

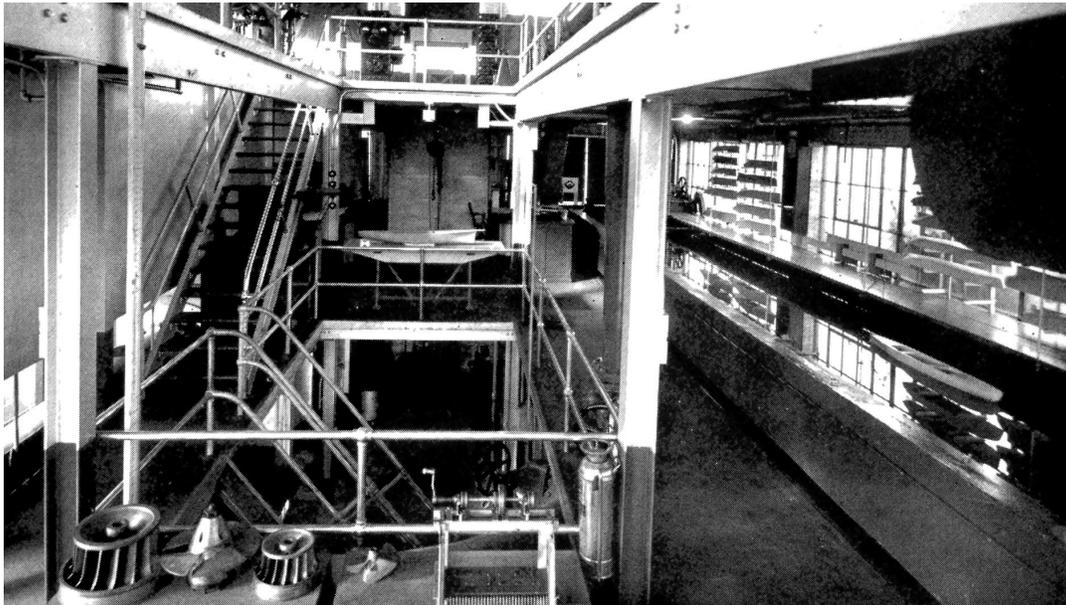
## SS AMERICA - TOWING TANK MODEL

I am now happily in possession of what is almost certainly one of the towing test models created in the 1930s to help establish the AMERICA's hull form. I'll explain; but first a little semi-technical background is in order.

*Bill Lee*

December 2014

Design of the AMERICA's hull was a lengthy process. Begun in 1934, the ship's lines were not finalized until late 1937. The Hull Technical Department at Newport News Shipbuilding (NNS) tested fifty different hull configurations in their model towing tank [below, far right]. This testing facility was located in the shipyard's Hydraulic Laboratory, in a building located adjacent to the Mariners Museum. That building is now home to the Peninsula Fine Arts Center.



The fifty towing tank models utilized to represent a variety of options studied before the AMERICA's final hull form was established were identified only by sequential numbers. These models were all roughly four feet long, but differed slightly with respect to length, beam and draft, and also featured varying shapes for bulbous bows and streamlined sterns.

The NNS model towing tank had the capability of creating artificial waves. Since North Atlantic storm waves are unusually high for their length, it was important to find the best shape for this ship's intended service route.

All in all, over 5,000 test runs were conducted by engineers at NNS before selecting the best set of lines for the AMERICA. That effort was followed by creating a 20-foot long model for use in further tests in the Navy's Washington, DC Model Basin. Those tests were utilized to determine the best shape for the vessel's bilge keels and propulsion shafting supports for her twin propellers.



The vintage image that appears above shows one of the SS AMERICA's towing tank models under test at NNS. Its similarity to the model I now possess, which is depicted at the bottom of this page, is obvious. That model is simply marked with the number '29' [AMERICA was only identified by NNS as their Hull #369 until 1938, when her name was picked from a long list of suggestions].



Given its dimensions and attachment points that are unique to towing tank models...and match those shown in the above illustration...it is almost certainly one of the models used to set the lines for the SS AMERICA in the late 1930s.

Now, for 'the rest of the story'. '29' was somehow acquired by Jack Stevens, a 1931 hull designer graduate of the shipyard's Apprentice School and later a naval architect at NNS. He is known to have participated in the towing tank testing of the models for AMERICA.

When those tests were completed, the shipyard probably disposed of the preliminary models utilized to help develop the AMERICA's final hull form. Presumably, Jack Stevens simply 'borrowed' one of them. '29' found a home in his Hilton Village garage, where his sons enjoyed playing with it.

This model is constructed of 'lifts' of white pine, which appear to have been originally sealed with waterproof varnish for testing purposes [signs of that type of coating remain]. Jack Stevens may have later painted it red and black, to represent the AMERICA's hull coloration scheme. No one knows for sure.

Over time the model was passed on to his youngest son, Tom Stevens. When Tom recently learned of my life-long interest in the AMERICA, he graciously donated '29' for exhibit in my home, along with other SS AMERICA artifacts which I possess. It now enjoys a place of honor, as depicted below, where the essence of this write-up is also displayed on a descriptive placard.



Thank you, Tom...and especially...thank you, Jack!

*BL*