when building on water instead of on land.

The completed lighthouse cost the federal government \$365,000, a considerable sum in its day. Its twin, Stratford Shoal, Middleground Light, completed in 1877, but not by Smith and Scott, cost about one-third of what it cost to build Race Rock Light. The high cost of the new lighthouse prompted the members of the Light-House

Board to look for a more economical way to build lighthouses on wave-swept sites. Their solution was the pre-fabricated, circular cast iron structure which could be produced in quantity, taken to the site and literally dropped into place for a fraction of the cost of the old masonry lighthouses. Orient Point Light, for example, cost \$33,000 to build in 1899. Modern beacons atop steel skeleton towers cost even far less.

In 1898, Smith and Scott returned to the scene of their triumph and were pleased to note that the fine joints in the masonry of the pier and keeper's dwelling and tower were as true as the day they had placed them 20 years earlier. Since that time, the lighthouse has survived the Portland gale of 1898 and the New England hurricane of 1938 with only minor structural damage. In the latter storm, the lighthouse stood up to 175 mph winds, although there were some broken windows. The boat landing was badly damaged, and the station's small boat was swept away, but there was no structural damage to the lighthouse.

Description of the Light

Race Rock Lighthouse was built in a Gothic Revival style, reflecting popular architectural tastes of the day. Thus, it is identified clearly as a product of a unique period. Its handsome stone work is another tribute to its builders, Smith and Scott. The keeper's dwelling, built on the pier, is, like the tower, constructed of granite. The tower is 45' high and stands 67' above high water.

The pier, upon which the dwelling and tower rest, is conical in shape, 57' in diameter at its base, and 30' high above the foundation. Large granite blocks form a thick outer wall; the center is filled with concrete. In the center of the concrete portion of the pier are a cistern and a cellar. On the north side is a boat slip to provide a landing place. The entire pier is surrounded by riprap.

To this day, to the credit of its two little-known builders, Race Rock Light has a high degree of historic integrity of which they would be proud. The structure is virtually unaltered, and its foundation, walls and roof retain their original form and with the exception of the roof, original materials as well.

The original 4th-order Fresnel lens was re-

Continued on page 19

