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***JOHN LENTHALL***  
***The Life of a Naval Constructor***

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**Stephen Chapin Kinnaman**

Series in American History



VERNON PRESS

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[www.vernonpress.com](http://www.vernonpress.com)

*In the Americas:*  
Vernon Press  
1000 N West Street,  
Suite 1200, Wilmington,  
Delaware 19801  
United States

*In the rest of the world:*  
Vernon Press  
C/Sancti Espiritu 17,  
Malaga, 29006  
Spain

Series in American History

Library of Congress Control Number: 2021950204

ISBN: 978-1-64889-418-3

Also available:

978-1-64889-348-3 [Hardback, Black&White]

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Image on the back cover: *Scene on the Delaware at Philadelphia*. Lithograph by James Queen, Digital ID ppmsca19644, courtesy of the Library of Congress.

To Thomas Hornsby of Cheltenham, Pennsylvania  
You showed the way.



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## ACKNOWLEDGEMENTS

Many people helped me to tell the story of John Lenthall and it is my great pleasure to be able to acknowledge their assistance. Taking them in the order I met them, I must start with Craig Bruns, the chief curator of Philadelphia's Independence Seaport Museum. During my several trips to his museum, I was graciously looked after by his two archives and library assistants, Sarah Stopper and Debbie Lovell, who by Craig's direction, accorded me full access to the wonders of the John Lenthall Collection. He encouraged my efforts to research the life of John Lenthall and to write this book. For that I am very grateful.

Although I did not meet him, I must acknowledge the debt this book owes to the prior work of Thomas Hornsby. A Philadelphia-area builder of ship models and author of numerous articles published in the *Nautical Research Journal*, Hornsby's decades-long effort to research the professional achievements of John Lenthall culminated in a manuscript titled *The Career of John Lenthall, Naval Constructor*. This manuscript circa 1958 and Hornsby's prolific research notes are housed in the Independence Seaport Museum's archives. I can state without hesitation that if he had published his manuscript, this book would have been simply an update of a good biography. It is for this reason that I dedicate my book to Thomas Hornsby.

The City of Brotherly Love was also the site of additional help from Susannah Carroll, the assistant director of collections at The Franklin Institute. The Institute's deepest archives were opened to my enquiries, and during a late spring day, Susannah helped me navigate their musty ledgers and other conserved records.

In the nation's capital, the staff at the National Archives and Records Administration (NARA) were unfailingly productive, directing my general enquiries toward the correct call number and the right reel of microfilm. In particular, I well remember Kim McKeithan, Adebo Adetona and Chris, archives specialists, for their repeated assistance. I also wish to acknowledge the patient staff of NARA's Room 203, the location of many hours of investigation into thousands of documents related to John Lenthall and much else.

At the Smithsonian Institute's National Museum of American History, Dr. Paul F. Johnston, curator of maritime history, assisted me obtaining copies of Howard I. Chapelle's iconic ship plans of *Relief*, *Raritan* and *Germantown*.

Across town toward the Anacostia River lies the Washington Navy Yard where I was greeted by the cheerful Sandra Fox, reference librarian at the Navy Department's library. Sandi and her assistant, Dennis Wilson, ably opened the library's archives to my research and rendered assistance with copying documents and accessing their microfilm collections.

It was also in Washington, D.C., that I met Dr. Larrie D. Ferreiro, author, naval architect and historian, who shares my enthusiasm for the work of naval constructors. Fluent in French, Larrie has been very helpful to my efforts tracing Lenthall's footprints in Paris and many other places. His landmark book, *Ships and Science*, was an inspiration to my treatment of Lenthall's education and how it was influenced by the French pioneers of naval architecture.

I can't leave the Washington area without a nod to the former archivist of the Church of the Epiphany, Tripp Jones, although I suspect he no longer lives in the capital city. Thank you for your very helpful insights into the Lenthall family's footprint as parishioners of your church.

Moving to the United States Naval Academy Museum at Annapolis, I cannot thank enough Tracie Logan, senior curator, and the irrepressible Baltimore photographer, Roger Miller, who, at my request, organized the photographing of each and every item in the Ives Collection. I couldn't have written this book without their efforts. My hat is off to Tracie and Roger.

Further afield, Lucas R. Clawson, reference archivist/Hagley historian, rendered great service obtaining copies of Samuel Francis Du Pont's private letters to John Lenthall in the collection of the Hagley Museum and Library, Wilmington, Delaware. Also, to Erin Weinman, manuscript librarian and Charina Castello, assistant, at the New-York Historical Society, for arranging for drawing copies of the Navy Department's never-built iron-plated steam batteries.

Closer to home in Texas, I must acknowledge the constant encouragement given by Ira Gruber, professor emeritus of history at Rice University. Our Holly Street walks discussing naval history and much else will always be cherished.

Across the pond, Robert Thorp has helped with his 'Photoshopping' of plans, maps and images, and proof reading, always giving his fullest encouragement to my writing efforts.

And I can never give enough praise to my dear wife, Maureen Carroll, who suffered through my many hours of inattention while focused on pounding out my Lenthall manuscript ... and then took the time to read it and offer comments.

Many thanks to all of you and to those I have unwittingly left out. Your assistance made this book possible. Any errors of concept, fact or interpretation, however, are mine alone for which I accept full responsibility.

Stephen Chapin Kinnaman  
Chappell Hill, Texas  
November 2021



## INTRODUCTION

Naval constructors are rarely accorded biographies, but John Lenthall merits the happy exception. His life story delivers the human elements of triumph and tragedy. Even better, a study of his career reveals how his arcane craft—naval architecture—was practiced in his time. His biography combines both elements into a compelling tale of American naval history.

Constructor John Lenthall was active in the mid-nineteenth century and rose to become the chief of the U.S. Navy's Bureau of Construction and Repair, a post he held before, during and after the Civil War. Most students of American maritime and naval history familiar with famous naval architects of that period such as William Webb, George Steers and Donald McKay, pause when they hear the names of the Navy's skilled constructors—not only John Lenthall but also Samuel Humphreys and Francis Grice to cite but a few. For various reasons, the nation's illustrious corps of naval constructors, laboring within the walled confines of government navy yards, became only partially illuminated by the limelight cast on their better-known commercial contemporaries. The vessels they created were, after all, called warships for a good reason, and the nation was largely at peace during the period of John Lenthall's story. The careers of the frigates and sloops they built had little of the publicity of ships like Webb's legendary *Challenge* or McKay's record-breaking *Flying Cloud*, or of Steers' racing yacht *America*. But they were the primary instruments of America's projection of power and, in that role, competed just as fiercely with their foreign peers as did clippers striving to make record passages around Cape Horn. The constructors who created them were talented men whose stories deserve to be told. And of all of them, none has a more compelling life story than John Lenthall. In human terms, he endured more than his share of a family tragedy. As an accomplished constructor, Lenthall's considerable body of extant drawings and calculations allow an unfiltered appreciation of his consistently successful warships.

Born in Washington, D.C. during Thomas Jefferson's second term as president, Lenthall was the son of an English emigrant of considerable ability who was killed in a freak accident when young John was but one year old. Raised by his mother and her King family uncles, John Lenthall aspired

to become a naval constructor. It was his good fortune to come under the guidance of Samuel Humphreys, the Philadelphia naval architect whose genius became indelibly imprinted on the “Gradual Increase” warships of the U.S. Navy—and on his willing pupil. An apprenticeship was soon followed by a tour of Europe’s dockyards, which initiated Lenthall’s life-long affinity with France, the most scientific of maritime powers. On his return to America, John Lenthall was hired in 1835 by the Navy’s prickly Commodore John Rodgers and began a stellar career as a naval constructor.

From the beginning, John Lenthall demonstrated a commitment to his chosen profession, whether it was the severe labor of a ship carpenter or the endless hours of Navy board meetings. An insatiable bibliophile, Lenthall took advantage of opportunities for self-education wherever and whenever he could, tapping the skills of his surveyor uncles, shipbuilder mentors such as Captain William Easby and the resources of Philadelphia’s Franklin Institute. As his career developed, he displayed an unmatched numerical proficiency, capable of performing prodigious volumes of repetitive calculations, and honed the instincts necessary to succeed within of the Navy’s bureau system of administration.

John Lenthall’s accomplishments in the primary business of a constructor, designing and building ships, ranged far and wide. The first ship he built was the humble storeship *Relief*, and he designed the last sailing warship launched by the U.S. Navy, the 22-gun sloop *Constellation*. She is afloat today in Baltimore’s inner harbor, the only example of Lenthall’s art still in existence. John Lenthall’s masterpiece, the 60-gun *Merrimack* class steam frigates, created excitement in Europe and provoked a British counter in the form of Walker’s Big Frigates. And after being derided for doubting the efficiency of Ericsson’s *Monitor*, Lenthall produced the finest example of that class fielded by the Navy during the Civil War, the double turreted *Monadnocks*. His sheer volume of activity made him the best documented of the early naval constructors, much to the modern historian’s advantage and delight.

John Lenthall’s administrative achievements were equally impressive. He served as chief of the Bureau of Construction and Repair and its predecessor for over seventeen years, a record that has never been equaled. Lenthall’s longevity is even more remarkable when it is remembered that in his first year as a bureau chief, 1853, the Navy was composed largely of wooden-hulled sailing vessels mounting smoothbore guns firing round shot. By the time he was forcibly retired in 1871, the Navy had progressed to powerful ironclad war steamers armed with huge shell-firing and rifled guns. Lenthall’s ability to deliver at a time of crisis was without peer. At the end of the Civil War’s first year, 1861, under his



guidance the Navy Department had begun construction of forty-nine warships of six widely different classes. These vessels, including the famous 'ninety-day gun boats' and the 'double-enders', formed the backbone of a victorious navy. Often overlooked was Lenthall's ability to survive no fewer than five presidential administrations and as many secretaries of the navy. From the exemplary James C. Dobbin to the shady George M. Robeson, John Lenthall dealt with them all. Most eventful were his years serving under President Lincoln's navy secretary, Gideon Welles, which required Lenthall and his fellow bureau chiefs to adjust to the insertion into the Navy Department of the new and very energetic assistant secretary, Gustavus Vasa Fox.

This brings us to the most controversial period of John Lenthall's career, his handling of the Navy's introduction of ironclads. He was severely criticized by his contemporaries and by later historians for his tepid embrace of ironclads and his vocal criticism of Ericsson's monitors. Close examination of the record tells a different story. Lenthall, as a conservative engineer, well understood the pitfalls of a hasty rush into a new, transformational technology and was keenly aware of the ironclad developments made at great cost in both France and England. He also had prior experience working with John Ericsson during the construction of the steam sloop *Princeton* at the Philadelphia Navy Yard. The world's first warship to be *designed* with a screw-propeller, *Princeton* has been usually credited to John Ericsson, but the plans of her hull were drawn up by and her construction was supervised by Constructor John Lenthall. He well knew the Swedish inventor and when, eighteen years later, Ericsson submitted a proposal to the Navy for his unorthodox ironclad steam battery—later known as *Monitor*—Lenthall's bureau checked his calculations and found them wanting. After the Battle of Hampton Roads and the onset of Monitor fever, Lenthall together with his brilliant engineer-in-chief, Benjamin Isherwood, saw only too clearly that the Navy's rush to build *only* monitors would cripple its ability to perform its core strategic mission, defending America. They believed that mission was best accomplished at the enemy's doorstep rather than from within harbors guarded by unseaworthy monitors and coastal fortifications. But their Mahanian advice went unheeded and so the U.S. Navy passed through its decades of decline—its Dark Ages—before fielding the armored ocean-going war vessels that allowed it to emerge as a world power.

Briefly returning to John Lenthall's personal life, it has also been largely overlooked that he was a rare native of the District of Columbia—he was born and grew up there, worked in Washington most of his life and is buried in Rock Creek Cemetery. His father was a federal employee, his King

uncles were public servants of the District and many early role models—the architect Benjamin Latrobe and Captain Easby of the Washington Navy Yard—were also federal employees during much of their careers. Lenthall had, from his earliest years a familiarity with the responsibilities, duties and burdens of government employees, and the benefit of hearing everyday conversations from those in public service. His exposure to such informative sources allowed him to prosper and succeed in the distinctly unique environment of the U.S. Navy's bureaucracy, and to navigate its clashes between line and staff officers.

John Lenthall was late to marry. An Episcopalian, his choice of a Roman Catholic wife had its invisible social tensions. And his first child, a son, died in infancy. The Lenthalls rebounded and took pride in raising their daughter Jenny. But soon after his retirement his wife passed away and then, little over two years later, his daughter died at age twenty-eight. Lenthall's close-knit family, especially his two sisters, allowed him to recover from his losses and take pleasure in raising his three grandchildren. The eldest of them, Anny, was his particular favorite. Many decades after Lenthall's passing, it was she who donated the invaluable Ives Collection to the U.S. Naval Academy.

The career of John Lenthall spanned so many years, events and subjects that in writing his biography an author is forced to make choices about what to cover and what to leave out. Of the latter category, with a few brief exceptions, mention of the ironclads and other vessels built by the U.S. Navy on the western waters has been largely ignored. Lenthall figured only marginally in their story. Further, it was never the intention for this treatment of John Lenthall's life to be a design history of the U.S. Navy's warships of his era. For that purpose, the interested reader is referred to the many fine works by naval historian Donald L. Canney which were extensively consulted during the preparation of this book.

A few final remarks about sources. Any scholar embarking on a study of John Lenthall will soon find themselves overwhelmed by the vast volume and scope of available sources, the opposite problem that many researchers encounter. First and foremost is the John Lenthall Collection housed in Philadelphia's Independence Seaport Museum, which consists of over 500 drawings, some eighty folders of technical documents and Lenthall's fabulous 360 volume book collection. A largely untapped but hugely rich source of Lenthall's personal correspondence is the U.S. Naval Academy Museum's Ives Collection. On the order of 1,000 letters, documents, calculations and miscellanea populate this priceless trove. Think of the Independence Seaport Museum's John Lenthall Collection as the contents of his Navy Department office while the Ives Collection is

what Lenthall saved in his home's desk drawers. Then there are the endless numbers of official government documents held in the National Archives and Records Administration, mainly in Record Groups 19 and 45, and the Navy Department's library at the Washington Navy Yard. And there were many others, all as listed in the bibliography.

A recent catalogue of John Lenthall Collection drawings opens with the statement that "John Lenthall was not the sort of individual who inspires biographies." I heartily disagree! Let the story of Lenthall, his times and his achievements speak to you. Allow yourself to slip back into his nineteenth-century world and experience the remarkable life of Constructor John Lenthall. It is a journey you will not regret.

\* \* \*

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- National Museum of the United States Navy, Washington, D.C.
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