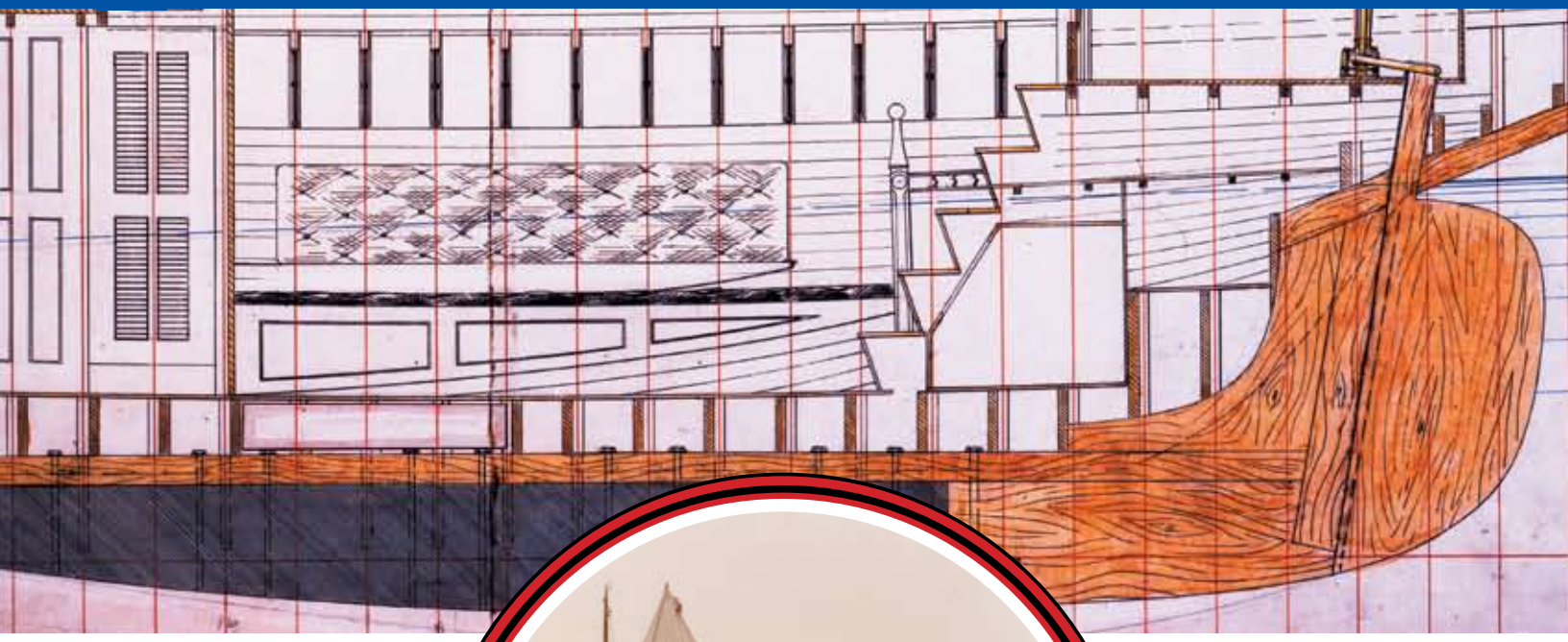
PROCEEDINGS



HERRESHOFF MARINE MUSEUM

SOCIETY OF NAVAL ARCHITECTS & MARINE ENGINEERS

THE 5th

CLASSIC YACHT SYMPOSIUM

April 28th, 2012

The Classic Yacht Symposium 2012

THE HERRESHOFF MARINE MUSEUM / AMERICA'S CUP HALL OF FAME is dedicated to the education and inspiration of the public through presentations of the history and innovative work of the Herreshoff Manufacturing Company and the America's Cup competition.

The Museum, bordering beautiful Narragansett Bay, in Bristol, Rhode Island, is one of the nation's most important historic maritime treasures. We regularly host classic yacht regattas, sponsor symposia on classic yacht design and restoration, and operate an outstanding sailing school for youth and adults. We celebrate excellence in design, innovation, education, and technology.

Immerse yourself in exhibits about the Herreshoff Manufacturing Company, the America's Cup, and the fabulous people and yachts that gained fame around the world. Participate in our extraordinary events and expand your horizons. Visit, join, and be a part of a great tradition.

THE CLASSIC YACHT SYMPOSIUM celebrates all aspects of classic yacht design, restoration, reproduction, maintenance and use, featuring experienced presenters to promote professional and amateur excellence.

We would like to thank Herreshoff Designs, Inc. and the Bristol Boat Company for their continued support of the Museum and the 5th Classic Yacht Symposium

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The Classic Yacht Symposium 2012

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Papers Presented 28 April 2012

Also included on DVD

Morning Moderator: Halsey C. Herreshoff, Naval Architect; Partner Herreshoff Designs Inc.

Afternoon Moderator: John Palmieri, Curator, The Herreshoff Marine Museum/ America's Cup Hall of Fame

DVD Content

ALERION Short Papers – Not Presented

Seth Persson's 1972 ALERION/SADIE
by owner Zenas Crocker (An ALERION/ SADIE replica)

The Story of ARIADNE
by owner Tom Weaver (An Alerion 26)

Observations on CURLEW
by owner Philip Lee (An Alerion replica)

Observations on an ALERION
by former owner Michael Palmieri (Rumery's Alerion replica in Fiberglass)

A Few Words About FEATHER
by owner Peter Johnstone (An Alerion 26)

FAIR SADIE an Owner's Brief Perspective
by former owner Queene M. Foster (An ALERION/ SADIE replica)

ALERION III as a Reference for SADIE
by Andy Giblin, MP&G (SADIE Restoration)

ALERION CLASS SLOOP Project
by Alfie Sanford. (Sanford's Alerion Class Sloop)

What is ALERION
by Sean Tarpey, Rumery's Boat Yard. (Essay on the name "Alerion")

WoodenBoat Articles related to ALERION

(Courtesy of WoodenBoat and the authors and photographers)

Maynard Bray, **"The Shape of CONTEST, An Early Fitted Dinghy"** WoodenBoat Vol. 57 March/April 1984

Maynard Bray, **"Reversing Curves- NG Herreshoff's Shape-Related, Hollow Bowed-boats"** WoodenBoat Vol. 138 Sept/Oct 1997 (Includes Kathy Bray prints)

Maynard Bray, **"Lines of the Hollow Bows"** WoodenBoat Vol. 138 Sept/Oct 1997

Warren Barker, **CURLEW: Revisiting Nathanael Herreshoff's ALERION**. WoodenBoat 138:58 Sep/Oct 1997

DVD Content (continued)

CYS Reprint

CYS 2005 Paper- Wilson Tarver
Building a Classic Herreshoff *Sadie* Using Modern Cold Molded Construction Methods

Herreshoff Marine Museum 1992 Chronicle Reprint

Michael J. Pesare, **SADIE and ALERION III**

Herreshoff Marine Museum Curator's Log

Curator's Log October 2011- **ALERION III: The Builders**

Curator's Log January 2012- **Sailing ALERION III**

Welcome

from the Herreshoff Marine Museum

Dear Classic Yacht Enthusiasts,

Welcome to Bristol and the fifth Herreshoff Marine Museum/SNAME Classic Yacht Symposium! Bristol is a town steeped in history. It is home to two America's Cup builders and the longest continuous running Fourth of July parade in the USA. The Symposium gets underway @0730 hours with event registration and a light breakfast. Feel free to explore the Hall of Boats and the new exhibits in the ARIA Gallery while mingling with fellow attendees. Our first presenter, Halsey C. Herreshoff, America's Cup sailor, naval architect and President of Herreshoff Designs, Inc. will kick off CYS 2012 with "A Perspective: Origins and Rebirth of the Herreshoff Big Steel Schooners." Next on the docket will be presentations by Ed Kastelein and John Lammerts Van Bueren who will recount their experience building the steel schooners, ATLANTIC, INGOMAR, ELENA and ELEONORA. Captain Steve McLaren and Adam Langerman will tell of their quest for speed aboard ELENA on the classic yacht racing circuit. Bob McNeil and Jeff Rutherford, CYS veterans, return for an update on the CORONET project currently underway in Newport.

The ALERION presentations will anchor the afternoon session. Curator John Palmieri will introduce the Centenary series, "The ALERION Revolution: What Nat Herreshoff started in 1912." Maynard Bray, marine historian and technical editor at WoodenBoat, will describe the rebirth of ALERION at the Mystic Seaport Small Boat Exhibit in 1969. Maynard's presentation will be followed by ALERION owners, builders and designers who will recount their experiences with this gem of a sailboat.

To build a classic boat is to partner with history. All of us share a love of these boats and an appreciation for their beauty, elegance and timelessness. We hold dear the deeply rooted traditions of classic yachts. Both ALERION and Fenway Park celebrate their 100th birthday this year.

We thank our presenters and attendees, many of whom have travelled great distances to be here today. We are most grateful to our sponsors for their generosity and support and the inimitable Classic Yacht Symposium Committee for their superb efforts to bring this remarkable event to the table. They are a tireless group with unique specialties and strengths and, fortunately, a sense of humor. We hope to see you in Bristol for CYS 2014. The 6th Classic Yacht Symposium will mark the centennial of the Buzzards Bay Boys Boat, The Buzzards Bay 25 and the Newport 29.

Jan Davison
Co-Chair - CYS 2012

Welcome - from Mystic Seaport
The Museum of America and the Sea

To The Herreshoff Team:

On behalf of Mystic Seaport, I wish to congratulate you for hosting what I'm sure will be another successful and stimulating Classic Yacht Symposium. Our two museums have had a long standing relationship, and we are pleased to be a part of this year's symposium, both as a presenter and as participants. The Symposium plays a significant role within the maritime community by bringing together some of the most knowledgeable people in the classic boat world to perpetuate best practice and to introduce innovation.

We are particularly excited about bringing ALERION to the Museum and the Symposium in honor of her 100th anniversary. She is iconic to Herreshoff, and since 1964, she has been central to our small craft collection and exhibits, and we hope that her presence at the Symposium will add something special to the proceedings. I'm sure the rest of the participants join me in our anticipation for Maynard Bray's presentation.

While some may say that these are challenging times for museums in general and for maritime museums specifically, I think you and I would agree that the future is indeed bright for us if we can create dynamic and memorable opportunities for the general public to relate more directly to our content and our museum experiences. Together we have an opportunity to ignite the celebration of design and the importance of maritime history, and through this Symposium highlight the maritime community's appreciation for all that classic boats represent. We are grateful to earlier leaders such as Revell Carr and Halsey Herreshoff whose commitment to classic boats was the genesis for your Symposium and for other such gatherings that preceded it. May we be as successful in continuing the tradition.

Many thanks for hosting this Symposium, and we can only hope that enthusiasm for it will grow and participation increase.

Sincerely,
Stephen C. White

President, Mystic Seaport

We would like to thank the following CYS supporters:

Patrons:
Fred Bisset

Benefactors:
Bernie Gustin
Jan Davison
Jeanne Eddy

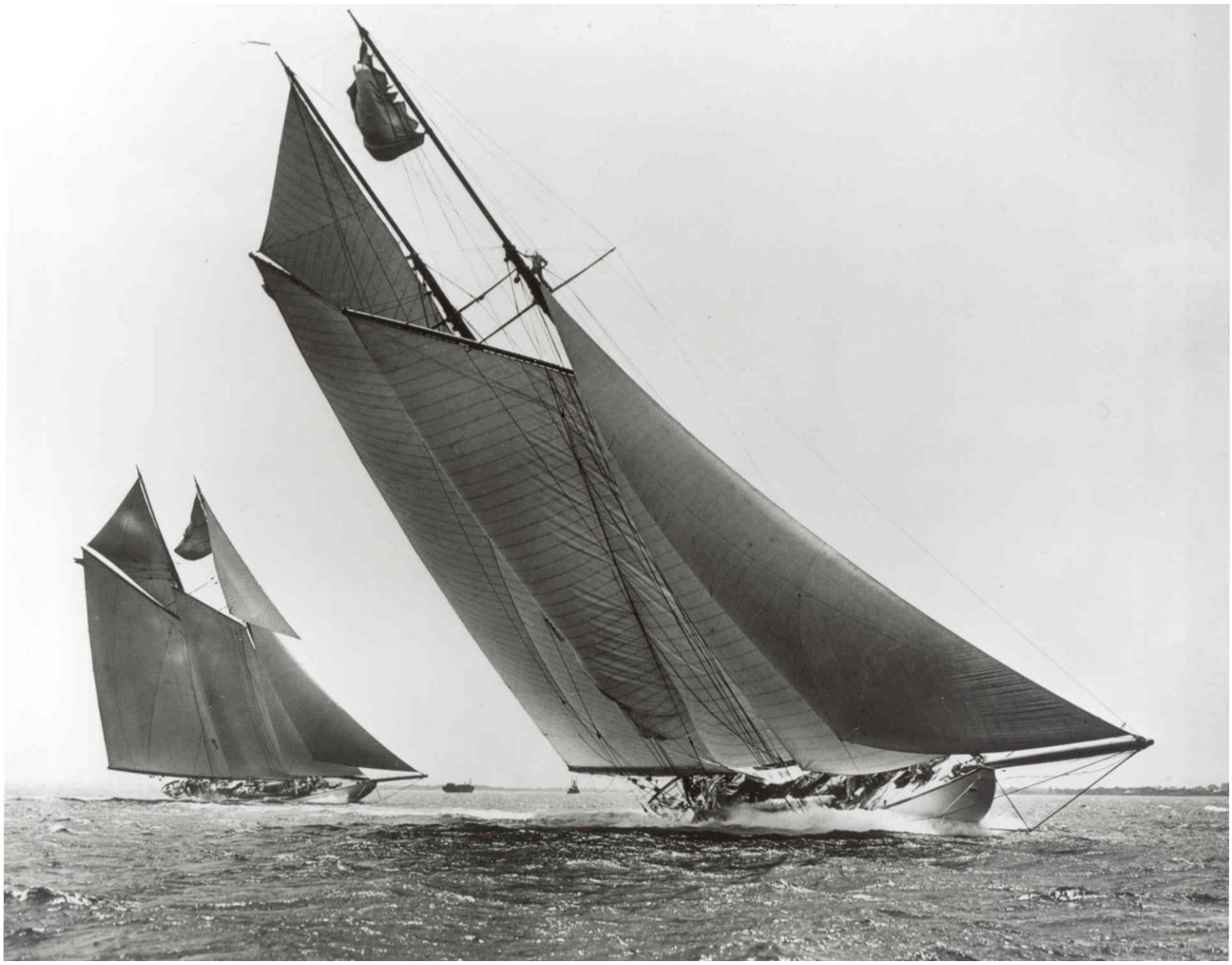
The 5th Classic Yacht Symposium is presented in honor of **Alan D. Storms**

Herreshoff Museum Volunteer, Alan Storms, passed away on Tuesday, November 8th, 2011. Alan was well loved by our staff, volunteers, and visitors. He had a background in engineering and he knew everything about Nat, J.B., and the HMCo. If you ever visited the Museum on a Saturday morning or during a special event, you would know Alan well. He was always eager to chat about engineering, sailing, and all things Herreshoff. He started working at HMM in 1999 and was a loyal volunteer and advocate ever since. In addition to being a docent, Alan was on the Classic Yacht Symposium Committee, the Museum's Boat Preservation Committee and on the Papers Committee for every Classic Yacht Symposium: 2005, 2006, 2008, and 2010. His dedication, enthusiasm, and endless love for classic yachts inspired those around him. The 5th Classic Yacht Symposium is presented in Alan's honor. He will be greatly missed by everyone who had the privilege to know him.

Schedule

0730	Registration Opens/ Coffee and Bagels served
0815	Welcome, Remarks & Program Introduction
0830-1020	Program - **A Century and More of Big Schooners** ~Halsey C Herreshoff – **A Perspective: Origins and Rebirth of Herreshoff's Big Steel Schooners** **~**Ed Kastelein & John Lammerts van Bueren – **Recreating Large Sailing Yachts of the Past: The Defining Choices and Results**
1020-1035	Coffee Break
1035-1215	Program – **A Century and More of Big Schooners** - Cont. ~Steve M. McLaren – **ELENA (Re)Creating a Legend** **~**Bob McNeil & Jeffrey Rutherford – **Great Schooner CORONET: Her Place in the History of Sailing Development** ~Schooner wrap-up panel
1215-1315	Lunch
1315-1700	Program – **The ALERION Revolution: What Nat Herreshoff Started in 1912** ~John Palmieri – **The ALERION Revolution: What Nat Herreshoff Started in 1912** ~Maynard Bray – **ALERION at Mystic Seaport** ~Bill Sauerbrey – **Alden Brewster's ALERION III Replica THETIS**
1515-1530	Break
1530-1700	Program – **The ALERION Revolution: What Nat Herreshoff Started in 1912** – Cont. ~Eric Ogden – **Building a Replica of ALERION in France** ~Brion Rieff – **The Evolution of Nat Herreshoff's ALERION: From Carvel Planked Gaff Rig to Cold-Molded Sloop**
1650-1700	Summary and Introduction of owners and builders with additional ALERION Papers on PROCEEDINGS DVD
1700-1745	**Boat Shop- Meet the Builders** - Meet wooden boat builders and restorers during an informal get-together at the Bristol Boat Company, located at 22 Burnside Street, on the Museum Campus.
1800-1900	**Cocktail Reception** - Symposium attendees are invited to an after-hours reception hosted by Herreshoff Designs, Inc. located at 18 Burnside, on the Museum campus. Refreshments provided.
1920	Optional Dinner at DeWolf Tavern - Located at 259 Thames Street in Bristol.
Sunday April 29	Model Room Tours at the Museum. Scheduled by appointment. Sign-up at registration

A Century and More of Big Schooners



A Perspective: Origins and Rebirth of Herreshoff's Big Steel Schooners

Author Halsey C. Herreshoff
Naval Architect; Partner Herreshoff Designs Inc.

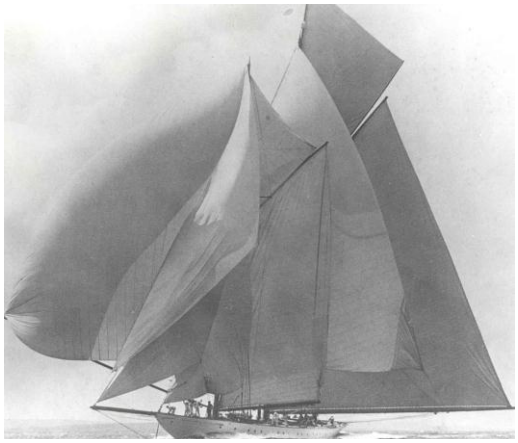


Figure 1 - WESTWARD

Figure 2 - INGOMAR

Abstract

A theme of this year's CYS is the grandeur and lessons of the large and great Herreshoff schooners of a century ago, some of which have been skillfully replicated and for which further replications are underway or anticipated. This introductory paper provides a perspective for the detailed schooner papers and panel discussion that follow. The story of the Herreshoff schooners conveys genius, method, precision, attention to detail, work ethic, cooperation of many inputs, and overall success of Herreshoff sailing yachts.

1910 and 1911 were benchmark dates when WESTWARD and ELENA, near sisterships, were designed and built at Herreshoffs. WESTWARD, the final command of the legendary Captain Charlie Barr, sailed a triumphant season of 1910, generally beating the King's BRITANNIA and the Emperor's GERMANIA. Such was the admiration of this brilliant craft and her supremely astute helmsman that Kaiser Wilhelm desired a new Herreshoff schooner to beat WESTWARD; such a boat was not built. Before and after these vessels, smaller and larger schooners were designed by Nathanael G. Herreshoff and his son Sidney .The largest was the 1914 KATOURA at 162 feet on deck. A more modest, but particularly admirable vessel was INGOMAR now being replicated in Holland by Ed Kastelein.

Interestingly, Captain Nat did not particularly like the schooner rig, perhaps from recognition of the superiority of sloops with tall rigs sailing to windward. Given this reputed prejudice, for Captain Nat to progress to design a dozen of the world's greatest schooners is admirable. Most had very intricate rigs requiring special engineering design. Those of us privileged to sail today aboard ELEONORA or ELENA are daily impressed by their complexity and success.

About the Author

Halsey C. Herreshoff of Bristol, Rhode Island is a naval architect and marine engineer, builder of yachts, and member of the Bristol Town Council.

Educated at Webb Institute of Naval Architecture with an advanced degree from Massachusetts Institute of Technology, Mr. Herreshoff enjoys a distinguished career in his field. More than ten thousand vessels have been built to his designs, and he has provided engineering consultation to government, industry, and private clients.

He is a principal in the firm of Herreshoff Designs Inc. that continues the longest continuous yacht design service in America.

Recreating Large Sailing Yachts of the Past
The Defining Choices and Results

Authors Ed Kastelein & John Lammerts van Bueren

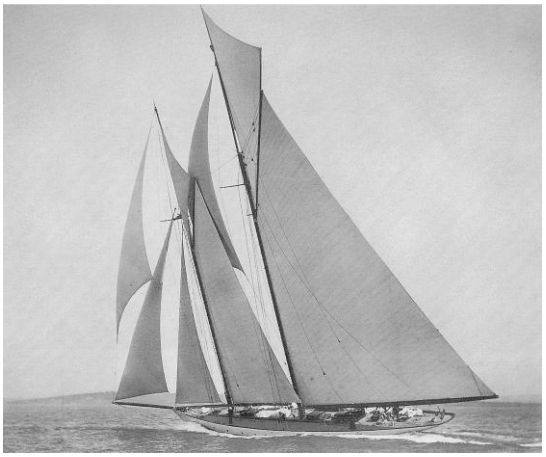


Figure 1 –1904 INGOMAR in British Waters

Figure 2 –2012 INGOMAR Under construction in Holland

Abstract

When it comes to recreating large yachts of the past, few people can match the scale or number of projects owned and directed by Ed Kastelein. In a time span of less than 15 years he built four large classic schooners. The first was an interpretation of the Grand Banks schooners of bygone days; the next three are all true recreations of iconic yachts of the past. His ideas initially raised eyebrows but the depth and integrity of authenticity of his projects was so obvious that these yachts have all gained full acceptance in the fleet of restored classic yachts. In fact, his ELEONORA has started a new movement with yachts like ATLANTIC, ELENA and GERMANIA following in her footsteps and rocking the world of large classic yacht racing.

The presentation will introduce some of the projects recreating such large yachts, the choices to be made and the excitement that comes with creating a thing of beauty. The process is one of thousands of questions and choices. It all starts with choosing a design, then resisting change; change to the original lines plan; change to everything and everywhere as much as possible throughout the project. Easier said than done as spanners are thrown in the works from all directions; today's Lloyd's and MCA Rules don't have 1903 authenticity on their priority list, guests now require a somewhat different level of comfort, today's crew insists on proper meals, a shower and privacy. Unfortunately, Nat Herreshoff didn't anticipate much electricity on board, nor satellite communication, a 400hp engine, two generators, watermakers, black & grey water tanks, boilers, air-conditioning, a laundry and all that comes with them.

How does the aim to use authentic materials affect the integrity of the recreation process? To what level did the available materials affect the shape of hull, foils and rig? When do we choose to take what's available today and when do we resist the use of possibly more superior materials? Finally the most challenging of all; composing a coherent group of architects, builders, yards, suppliers and subcontractors who fully endorse that it's not their signature but the one of a man long gone which marks the project.

The second part of the presentation will provide examples of choices and the resulting projects:

- Interpretations: Ed Kastelein's first full creation ZACCA A TE MOANA, an interpretation of the east coast schooners.
- Recreations: ELEONORA (Nat Herreshoff's 1909 WESTWARD); William Gardner's 1903 ATLANTIC; and Nat Herreshoff's 1903 INGOMAR.

About the Authors

Ed Kastelein has owned and commanded over 25 yachts including the famous Thendara, Borkumriff, Aile Blanche and the Maxi Ondine. When creating Eleonora he showed the world that large classic racing schooners could be built and raced successfully again and so started a new era in classic yachting, carefully balancing his choices ensuring the yachts respect the lines and floatation of the original architect whilst making them suitable for luxurious charters and meeting stringent MCA rules. Always building for his account, his vision and courage to recreate these large yachts is truly extraordinary. In 2011 Ed started on his next project, the recreation of the 1903 NGH design Ingomar. As a large yacht owner Ed stands out by managing the entire building process himself and then running his yachts, an expert captain with well over 250,000 miles under his belt.

John Lammerts van Bueren is Ed Kastelein's right hand man and has been deeply involved in all mentioned projects. His involvement ranges from the initial historical research through the technical side of the construction and finally he joins as race and delivery crew. John studied yacht building and naval architecture and owns a sawmill in Alaska specializing in production of Sitka spruce lumber for yacht spars. He is a life-long and passionate sailor; threefold world champion in the Int. 8-Metre Class and he has well over 15,000 miles of schooner sailing under his belt.

ELENA
(Re)creating a Legend

Author Steve M. McLaren
Captain / Construction Manager

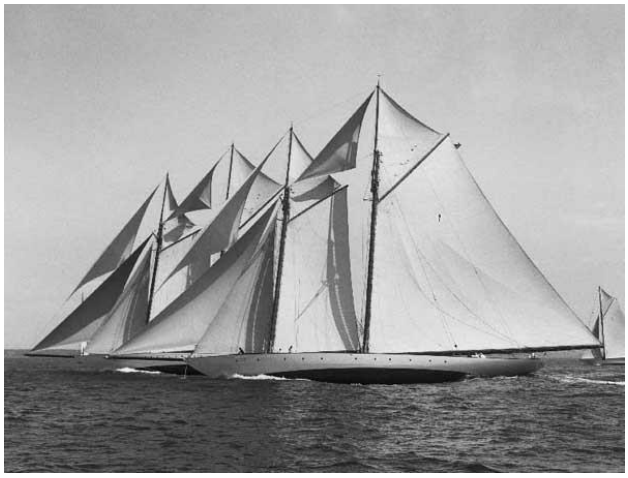


Figure 1 –ELENA racing in the NYYC Cruise

Figure 2 –ELENA on sail trials off Spain 2009

Abstract

In 1910 Morton Plant commissioned ELENA to be designed by American naval architect Nathanael Herreshoff, the "Wizard of Bristol", famed for designing sailing yachts for America's elite. Plant gave a wonderful design brief: build me a schooner that can win! Herreshoff gave ELENA a slightly deeper keel than preceding designs of the time, lowering her centre of ballast, which improved her windward ability. Fresh out of the shed, ELENA won most of her early races against the cream of the American schooner fleet. Seventeen years later came her crowning glory - victory in the 1928 Trans-Atlantic Race.

Today, with resurgence in the popularity of large classic yacht racing worldwide and the limited number of existing classics left to restore, new build replicas have become more common. Pulling off such a project is no small feat. This presentation discusses the decision making process that brought Mr. McLaren to ELENA and the significant challenges bringing the 100 year old drawings to life while ensuring the desired end result- a yacht that can be efficiently crewed, competitive on a racecourse, and enticing to charter. The results of these decisions speak for themselves; ELENA is a legend reborn as will be seen through my discussion of the racing, chartering, and cruising success we have seen to date.

About the Author

Steve McLaren was the project manager of the Elena build and has served as captain since her launch in 2009. Steve has over 40 years of experience sailing and building the world's most magnificent yachts. Prior to Elena he built and ran the 120 foot sailing yacht Alejandra for 10 years. This was followed by several seasons as Captain of classic yacht Eleonora cruising and racing her all over the Mediterranean and the Caribbean. As a result, Steve has perhaps the most large gaff-schooner racing experience of any captain active today.

Great Schooner CORONET
Her Place in the History of Sailing Development

By Robert G. McNeil & Jeffrey Rutherford
CORONET Restoration Partners

Figure 1 –CORONET under sail

Figure 2 –CORONET reconstruction Nov. 2011

Abstract
The building of faster, more seaworthy, greater capacity vessels is an age-old process. Boats were built for fishing fifteen thousand years ago. Egyptians and Phoenicians, carrying meaningful cargos, engaged in ocean trade five to seven thousand years ago. One objective has been to improve the ability of ships to sail to weather; so higher and faster is a major thrust of this evolution. Both design and materials have played important roles in this quest. We discuss the evolution of sailing vessels to increase the righting moment/displacement ratios over the past 125 years. CORONET and the successor turn-of–the-century steel schooners featured in CYS 2012 are steps along the way. Hulls grew lighter and stronger and ballast ratios increased to give truly high righting moments. In the mid 1970's began a new evolution in ocean racing vessels; a small plywood lightweight boat RAGTIME finished first, in the TransPac. This was the beginning of the "sleds". The advancement of righting moment to displacement evolved over the next thirty-five years to the canting keel maxi's of today.

Why restore CORONET? Constructed in 1885 CORONET is the sole survivor of the elegant Victorian schooners and is recognized as America's most historic yacht. Designed and built in 1885 to the pinnacle of elegance of the Victorian era, with a length on deck of 133 ft., sparred length of over 190 ft. and weighing over 230 tons, CORONET represents the time of sawn oak frames with treenailed planking. Upon completion we will re-create her voyage around Cape Horn and the world.

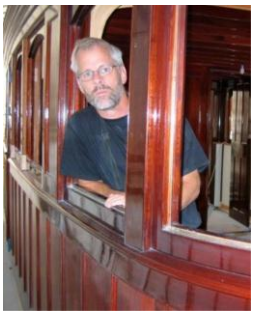
The Restoration. In truth the hull of CORONET was completely rotten, under the cover of the topsides and behind the ceiling. The dismantling of the vessel was easy; pulling off topside oak, rotten and often not attached, and knocking the 9½ inch oak frames apart with a hammer.

We will discuss the restoration. The new keel, stem and frames are built to standards not used in the original. The number of futtocks saved (there was a $500 reward for each) is two. Eric Theasen and his crew are doing a massive and wonderful job. The meticulous building of the keel and stem are complete. The placement of the frames up the deadwood is in process so that the horn timber can be placed and the transom completed. This summer we will fill in the middle frames, planking and deck in 2013, and the interior paneling can be installed in 2014.

The project's true restoration is the saved interior mahogany paneling of the guest cabins, hallway and main salon plus overhead materials. The process is one of saving the wood that is not rotten, requiring much piecing and repair of panels. It has also entailed detective work to understand the design of the main saloon before a third of it was sacrificed for an engine room, since solved with the discovery of some mirrors stashed away and not employed in the main saloon as it was in 1998.

About the Authors

Robert G. McNeil, a graduate of University of California, Irvine, with a Ph.D in Biochemistry, Molecular Biology and Genetics, is the Managing Director of Sanderling Ventures LLC, a successful seed and early venture partnership. An avid wilderness hiker and ocean racing enthusiast he has many racing accomplishments to his credit including: North American and Pacific Coast Championships in the 505 Class. In ZEPHYRUS IV first overall and course record 2000 Cape Town to Rio Race and also the 2001 Middle Sea Race. In ZEPHYRUS V first in class; first to finish, course record Long Beach to Isla Navidad, Mexico and first overall and course record 2003 Montego Bay Race.
For the past six seasons Bob has raced successfully along the New England coast and France in the restored P-boat JOYANT. He has recently completed the restoration of the 125 foot CANGARDA (1901) and has now turned his focus to CORONET, the last grand American yacht.



After being laid off from his warehouse job in New York City at the age of 20, **Jeffrey Rutherford** spent a year sailing in a workboat delivering grapefruit around the Caribbean. Watching men build boats on the beach with little more than a handsaw, a hammer and an axe, Jeffrey decided he wanted to try boatbuilding. He went to Maine in 1976 and apprenticed at the Northend Shipyard rebuilding a 95' passenger schooner. He returned to California where he was born, and after being a union shipwright at Pacific Drydock, he took a job as construction foreman at Pacific Fishboat Co. building a 75' wooden fishing boat. In 1982, after several years of freelance boat repair dockside, Jeff started Rutherford's Boat Shop in Richmond CA. The shop specializes in building and restoring classic yachts and general marine woodworking. Some notable projects include the 53' Edson Shock cutter BRIGHT STAR; the 58' N. G. Herreshoff P-Class sloop JOYANT; a 4-oared lifeboat for the squared rigged ship BALCLUTHA; an L.F. Herreshoff Buzzards Bay 14; and the steam vessel CANGARDA.

BUZZARDS BAY 25

HMCo Design 733: MINK, BAGATELLE, ARIA, etc.
Cold-molded 1996 ***by Joel White***

32'3" LOA x 25'4" LWL x 8'9" Beam x 3'1" Draft

Displacement = 7,386# Yanmar 9hp inboard diesel

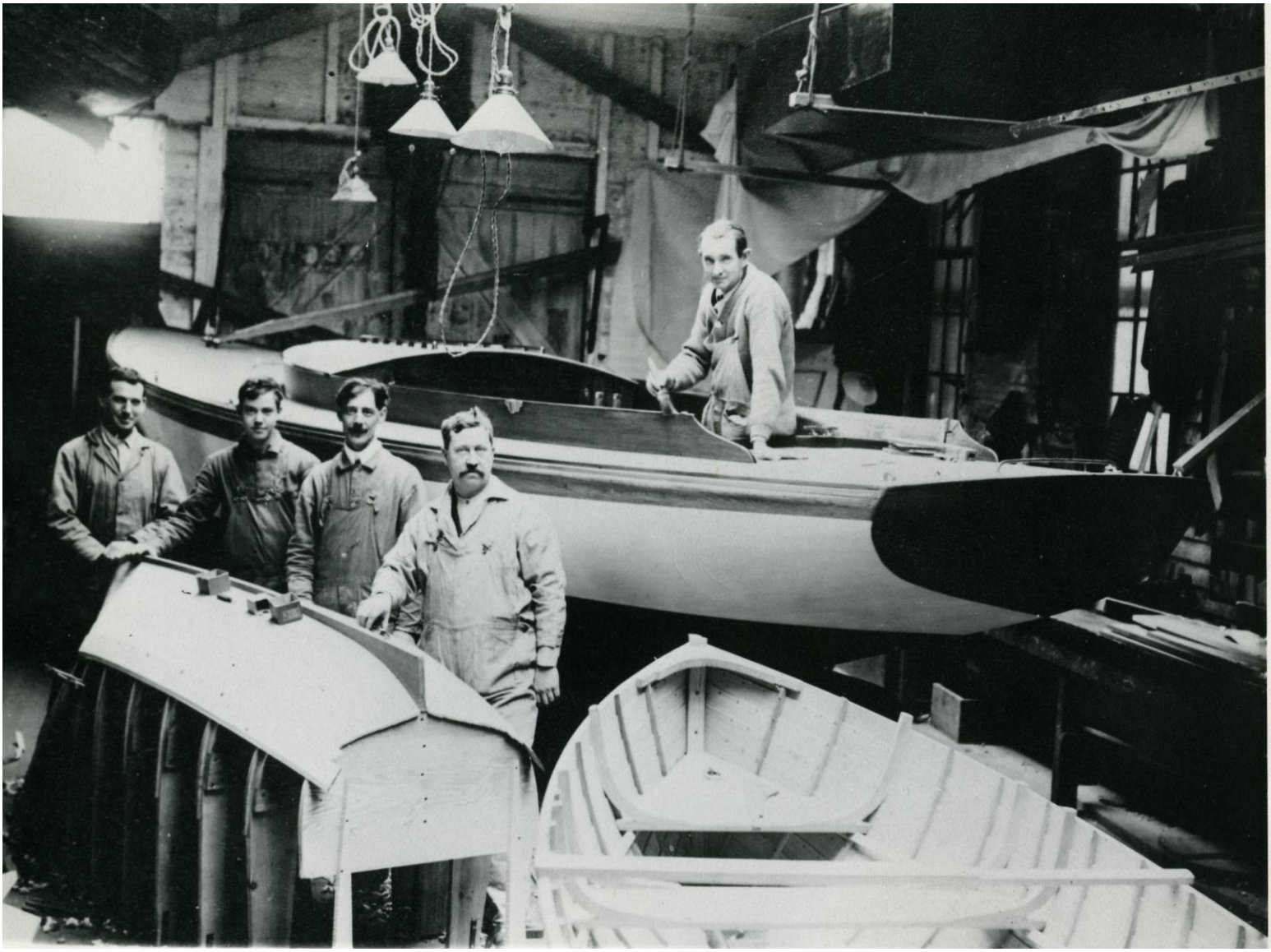
Mint Condition Throughout

FOR SALE BY OWNER

Kindly email <ghb4755@gmail.com> for details

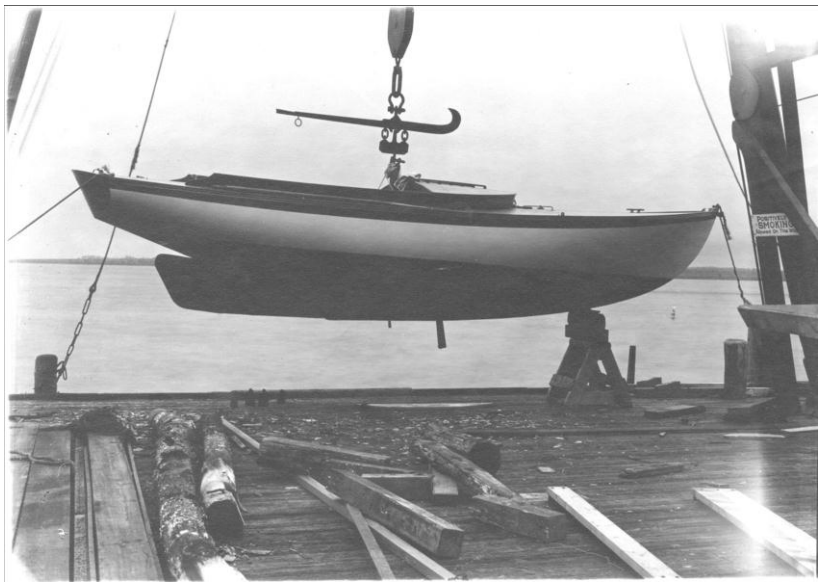
THE ALERION REVOLUTION:

WHAT NAT HERRESHOFF STARTED IN 1912



The ALERION Revolution:
What Nat Herreshoff Started in 1912 - ALERION III and SADIE

Author John J. Palmieri
Curator / Herreshoff Marine Museum



Nat Herreshoff's ALERION

Abstract

ALERION III was conceived in Bermuda in early 1912 where Nat Herreshoff at age 63, escaping from the harsh New England winter, used borrowed drafting materials to pencil the first sketch of the hollow-bowed daysailer and forerunner to similar shaped one-designs. He had brought with him the 23ft.-7in. centerboard sloop OLEANDER and although she proved dominant in race competition he found her too small and wet for Bermuda's winter waters. Capt. Nat returned home, planning to return the next year with the new boat. We follow Nat and ALERION through design, building, commissioning and first three sailing seasons, ending in the spring of 1915 just prior to the dissolution of the Herreshoff brothers' partnership. We also trace SADIE from the conceptual discussions between Capt. Nat and her owner to delivery in May 1914 and gain insight into the tension between the brothers.

The story is told through the lens of Capt. Nat's personal records. As designer and superintendent of the company he is fully committed to projects critical to its financial success - the New York 50s; the steel schooners VAGRANT II and KATOURA; America's Cup defender RESOLUTE. He "fits- in" ALERION and SADIE as best he can, even delaying the first sail of ALERION to Bermuda rather than at the Bristol yard. More than ALERION, this is the inspiring story of the man, Nat Herreshoff, the partnership that was the HMCo, and the pressures and triumphs of both.

About the Author

John Palmieri has been associated with the Herreshoff Marine Museum since 1997, first as a volunteer surveying the boat collection, and then as Curator following the untimely passing of Carlton Pinheiro in 2000. His sailing began in high school as the crew of an Alden schooner out of Larchmont, where he first came to admire the work of Capt. Nat. Between then and now John earned advanced degrees in engineering and business, served in the US Navy as a naval engineer and shipyard commander, and later in industry led the development of advanced marine power generation and propulsion systems.

ALERION at Mystic Seaport

Author Maynard Bray
Technical Editor / WoodenBoat

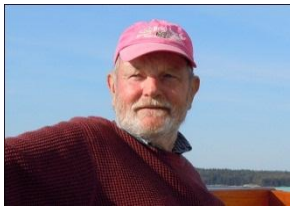
ALERION on trailer at Mystic Seaport (Courtesy Mystic Seaport)

Abstract

ALERION had been in residence at Mystic Seaport for five years when I arrived to take over the shipyard and the watercraft collection in 1969. By then, she had been virtually abandoned due to the museum's focus on commercial boats and vessels and away from yachting. I found ALERION in the corner of an open-sided spar storage shed, off limits to visitors. We quickly changed that by means of a thorough but mostly cosmetic restoration that included exposing and varnishing her then-painted sheerstrakes as well as giving her N. G. Herreshoff's final color scheme: "Nathanael Green" topsides with a white bottom.

Within a few years, after being put back in the same shed (which was upgraded into an exhibit building for small boats), ALERION became a Mystic Seaport icon. Clearly, she's the star among a number of exceptional catboats as well as two other Herreshoffs. In the forty years since then, ALERION has had thousands of admirers and has kicked off a flurry of replica building. She's so damned beautiful, even the uninitiated are bewitched by her charm.

I plan to tell the story of ALERION's acquisition, her refurbishing, and some of the yarns connected with her. There'll also be photographs, both current and historic.



About the Author

After 13 years as a marine engineer for Electric Boat and Bath Iron Works, **Maynard Bray** landed the job of a lifetime as shipyard supervisor and curator of watercraft for Mystic Seaport, a position he held from April 1969 to June 1975. During those six years, he was key to creating a restoration shipyard, in refloating the whaleship CHARLES W MORGAN, and upgrading and expanding the small craft collection. Later, he became a trustee. His lifelong passion has been the Herreshoffs and their yachts, an interest shared by his wife Anne. Together they have owned four HMCo-built boats, one of which, named AIDA, is the subject of his latest, soon-to-be-published book. *Herreshoff of Bristol*, which he co-authored with HMM's late curator Carlton Pinheiro, came out in 1989. ALERION shows up in an even earlier publication of Maynard's entitled *Mystic Seaport Watercraft*. For many years, he has been *WoodenBoat* magazine's technical editor, as well as co-conspirator with Ben Mendlowitz in The *Calendar of Wooden Boats* and the books of Noah Publications.

Alden Brewster's ALERION III Replica THETIS

Author William A. Sauerbrey
Boatbuilder / Beetle Boat Shop

Figure 1 - Herreshoff Method on Molds

Figure 2 - Interior Molds Removed

Abstract

To many, the beauty of the light green sloop nestled in the Catboat Shed at Mystic Seaport comes from her lovely shape and varnished accents, or her inviting cockpit and manageable size. Some may dream of sailing or getting to know her. A few will go farther and own a reproduction or replica and feel her dance to the wind and sea.

To me, the beauty continues on into the construction. Nat Herreshoff carved her shape into a half model, yet he could see her every last detail in his mind. Building a replica of this boat with the privilege of having the original to view, measure, and photograph, as well as copies of Capt. Nat's construction plans in hand, has allowed us at Beetle to appreciate the genius within the mind of this designer and the skills of his craftsmen.

This presentation intends to highlight the techniques used in building Alden Brewster's replica of ALERION at the Beetle Boat Shop that we feel worthy of note. The boat is built as a replica with all materials and methods followed as closely as possible, from her lofting and molding, to her framing and planking, to her decking and finish work, to her hollow spars, rigging, and hardware. Many tricks of the trade have been learned and these will be highlighted.

About the Author

Bill Sauerbrey, lead boatbuilder at the Beetle Boat Shop in Wareham MA, grew up cruising, racing, and instructing (Larchmont Yacht Club) on Long Island Sound. He was introduced to the Small Boat Shop at Mystic Seaport Museum as a student in a program through Williams College. An internship lead to a position working closely with Barry Thomas, whose philosophy towards craftsmanship has cemented a desire in Bill to focus on a career dedicated to the designing and building of boats as a means to preserve the traditional methods and techniques that have evolved through the ages.

Building a Replica of ALERION in France

Author Eric A. Ogden
Independent Yacht Surveyor

Figure 1 – Internal framing and planking

Figure 2 – Sea trials in September 2010

Abstract

Some 136 years after Nathanael Herreshoff built RIVIERA in Nice, a replica of his ALERION was launched in Brittany in 2010. The author was familiar with Captain Nat's work, had visited the Herreshoff Museum on several occasions and had surveyed several of his designs including the schooner MARIETTE. In 2007, while he was seriously considering designing and/or building a daysailer, the author came across a replica of SADIE in Brooklin, Maine. He immediately recognized the work of the Wizard of Bristol and then decided to build a replica of ALERION! She is the right size to be easily handled by a single sailor or a couple. She has a unique hull shape, a shallow draft, a deep and safe cockpit, an efficient gunter rig with a self-tacking jib and moreover she is a lovely wooden sloop. Back in France, he contacted several of the US builders who had built replicas of ALERION or SADIE, and purchased drawings from MIT and Mystic Seaport. In June 2009, he spent a week in New England to meet with Kurt Hasselbalch at MIT, visit the Museum, meet with Halsey Herreshoff and examine SADIE. He then visited Mystic Seaport where he was allowed to go on board the original ALERION. At the time, he also met with some of the US builders and suppliers. He then met with Hubert Stagnol who had built replicas of several sailing yachts designed by Fife, S&S and Mylne. They decided to build the hull using the strip planking method with two vacuum bagged diagonal plies of mahogany. The keel, frames and beams are laminated African mahogany. The spars are Sitka Spruce. Jim Reineck supplied the deck and spar fittings. The boat turned out to be quick, stiff, easy to handle and very pleasant to sail. Lots of experienced sailors from Brittany were left speechless. She is 'a very satisfactory boat'!

About the Author

Eric Ogden is an independent yacht surveyor and consultant naval architect based in Antibes on the French Riviera. He has over 35 years of experience of the international marine industry. He has been involved in several French America's Cup Challenges as Project/Technical Manager in charge of design coordination and building supervision. His international consulting work has included a wide range of construction and refit projects of large sailing and motor yachts. He has been sailing since his childhood on various boats, including classic yachts and Maxis. He is a member of Yacht Club de France and Yacht Club de Monaco.

The Evolution of Nat Herreshoff's ALERION:
From Carvel Planked Gaff Rig to Cold-Molded Sloop

Author Brion Rieff
President / Brion Rieff Boat Builders

Figure 1 –ANNIE, Courtesy M. Bray

Figure 2 –CANVASBACK, Nate Parsons

Abstract
Originally conceived in 1912 by Nathanael Herreshoff as his personal yacht, ALERION was built using plank on frame construction and was fitted with a centerboard. Capt. Nat's ALERION carried a gaff rig, but ultimately sailed with a gunter rig. In 1914, SADIE was built as a longer, heavier, beamier ALERION. She too was gaff rigged. Also in 1914, Capt. Nat scaled the ALERION hull by a third and modified it to have a fixed keel, thus creating the Newport 29 cruising class. In 1964, ALERION was donated to the Mystic Seaport. Her owner later contacted Capt. Nat's son Sidney and grandson Halsey, requesting a slightly smaller version of ALERION without a centerboard. This modern Alerion 26 is basically a Newport 29 scaled down to 11/12ths the size of the original Alerion model, but has a fixed keel. Built of cold-molded wood, a modern Alerion 26 carries a taller Marconi rig with a roller furling jib.

About the Author
Brion Rieff is president of Brion Rieff Boat Builders in Brooklin, Maine. He grew up in New York, and sailed on Long Island Sound. Brion started working in boat yards while still in high school. After spending time in the Coast Guard, he built boats up and down the East Coast, including 12 meters, IOR and IMS racing boats. In 1986 he came to Brooklin, to get back to building in wood, working for Jim Steele, Brooklin Boat Yard and Eric Dow. Brion enjoys building boats in traditional plank-on-frame or more modern cold molded. He favors building and designing traditional yachts of yesteryear while incorporating modern design and wood construction techniques.

PROCEEDINGS DVD

The Classic Yacht Symposium 2012

Seth Persson's 1972 ALERION/SADIE

Zenas Crocker
Wianno Yacht Club, Osterville, MA

BACKGROUND

The discovery of WIZARD, nee ALERION IV, was the result of a search for the perfect day sailer that could be sailed alone or enjoyed with a group of friends.

Having sailed a few Alerions with friends in Osterville. MA, I realized that this boat was perfect for our location in Nantucket Sound. Shallow draft with the board up (2' 6"), she could easily sail the bays and flats around Osterville. With the board down, drawing 6', she was comfortable and fast out in the chop of the Sound. I began a search for an ALERION of my own.

While doing my due diligence one of my great pleasures was to read L. Francis Herreshoff's short story, "A Sail on the Alerion". This story documents a blustery fall sail (in 1920) from Long Island up to Rhode Island. It is a must read for any Alerion fan. (*An L. Francis Herreshoff Reader*)

WIZARD

As luck would have it an ad appeared in WoodenBoat around this time featuring what turned out to be a real gem. An owner (with us today)[1] had decided to part with one of the classics of the genre.

The vessel I would later acquire was a true classic. Built in 1972 by famed Connecticut boatbuilder Seth Persson (FINISTERRE), she was built with a mahogany keel, oak frames, oak and bronze floors, white cedar planking and spruce spars. Mystic Seaport had photographed and documented the building process. When I read the listing I knew this was the boat for me!

Boatbuilder Ned Crosby, a lifelong friend who is here with us today, offered to have a look in person as I had only seen the listing. He saw her sail on to a mooring and later said to me "I couldn't believe the speed she carried under

[1] See CYS 2012 Queene H. Foster**, "***FAIR SADIE an Owner's Brief Perspective"*

sail and then as she came up on the mooring. She is a real beauty!" I was hooked.

Ned identified some condition issues with the centerboard box and, after a bit of negotiation, I agreed to become the next custodian of Seth Persson's Alerion; sight unseen and without sailing her.

I have only recently learned the interesting early history of my Alerion from Seth Persson's son, Jon: ALERION IV, as she would first be named was built for Paul Snyder who owned a property on the Connecticut River with a shallow breakwater. A friend of Seth's named Robert Parsons obtained a set of lines taken from the Mystic ALERION III by Edson Schock (who did much of the work for Mystic, and was also a professor of naval architecture at the University of Rhode Island). Edson included both the bow profile of the ALERION III and the 7-inch extension of the SADIE (that Nat Herreshoff built in 1914, a year after the ALERION III now at Mystic). Jon Persson points out that this same model, scaled up, was used to produce the Newport 29s of 1914 and 1923 and later the Fishers Island 31s.

Snyder took the boat to the lakes of Canada for a number of years and then back to Martha's Vineyard. From there she was sold, became ELIZABETH and was transported and sailed in Wisconsin for over 20 years. Later she was brought back east to Maine, renamed FAIR SADIE and put in the care of Brooklin Boat Yard who added her "rubrails".

Interestingly, her time in the Great Lakes led to the condition problems in her centerboard as the fresh water was "wicked up" in some of the centerboard structure where board "butt ends" were exposed. Salt water does not wick in this fashion but fresh water does and over time this led to some condition problems. I shared the cost of the repair with the previous owner who had a strong desire to see her "put right" and preserved. Brooklin Boatyard did the work. And so my days as the caretaker of this fine vessel began.

WIZARD is identical, in nearly every way, to the ALERION III now on display in Mystic Seaport. (SADIE is on display at Herreshoff Marine Museum.) She sails like a dream and I can leave the helm untended, go forward, and she will only gradually head up. The helm is tender and true and I can easily say she is the finest, most responsive, boat I have ever sailed. She will come about on a dime. I often enjoy the expressions on the faces of my non-sailor friends as we approach a fixed object and, at speed, she comes about in her own length.

She is finished bright on her interior, her rig is traditional gaff with mast hoops and she is set to fly a gaff-topsail, which, sadly, I have never set. She has gone from white to blue and I recently made one other change with the addition of an inboard electric engine. I agonized over this addition but WIZARD now lives on a pier on a lee shore that shallows up quickly while facing a regular southwest wind. For years I have set a maneuver to come into the shore, come about and quickly pick up a temporary mooring while traveling at speed. Kind of like landing on an aircraft carrier! While I am accomplished at this maneuver things don't always work and my neighbor recently commented: "I saw you land your boat and it looked like you tried to kill your wife in the process!"

The electric inboard is small enough to sit under the floorboard and the shaft lives where Seth Persson originally set a dummy. I am using existing battery boxes and a feathering prop. I am pleased to report that she still sails like a dream and my wife is thrilled that she is no longer in danger when docking!

WIZARD Note the propeller powered by an electric inboard.

WIZARD turns heads every time she sails and I sometimes feel like a celebrity as so many spectators take pictures. That is a testament to the genius of Captain Nat, who designed a vessel that can make your dreams come true! As she glides along the only sounds are water on wood, the tug of the rigging, and few sing song fittings. Stress evaporates and you can close your eyes and feel like you have traveled back in time.

ABOUT THE AUTHOR:

Zenas Crocker grew up sailing a Crosby Wianno Senior with friends in Osterville, Massachusetts. Self-taught, he started with a first generation sailboard in the 1970s and graduated to a 16 ft Hobie Cat. From there his restless sailing spirit took him from a classic 25 ft Catboat WINDSONG to a 53 ft Nautor Swan INCA, a Herreshoff 12½ DRAGONFLY and finally to the Herreshoff Alerion/Sadie WIZARD.

The Classic Yacht Symposium 2012

The Story of ARIADNE

Tom Weaver
Owner

INTRODUCTION

ARIADNE, Alerion 26 Hull Number 7, was built by Halsey Herreshoff in 1982-83, for my wife Annetta and me to sail in Larchmont, NY, from the Larchmont Yacht Club. She never made it to Larchmont, but we have enjoyed sailing her for 29 years on Narragansett Bay.

THE STORY OF ARIADNE

I grew up in Larchmont, NY, sailing my family's Rhodes 19 and crewing on many different boats during the heyday of one-design racing on Western Long Island Sound in the late '50s and early '60s. I raced mostly on International One Designs and enjoyed their power and big-boat feel. But the IOD can be a handful to sail with its huge non-reefing main and five-man crew on windy days.

I had always admired the Herreshoff S Boat (which is still raced in Larchmont) because of its beautiful lines, handy self-tending jib and small cuddy cabin to duck out of the weather. I really wanted to find a boat much like it for Annetta and me, for day sailing and weekending in Larchmont. But I wanted to have a basic head, an inboard engine, and a reefable main.

One day in the early '80s I was driving from New York to visit my parents in Amherst, MA, and decided on a whim to stop at Mystic Seaport, where I had not been for many years. Just by chance I saw the small boat shed, and looked inside. There was exactly the boat I wanted, ALERION III. I thought that such a boat, with a head and an engine, would be just right. Months later, again just by chance, I happened across a 2-inch ad in an old copy of *Yachting* for the Alerion 26, built by Halsey Herreshoff. It seemed to have everything I was looking for, so I called Halsey and went to see for myself. He had two Alerions under construction at the time. When I entered the boat shed and saw those beautiful hulls, I knew that this was it (run ahead 30 years – ARIADNE is now stored indoors for the winter next to another Alerion, and it still takes my breath away to see them together).

When Halsey and I went to lunch afterwards, I noticed that a strong southwest breeze had come up. Halsey said that this was normal for Narragansett Bay, and I couldn't help comparing it to the light air back home.

Annetta and I then took a test sail on a windy day, on a double-reefed Alerion that was about to be delivered to Maine. Halsey's nephew Halsey II and an older gentleman were also with us. It turned out that the older man had owned ALERION III after Captain Nat sold it. He steered for a minute and said that she was just like the original boat. I took the helm and quickly noticed how well balanced and stable she was in the high wind, and how smoothly she flowed through the water (due in part to her 50% ballast ratio). Sitting to leeward, I could feel the water flowing past the leeward rail as she rolled down on her lines, just like an IOD. Annetta and I were sold.

We asked Halsey to build us a boat with a taller rig for the light breezes in Long Island Sound (300 square feet of sail vs. the standard 270). I understand that this later became the standard rig. We intended to bring her down to Larchmont and sail her there.

ARIADNE was completed in July 1983, as Halsey was in the midst of the 1983 Cup defense. It was too late to bring her to Larchmont that year, so we took her to Point Judith and sailed there for the rest of the summer. We cruised up the Bay several times to Jamestown (on Halsey's suggestion), and liked it very much, so we moved ARIADNE to the Conanicut Marina on Jamestown the following summer, where she has remained ever since. We lived aboard her on weekends that summer, but after we were chased off the boat by a late-season hurricane, we decided that we needed a shore base. So the following winter, we found a Realtor in the phone book and came to Jamestown the Monday after the Super Bowl. We looked at four houses, and I particularly liked one, which was a wreck but had potential. We went to Newport, had lunch at the Black Pearl, and decided to buy it (at the closing, as was typical of Jamestown in those days, there was only one lawyer, who represented both us and the seller). Halsey generously offered the services of his master carpenter, John Arruda (who had done the beautiful finish carpentry on ARIADNE), to make the necessary upgrades to the house. Three major renovations later (all by John) we are still there.

Sailing ARIADNE

When people ask me what I like best about the boat, I mention her "Alerion-like sailing characteristics." These include her speed, quick acceleration and good performance in all wind speeds. ARIADNE is also very easy to sail single handed, which I frequently do when Annetta is on call in New York for her medical practice group. All the lines lead to the cockpit, and the jiffy reefing allows you to reef from there as well.

Her stability and deep, safe cockpit also make ARIADNE an ideal boat for sailing with children, and our nieces and nephews, and now grand nieces and grand nephews, have all enjoyed sailing on her.

But mostly it's about balance, the way the hull shape and high ballast ratio make it feel like "a small big boat." You sit deep in the cockpit, near the center of motion, close to the water and like the gentleman said on that first sail, "you feel like you're part of the boat." Sailing through the big swells which are encountered so frequently in Rhode Island Sound is like riding on the back of a dolphin as the boat

glides smoothly through the waves. That smooth motion also means that few people ever get seasick on our boat, even when it is rough.

When we were younger, I sometimes wished that ARIADNE had been a little bigger, as she can be a bit wet to windward, like many Herreshoff boats. But as we get older, her size seems to be just right. Captain Nat and his grandson Halsey knew what they were doing.

ABOUT THE AUTHOR:

Tom Weaver is a retired marketing executive. He and his wife Annetta, who is still practicing medicine, live in New York City and in Jamestown, Rhode Island, where they enjoy sailing ARIADNE and experiencing the beauty of Narragansett Bay.

The Classic Yacht Symposium 2012

Observations on CURLEW

Philip Lee
CURLEW's Owner

CURLEW moored in the Westport River

BACKGROUND

Warren Barker built CURLEW over a three–year period from 1991-1994 for Philip and Amy Lee as a "responsible interpretation" of ALERION III. For the story as told by the builder see Warren Barker, "CURLEW- Revisiting Nathanael Herreshoff's ALERION", *WoodenBoat,* Vol. 138. Sept- Oct. 1997.

OBSERVATIONS

The decision to build the CURLEW was a relatively easy one. My wife, Amy, and I wanted to build a small daysailer for use in the Westport River and neighboring waters. We were fortunate in having an outstanding, superbly talented, builder as a friend and building boats in Westport, Warren Barker. After considering several

designs we chose to build a copy of the ALERION, which we had always admired during visits to Mystic Seaport. We wanted as close a copy to the original as possible while using modern materials such as fasteners, glues etc. where appropriate. The decision to build a traditional planked boat was also pretty simple. We had owned larger wooden vessels and at the time owned a 42-foot wooden powerboat, SPARTAN. To us, there is nothing to compare to the feel and sea kindliness of a wooden boat.

The actual building of CURLEW has been previously documented by Warren and published in *WoodenBoat* magazine. From the owner's standpoint, this process was as fun and rewarding as owning and sailing the finished boat. The end product was and still is (I've trashed her a bit) a thing of beauty; a work of art. The combination of a genius designer and talented builder resulted in a boat that performs and looks terrific.

We opted to choose our own color green for the topsides, as we could get no clear ruling on exactly what truly is a Herreshoff green. We essentially made up the color green we use. I notice with some amusement that this is often referred to as Herreshoff green, perhaps it is? We refer to it as Amy Green or Barker Green. We also decided to stay with the gunter rig rather than the gaff rig she originally sailed with. I am pleased with the decision. The main is easy to hoist with only one halyard. Reefing is pretty straightforward. With the combination of the club jib the boat is a dream to tack, requiring nothing more than putting the helm over.

As one can imagine, CURLEW is a very able and fast sailing boat. She tends to be a bit tender, as we ended up a little light on the keel casting. After the fact we found a note on some other plans mentioning that Nat had added more weight. I keep saying it might be worth adding some, but she sails so well in the lighter airs we prefer, I never get around to it. Put one reef in and she still slips right along. All in all, a great boat. I've cruised her to Cuttyhunk numerous times, once actually rowed her across from Westport while waiting for a breeze. She has provided many hours of enjoyable sailing, a tribute to both designer and builder.

There may be faster sail boats with more efficient rigs, easier boats to maintain, cheaper boats, more practical boats, but from my point of view, there are few prettier.

ABOUT THE AUTHOR:

Philip Lee has spent close to sixty of his sixty-eight years fiddling around in wooden boats, starting with Beetle Cats in South Dartmouth, MA in the 1950s and continuing with numerous other boats up to the present day. For the past thirty-four years he has lived with his wife, Amy and daughter, , on their farm in Westport MA.

The Classic Yacht Symposium 2012

Observations on an ALERION

Michael Palmieri
Retired Research Vessel Master, Woods Hole Oceanographic Institute

BACKGROUND

When I retired I picked up a Stone Horse sloop to sail out of Woods Hole, Mass. They are dandy little boats with old-fashioned good looks and plenty of strings to pull to please the sailor in me. I had owned one years before and enjoyed it, but it soon became apparent I would not be doing the cruising my wife and I used to do and I began to think a daysailer would be more appropriate.

SELECTING ALERION

ALERION was always in the back of my mind since I had first seen her in a dim shed at Mystic Seaport many long years ago and I would give her a look every time I was there. Her beautiful hollow bow, sheer accented by that Herreshoff molded rubrail, deep comfortable cockpit, and lovely green hull seemed to me to be just the right kind of boat.

Somewhere along the line I heard of a fiberglass version being built by Rumery's Boat Yard in Biddeford, Maine. I had a sail in one of their boats and subsequently took delivery of their hull #6 in June 1999.

THE FIRST SAIL

She was put in the water in an inlet in the upper reaches of Buzzards Bay, which would give me a nice trial sail down to the Woods Hole passage and my mooring. The tops of the trees were bending over in the gusts as we came out of the inlet and a reef was needed before setting sail. The boat was jumping up and down pretty good in the famous Bay chop, a couple of lines were not rove

correctly, I managed to tie in one 2nd reef point by mistake, and the first sail was not looking as wonderful as I had imagined it. We got things squared away and took off on a beam reach going about as fast as I ever had in a sailboat, the dinghy 1/3 full of water straining hard on the painter and the beginnings of a rooster tail behind it! Boy, did that boat ever sail and I was a happy new owner.

LESSONS LEARNED

On the first sail two things were strongly apparent: she had a powerful sail plan and a slippery hull. The latter caused me to go flying by the mooring the first few times I made the approach until I realized I needed to give it twice the distance I would normally and that would fetch the mooring just fine. The large mainsail, the fact that Alerion is a centerboarder, my age, and my desire to be in control of the boat instead of the other way around meant there was plenty of reefing going on. Almost all my sails are single-handed and during the first season I had a devil of a time to get the boat to take care of herself while I moved around the cockpit tucking in the reef.

The second year I figured out the sail/rudder combination where she would forge ahead and not try to tack or gybe while I went about reefing or using the head or having lunch. That was a great help. Rumery's version has two deep reefs and although I would sometimes get the first reef in a little early anticipating the afternoon breeze the boat never felt slow.

The large main made her a witch in light airs. If I could feel just a breath of wind on my cheek she would sail. I had many nice sails when everyone else was motoring around with their mains slatting away. Hauling up the centerboard in these conditions cut down on the hull drag and helped a great deal. You wanted to be aware of the boom, it is long and heavy and it would not be good to get a knock in the head.

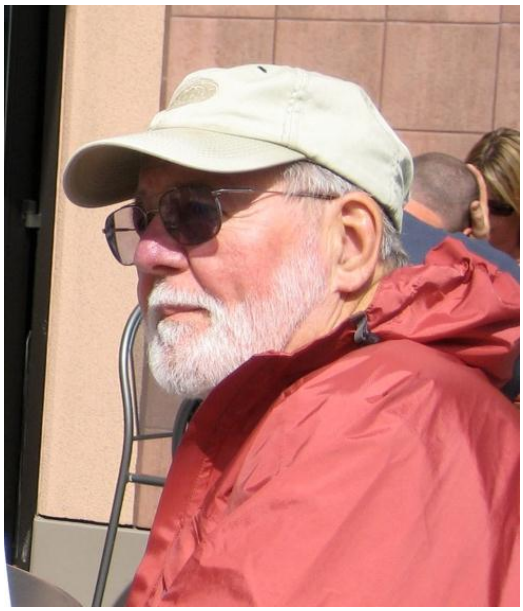
The rudder has been modified over the original to be semi-balanced to cut down, I suppose, on the weather helm. This seems to work as the boat shows no heavy weather helm until you are right at the point that it is time to reef. One consequence of this is that in very light airs there is little feel to the tiller and I found I was vastly over steering, the wake showing a large sine curve. I learned, in these conditions, to put my hand on the tiller and leave it steady guiding the boat by gentle inputs.

Propulsion is by a small diesel driving a 2-blade folding propeller through a shaft set off center to port. One of the first things I did with the boat was to try out the handling under power to see how she would back. I fiddled around that day and came to no clear conclusion and that's the way it stayed as long as I owned the boat. I was never sure just how she would act when I backed down. So, around a dock I took it slow and easy, never tried anything fancy, and made out just fine.

THE TAKE AWAY

Rumery's did a beautiful job of construction; the boat was strong and tight when I got it and still that way when I sold it off in 2008. Why did I sell the Alerion? I'm still scratching my head on that one.

ABOUT THE AUTHOR:



Michael Palmieri is retired from a sea-going career working on Oceanographic Research Vessels. He sails out of Woods Hole, Mass. on his Landing School 26 Weekender.

The Classic Yacht Symposium 2012

A Few Words about FEATHER

Peter Johnstone
CEO & Founder of Gunboat www.gunboat.com

BACKGROUND

FEATHER is a 2002 fiberglass Alerion built by US Watercraft (Waterlines) as sold by Proper Yacht: Tony Widman and Halsey Herreshoff.

OBSEVATIONS

The sheer, the sectional shape, the proud and positive bow profile, the gently wine glassed transom, the curves of the waterline, and the proportions of the classic sail plan combine to create an idyllic and emotional visual response. The first of the senses fall immediately in love, and you have yet to step aboard.

Barefoot, you step on the rail and she does not move. The stout feel reassures your feeling of security. Is she really just 26 feet? Your feet step over the coaming and into the teak cockpit, and the senses are conveying warmth, comfort and security before even settling in.

You set your belongings down securely under the aft deck, or in the overnight cabin with ease. The sails go up by hand in seconds, and you are underway in minutes. The varnished coaming provides an excellent backrest with head and shoulders comfortably above. You fit well in the cockpit in any position. Everything is within reach. She begins to move with such smoothness, you wonder if modern daysailers are really an advancement? The deeply V'd hull gently presses through bay chop with the kindest of motions.

At first, it is not readily apparent why sailing her brings such an emotional response. It is pure joy. The passing water hisses. If you sit to leeward, your hand lazily drags in the water along the rail. Your ears enjoy a symphony of gentle water noises that can only be enjoyed when sailing so close to the water. Then it hits you. This gorgeous little yacht is seducing you with all of your senses.

A short sail to your favorite picnic cove, and the hook is tossed over the side, followed by her crew. With eyes at water level, you watch her bob gently. With tame manners, she does not swing. Waves hardly move her. She sits contently. The silver topsides reflect the sun. The white race-prepped bottom reflects the blue-green water below. You may be in the most beautiful cove in the world, and the most beautiful site is she.

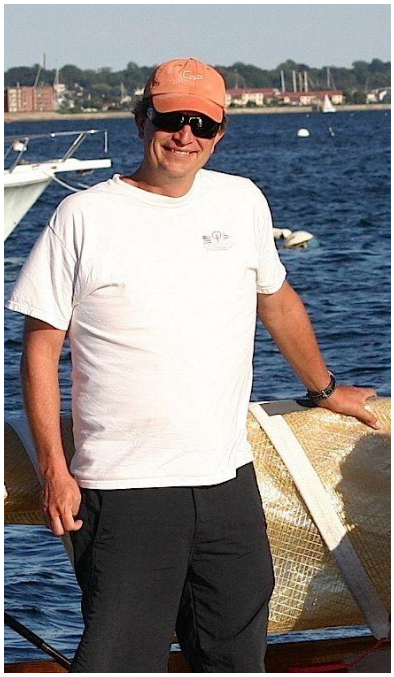
You climb back aboard. The cabin is perfect for a change into dry shorts. The picnic begins. The most difficult choice of the afternoon will be whether to bask in the sun on the cushioned cockpit seats, or to enjoy a proper nap in the V-berth. The cabin looks tight, but once in the berth, the space seems well beyond her size. A proper Sunday afternoon nap ensues. The day is complete with a lazy downwind sail to her mooring as the sun sets. The wind surrenders shy of the mooring. The key is turned, and the final stretch against the tide is handled ably by her inboard diesel.

The commute home after a weekday of work is along the mooring field. FEATHER reflects the falling sun to say 'here I am, let's go'. It is impossible to resist. Sailing her for an hour fulfills the promise of the day and restores one's outlook.

Tuesday evenings we push her on the racecourse. Her crew is sometimes three generations of family. Other regulars include an Olympic Gold Medalist, an America's winning bowman, and an America's Cup winning helmsman. All are drawn to this special little yacht. With the backstay and traveler led amidships, she is played like a concert piano. Her aramid racing sails perfectly match the sail plan. Her youthful 100-year-old design comes alive and surprises.

It is a wonder that such dignity and comfort can fit into such a tidy package. Feather is a 'proper yacht'. Her design has stood the test of time…..100 years.

Congratulations Captain Nat and Halsey on a wonderful timeless design!



ABOUT THE AUTHOR:

Peter Johnstone created the high performance cruising catamaran segment with his Gunboat brand of catamarans. He co-developed the first retractable bowsprits and asymmetric spinnakers in the '80's, which led to the sport boat boom in the marketplace. While turning around Sunfish and Laser brands in the '90's, he helped the Laser become an Olympic class, and commissioned the 49er sailboat and class, which also became Olympic. He passionately loves sailing.

The Classic Yacht Symposium 2012

FAIR SADIE, an Owner's Brief Perspective

Queene H. Foster
FAIR SADIE's former owner

FAIR SADIE alongside her mothership BURMA for the NYYC Cruise

PERSPECTIVE

After I sold my big and demanding SAPHAEDRA, an Aage Nielsen ketch, I felt the need for a small boat, one with some jewel-like perfection. I knew this pretty Alerion when Joe Callahan of Mystic Seaport owned her. (He is an experienced Concordia owner and was between Concordias at the time) and I recognized the boat when I saw her listed for sale in Wisconsin. (You don't often hear of fine wooden boats from that part of the world unless as in this case, they belonged to Jerry Sullivan and were cared for by the famous Bill Emery.) She arrived on her trailer in Maine in July 2003.

Seth Persson, in Saybrook CT, built FAIR SADIE (original name ALERION IV) for Phil Snyder in 1973. Seth liked the improvements that Nat Herreshoff had made on his famous green ALERION III: he had lengthened the bow profile by 7 inches; increased the beam at the rail by one inch; and called it SADIE. Seth built these improvements into this new boat, making her a reproduction of SADIE specifically. Young Maynard Bray, curator at Mystic Seaport, oversaw the construction process at the Persson yard. Herman Hendrickson (who went on to head Derecktors interior shop and then the CORONET project) did the lofting and patterns.

Young Maynard Bray with Seth Persson, 1973. Photo courtesy of Mystic Seaport

Mystic Seaport has a nice set of photographs of her under construction, filed under ALERION IV. Some of her fabulous details include a large polyhedral chunk of polished Lignum Vitae, larger than my fist, for a stopper on the centerboard pennant. Paul Stubie cared for her for many years and he told me that the hull was Virginia white cedar. She had delicate bronze floors in the way of the centerboard trunk, and Reineck bronze fittings.

FAIR SADIE had a tiny Minn-Kota electric motor, lightweight and cheap, that gave her a 40 lbs. thrust, enough to push her along at three knots in flat water. Two car batteries and two solar panels charged it up. These flexible panels were laced onto either side of the canvas boom tent. The little motor was kept in wooden brackets under the cockpit seat, and it was no more trouble to get that thing out and into service that it would be to swing a long oar. This handy power plant worked so well that I wonder why it isn't seen more often. We could slide into a harbor across a mirror-smooth calm, the crisp bow wave making the loudest sound. It was one of the details that made that vessel seem magical.

I knew I had a good boat, but I didn't know how great a boat she really was. On the dock in Center Harbor, she received many comments, mostly in the nature of "I'd hate to have to do all the varnish work" or "I'll trade you my boat…" An otherwise good friend surprised me when he said; "What did you do to deserve this boat?" Elizabeth Meyer said; "This is the perfect boat. I'd like two of them for my Island." Steve White said her swooping sheer was the first thing he saw every morning as she lay on her mooring near his home and it cheered him up to see her.

When FAIR SADIE lay alongside BURMA, her mothership for the New York Yacht Club Cruise, she looked a little high in the bow. The photo (page 1) shows how she looked when Halsey Herreshoff motored by and offered the advice that I should put in some ballast forward to bring the bow down. Maynard Bray said that if she balanced well under sail that she was ballasted correctly. I think that she was floating as designed, and she closely resembles the photos of the original SADIE, under sail in the Chesapeake Bay in 1975. I like the high bow and a boat that draws the considered opinions of our leading lights…

And wow did she sail well! Though she was a little under-canvassed for racing, she was the perfect daysailing boat, well behaved and well balanced in all weather.

I sold her to Zenas Crocker of Osterville and I hear that his whole family loves her. [1]

ABOUT THE AUTHOR:

Queene Hooper Foster has been a wooden boat owner for decades. She owned and raced Concordias in Newport and Maine, and raised her family aboard the Aage Nielsen ketch SAPHAEDRA. She helped Maynard Bray and Tom Jackson in producing an important book on Aage Nielsen, *"Worthy of the Sea"* in an effort to understand what goes into making a good boat into a great boat. She competed in many ocean races and classic yacht races over the years, and was the first woman to skipper her own boat in the Newport-Bermuda Race. In 2001 she sailed SAPHAEDRA across the Atlantic to race in the America's Cup Jubilee, and received a treasured prize from Princess Anne in that hallowed event. Queene teaches classes called the "Craft of Sail" at the WoodenBoat School on her Concordia, MISTY.

[1] See CYS 2012, Zenas Crocker, *Seth Persson's 1972 ALERION/SADIE*

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ALERION III as a Reference for SADIE

Andy Giblin
MP&G Mystic, CT

Jim Giblin sailing the restored SADIE 1996

INTRODUCTION

SADIE is a special boat in many ways and completing her for the Herreshoff Marine Museum was a special project for McClave Philbrick & Giblin. In our opinion, while structurally capable of being sailed, SADIE is far more valuable as an exhibit due to her design relationship with ALERION III and the fact she retained much of her original construction, rig and hardware.

THE AS FOUND SADIE

SADIE arrived at Ben Philbrick's shop in the summer of 1995 after having been trucked from the Chesapeake Bay Maritime Museum in St. Michaels, MD. The Chesapeake Museum had partially completed a structural rebuilding when the project was halted. The work completed included replacement of frames, floor timbers, centerboard trunk and ballast bolts. The work done was of high quality and with consideration to SADIE's historical value. Some changes were made to the original centerboard trunk construction, but overall most of the work done was in keeping with the original. Fortunately the required removal of components such as coamings and cockpit elements was done carefully with the result that much of them could be reused. The fact that so many of SADIE's parts and pieces were original is a testament to her long term good care and light use. SADIE's original planking including her full length varnished White Oak sheer-strakes were intact and in good condition. Her coamings, while thin from years of sanding and refinishing, were reused and her original cockpit benches, also thin from wear, were reused as well. The inside sealing and cockpit sole were notable exceptions and were replaced.

COMPLETING THE RESTORATION

McClave Philbrick & Giblin [as we were named at the time] was hired by the Herreshoff Marine Museum to return SADIE to as close to her original configuration as possible, reusing as many original parts as possible with the requirement she be able to sail one last time with members of the Griswold family who donated her. The challenge in any museum project is to balance the required replacement of structurally inadequate parts while saving as much as possible for historical preservation. Most of the important structural considerations were addressed during the work at the Chesapeake Museum and the remainder of SADIE's

structural components such as the keel, stem, planking and deck were in remarkably good condition, allowing us to focus on reassembling the various parts and pieces and preparing her to sail.

We were not as familiar with SADIE at the time as we were with her first iteration and near sister ALERION III on display at nearby Mystic Seaport. Ed, Ben and I all worked at Mystic Seaport at some point earlier in our careers and all of us took the opportunity to visit the boat. The Seaport showed great foresight years earlier electing to preserve and display ALERION III rather than trying to return her to sailing condition. The required replacement of original materials would have diminished her historic value and use as a reference source for restorers and builders of the future. She also would have been exposed to the risks inherent in sailing. It was the perfect validation of that decision that ALERION III would become the main source of information to help in our completion of SADIE. While we had the pertinent drawings from The Hart Nautical Collection, MIT Museum, and some notes from the Chesapeake Museum our trips to ALERION III were invaluable. The staff at the Seaport was very helpful allowing us access to the boat and during these visits we took numerous measurement, notes and photos.

While SADIE'S construction was familiar to us and any repairs were confidently completed less familiar were her unique features. Notable were her halyard boxes; the only other example we had seen were on ALERION III. SADIE's hardware arrangement, while shown on the drawing, was also confirmed by ALERION III. SADIE's cockpit sole and bench arrangement was slightly different than similar boats of the period such as the Buzzards Bay 25 whose design we had experience with. Again ALERION III pointed us in the right direction.

THE RESTORED SADIE

SADIE was completed in the winter of 1995 and after a trial sail during a snowfall in Noank, CT, was stored until the following summer when she was sailed by the Griswold family in Greenwich CT. Shortly afterward members of our shop, assisted by Roger Taylor, sailed her to Bristol, RI. and delivered her to the museum where she is now on display in the Hall of Boats. It is our hope that SADIE will be as much assistance to future historians, builders and restorers as ALERION III has proven to be to us.

ABOUT THE AUTHOR:

Andy Giblin is a partner in MP&G LLC, located in Mystic, CT. Graduating from URI in 1985 and earning a Coast Guard License he sailed on, and later skippered the Herreshoff Cutter NEITH where he first worked with Ed McClave and Ben Philbrick. They formed McClave Philbrick and Giblin together in Stonington, CT, before building a larger shop in 2000 in Mystic. Ed and Andy continue as partners and the shop recently completed the notable restorations of the New York 50 SPARTAN and the New York 30 AMORITA. Andy lives in Noank, CT. with his wife Mary and their daughter Sarah.

The Classic Yacht Symposium 2012

ALERION CLASS SLOOP Project
1977 to 2011

Alfred Sanford
Sanford Boat Company, Inc.

KITHERA, ALERION CLASS SLOOP #21

INTRODUCTION

In the fall of 1977, my brother, Edward Sanford, and I began the ALERION CLASS SLOOP project. Our purpose was twofold. First, we wished to provide a practical alternative to the fiberglass boat construction that we felt had destroyed the aesthetics of contemporary sailboats. Second, we wished to reintroduce, through reproduction, the exquisite ALERION III design, which we felt languished in undeserved obscurity. The project became a voyage of discovery, intensively pursued from 1977 to 1983 and continued, after a pause, in 1996.

In 1977, the ALERION III story was not widely known. ALERION III, herself, had been recently restored and put on display at Mystic Seaport. SADIE was in bad shape at the Chesapeake Maritime Museum in Maryland. There was reported to be another Herreshoff Manufacturing Company "SADIE" in eastern Long Island. In 1972 Seth Persson built ALERION IV, a copy of SADIE, for Paul Snyder. And, in 1976, Halsey Herreshoff had built, in

fiberglass, a 25-foot keel version, ALERION, for Ike Merriman. Altogether, five boats, two in service.

Let's go back and look at 1977. By then, Uffa Fox's planing dinghies had won the sailboat wars. The J-24 was the hot new boat. The IOR had ushered dinghy hulls into offshore racing. All serious boats were made of fiberglass. STORMVOGEL being an iconic exception, wood boats were considered obsolete, slow and impossible to maintain. Most of the great wooden boatyards had been converted to waterside condominiums. Pre-World War I designs, the culmination of the great age of sail, had been abandoned.

There was some unhappiness with this state of affairs. Four years earlier, Nantucket's Opera House Cup race for "old" (may we say, leaky?) wooden boats was established. WoodenBoat magazine had started up. The Gougeon brothers had begun to promote their WEST epoxy/wood boat building system. The outlandishness of the new boats had a few people wondering. And Alfie and Edward decided they would try their hand at building a "modern" wooden boat.

We had little experience building traditional wooden boats and none with cold molding them. This made for a steep learning curve. The few heads that knew of us were shaking, not nodding. But it allowed us to start with a clean sheet of paper. We were well educated in engineering structures and material science (MIT) and were well acquainted with the literature of yacht design and boatbuilding. We had a lot of coastal and offshore sailing miles under our belts.

Our goal with the ALERION CLASS SLOOP was to preserve the look, feel, and sailing qualities of ALERION III while radically changing her engineering to make her stronger and easier to maintain. We intended to emphasize the aesthetics inherent in wood construction and to exploit the engineering possibilities of laminated wood.

Of the many interesting issues raised by the ALERION CLASS SLOOP project, I will concentrate this discussion on three: design of the boat, engineering of her construction; and the execution of her production.

DESIGN

With the ALERION CLASS SLOOP we made four changes to the ALERION III design. First, we thickened the centerboard and gave it an airfoil profile. I

Fiberglass hollow centerboard. Notch taken out of top to improve cabin space. Pin is integral and drops into socket in the keel.

have never seen ALERION III's centerboard, nor a drawing of it, so I do not know its profile, but my understanding is that it is flat sided oak about 1" thick. We gave the ALERION CLASS SLOOP a NACA profile and a thickness of 2½". This gives the board about 400 pounds of displacement. To avoid having to ballast it and having to handle such a heavy thing on land we made it hollow (of fiberglass) and drilled holes in it so that it would flood. In the water it weighs about 30 pounds, out of the water, 85.

Second, we took Herreshoff's sliding gunter rig, as defined by the Mystic drawings, and turned the two spars, mast and gunter, into a single Marconi spar. The position of the head, tack and clew are as on the sliding gunter sail plan. Further, we rigged the jib club with our own sheet and "pull back" rig, which allows adjustment of the draft of the jib and vangs the jib club. We also invented and installed a single line jiffy reefing system. This worked so well that Gary Hoyt patented it a few years later!

Third, we designed and installed a modest cruising interior. Captain Nat reportedly said that makes no sense, as the ALERION is not designed for cruising. He is mostly right, as the centerboard box obstructs the proper functioning of what is otherwise a Folkboat sized cabin. But, a sailor dreams of voyages, and I have spent quite a few happy nights aboard, away from home.

Fourth, and most important, we modified the rudder. Our first boat, hydro-dynamically the same as ALERION III, had three steering faults. She had too strong a weather helm, her rudder would cavitate and lose power at 18° -20° angle of attack, and she had a very large turning radius, large enough to make maneuvering hazardous. Paul Snyder had the same complaint with his ALERION IV.


ALERION III, rudder, Mystic Seaport 1979

To correct these faults the subsequent ALERION CLASS SLOOPs were built with a slightly cut away keel and a partially balanced rudder. With this configuration, she has a beautifully balanced helm. She carries about 5° of weather helm and is very light on the tiller. Her rudder never cavitates. She is extremely maneuverable with a turning radius of about a boat length. Put the helm hard over at speed and people slide off the seats! Rumery's copied our rudder design for their fiberglass ALERION 26 with apparently good effect.


ALERION CLASS SLOOP rudder configuration, fish eye view of model.

CONSTRUCTION

When a sailboat's construction is changed from plank-on-frame to cold molded, almost every piece in the boat changes. Even though the outward look might be the same, the parts work differently with each other, which changes their design and engineering.

In addition, for the ALERION CLASS SLOOP we developed and incorporated two novel structures; one was inspired by Nat Herreshoff's work and one by L. Francis Herreshoff's. The first was her longitudinally framed deck and the second was her epoxy/lead/fiberglass keel.

I first learned about longitudinal framing in L.F. Herreshoff's biography of his father. [1] Nat Herreshoff pioneered longitudinal framing for metal hulls in the early 1900's. Longitudinal framing not only stiffens the hull shell, preventing local dimpling (transverse framing will do that too), but it also strengthens the hull in the longitudinal direction, as transverse framing will not. Since a sailboat hull is primarily stressed as a longitudinal girder, this matters.

The ALERION III design, being a small boat with plenty of curvature, does not need a lot of stiffening of her hull shell. The ALERION CLASS SLOOP has a ¾" laminated shell with neither transverse nor longitudinal framing.

The deck is a different matter. With only ½" plywood plating and being almost flat, the deck requires structural stiffening. Rather than use conventional deck beams (molded 1¾", sided 7/8", spaced 9" as on ALERION III), she has six fore and aft stringers, molded 1", sided 5/8". Thus reinforced the plywood will span about 48 inches.


Deck, built upside down on the shop floor with stringers and web blocks installed.

Since the fore deck and aft deck span more than 48 inches, an analogue of Herreshoff's web frames support it. Four deck "beams" are created by bending a lower chord of the same stringer stock transversely into place, underneath and attached to the stringers. These chords are further connected to the deck by small web blocks making a vierendeel truss of the whole structure. Two beams support the foredeck and act as mast partners while two more support the aft deck. The entire framing system of

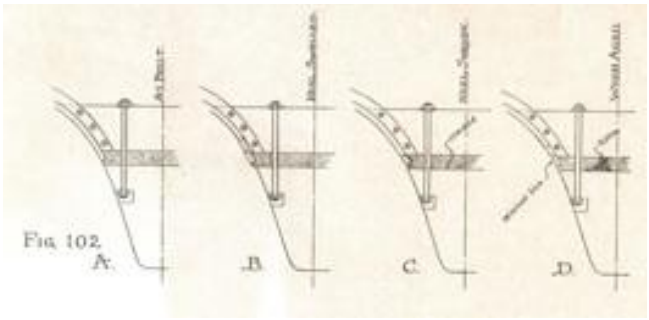
[1] L. F. Herreshoff, *Capt. Nat Herreshoff*, Sheridan House, New York, 1953, pp 220,ff.

the deck weighs 14 pounds; most of it runs fore and aft. All of the pieces are made of straight stock. It is strong, efficient, and easy to build.

Detail of deck structure at aft end of cockpit showing web blocks, end of stringer and bent on "deck beam"

The second novel structural feature of the ALERION CLASS SLOOP is her keel. A sailboat's ballast keel induces large transverse loadings on the hull. Typically, the keel is hung onto a plank-on-frame hull by heavily loaded bolts. These keel bolts transfer this concentrated load through the floors via floor bolts to the frames. The frames spread out the concentrated load into the hull shell through the fastenings. Thus the distributed load of the keel is concentrated into heavily loaded keel bolts where the concentrated stress flows through the floors and into the frames where it is distributed again into the hull shell.

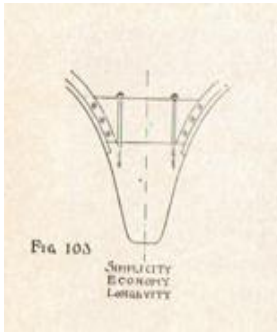
I started thinking, why concentrate a distributed load into a bolt just to spread it out again? Especially with wood, a soft, light material that does not like concentrated loads. I was inspired by L. Francis Herreshoff's discussion of



Keel destruction due to wetting and drying, *Common Sense of Yacht Design*, p73

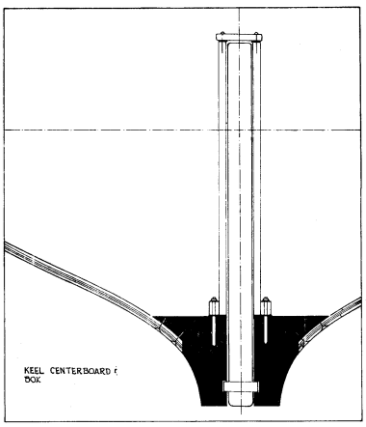
the problems of wooden keelsons and keel bolts in *Common Sense of Yacht Design*[2].

Now, L. Francis was concerned with something a little different, differential rates of expansion and contraction of lead and wood, but his solution to his problem, illustrated as Fig 103, where he eliminates the wood keel altogether in favor of the lead one, inspired me.



Common Sense of Yacht Design, p74

What if the ballast became the structural member, molded with a flange that could be glued to the hull shell eliminating the bolts and concentrated loadings? Rather than develop a glued lead/wood joint, which would require a precision cast keel, we made an epoxy/lead/fiberglass molding that formed the ballast keel, keelson, floors, centerboard box foundation, mast step and sternpost. To it we attached the rudder bearings and molded in a bilge sump.



Centerline structure of ALERION CLASS SLOOP

The piece drops into the hull shell from above, somewhat like a keystone into an arch. The structure is inherently stable. And to make sure, we glued and screw fastened it all around its perimeter. The keel weighs 3,800 pounds. Its flange area is 2,500 square inches giving a static loading of less than 2 psi. An epoxy-glued fiberglass/wood joint is good for about 1,000 psi, so our factor of safety is about 500 to one. There are no keel bolts or floor bolts. Ed Cutts told me once, "Metal fastenings destroy wooden boats; *really old* boats don't have them." I think he was right. We got rid of quite a few metal bolts with this design.

[2] L. F. Herreshoff, *Common Sense of Yacht Design*, Rudder Publishing Co., New York, 1946

A finished keel, ready to be dropped in and glued along the flange. The studs that will hold the centerboard box are in and the lifting eyes will remain as lifting eyes for the finished boat. You can also see the upper rudder bearing in place. The lower split bearing, in place for the casting, has been removed until the rudder is attached near the end of construction.

The result of all this engineering design is not just a pretty boat, but a stable one. The ALERION CLASS SLOOP has a ballast/displacement ratio of 62%, significantly higher that both ALERION III and her fiberglass sisters.

High stability is a desirable feature in a small sailing boat. As an example, one June I was bringing Jimmy Buffet's SAVANNAH JANE (ACS #6) home to Nantucket from Mystic. The fresh southwester we had started with at dawn increased to a gale. The wind funneling through Quicks Hole got up to 45 knots, a lot of wind for a small boat. Generally, though, up Vineyard Sound, it was force 7 and 8. We got in a little race with a Concordia yawl that had come out of Newport. Now a Concordia is a faster boat than an ALERION CLASS SLOOP. Nevertheless we beat her to Edgartown, needing to pass her twice to do so. First was in the Sound, when she dropped her main because of the breeze, we carried by her double reefed, no jib. As the wind moderated in the lee of the Chops she put her main up and passed us. Later, going into Edgartown, we took advantage of the ALERION CLASS SLOOP's shoal draft and sailed a shorter course over the flats. We were tied up and ashore when she came in, sailing close by to have a look! High stability makes a small boat seem bigger.

PRODUCTION

The ALERION CLASS SLOOP design is both labor and material intensive. All the time we were building her, we worked to reduce her building cost.

As the project progressed, we did the usual things most any shop does. We developed what is now called a supply chain. We found inexpensive and dependable suppliers and subcontractors (lead ballast, wood spars, rigging, hardware, lumber, paint, glue.)

We also developed specialized jigs, molds and fixtures to make the construction of parts more efficient. We generally built parts three boats worth at a time to get a little efficiency of scale.

The shop was divided into four main areas, the office, the assembly floor, paint room and the parts production.

Day 42 on the assembly floor.

The assembly floor was where the drama was. The paint shop was where the beauty of the wood was expressed. And parts production, in the basement was where the boat was actually created. Our parts production was mainly a wood shop, but we also had a machine shop for metal work. Although we did no casting, we made the patterns, machined and polished the 22 custom castings required for an ALERION CLASS SLOOP. We also fabricated hardware from plate, particularly the spar tangs.


Cast hardware in various stages of completion.


Spar tangs and their source, [3]

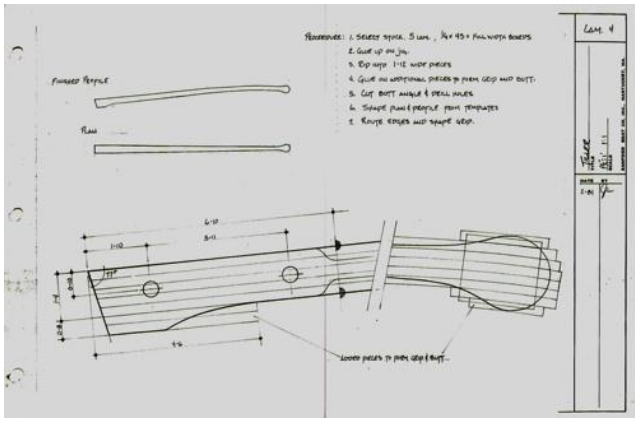
We also developed certain special techniques for our specific process that are not found in a standard boat shop. The ALERION CLASS SLOOP is unusual for a cold molded boat in that she is carvel planked with a ¼" layer inside the hull and another ¼", and two diagonal layers in between. The carvel planks were spiled and tapered and generally required three lengths to get from bow to stern.

We cut the spiled, tapered shapes on a special table, 28 feet long, fitted with a flexible batten along which our skill saw ran. The batten was held in place at three foot intervals along its length according to a schedule of offsets. With it we could cut a gang of planking in 16 man hours. The ALERION CLASS SLOOP has 13 planks each side and each has three lengths. So there are about 150 pieces to a set, each with a top curve, bottom curve and precise end cuts. We cut three boats worth at a time.

[3] L. F. Herreshoff, *Sensible Cruising Designs,* International Marine Publishing, Camden, ME 1973.


A set of planking, tapered, spiled, cut and marked.

But we achieved the biggest economy of time when we made shop drawings for each of the parts that went into an ALERION CLASS SLOOP. These drawings were


Typical shop drawing, tiller laminate.

distinct from the design drawings and from the loftings. Each one included the material, shape, and process information required to produce the part that it depicted; 122 sheets were required. Their use reduced our construction time by more than 50% and also significantly improved our quality. They gave us a concrete base for discussion when working to improve parts and processes. The drawings were done on vellum (this is before Apples or printers) and we would run off diazo or Xerox copies for the men when it was time to make some part or other.

At the height of our production, in 1980-83, Sanford Boat Co. built the ALERION CLASS SLOOP in 44 working days, start to finish, two calendar months. The production time was about 1050 hours. With a crew of six men, having two boats in process at once, we had a new boat coming out the door about once a month.

Launch day. MAGIC, ACS #11, November 1980.

Alas, we were faster at building boats than selling them; a failure of marketing, I believe. We stopped production in the fall of 1983 after 21 boats. Production was started again in 1996; six boats have been built since then by the late Matt Rives working alone and to extremely high standard of craftsmanship. Matt died last November after a quick bout of virulent cancer, so his phase of the project is over.

To understand the next phase, one must realize that Sanford Boat Co. built the ALERION CLASS SLOOP without computerized technology. With each successive boat the quality was a little better and we would knock 5 or 10 hours off our previous record. But there were no big breakthroughs left to make using twentieth century technology.

But today there is digital manufacturing. It is very applicable to custom yacht building where each vessel is different, but susceptible to being built with a common construction system. This would not be so different from what the Herreshoff Manufacturing Company perfected 100 years ago with 19th century technology. Imagine making parts by CAD/CAM and redesigning of the assembly process to take advantage of it. Imagine robotic sanding and finishing. Using such techniques, I believe it will be possible to create custom wooden boats of the ALERION CLASS SLOOP quality at less than the price of today's production fiberglass boats. That is the future.

The proof is in the pudding. Opera House Cup day. NY50 SPARTAN and ACS #11, OWL

Alfred Sanford began sailing in Nantucket in the 1950's in

Beetle Cats, Flying Dutchmen, and Yankee One Designs. He was educated at Harvard, BA Mathematics, 1964, and MIT, B Arch. 1969. Besides Sanford Boat Company, Inc. he was a founder and operator of Sanford Wood Boatyard in San Francisco, 1981 to 1996. He designs, builds and sails boats out of Nantucket.

The Classic Yacht Symposium 2012

What Is ALERION?

Sean Tarpey
Rumery's Boat Yard.

Figure 1. A super efficient Alerion

WHAT IS ALERION?

Historically, **ALERION** (or **Avalerion**)is a mythological bird, described as "rather small, yet larger than an eagle." According to European medieval chronicles only two of the birds were said to exist at a time.

ALERION TODAY

Nowadays the term Alerion is commercially used to describe:

- Point of sale retailing software,
- Investment companies: Alerion Capital Group LLC and Alerion Partners,
- A super efficient 77 MPG car (Figure #1)
- A fancy hotel in France, and
- A series of production sailboats ranging from 20 to 41 feet.

However, most of us know ALERION as the legendary 26-foot centerboard sloop that Nat Herreshoff designed and built in 1912.

ALERION AS INTELLECTUAL PROPERTY

Discussions involving ALERION are unlike most other intellectual property issues.

Usually the intellectual property debate is centered around an attempt to make a minimal change in an item or design and then claim it as one's own creation. There are many examples of boat designs being altered ever so slightly by a competitor and then marketed under a new name. The Dell Quay Dory comes to mind – a British import that mimicked the Boston Whaler very closely. (Figure #2)

In copyright protection the discussion deals with adaptations and derivatives. To what degree is a new creation inspired by an earlier work? How much does one have to change a design for it to be considered a new original creation?

Figure 2- The Dell Quay Dory

Interestingly, the MIT Museum, Hart Nautical Collection weighs in on this for us: The "*same design*" is defined as a boat built from a single set of offsets and having the same waterline length.

Boat hull designs were not protected from infringement prior to 1998. Even then the protections were cumbersome and not at all similar to copyright protections. There is no provision in the law for retroactive protection.

The unusual issue with ALERION is that builders intentionally make a hull that differs substantially from the original Herreshoff lines, but still use the ALERION label.

Modern ALERIONS

Modern ALERIONS can be divided into three categories: replicas; derivatives; and "none-of-the-above". Let's have a look at some recently built ALERIONs, based on available Internet sources:

Replicas:

- Beetle Boat Shop, Wareham, MA, has built THETIS, a very faithful replica of the original.
- Damian McLaughlin, North Falmouth, MA built a close replica in 2000.
- Other builders, amateur and professional, have built faithful replicas.

Derivatives:

- Sanford Boat Company, Nantucket. They refer to their boat as a reproduction, with the first boat built in 1977 and a total of 22 since. The Sanford boat is a very faithful derivative. Their goal was to provide historically matched hardware. They altered the design of the deadwood and leading edge of the rudder. (Figure #3)
- Rumery's Boat Yard, Biddeford, ME. The Rumery's boat is built using fiberglass, while remaining close to the original lines. The boat makes use of modern hardware, and has changed the placement of the running rigging.

Then we have the boats in the category "none-of-the-above":

- Carroll Marine (ceased boatbuilding operations at the end of June, 2003) produced fiberglass boats based on a design by Herreshoff Designs, Inc. This boat differs from Herreshoff's ALERION in a number of significant ways, the full keel rather than a centerboard and the short boom are the most apparent.
- Proper Yachts, Ltd., Stratford, CT seems to have picked up where Carroll Marine stopped. It is not clear that they still build and sell new boats. (Figure #4)
- West Bay Boats of Steuben, ME. They have acquired the molds that were once used by Proper Yachts.
- Herreshoff Designs, Inc. & BrionRieff Boatbuilder, Bristol, RI & Brooklin, ME, offer a full keel boat that bears the name ALERION 26. (Figure #5))
- Alerion Express, Warren, RI. This company claims to be the largest sailboat builder in the northeast. Owned by Pearson Marine Group, they recently changed their name to Alerion. They build a series of boats from 20-41 feet that may owe some of their heritage to Herreshoff. Their corporate website says, *"Rather than attempting a warmed-over re-creation of an old classic, this yacht retains the traditional look topside, but is completely modern in rig, underbody and construction detail."*

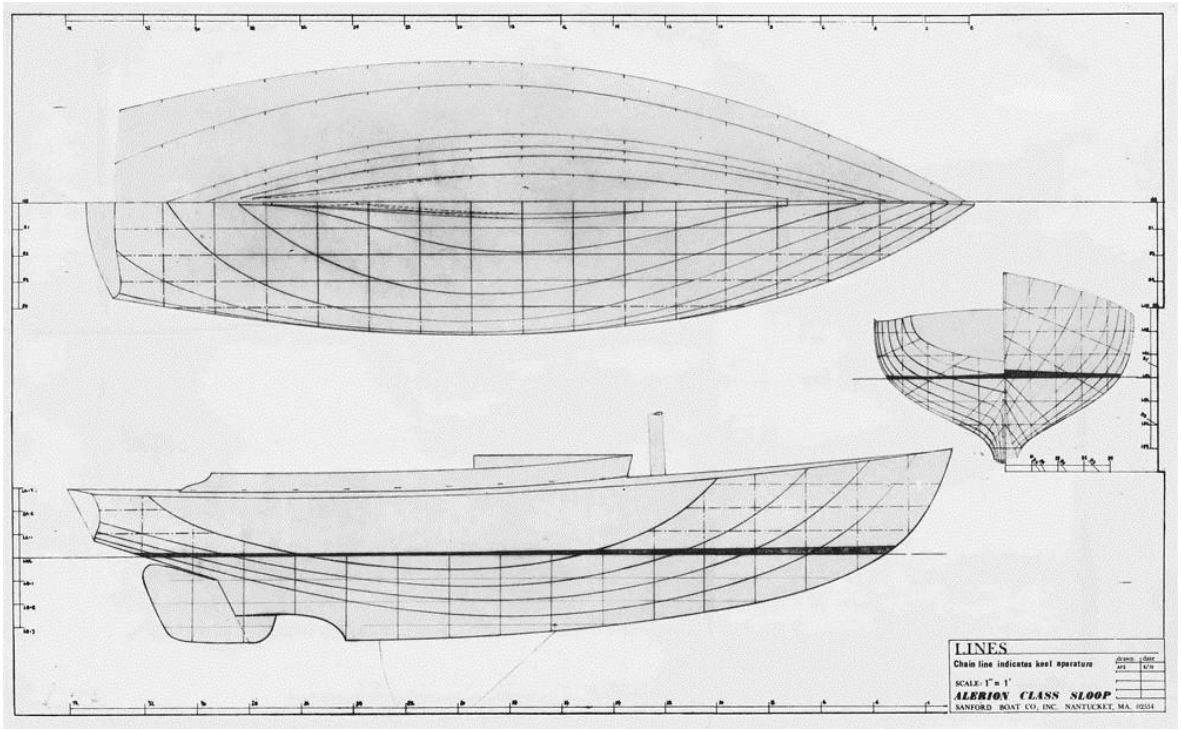


Figure 3 Sanford ALERION CLASS SLOOP


Figure 4 Proper Yachts ALERION

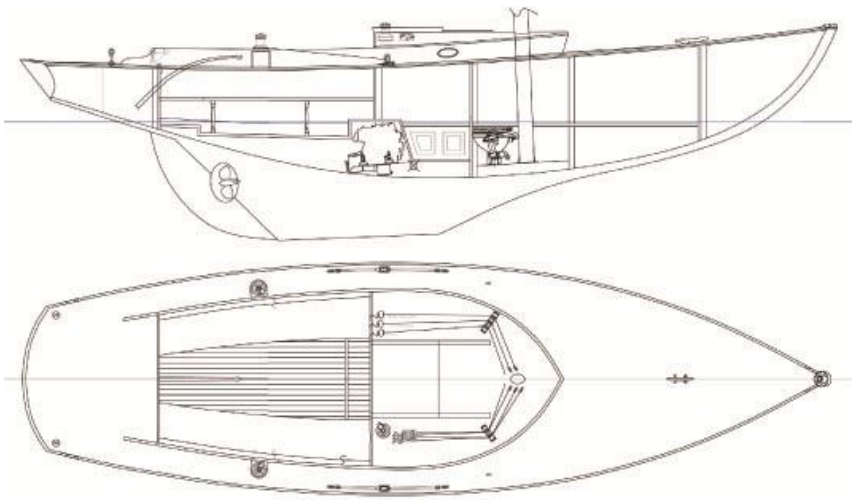


Figure 5 ALERION 26

NONE OF THE ABOVE

Why a category called "none-of-the-above"? (See the ALERION characteristics table.)

Nat Herreshoff's creation of ALERION was in answer to a desire to make design changes to OLEANDER (hull #710) a boat he found to be wanting ("*Too small and tender*"). When his clients wanted a boat similar to ALERION, but with significant changes, the results were new designs: the Buzzards Bay 25 and then the Newport 29. Each departure from the original ALERION was considered to be a different boat. NGH gave each new design different hull numbers, different identities, because each was a distinctly different boat. So why call a boat an ALERION if it differs significantly from the boat Nat Herreshoff called ALERION?

One can engage in splitting hairs: can you change the rig? Yes, Capt. Nat changed the rig. Can you modify the rudder to make it easier to steer? I think that is ok.

Can you move the position of the mast? Can you shorten the boom and add a back stay? How about shortening the overall length of the hull? How about trimming 1000 pounds off the displacement? Sure, you can incorporate all of these changes, but then you have a unique design and give the boat a clever new name.

ALERION characteristics

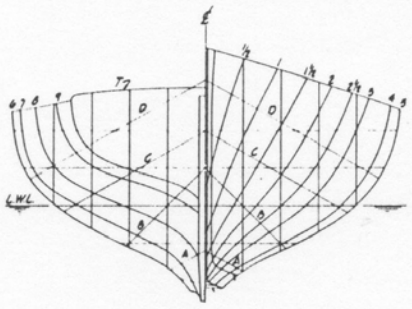
	Original Hull #718	**Sanford Boat Company**	**Rumery's Boat Yard**	**Carroll Marine, Proper Yachts, West Bay Boats**	**Herreshoff Designs, Inc.**
RIG	Gaff/Gunter	As in Original	Marconi	Marconi	Marconi
LOA	26' 0"	26' 0"	26' 0"	25' 4"	25' 4"
LWL	21' 9	21' 9	21' 9	20' 0"	20' 0
Beam	7' 7"	7' 7	7' 7	7' 2	7' 2
DISPLACEMENT	5,730	6,050	6,000	4,800	4,800
SAIL AREA	381 sq ft	364 sq ft	386 sq ft	300 sq ft	315 sq ft
BACKSTAY (yes/no)		no	no	yes	yes
MAST LOCATION compared with Hull 718		As in Original	As in Original	Moved aft, through cabin top	aft
MINIMUM DRAFT	2' 6"	2' 6"	2' 5"	3' 7" (FULL KEEL)	3' 7" (FULL KEEL)

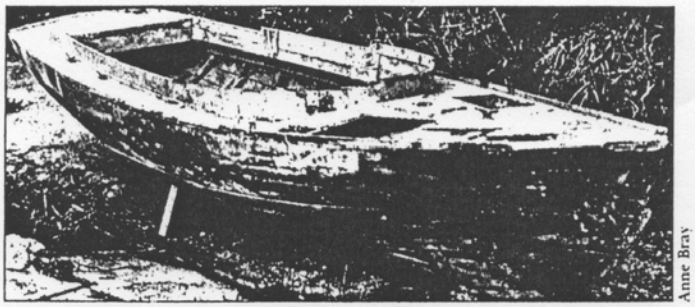
ABOUT THE AUTHOR:

Sean Tarpey learned to sail and appreciate sailboats in Marblehead, MA at an early age. He is the president of Rumery's Boat Yard in Biddeford, Maine, a full service yard that maintains and restores wood and composite boats. They build carbon fiber rowing shells and a fiberglass derivative of ALERION.

The Shape of CONTEST, An Early Fitted Dinghy

How much did she influence N.G. Herreshoff?





Anne Bray

Look on page 100 and compare the shape of CONTEST, shown here, with a Herreshoff 12½-footer.

A few years ago my friend Waldo Howland revisited Bermuda to gather material for a book he was writing. He was particularly interested in the indigenous boats—the once-common native schooners, sloops, rowboats, and fitted dinghies. While there, he discovered the remains of the 1897 fitted dinghy CONTEST, which had been preserved in the newly formed Bermuda Maritime Museum. He told me about it: "Its hull looks just like a Herreshoff 12½-footer. If you're interested in taking off her lines, I think I can make the arrangements."

Waldo knows that I'm a Herreshoff freak and that I'd jump at the opportunity. I'd been particularly interested in finding out just what had inspired N.G. Herreshoff to come up with the beautiful hollow bow of his own boat, ALERION III. She was the very first of his several designs to have been given that now-familiar shape.

Well, we (the Brays and Joel and Allene White) flew to Bermuda for a week, partly for a vacation and partly to find out about CONTEST and the other native watercraft Waldo had found to be of interest. We also wanted to learn, if we could, something about the history of CONTEST. We took her lines by careful measurement, encouraged and assisted by museum director Edward Harris, and upon our return Dave Dillion and I worked them up into the final drawing you see here. We were also somewhat able to relate CONTEST to ALERION.

N.G. Herreshoff spent the winter of 1911-12 in Bermuda, probably near Tucker's Town, and shipped his open sloop OLEANDER from Bristol to sail around in. OLEANDER was a 23'7" keel/centerboard boat—a typical Herreshoff knockabout type of the day. In Bermuda, Herreshoff found that fitted dinghies were very much in vogue, and CONTEST was a frequent winner among them. Her owner/designer, Henry Masters, was very much a part of the waterfront scene there, as well.

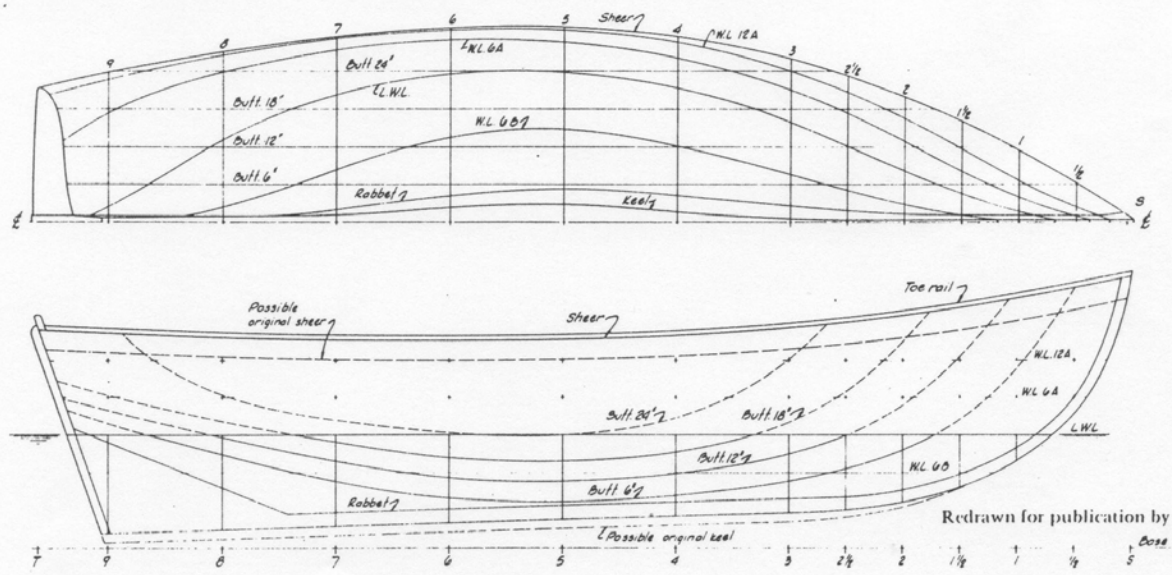
Next winter, Herreshoff returned, but with another boat—one that had such a strong resemblance to CONTEST in terms of her shape that I simply can't believe CONTEST didn't inspire his thinking in the design of ALERION.

From ALERION in 1912, Herreshoff went on, using much this same shape, to design the 12½-footers, the Buzzards Bay 25-footers, and the Newport 29-footers (enlarged from the ALERION model) in 1914, and the Fish Class two years later. This group of shape-related boats, perhaps more than any other, are the ones that are considered pure Herreshoff. But are they?

We'll probably never know for sure to what extent, if any, Captain Nat was influenced by CONTEST, unless additional correspondence surfaces to confirm our conjecture, and I certainly don't mean to take anything away from the accomplishments of this great designer. But everyone must take inspiration from somewhere. My guess is that both Bermuda and the fitted dinghy CONTEST gave Herreshoff an important dose of it.

I wonder where Henry Masters came up with the idea of shaping CONTEST.

—Maynard Bray



Redrawn for publication by Dave Dillion

MARCH/APRIL 1984

Reversing Curves

N.G. Herreshoff's shape-related, hollow-bowed boats

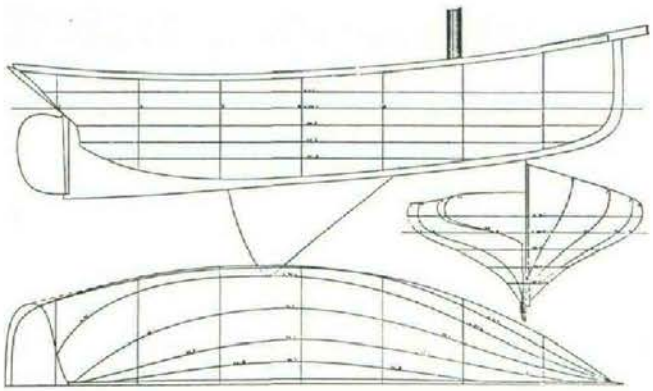
"A curve to be interesting must be continually changing.... If a curve of varying radii is more interesting than the one of fixed center, certainly the reverse curve is vastly more interesting than either.... So far as I know there are none but reverse curves on the beautiful woman in her prime." —L. Francis Herreshoff in *The, Common Sense of Yacht Design, Vol.* II.

Benjamin Mendlowitz

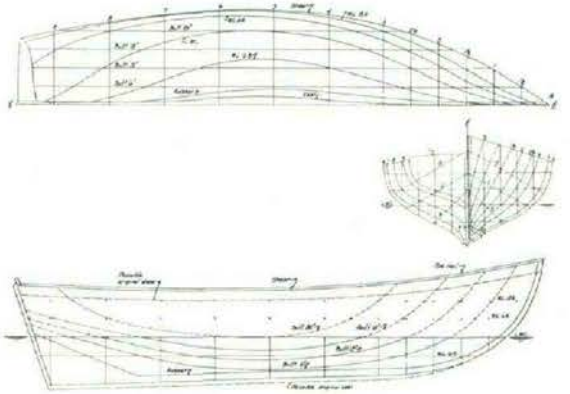
NAIAD, one of several recently built boats of the Buzzards Bay 25 class.

Although driven more toward engineering excellence and impassioned less than his son, Francis, by aesthetics, Nathanael Herreshoff was by no means a stranger to sailboats having reverse curves in their forward waterlines. Plumb stems were the fashion when he began his career, and most plumb-stemmed craft had what has come to be known as hollow bows due to waterlines that went from convex to concave as they approached the upright stem. driving into a head sea, and when rating rules that penalized waterline length and ignored length overall came into vogue, bows with extreme overhangs were necessary to achieve a minimum length of waterline—which, in turn, translated to the low rating required to win races. By the turn of the century, the sailing yachts of N.G. Herreshoff and most other successful designers employed overhanging bows made up of all convex lines. Except in working craft such as Friendship sloops and clipper-type fishing schooners, the beautiful hollow bow had been abandoned. The idea of combining a moderate bow overhang with a reversing load waterline had yet to show itself on one of Capt. Nat's sailboat designs.

It would come, however. Few of Capt. Nat's many designs equal the captivating good looks of the family of sailboats,



The 37'1" SHADOW, an N.G. Herrreshoff design of 1871, reflected that era's plumb-stemmed style. (Drawing from *Traditions and Memories of American Yachting*, by W.P. Stephens.)



For his later, signature hollow-bowed designs, N.G. Herreshoff probably took inspiration from the 1897-built 14'3" Bermuda fitted dinghy, CONTEST. (Drawing by Dave Dillion.)

The elder Herreshoffs early sailing craft, such as SPRITE (1859) and the famous SHADOW (1871) whose lines are shown above, were of this general shape, but Capt. Nat (as N.G. Herreshoff was often called) later drifted away from plumb stems as he sought better performance and a lower rating. The reserve buoyancy of bows having moderate overhangs greatly reduced the tendency to hobbyhorse when all derivatives of his own ALERION, designed between 1912 and 1926. The resulting boats were so strikingly beautiful that the majority have attracted caring owners willing to invest in continuing maintenance and occasional restoration. Like other good boats whose classic beauty and impeccable pedigree transcend changes in fashion, these classic Herreshoffs are worth knowing about.

by Maynard Bray

Color illustrations by Kathy Bray

ALERION and SADIE

As Capt. Nat approached the age of retirement (he was 63 in 1911), he sought the relatively milder Bermudian weather and had shipped there that first winter a low-sided 23' 7" ballasted centerboarder of his design named OLEANDER. While vacationing near Tucker's Town and sailing out each day from Castle Harbor when the weather suited, Capt. Nat soon realized that he needed a more robust boat that could handle the sometimes boisterous wind and wave. A larger boat with more freeboard and shorter overhangs would take on less spray, and the man at the helm wouldn't come home from a sail soaking wet—a condition to be avoided when one suffered as much from rheumatism as Capt. Nat did.

Racing sailing dinghies, each one a different design, had long engaged Bermudians, and a fitted dinghy (see WB No. 57) named CONTEST had proven a consistent winner. She was owned by Henry Masters, who had also designed her, and was built in 1897. Not only was CONTEST fast, but she was strikingly beautiful because of the shape of her hollow bow. Here was a boat with both the desirable moderate overhang *and* the beautiful reversing curves in her forward waterlines. She had a new kind of hollow bow. Although it has yet to be documented, I have come to feel that Capt. Nat not only must have observed the lovely and unusual CONTEST, whose lines are shown on the preceding page, but also that he decided to adopt the shape of her bow in his next year's boat.

26'0" × 7'7" (ALERION with gunter rig shown)

ALERION (his third sloop carrying that name) became that next year's boat, having been built and delivered to Bermuda by steamer in time for Capt. Nat's winter's vacation (1912-13). As might be expected of a designer with Capt. Nat's many years of experience, her shape is more refined than CONTEST'S, having proportionally more overhang, and waterlines that curve more subtly. ALERION served her designer well for 15 years, first in Bermuda, then at home in Bristol, Rhode Island, until he sold her to neighbor Carl Rockwell in 1928.

ALERION'S near twin SADIE came out the following year (1914) with a slightly longer bow and a touch more beam at the deck than her predecessor, and a few other minor refinements. She belonged at first to Commodore E.G. Benedict and sailed from western Long Island's Seawanhaka-Corinthian Yacht Club.

Today you can see SADIE and ALERION by visiting, respectively, the Herreshoff Marine Museum at the site of where the Herreshoff Mfg. Co. once stood in Bristol, and Mystic Seaport Museum in Mystic, Connecticut, where the boats are being preserved by those two institutions.

The Buzzards Bay 12½-footer

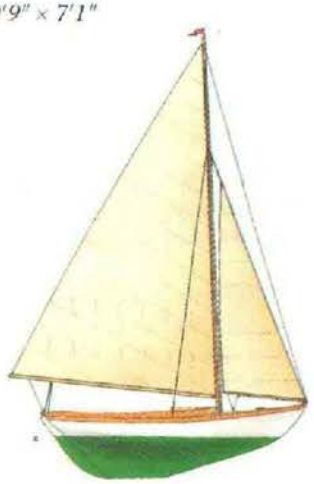
15'10" × 5'10"

Best known of the hollow-bowed designs of the Alerion family is the 12 1/2 footer (so designated because of its length on the waterline), of which the Herreshoff yard ultimately built some 360 over a period of 40 years. The enduring popularity of these lovely little keel daysailers alone would have kept the Herreshoff name alive—and that name still is very much alive and invariably surfaces wherever good sailboats are discussed or written about. The first boat of the 12 1/2-foot-class, named ROBIN, was launched in December 1914 and carried a gaff rig, as did the first few batches of 12 1/2 that followed her. Later on, these boats could be had with marconi or marconi/wishboom rigs and an alternate deck arrangement. Not only are many of the original 12 1/2s still sailing, but the same basic design is still in production in fiberglass (Cape Cod Shipbuilding's H-12 and Bullseye, and Edey & Duffs Doughdish), and a shallower and slightly wider centerboard version known as the Haven 12 1/2 has more recently been designed by Joel White and is being built by both professional and amateur builders.

The Fish Class

The Fishes were enlargements of the Herreshoff 12 1/2-footers with slightly longer forward overhangs (and, in fact, NGH developed their table of offsets from the same half model by changing his scale of measurement). The first batch of 20 Fish-class sloops was ready for the 1916 sailing season, and about two dozen additional Fish boats were built before WWII. The design came about in response to an inquiry from the Seawanhaka-Corinthian Yacht Club of Oyster Bay, New York. Capt. Nat and the Commodore first suggested building more keel/centerboarders like the Commodore's SADIE but, at $1,800 they far

20'9" × 7'1"



exceeded the budget. At $850 the smaller and simpler Fish-class boats fell more into line with the selection committee's thinking. The Fish-class sloop proved to be what other clubs and individuals sought as well. The Herreshoff company offered it in marconi as well as gaff and as an extended-cabin auxiliary-powered cruiser called the Marlin. (Joel White subsequently utilized Herreshoffs Fish-class design as the basis for his own keel/centerboard sloop Flatfish design, and there have been at least two versions of the Fish class built in fiberglass.)

The Newport 29

In 1914, N.G. Herreshoff also designed the Newport 29. Early that year, Capt. Nat used his ALERION half model, with a change in scale, to produce the offsets for what many consider to be the best all-around boats he ever designed: the Newport 29s. For these full-keeled hulls, he made a half model of only their keel, which he placed against ALERION's shallow underbody for measuring. From these offsets emerged DOLPHIN, MISCHIEF, and COMET for the 1914 season, and PADDY a dozen years later. Three of the four boats are still going strong (COMET was smashed by the 1938 hurricane), and DOLPHIN the all-time racing record for any boat anywhere, having won hundreds of times over the half century she's been owned by the three generations of the Lockwood family.

35'7" × 10'6"

Utilizing an existing half model a second or even a third time by changing the scale or making minor alterations to its shape economized on Capt. Nat's precious time. The records indicate this to be a frequent expedient.

The Buzzards Bay 25

The Buzzards Bay 25's hull shape, among the hundreds created, is said to be NGH's favorite. Five were built for the 1914 racing season off Marion, Massachusetts. As is apparent from the drawings and photos, these Buzzards Bay 25s have ALERION's basic shape, but are sleeker. Four of the five original Buzzards Bay 25s still exist, although presently none is sailing. For an almost religious experience, visit the Herreshoff Marine Museum and stand in front of ARIA (ex-WHITE CAP), which has been restored and is exhibited just across Burnside Street from where she was built. I guarantee she'll take your breath away. In recent years, several new boats have been built using this design, and more are on the way.

32'0" × 8'0"

The Fishers Island (FIS) 31

At first you might not recognize that these yachts belong to the hollow-bow family, and I'd not include them were it not for their growing directly from the original half model of ALERION. Capt. Nat's oldest son Sidney is credited with this design, however, since the modifications from the model were so extensive. The changes—which, according to Sid Herreshoff, were carried out in full size on the mold loft floor—included increased overhang at both bow and stern, a deeper keel, and a somewhat larger-bodied boat overall. There's still some subtle hollow present, although it doesn't jump out as a dominant feature. The FIS-31s are exceptional, however, in both beauty and performance. Twelve were built between 1927 and 1930, and more than half of the original boats still exist, although not all are sailing at this time.

43'8" × 10'7"
(CIRRUS, ex-KELPIE, with present yawl rig shown)

30'0" × 8'4"
(original sloop rig shown)

33'6" × 9'2"
(present yawl rig shown)

PLEASURE and AIDA

With only a trace of reverse in its forward waterline (LWL), and being more pointed on deck, the bow of this design is far less dramatic than those discussed so far. But since Capt. Nat created PLEASURE (above left) to replace ALERION as his winter sailing boat, there's much of the same thinking embodied in this design's hull shape. He had PLEASURE built in 1925 for winter use in Florida after he retired. AIDA came out as GEE WHIZ the following year (1926) as an enlargement using the same half model measured to a different scale. Both PLEASURE and AIDA are still going strong. AIDA has been in our family now for 30 years.

Maynard Bray, a contributing editor to WoodenBoat, *is co-author, with Carlton Pinheiro, of* Herreshoff of Bristol *(WoodenBoat Publications, 1989)*

The Family Summarized
with information based on HMCo Construction List

Hull No.	Name	Class	LOA	Contract Date	Original Price	Present Location (Owner)
718	**ALERION**	none	26'0"	10/19/12	not listed	Mystic Seaport Museum
732	SADIE	"	26'6"	3/17/14	$ 1,850	Herreshoff Marine Museum
727	**DOLPHIN**[1]	Newport 29	35'7"	11/27/13	$ 3,900	Mystic, CT (Lockwood)
728	MISCHIEF[1]	"	35'7"	11/27/13	$ 3,900	Mystic, CT (Wick)
737	COMET[2]	"	36'9"	4/20/14	$ 4,200	wrecked in 1938 hurricane
999	PADDY[2]	"	36'9"	3/ ?/26	$12,000	Marion, MA (Baker)
733	**MINK**	Buzzards Bay 25	32'0"	3/28/14	$ 2,000	Deer Isle, ME (Moran)
734	VITESSA	"	32'0"	3/28/14	$ 2,000	Brooklin, ME (Bray)
736	BAGATELLE	"	32'0"	3/28/14	$ 2,000	Avondale, RI (Hall)
738	WHITE CAP	"	32'0"	3/28/14	$ 2,000	Herreshoff Marine Museum
741	TARANTULA	"	32'0"	7/16/14	not listed	unknown
744	**ROBIN et al.**	Buzzards Bay 12½ (360+ built)	15'10"	10/30/14	$ 420	various
788	**MANATEE**[3] **et al.**	Fish (40+ built)	20'9"	1/10/16	$ 875	various
907	PLEASURE	none (1 built)	30'0"	10/ 8/14	not listed	Rowayton, CT (Yaro)
1002	GEE WHIZ[4]	none (1 built)	33'6"	4/11/26	$10,500	Brooklin, ME (Bray)
1054	**CYRILLA IV**[5] **et al.**	Fishers Island (FIS) 31 (12 built)	43'8"	12/ 3/26	$13,000	various

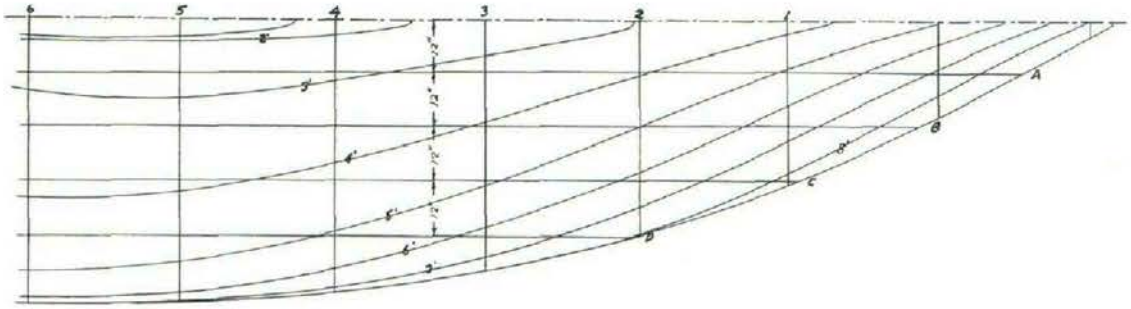
[1]ALERION model used with change in scale; keel added; slightly longer bow overhang as with SADIE
[2]Stern lengthened 14"
[3]12½-footer model used with change in scale; slightly longer bow overhang
[4]PLEASURE model used with change in scale, firmer bilge, and higher sheer
[5]ALERION model used with change in scale and further modifications while lofting

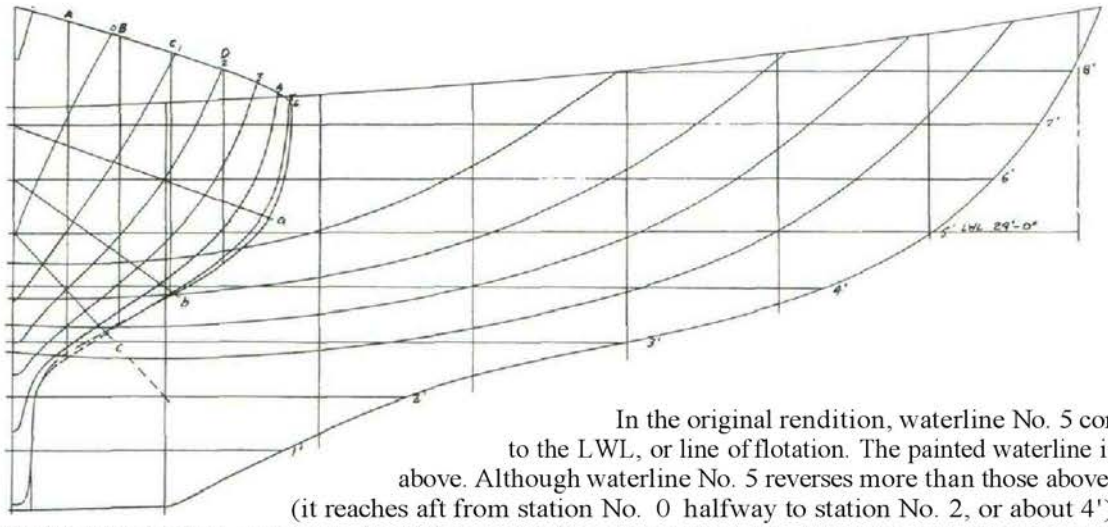
Lines of the Hollow Bows

Because N.G. Herreshoff created the shapes of his hulls by carving a half model, lines drawings generally don't exist. (He produced only the table of offsets by careful measurement of each model and passed these numbers to the loftsman, who laid them down full size.) Fortunately, however, there are exceptions. In 1948, Capt. Nat's oldest son, Sidney, remeasured the ALERION half model and drew its lines (the keel version which represented the Newport 29' class), and in 1994 Joel White produced a lines drawing of the Buzzards Bay 25' class directly from the original offset table, which is now part of the Haffenreffer-Herreshoff Collection at MIT. The lines of the third design of the hollow-bow family—the Buzzards Bay 12 1/2-footers and the larger Fish class—came from measuring the Fish boat MERRYHELL, now at Mystic Seaport, and drawing the lines using that information. I did the measuring using the Barry Thomas method described in WB No. 115, and Joel White drew the lines. Thus, we have comparable lines drawings of all three siblings created by Capt. Nat between 1912 and 1916, the forward portions of the hull lines are shown here. (The Fishers Island 31s PLEASURE and AIDA, while members of the same family, are more like cousins than sisters, so have been omitted from the following discussion.)

—MB

Newport 29



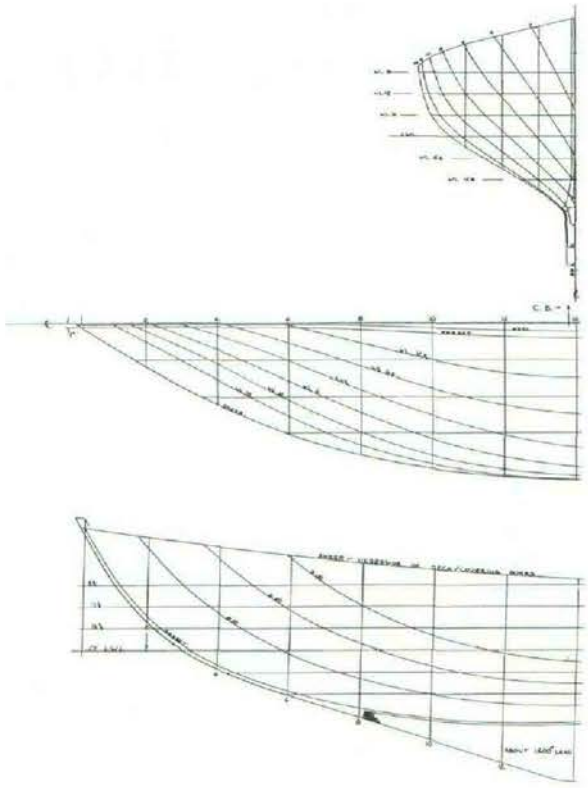


Traced by M. Bray from copy of Sidney Herreshoff drawing (Original drawing was destroyed by 1954 hurricane)

In the original rendition, waterline No. 5 corresponds to the LWL, or line of flotation. The painted waterline is 2 1/2" above. Although waterline No. 5 reverses more than those above or below (it reaches aft from station No. 0 halfway to station No. 2, or about 4'), there is diminishing hollow, or reverse, in all three waterlines above the LWL. Only the deck line shows as convex in the half-breadth view. Below the LWL, the reverse continues as well—but also in a diminishing fashion. The reverse of waterline No. 4 is only about 2'6" long, and there is no reverse in waterline No. 3.

Although the buttock lines of the profile view and the station lines of the body (or section) view have to agree between themselves and agree also with the half-breadth view, it is the reversing shapes of the waterlines in the half-breadth that really tell the story on paper. In looking at the boats themselves, the waterline shapes also dominate due to the contrast of the painted waterline and the intersection of the boat with the water. But there are lovely shadows that play on the bow between the water and the sheer, and it is within these subtle shadows that the beauty lies.

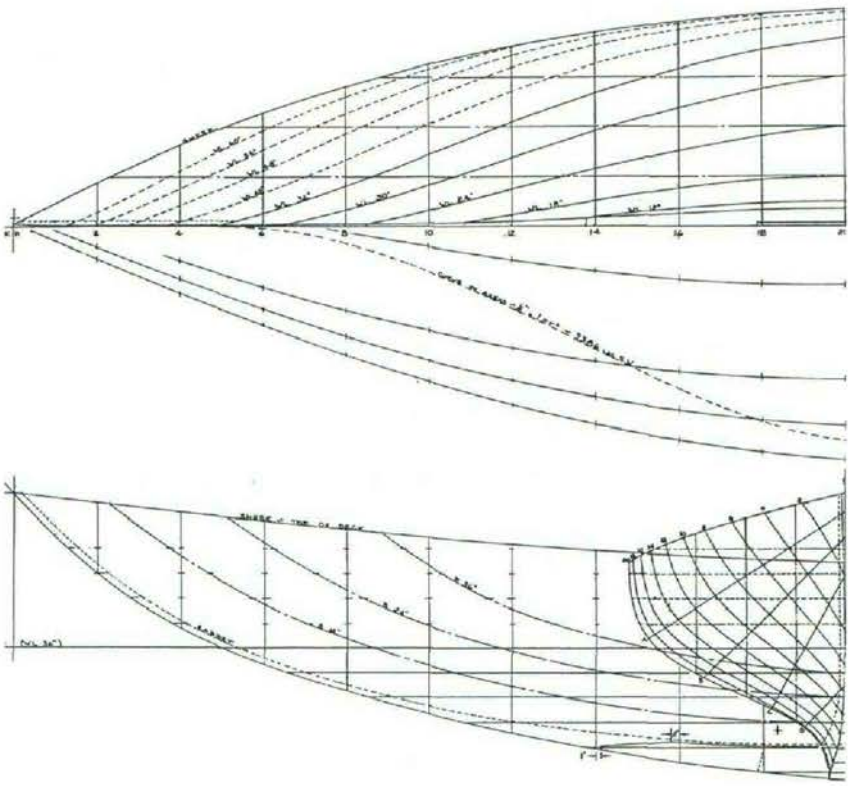
Fish Class



In this example, there's practically no concavity in the station lines of the body plan. The hollowness comes from a reversing LWL in combination with fullness in the deck line as viewed from above or below. In the profile view, the increasing separation between the stem face and buttock No. 10 as they approach the LWL is another characteristic that results from hollowing out the bow. By carefully modelling the bows in this family of designs, N.G. Herreshoff achieved great beauty without diminishing performance.

Drawn by Joel White from measurements of MERRYHILL at Mystic Seaport Museum

Buzzards Bay 25



While the length of the Buzzards Bay 25's hollowness (as measured along the hull at the LWL) is proportionally about the same as the Newport 29's, the lower, longer forward overhang makes for a sleeker appearance. As a percentage of overall length, this overhang is about 13% as compared to approximately 10% in the Newport 29s and SADIE, and 8% in ALERION. Note that the face of the stem is tapered, being narrowest at the LWL and widest at the deck, and that its corners are sharp. If represented by music, the stem face would rise to a crescendo as it reaches the sheerline. This taper, more evident on the boats than on the drawing, is all a part of the equation, and the tapering stem face of the Buzzards Bay 25s originally carried a bronze stemband that came to a knife edge at the LWL, making the bows of these boats even more dramatic.

Drawn by Joel White from original N.G. Herreshoff offsets

CURLEW

Revisiting Nathanael Herreshoff's ALERION

On January 23,1913 the Herreshoff Manufacturing Company of Bristol, Rhode Island, launched hull No. 718, named ALERION III. Designed by Nathanael Herreshoff for his own use in Bermudian waters, ALERION III represented, according to Maynard Bray in *Watercraft* (Mystic Seaport Museum, 1979) "...a rather distinct departure from his previous designs, most of which had the longer overhangs and full keels typical of the Universal Rule racers." In their book *Herreshoff of Bristol,* Bray and Carlton Pinheiro noted that "ALERION and her successors were remarkable in their short but graceful overhangs, high bows and low sterns with a beautiful sheerline connecting them, and generous beam on deck." Narrow at the waterline with a ballasted keel and centerboard arrangement, the easily driven hull shape culminated forward in distinctive hollow waterlines carried well up into her topsides. Built by the select crew in the Small Boat Shop at the Herreshoff yard, ALERION was, in Bray's words, "one of Herreshoffs most exquisite creations."

Shipped to Bermuda soon after her launching for Capt. Nat's winter sojourns on the island, then returned in 1920 to Bristol and her home waters of Narragansett Bay, ALERION was sailed by the designer for 15 years. The fact that he kept the boat for such an extended period is surely evidence of Nat's personal appreciation for the design, for at that time in his career he could have replaced her by walking into the Herreshoff Manufacturing Company and saying the word. The proliferation of designs that evolved from this hull form (see article beginning on page 67)—the Herreshoff 12 1/2 , the Fish class, the Newport 29, the Buzzards Bay 25—indicates that for Nathanael Herreshoff the creation of ALERION was truly inspirational.

In September 1928 Capt. Nat sold ALERION to his friend Charles Rockwell. A fainting spell aboard had caused Herreshoff, then 79, to give up sailing alone. Under a succession of owners—Rockwell, Amory Skerry, George Green—the boat continued to be a familiar sight on the Bay. In 1964 her fifth owner, Ike Merriman, donated ALERION to Mystic Seaport Museum. As part of the museum documentation process, sail, deck, construction, and lines plans were prepared by naval architect Edson I. Schock in 1966. In the late 1960s and early '70s, the former owners were sought out and interviewed as a museum staff led by Maynard Bray endeavored to return the boat to her 1924 configuration, the time at which Nat had designed and installed a gunter rig to replace the original gaff one. By 1972, Nat Herreshoffs ALERION, refastened, refinished, rerigged, and looking like new in Mystic's Small Boat Shed, regained her place as a tantalizing inspiration to both the consummate boat buff and the uninitiated. A beautiful shape with a rich history, here was a boat to see.

In *Watercraft,* Maynard Bray observes: "The beautiful ALERION. She is the favorite of many, and a number of people have told me they return just to see her again." I suppose I could be counted as part of that number.

by Warren Barker

My dog-eared set of the Schock drawings are postmarked 1981, so 10 years of enthusiasm preceded my trip with Phip and Amy Lee to look at ALERION closehand. The Lees were looking for a daysailer for the Westport River and Buzzards Bay in Massachusetts, and I was to build the boat. In shape alone, ALERION's promised to be the right design, and her historical pedigree made her that much more interesting. Perhaps it was Amy's initial exclamation upon opening the door to the boat shed and her insistence that we check out *that* boat, pointing to *the* boat, ALERION, that set the tone of the whole experience. We had seen the Holy Grail, but the question remained whether it could be built. The big blue stamp in the corner of those Mystic drawings emphatically states that their purchase does not grant permission to build.

Peter Vermilya, curator of small craft at the museum, accompanied

(Opposite) The original ALERION, restored and on display at Mystic Seaport Museum. (Above) CURLEW, a near-replica of ALERION. ***(Benjamin Mendlowitz photos)***

us to the boat. He informed us that building permission could only be obtained by contacting the Curator of the Hart Nautical collections at the MIT Museum in Cambridge, Massachusetts. As the repository for the original drawings from the Herreshoff Manufacturing Company, the Hart collection held the key to the project.

In his biography of his father, *Capt. Nat Herreshoff, The Wizard of Bristol,* L. Francis Herreshoff describes Nat's design process as he worked from a few rough sketches to paper templates to carving the half model. Using a machine he invented, Nat would read from the model the offsets—the numerical description of the hull as measured in the vertical and horizontal planes. "The table of offsets was always written in a small, brown, covered notebook which measured about six inches by four inches, on the cover of which was simply the building number of the yacht while on the first page were such notes as the frame spacing, thickness of planking, half-widths of the stem, etc., and the following pages gave the offsets with each station on a separate page; all of which is a very convenient method for the mold loftsman."

In a letter dated June 12, 1979, William A. Baker, Curator of the Hart Museum at MIT Museum, wrote to a Mr. G.V. Smith of Naples, Florida, "In response to your recent letter concerning the Herreshoff designed and built ALERION III, to the best of our knowledge the offsets for this boat do not exist." Mr. Baker must have felt some chagrin in writing this answer. In 1948 Rudolph F. Haffenreffer, owner of the Herreshoff Manufacturing Company from 1924 until its closing in 1946, had placed on long-term loan at MIT over 13,500 drawings, the catalog system, and patterns from the yard. In 1961 the material became a permanent part of the collection. The MIT museum now owned the Haffenreffer/Herreshoff material and in that ownership came the right to control the use of the plans. The loss of the offset booklet, such a key part of the design process as described by L. Francis, precluded, in William A. Baker's view, the replication of this particular Herreshoff design. Not only the hull form but the Herreshoff name could be compromised by condoning the construction of a "Herreshoff Alerion," for without the original offsets the process would be far too interpretive. For all those drawings and information this "signal design," to again use Maynard Bray's words, was apparently inaccessible to the builder.

In the forward to *Watercraft,* John Gardner asserts that, distinct from models, as "sources of historic information and design detail...primary authority resides nowhere else but in the actual boats themselves." In 1979 the boat existed and a lines plan had been developed. For someone willing to develop the Schock lines plan and circumvent Mystic's disclaimer and proceed without MIT's blessing, there was no problem. Beautiful versions of the boat were built in the late 1970s and early '80s with both the name Alerion and Herreshoff used in their description. Still the issue remained. MIT would not recognize the Schock drawings, known to be inaccurate, as the definitive replacement for the offset book. So, to build under sanction remained elusive.

The building of CURLEW, Phip and Amy Lee's "Alerion," was not the project that resolved the controversy. Luckily,

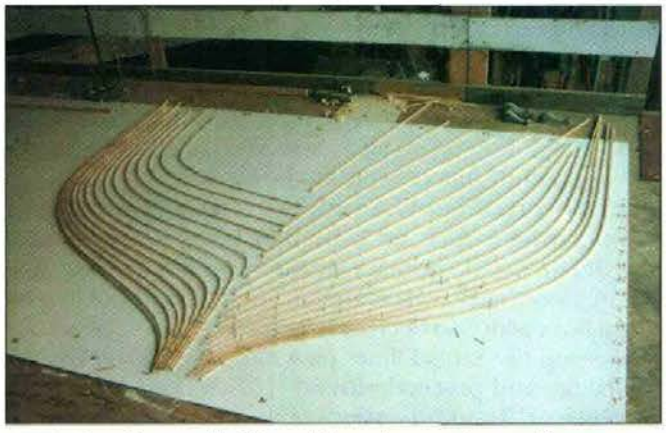
we had before us a vanguard. And the composition of that vanguard not only made the route easier but possible. The contingent included John Arrison, in 1984 appointed Curator of the Hart Nautical Collections; John Burgess, Director of The Landing School in Kennebunkport, Maine; Todd French, boatbuilding instructor at the school; and Maynard Bray, consultant. Remington O. Schmidt of Peaks Island, Maine, commissioned a replica of ALERION, called PHOENIX. Begun in the fall of 1985, finished a year later, she was launched in the spring of 1986. With John Arrison parting the flood of information available in the Haffenreffer/Herreshoff collection, Maynard Bray supplying his research from the original and continually adding new material, and Todd providing further research, building expertise, and ultimately persistence, they produced not only a boat but an ark of information.

I met with Kurt Hasselbalch at the MIT Museum in the summer of 1991. Kurt had been appointed Curator of the Hart Nautical Collections the previous fall, and he had just begun work on a project to make the Haffenreffer/Herreshoff collection more accessible to the public without the wear and tear of rifling through the originals. His work reached fruition this year, 1997, in the published guide to the collection (see "Reviews," WB No. 137). My forays into the archives could have been a case study of the need for this guide. I must admit that though I was awed to be amidst the original documents, I was also overwhelmed

CURLEW's Construction

— photographs by the author —

1 Mystic Seaport Museum has a few facilities that are difficult to replicate in a small boatshop. The sawmill, for example, that can take up to 40'logs, would definitely compromise the available space. Dana Hewson's crew at the Museum's DuPont Shipyard purchased, culled, and sawed the oak for the keel and sheerstrakes.



2 In a boat with 33 mold stations and waterlines every 3", lofting is no mean task. Not discounting the advantage of a computer in dealing with so many numbers, we found lofting by hand advantageous in reconciling the table of offsets and information from the original boat. Besides, I would have had to learn how to turn on a computer.

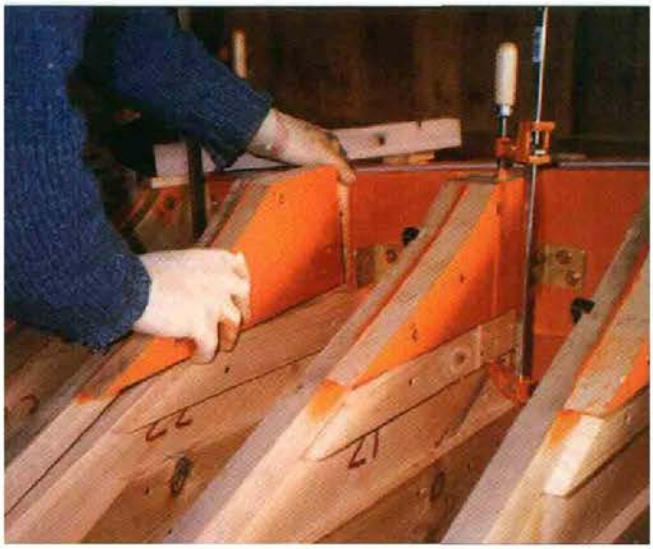
3 (Above and below) Having built a Haven 12 1/2 using the Herreshoff method, we were versed in the technique and had developed a way to speed up the process of mold manufacture through the use of a template former and router. Here, a pilot bearing on the router bit is guiding along a batten that is affixed to a template former. The template former allows the use of a thin batten along tight curves, while the limber batten offers a clean (arc for the router's pilot bearing to guide against.

by the thought of collecting enough information from that wall of Herreshoff card files. Ennui had set in when I sighted a cardboard box with a note sticking out of it, which read, "Alerion-Tech Dinghy Reproduction Files—study these." The directions seemed simple enough. In the box were the notes and drawings compiled during the Landing School project, complete with offsets. I had discovered the ark; we could now loft the boat.

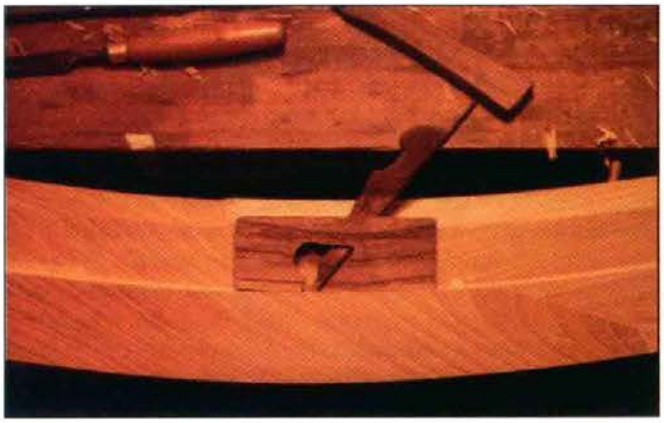
In our initial conversation John Burgess had told me that the offsets for PHOENIX had been developed by "an enterprising MIT graduate student" who had taken the original construction drawing of ALERION and had, by drawing a grid over the sections, scaled the offsets. At The Landing School they had lofted this set of numbers and recorded their corrections; for the most part, we used these numbers. Maynard Bray's insistence that I trace the original transom because "if you get that wrong you might as well forget the whole boat" allowed me to correct a slightly reluctant waterline aft that brought it all together. A correction in the height of the keel/rabbet line prompted by measurements taken from the original centerboard resolved a ballasting problem mentioned in the notes on PHOENIX. The information from the original boat and the Hart collections worked well together on the loft floor and, subsequently, in the construction of the boat. So, a building agreement was signed with MIT, a fee paid, and the boat lofted. With Mystic Seaport right behind us, we were ready to cut wood.

4 We wanted to participate in the Herreshoff tradition while building CURLEW. According to Barry Thomas in *Building the HerreshoffDinghy: The Manufacturers Method,* "The Herreshoff method of building a boat consists of getting out a mold for each frame of the boat (every other frame in dinghies) and setting the molds upside-down with the frames bent over the molds. Building the hull upside-down made much of the work easier and quicker—planking, caulking, smoothing, and so on. This is a good production setup, and if there is more than one boat to be built over a period of time, it can be reduced to a set of easily stored molds."

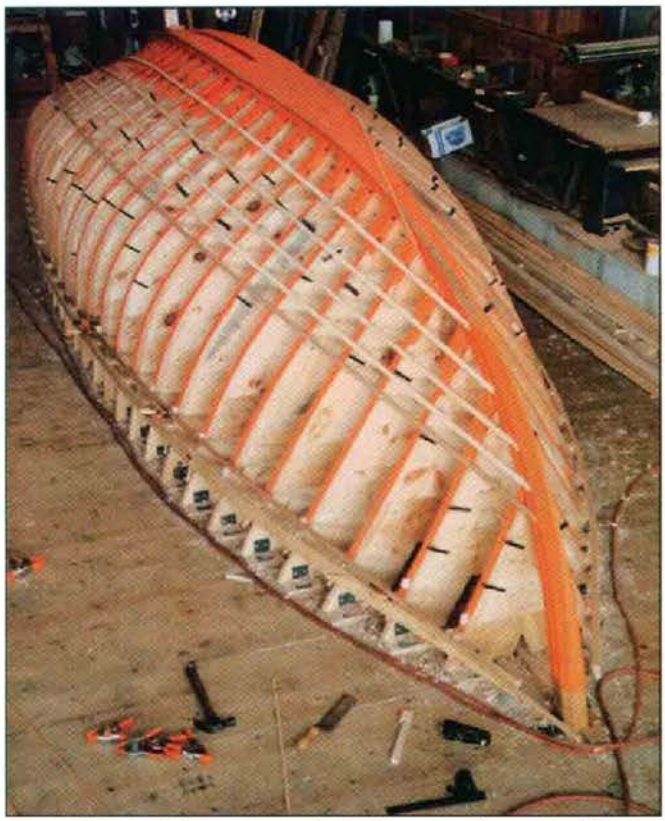
A mold for every frame is reassuring,—after all the time a builder must spend on the loft floor when lofting manually, after carefully deducting for the plank thickness and for tapered Herreshoff frames, the builder is not at the mercy of some recalcitrant ribband in bringing the hull's carefully wrought shape to fruition. And what a nice piece of sculpture when the molds are all set up!



5 (Above and below) We felt the method of construction was reflected in the structure of the boat. A case in point: The rivets of the frame-to-floor connections, shown here, are accessible during construction. The setup allowed convenient access, and so we did not remove the molds to the bench for riveting the frames to the floors.



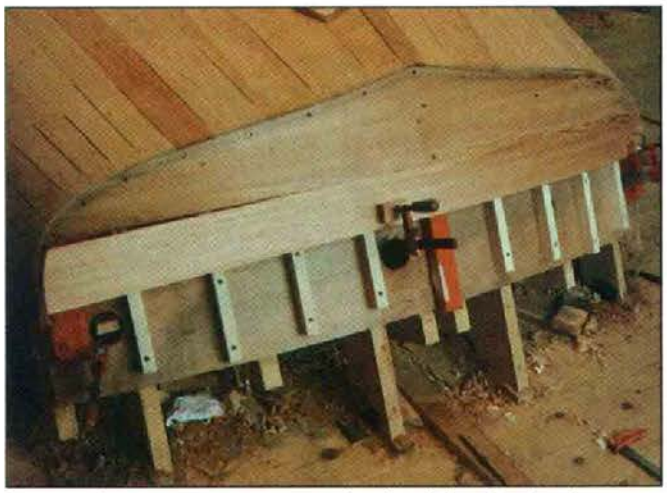
6 We departed from the original in building the stem. The Landing School crew had broken several stems while trying to replicate the steam-bent original, so we skipped the whole ordeal by building a two-piece stem.



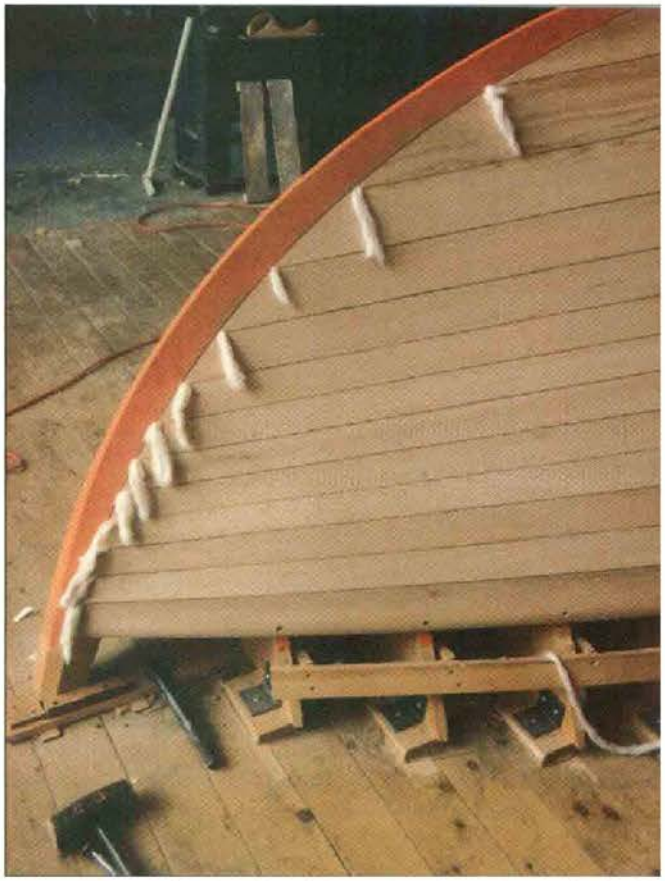
7 Several factors motivated our strict attention to original details, attention that might appear excessive since the boat was not to be a true "replica," and therefore need not adhere to the original in every particular. (The owners wanted the look and feel of the original, but allowed us some license in certain areas, as you shall see.) First, the Herreshoff aesthetic has always struck me as quite demanding in its simplicity, relying on proportion and line, rather than ornamentation, to capture the eye. So we documented and copied as best we could. The other motivation was time. Standing around while deciding about the size and shape of something can really affect progress. So, we picked all the plank lines off the original and got to work planking.

8 Wedges and "gumps" hold a plank in place, ready for fastenings. We chose No. 10 screws here, to allow for stepping up to No. 12 for refastening. The plank edges are planed to their final "Ms" thickness, though most of the shaping of the outside face has been left until the boat is completely planked.

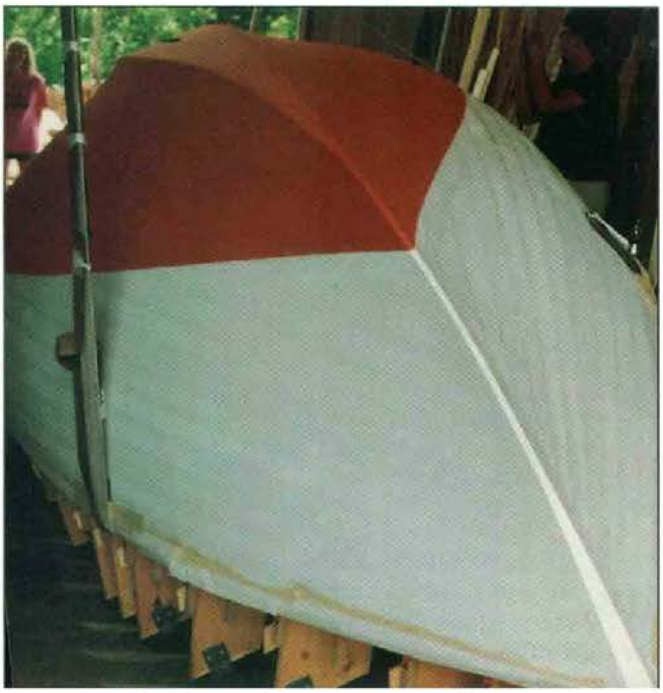
9 The results of hand-fairing a hull always prove it to be the best method. But halfway through the job, it invariably appears there has to be a better way.



10 The transom was to be double-planked over a male mold, though the original was probably single-planked inside a female mold.



11 We used Atlantic white cedar throughout the hull in lieu of cypress garboards and Port Orford cedar planking. In time-honored fashion, the seams are caulked with cotton, and painted and payed.

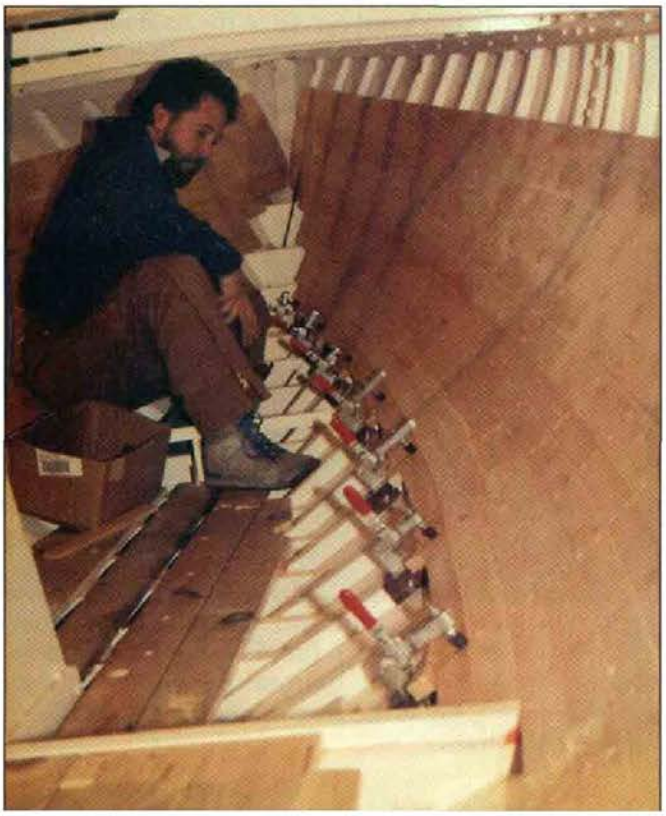


12 Boatbuilder Eric Goetz once told me you should never have the owner around the shop when you roll a hull over. But by the time CURLEW had stuck halfway to being upright, it looked like a family reunion in the shop. Eventually, over it went. Cross spalls were fitted, the remainder of the molds removed, and the inside primed and finish-painted. With assorted chainfalls and pulleys, one person could raise and lower the hull for the fitting of the ballast keel.

13 The mold for the keel had been built on the loft floor while the planking was underway. This mold consists, essentially, of two "negative half models" formed by waterline lifts and hand-carved to the final shape. The keel was poured and faired in a foundry in Providence, Rhode Island, then refaired in-house.

14 The boat turned upright. In the original boat, the butt blocks were fitted tight to the frames, with no chamfer top and bottom. We chose the treatment shown—gaps at the frames and sloped tops—so water would drain.

15 The deck frame was built as per original—frame heads riveted to the sheerstrake, deckbeams screwed to the frames (which have a flat carved into them to increase the faying surface) and bolted to the clamp, clamp and sheer through-bolted. Herreshoff-style fin-necked bolts (see review, page 109), supplied by Andy Giblin of Noank, Connecticut, were used throughout. (The small screw holes in the sheerstrake and deckbeam are from the dry-fitting of the deck.)



16 One of the more elegant features in ALERION's interior is the spiled 3/8" cedar ceiling running the length of the boat. Structurally, the argument could be made that the thinner, wider board afforded by this method would be stiffer for its weight than the narrower, parallel-sided ceiling found in ALERION's new sister, SADIE. Visually, there is no comparison.

17 The deck of the original ALERION was built of 1 5/8 *x 3/4*" strips sprung to the curve of the covering board and nibbed into a centerline kingplank; it was canvas-covered and painted. Sacrilegious though it may appear, CURLEW's deck was made of 1/2″ plywood scarfed to be laid down in two full-length pieces. It was covered in canvas set in epoxy. With the plywood edges banded with white oak, the change is difficult to detect. The owners chose this arrangement to gain the torsional rigidity afforded by plywood. Also, as no carlin is fitted in way of the house sides, we hoped to minimize the chance of leaks in that area. Two layers of 1/8″ plywood laid over the tongue-and-grooved cedar housetop completed our transgressions on deck. We were approaching a finished boat.

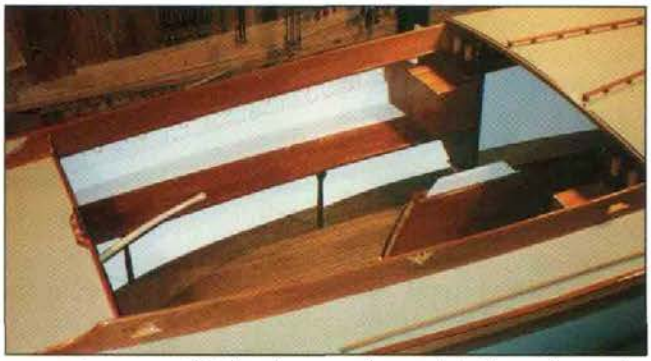
18 We had good luck steaming house sides in place. The deckbeams carried across the house opening forward of the bulkhead afford good clamping for the forms and keep the deck fair; these beams will later be sawn to length.

19 It's good to have a few clamps on hand.

20 The centerboard swings on a 7/8" bronze pin; a Delrin bearing is built into the plywood centerboard. Here, we are drilling the holes for this setup.

21 CURLEW sails light. In addition to 90 lbs of trimming ballast, in 1914 Nat Herreshoff installed 672 lbs of inside ballast in ALERION; a comparable amount was cast into the ballast keel of her near sistership, SADIE. Had we known this early enough in CURLEW's construction, perhaps we would have used SADIE's deeper keel. However, fitted with the trimming ballast only, CURLEW does not seem too tender in a blow, and perhaps she even has a leg up when trying to sneak into Westport Harbor against its notorious tide.

22 The spars were built in-house. I have always enjoyed building spars, but I had never built hollow ones. The mast and gunter were built of eight staves of Sitka spruce with solid blocking in way of fittings. Todd French, who worked on the construction of PHOENIX, casually mentioned hose clamps, something Nat Herreshoff had not invented, which made a single glue-up possible (though frantic). The spars are light; one person can easily carry the 27' mast fully rigged, and the gunter, 18' long and 6" in diameter at midpoint, can be carried in one hand. The gunter rig did comprise an interesting project in itself, but the proof still remained at sea.



23 A sense of light elegance is carried throughout the construction of the bulkhead and cockpit area, an effect we made every attempt to replicate—and just one of the features that make this design so admired.

24 It took the Herreshoff yard three months to build ALERION; three years ran through CURLEW's saga. She was launched December 5, 1994. Three years? Let's just say the varnish wouldn't dry.

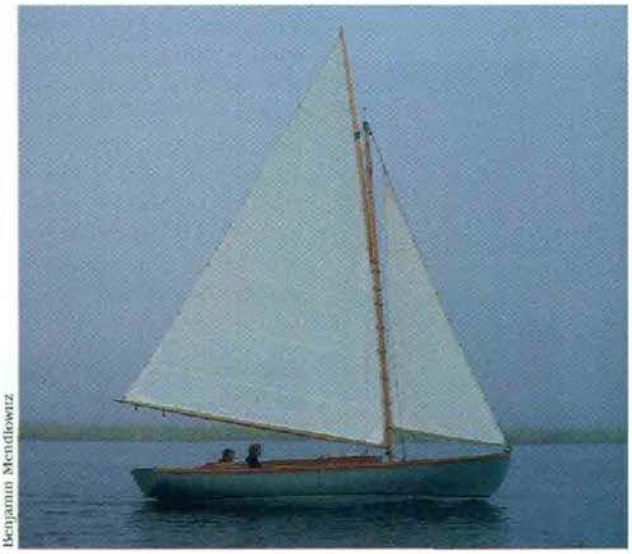
A sail in a replica, a call to the builder, a rare photograph from an owner—the pieces of the puzzle came together. With a certain sense of responsibility to history, we realized the wealth of information available. As an interpretation of ALERION—the Holy Grail—CURLEW had to be responsible not only to a design, but to a collective fraternity: Mystic Seaport, which provided the artifact, the difficult-to-find materials, research, and staff support; Kurt Hasselbalch, whose vision for the Hart Collections at MIT promotes the same attitude and strives to provide tooling; and Maynard Bray, whose enthusiasm became our enthusiasm. CURLEW celebrates those institutions and people that made her possible.

Warren Barker lives with his wife and three children in Westport, Massachusetts. Working with Peter Goodrich he owns Customary Boat, a company specializing in custom wooden boats.

A Gunter Rig for ALERION, a Gunter Rig for CURLEW

In *Herreshoff Marine Museum Chronicle* No. 22, 1992, Michael J. Pesare notes of ALERION that "In 1924 [Nathanael Herreshoff] replaced her original gaff rig with a sliding gunter rig influenced by the simple and efficient Bermudian rigs he had observed in Bermuda."

And Amory Skerry, former owner of ALERION, observed that it "had some advantages over the marconi mainsail—it was more nearly a gull's-wing shape (as seen in the Herreshoff S-boats and 30-square-meters), but did not sag off to leeward at the head as much as did the marconi sails when off the wind; it was a very flat sail when reefed (when you wanted it flat); and it would come down on the run, due to the weight of the gaff, when taking in sail."



Benjamin Mendlowitz

The Landing School crew had fitted PHOENIX with the sliding gunter rig, and we tried it out on Casco Bay. Rigged with lazyjacks and using a single halyard, the rig's ease of handling was aptly demonstrated by owner Ted Schmidt. Phip Lee found the rig "interesting" and also observed that there was definitely a "learning curve" regarding its use. As there was little wind that day, we had to rely on Skerry's assertion that it could be reefed—though, looking at the single halyard, it seemed impossible. Phip seems to enjoy the unusual, so we went for it.

When Nat Wilson of East Boothbay, Maine, arrived to rig the boat and bend on his suit of sails, he admitted to being nervous about the fit of the mainsail around the gunter throat, but the photographs attest to his success. The Lees had waited long enough. Phip sailed the boat for a month during a New England winter to "discover any glitches"; Amy waited for spring.

CURLEW performed as billed. Rumors of a bad weather helm, belied by ALERION's slender tiller, were dispelled by our experience. The gunter rig remains beautiful, still "interesting," and, aesthetics aside, it does reef. Fast? Seems so, but that learning curve still reaches out into Buzzards Bay. Glitches have been found and attended to, but overall the owners seem delighted. **—WB**

Building a Classic Herreshoff SADIE Using Modern Cold Molded Construction Methods

by Wilson Tarver
Owner-Builder

The author owner-builder and Brion Rieff, a professional boat builder, and his crew built LIZINDA, a modern version of SADIE, a classic Herreshoff ALERION/SADIE class sailboat, in Brooklin, Maine.

Motivation and boat selection

I am a retired engineer who has a lifelong ambition to build a boat. Over the 53 years (12 to 65) that the ambition didn't materialize, the desired boat changed size (as I got older) from a small fishing boat, to a deep-water cruiser, to a comfortable day sailer. Eventually I selected the ALERION/SADIE class over the "Fish" class.

Being a relatively inexperienced sailor, I reasoned a day sailer, designed and built by a famous designer at age 65 for his own single-handed use, would be an appropriate boat for a then 64-year-old wannabe boat builder-sailor. That the AERLION/SADIE design was beautiful and famous was a plus, and the building experience, as well as the result, was important to me.

Obtaining design information

The Hart Nautical Collections at the MIT Museum provided construction and design information, and additional information was obtained from the Herreshoff Marine Museum. Maynard Bray provided photographs and invaluable interior measurements and construction details of the original ALERION. I took pictures of a 1970s SADIE type reproduction, now named FAIR SADIE, and an ALERION type reproduction, CURLEW, built by Warren Barker.

I was fortunate as Eric Dow, of Brooklin Maine, had already lofted SADIE using offsets obtained from MIT as the first step in building SADIE for a client. This was one of several fortunate occurrences that helped me on this project. Eric's project had been interrupted, but fortunately the lofted lines were still visible (after moving a few things). I was able to transfer the lofted lines to Mylar sheets to build molds and make measurements for the stem, keel, centerboard, centerboard trunk, rudder, and ballast. I did have to lay out the transom.

I contacted Warren Barker in 2000 after reading his article (Ref. 1) about building CURLEW. In 2002 Warren arranged a visit with CURLEW's owner while the boat was out of the water being repainted.

While I was in Brooklin, Maine, Queenie Foster Hooper purchased a SADIE built by Seth Persson in the 1970s. The boat transfer took place in Brooklin, so I had the opportunity to see her (confusingly named ALERION, but renamed by Queenie as FAIR SADIE) and take pictures.

I did not lack in having enough information. In fact I had too much on interior variations – it was confusing. I was the final arbiter of choices since I was paying the bill and will sail LIZINDA for the rest of my life. I did accept the

responsibility of building a boat as close to the original in looks and spirit as funds would allow using modern construction methods and materials.

Comparison of a few versions with the original ALERION / SADIE

To illustrate differences between a few details of existing boats, the photographs Fig. 1 through Fig. 4 illustrate comparisons of profiles, rudders, and interior details for the five boats (ALERION, SADIE, FAIR SADIE, CURLEW and LIZINDA) where photos are available.

My part in construction; evolving relationship with builder

I became acquainted with Brion Rieff while taking a WoodenBoat school course in cold molded fabrication of a Haven 12-1/2 hull in July of 2000. Brion was lead carpenter at the Brooklin Boatyard for several years, but had gone into business for himself. He asked if I was interested in building a boat. I said yes, but building the hull was beyond my skills (and time left on earth). He offered me the opportunity to work in his new shop during off-season, use his equipment, obtain materials through his sources, and use his people at hourly shop rates as needed. My original plan was to build the hull in Maine, then finish it out in the following year in Texas. Because of family illness and the death of my mother I didn't get started until the summer of 2003. I finally selected the SADIE design and named the boat LIZINDA honoring my wife, Linda, and mother, Elizabeth.

Initially Brion offered a fixed price for the hull, with me building the molds and associated jigs, but I concluded actual cost would be better if I later decided to extend the project past the hull (which, with my wife's strong encouragement, I did). The time estimate for the hull was two months. This later became a joke in Brooklin – "How long will you be in Maine?" Answer – "Two boat months where a boat month is defined to be as long as it takes to finish."

By our arrangement, Brion would keep the molds and various jigs I constructed to build another SADIE, and would benefit from my research. For the hull he expected to supply at least two man months of his workers' help (substantially more labor was provided when I extended the project).

Brion also stipulated he would not let poor quality work leave his shop; if I was too slow, he would have to step in with his people, and if my work was not acceptable, he would have his people replace it (at my expense of course). Happily, that didn't happen.
In the end, the arrangement turned out wonderfully well; I am grateful to Brion for the opportunity to realize a dream I had held for a long time.

Fabrication Procedure:

Molds, Jigs and Boat Components

To make the molds cross sections on the mylars were transferred to glue-up 8 ft. x 8 ft. sheets of 1-in. plywood. The mold stations of the original design were spaced every 9-in, while ours were spaced 18-in., on even-numbered stations. By nesting the mold layout, 18 molds were cut from two 8 x 8 ft. sheets. The method of mold reinforcing and locating the reference waterline and centerline is shown in the Fig. 5. Set up of the molds on a strongback is shown in Fig. 6 before any boat components were added. Substantial reinforcing was used to allow reuse of the setup for another boat.

Separate fabrications of the two piece stem, bulkheads with reinforcing frames (3), ring frames (2), transom, deck beams, cabin trunk beams, and keel pieces for lamination completed as the molds were made and setup for constructing the hull upside down. The interior stem half, reinforced bulkheads, ring frames, transom, sheer clamp, and keel pieces had to be located on the mold setup before beginning the hull planking. The keel was laminated on the mold setup before planking, as shown in Fig. 7. Plastic sheeting was used to protect the boat components from being glued to the molds, and the sheer clamps were temporarily fastened and protected to allow removal and replacement after turnover. (This allowed reuse of the hull setup for another boat -it is common to break out mold stations.) The exterior stem half was added after planking, but before turnover. Fig. 7 also shows the ring frames and one bulkhead added to the setup.

Fabrication of front and rear deadwood, the lead ballast, centerboard, centerboard trunk, deck and cabin beams, spars, and rudder progressed in parallel with the hull. Steps in the fabrication of the lead keel are illustrated in Figs. 8-10.

The two-part stem was laminated from 8 pieces of ½-in. thick mahogany, and the keel was laminated from 4 pieces of ½-in. thick mahogany. The two-part stem and method of hull construction avoided cutting rabbets in the keel and stem. After planking, the hull was turned over to reinstall sheer clamps and add the centerboard trunk, all beams and decks, floors, mast partner, engine mount, lead ballast and deadwood and rudder.

Modification of the original construction includes two laminated ring frames to increase structural support of the mast support, mast step, and centerboard trunk areas. Three bulkheads with laminated reinforcing frames were used to reinforce lateral hull structure as minimal floors (3), and no ribs or ceiling was used.

The centerboard, centerboard trunk, rudder, transom, all bulkheads, decks and the cabin top were constructed of appropriate thickness marine plywood. One layer of 10 oz. fiberglass plus one layer of 5 oz. Dynel were used over the plywood deck and cabin top. A 1/4-in. mahogany plank sheathed the transom, and 1/4-in. mahogany chamfered planking covered exposed plywood bulkheads for appearance. The underside of the plywood cabin roof was routed to simulate chamfered planking.
In general, all structural members (floors, beams, ring frames, bulkhead frames, keel, deadwood and seats) were laminated using Honduras mahogany except for the plywood described above and the sheer clamps, which were Douglas fir.

Hull construction

As an experienced builder of cold molded boats, Brion selected scantlings to meet or exceed Herreshoff's original design. The hull was constructed using the WEST system with an edge-glued strip-planking, plus four thin veneer layers cold molded at one time for each half of the hull by the vacuum bag method.

To determine the number of planks from sheer to keel, the widest plank allowed was determined from the station cross section with the maximum curvature. The hull locus distance at that station was then divided by the plank width to determine the number of planks. The hull locus distance at other stations was measured and divided by the number of planks to determine the plank width at each station. This information was used to make a plank pattern whose width varied along the hull length. Shapers were set up to cut the bead and cove on the edge at the same time the plank shape was cut using the pattern. This technique avoided having to spile the planks, and gave the same number of planks at all stations. An extra detail provided by this method is an interior chamfer on the plank, which shows on the hull inside to be much like planked ceiling. Three eighths thick eastern white cedar was used for the strip planking. Fig. 11 shows the strip planking in process.

After sealing and fairing the strip planked hull, four veneer layers of 1/8- inch Spanish cedar were dry fit, cut, and stapled to conform to the hull planking. The veneers were then marked and carefully numbered as removed using an unambiguous scheme to allow replacement at glue-up. The first 3 veneer layers were opposite diagonals while the fourth layer was longitudinal. Figure 12 shows the veneer glue-up in process.

Glue-up was accomplished a half-hull at a time. Each half-hull took approximately 2 hours to glue and replace veneers before the vacuum was started. The vacuum was maintained overnight. Peel ply was used to minimize excess glue removal before fairing. Fig. 13 shows the vacuum applied and in Fig. 14 shows the peel ply is being removed with excess epoxy. This method avoids sanding and fairing after each veneer layer.

During glue-up careful checking of the right resin-to-hardener ratio is important. A six-man crew was required: 1 glue pump operator, 2 glue mixer-veneer spreaders, 2 veneer planker-staplers, and 1 trouble shooter-assistant.

Fiberglass sheathing (10 oz. cloth) was added to the hull exterior after fairing, and two coats of epoxy primer were sprayed on and faired. A mahogany sheer strake shaped like the original was added to the hull using a lap joint for the length of the sheer.

A comparison summary of the original ALERION/SADIE scantlings to LIZINDA is given in Table 1 of the Appendix.

Sample scantling calculations

Herreshoff's original hull thickness was 7/8-in. Port Orford cedar. Brion used 3/8-in. eastern

white cedar for the strip planking and four 1/8-in. Spanish cedar veneers for a 7/8-in. total thickness plus 1 layer of 10 oz. glass cloth sheathing. It is interesting to check the cold molded thickness schedule with those from Gerr's *Boat Strength* book (Ref. 2) for calculations of strip cold molded construction.

Gerr's method uses a scantling number (Sn), computed for LIZINDA as follows:

$$Sn = \frac{LOA(ft) \times Beam(ft) \times Depth(ft)}{1000}$$

= (26.5 x 7.5625 x 3.75)/1,000
= 0.752

Gerr's method (Ref. 3) for calculating the hull thickness of a wood-epoxy strip-planked hull with exterior diagonal wood veneer sheathing with FRP is to calculate the strip planked hull thickness with FRP sheathing and then reduce the strip plank thickness by the diagonal veneer wood thickness.

The formulas by Gerr are:

Exterior Only FRG Sheathed Strip Plank Thickness = 0.8 in., using an Sn = 0.8 and Graph11.3 from Gerr's book.

Diagonal Veneer Layer Thickness
= 0.43 x (Sn)^ 0.2
= 0.43 x (0.752)^0.2
= 0.43 x 0.9446
= 0.41 in. or 3 or 4. 1/8 veneers

Combining results for a strip plank thickness to the next 16th in. gives:
0.8 - .375 = 0.425 in. (7/16 in.) for 3, 1/8-in. veneers

or

0.8 – 0.5 = 0.3 in. (5/16 in.) for 4, 1/8-in. veneers.

This compares well with Brion's selection of 0.375 (3/8) strip plank plus four 1/8 thick diagonal veneers. It is nice when comparisons check out.

Finishing Out in Maine

After hull turnover, sheer strake, deck beams, decks, cabin sides, cabin top, centerboard trunk, engine mount, and mast support structure were added. Figs. 15-17 show this process at different stages of construction.

Adding Power – a major change

An inboard electric drive (Vetus 2.2 kW water cooled brushless DC motor) with a VariProp 2-bladed 13-inch feathering prop was selected to allow quiet operation and ease of use from a crowded Texas lake marina. Although a bracket mounted electric trolling motor would be adequate for negotiating the boat slips, safely avoiding sudden electrical thunderstorms that are common and unpredictable may require longer lake runs. Fig. 18 shows the power components except for the batteries and charging system.

Selecting paint color—an interesting detail story

Paint color information for Alerion green (Ref. 4) was obtained from the Herreshoff Marine Museum. This colorimetric measurement was used to specify a custom color to Akzo Nobel of Awlgrip North America who mixed an Awlgrip color to paint the hull. The letter gave the color measurement as: Munsell color between 7.5 GY 6/6 and 10 GY 6/6 (interpolated as 8.5 GY 5.75/6). Awlgrip North America used this information to mix a color (now in their system as: color standard Panel – TB1023, H4450: Herreshoff Green, 10 July 2003).

Finish details of the original SADIE with appropriate materials were used to give appearance and quality of the original where possible. I did select a variation of the original paint scheme (which I understand varied over the years depending on ownership). I selected a green hull, white below the waterline with no boot stripe, and a bright finished mahogany transom to match the mahogany sheer strakes.

Rig selection – Gunter rig

A Gunter rig was selected with hollow spars fabricated from Sitka spruce using the original construction drawing. Instead of the bronze spider used on the main mast for the Gunter rig, Nat Wilson, the sail maker, fabricated traditional wire rigging. Fig. 19 shows the rigging being trial fitted on the main mast. Since the Gunter rig was used on the ALERION, slight adjustments were made to the jib dimensions to account for the half-foot longer SADIE design.

Fig. 20 shows interior structural detail of bulkheads, ring frames and the mast step. Since reproduction Herreshoff bronze hardware was available from JM Reineck these fittings were used where possible.

Construction Time and Material Costs

As a participant, I worked mostly alone for six weeks to layout and fabricate the molds and jigs for gluing up components. At least one full time crewmember was added during and after the strongback and mold were setup for planking. After the hull was glued up I made the ballast plug for the concrete form and then became a helper doing many tedious jobs (sanding, cleaning off glue, etc.) I contributed approximately a thousand hours to the effort (not all efficiently productive). A summary of the labor hours, other than mine, and the primary material costs are shown in Appendix Table 2.

Finishing out in Texas

LIZINDA left Maine in November 2003 (41 weeks from start) with one coat of exterior paint above the waterline, the cockpit and cabin interior had either primer, sealer, or varnish applied. The ballast, rudder and centerboard were installed. Fig. 21 shows LIZINDA being placed on the trailer after installation of the centerboard. Sails and rigging were complete, and hardware had been located on the deck and spars for later installation.

Remaining tasks include installation of the engine, propeller, shaft and seal, batteries, bilge pump, charging system, seats, cabin trim, tiller, and floorboards. After these tasks are complete, LIZINDA will receive a final coat of topside and bottom paint, have hardware installed, and be rigged for launch. Launching is anticipated in the spring of 2005.

Trailering to Texas

Although LIZINDA will be kept in the water (or on a hydro hoist), a custom trailer was purchased to tow the boat to Texas and provide the flexibility to move to different locations. Current insurance allows sailing in non-tidal waters (excluding the Great Lakes). I may take LIZINDA to the Texas coast (or even back to Maine) after I have about a year of sailing experience.

Acknowledgements

I want to thank the following whose cooperation made this project both possible and a pleasure.
Brion Rieff & Crew (primarily Richard Will, Jeff Laugensen, Clark Naisbitt and Donald Gross)
Kurt Hasselbalch, Hart Nautical Collections, MIT Museum
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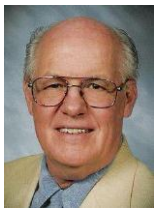
Eric Dow, Eric Dow Boat Shop
Manyard Bray
Vetus
VariProp USA
Jim Reineck, J. M. Reineck & Son
Rumery's Boat Yard
Nat Wilson, Nathaniel L. Wilson, Sailmaker



Since 1992 Wilson Tarver has participated in various boatbuilding and related courses at the WoodenBoat School. Class experience includes finishing out a Haven 12-1/2, cold molding three different hulls, building a composite structure wing mast and bronze casting. Wilson retired from Southwest Research Institute as a Principal Engineer in 1998 after 31 years. After completing LIZINDA this spring, he and his family will sail her near San Antonio at Canyon Lake, Texas.

References

1 – Barker, Warren. *Curlew: Revisiting Nathanael Herreshoff's Alerion*. WoodenBoat 1997: 138:58
2 – Gerr, Dave. *The Elements of Boat Strength*, International Marine, Camden,ME, 2000
3 –Ibid, pp. 154-159
4 - Paint analysis letter from Herreshoff Marine Museum (Dr. Judith E Selwyn, Preservation Technology Associates letter of Oct. 15, 1980)

APPENDIX Table 1 LIZINDA-SADIE Scantling Comparison

	LIZINDA		SADIE	
Item	**Dimension**	**Material**	**Dimensions**	**Material**
Frame Space	18-in.		9-in.	
Keel	2 1/4	L. Mahogany	2 1/4	W. Oak
Stem	2-3/8 x 3-1/2	L. Mahogany	2-3/8 x 3-1/2	W. Oak
Timbers	none	L. Mahogany	1-1/16 inc. 1/16/ft.	W. Oak
Sheer Clamp	3 x 1-1/4	Fir	1-3/4 x 1-3/4	Oregon Pine
Planking*	3/8 + 4 x 1/8	W. & Sp. Cedar	13/16	W. Cedar
Deck	5/8	L., M. Plywood, FG	3/4	W. Cedar
Deck beams	1 x 1-5/8	L. Mahogany	1 x 1-5/8	W. Oak
Deck beams, St. 11 & 13	1-3/8 x 1-5/8	L. Mahogany	1-3/8 x 1-5/8	W. Oak
Coaming & House Sides	3/4	Mahogany	3/4	Mahogany
House Carlings	5/8 x 1-1/8	L. Mahogany	5/8 x 1-1/4	W. Oak
House Carling, St. 19	1 x 1-1/2	L. Mahogany	1-1/8 x 1-1/4	W. Oak
House Top	5/8	L., M. Plywood, FG	1/2	Cedar
Sheer Strake	1-1/8 molded	Mahogany	1-1/8 molded	W. Oak
Gunwale Strip	7/8 x 1-1/4	Mahogany	3/4 x 1-1/8	Mahogany
Transom Deck Strip	1-1/2 x 7/8	Mahogany		
Cockpit Seats	7/8	Mahogany	13/16	Mahogany
Cabin Bulkhead	5/8	M. Plywood	7/16	Mahogany
Cockpit Floor Boards	1-1/2 x 11/16	Teak	1-3/16 x 9/16	Teak
Ceiling	none		3/8 or 7/16	Cedar
Floor Beams	1-1/2	Mahogany	7/8 x 1-1/2	Oak
Center Board	1-1/8	M. Plywood, FG	1-1/8	W. or Y. Oak
Center Board Slot	1-3/8		1-3/8	
Rudder	1-3/4	M, Plywood, FG		
Ring frames	2 x 2	L. Mahogany		
Transom	1-1/2	L., M. Plywood, FG	11/16	
Added Bulkheads **	5/8	M. Plywood, L.M.	`	

Notes:
SADIE Dimensions & Materials from original NGH construction dwg.
L. Mahogany: Laminated Mahogany
L. Mahogany, FG: Laminated Mahogany covered w/Fiberglass
M. Plywood: Marine (1088) Mahogany
M. Plywood, FG: Marine (1088) Mahogany covered w/ Fiberglass
L. M. Plywood: Laminated Marine (1088) Plywood
L., M. Plywood, FG: Laminated Marine (1088) Plywood covered w/Fiberglass
* 3/8 epoxy edge glued strip plank + 4 x 1/8 veneers + 10 oz FG
** M. Plywood w/L. Mahogany reinforcing frames 1-1/2 x 1-3/8

APPENDIX Table 2A LIZINDA Material Cost Summary

Item	Cost	Total	Use/Notes
MIT - right to build agreement	$315.00		
Plans Copy	$128.00		
Copy lofted lines	$500.00		
		$943.00	
Molds & Strong Back Setup	$200.00		
	$79.00		
	$36.00		
	$69.25		
	$197.44		
		$581.69	
Boat Woods	$4,780.00	$4,780.00	Hardwoods, Marine Ply
Hull Veneers	$2,700.00	$2,700.00	Sp. Cedar - 2405 lin ft.
			4 layers, 1/8-in.
Sitka Spruce	$1,200.00	$1,200.00	Spars
Bronze Hardware	$3,770.55		
	$175.00		
		$3,945.55	
Sails	$2,900.00	$2,900.00	Gunter Rig
Rigging	$1,000.00	$1,000.00	
Lead Ballast	$89.50		
	$2,800.00		
		$2,889.50	Lead, concrete form, finished
Expendables	$926.00		Epoxy, Cloth, Sand Paper, Etc
	$300.00		
		$1,226.00	
Electric Drive			
Vetus 2.2Kw Electric Motor	$2,900.00		Watercooled
Water Strainer	$35.74		
Stainless Steel Drive Shaft	$200.00		
Shaft Seal	$145.00		Dripless
Fiber Glass Shaft Tube	$150.00		w/Bronze cutlass bearing
2-Blade Variable Pitch Propeller	$1,193.00		Aluminum Bronze
Batteries & battery cases	$800.00		4- 220Ahr, 6 volt
Battery Charger	$500.00		24-volt 20 Amp
DC Isolator	$99.23		
Misc. Electrical Components	$250.00		
		$6,272.97	
LIZINDA Materials Total		$28,438.71	
Trailer	$6,418.00	$6,418.00	w/ load leveler & anti sway hitch
Total Materials & Trailer		$34,856.71	

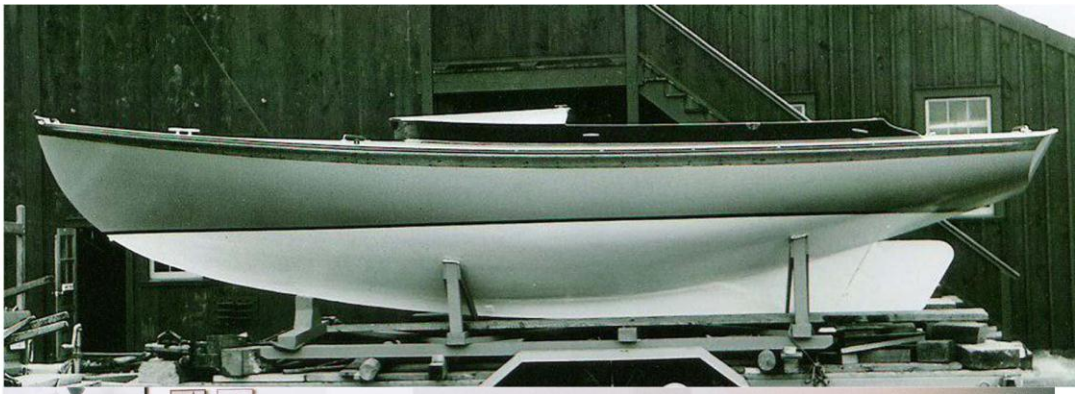
Table 2B LIZINDA Task Hours Summary

Task	Task Hours
Copy Lines & Make & Assemble Molds	171
Make Prefabricated Components	172
Stem, Ring Fr., Transom, Bulkheads Keel	106.5
Set Up Molds & Add Prefabricated Components	126
Plank & Fair Hull	102.5
Glue up Hull Veneers & Fair	101
Fiberglass Hull, Fair & Prime	213.5
Turn Over Boat	9
Clean Up Hull Inside & Seal	172.5
Fabricate, Install Deck Beams & Deck	356.75
Shape & Install Cabin Sides/Coamings	83
Install Cabin Beams & Top	143.5
Make Ballast Plug	24
Make Remaining Boat Components	
Floors, Eng Mount	60.5
Spars (including mast step)	184
Molded Sheer Strakes	86
Ballast	106
CB & CB Trunk	102.5
Deadwood	29
Install Remaining Boat Components	46
Install Ballast & Deadwood	127.5
Make Rudder & Install	74.75
Cut Shaft Hole & Propeller Opening	44
Paint First Coat, Topside	24
Locate Hardware & Dry Install	31
Prepare for Towing	34
Total	**2730.5 Hours***

*** Includes 343 hours of the authors time for the first 2 tasks. An additional 650 hours (approximately) of the author's time is not shown. Brion Rieff Boat Building billed 2400 hours.**

Figures:

Alerion



Sadie

Fair Sadie

Lizinda

Figure 1 - Profile Comparison

Sadie ***Lizinda***

Fair Sadie ***Curlew***

Figure 2 - Rudder Comparison

Alerion ***Sadie***

Fair Sadie ***Curlew***

Figure 3 - Cockpit Comparison Looking Aft

Alerion ***Sadie***

Curlew ***Fair Sadie***

Fig. – 4 Cockpit Comparison Looking Forward

Fig. – 5 Mold Fabrications With Center & Reference Water Lines

Fig. – 6 Strongback and Mold Setup Before Adding Boat Components

Fig. – 7 Strongback and Mold Setup With Added Boat Components

Fig. – 8 Ballast Plug Fabrication

Fig. – 9 Fitting the Ballast Plug

Fig. – 10 Lead Ballast

Fig. – 11 Hull Fabrication - Strip Planking

Fig. – 12 Hull Fabrication - Applying Mold Veneers

Fig. – 13 Hull Fabrication - Vacuum Bag Applied

Fig. – 14 Hull Fabrication – Peel Ply and Excess Glue Removal

Fig. – 15 Finishing Out – Sheer Clamps

Fig. – 16 Finishing Out – Deck Beams

Fig. – 17 Finishing Out –Decks, Cabin, CB Trunk

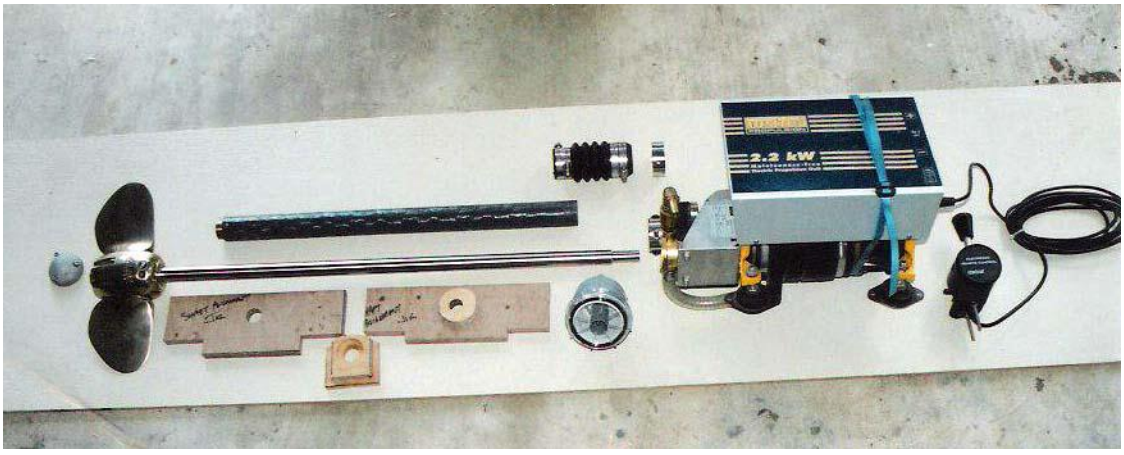


Fig. – 18 Electric Drive Components

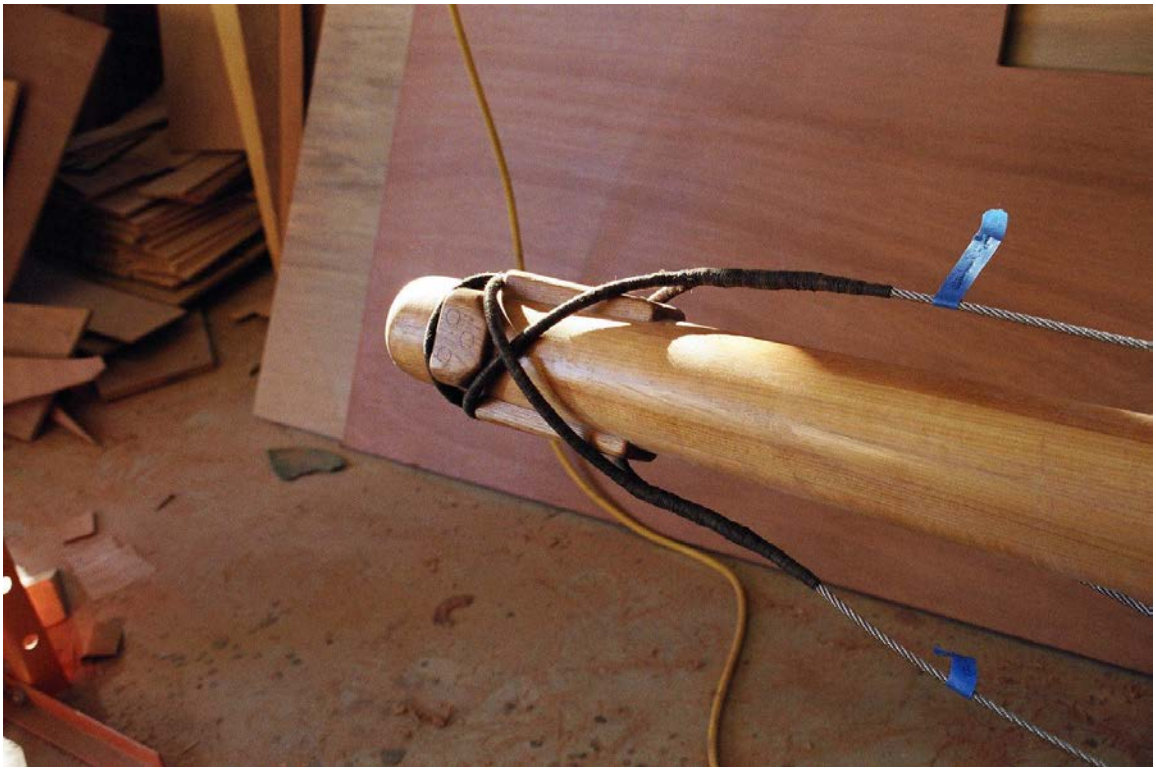


Fig. – 19 Spars & Rigging

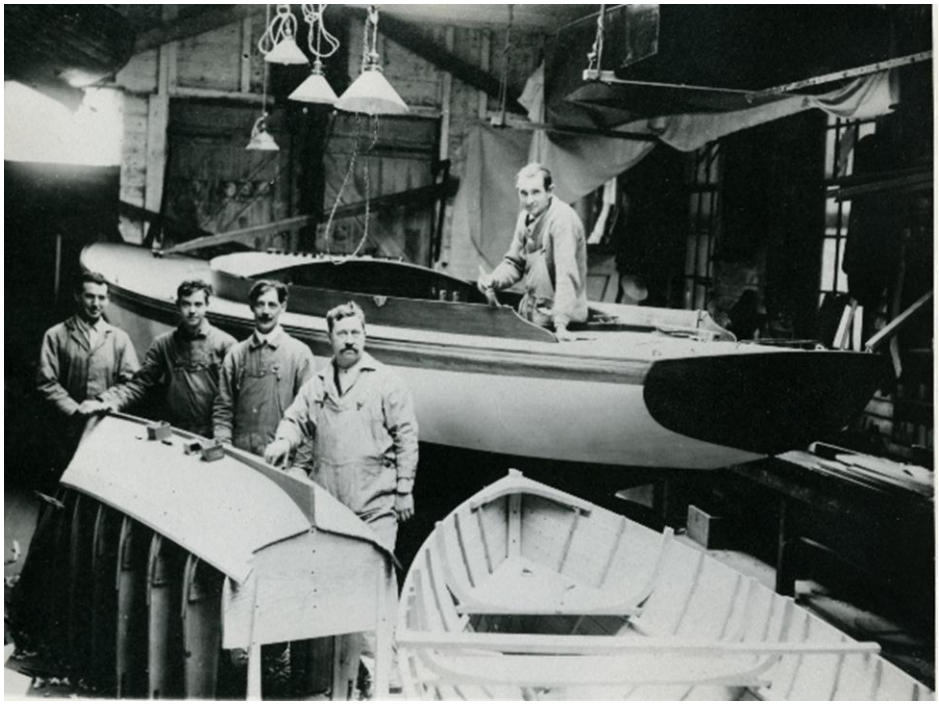
Fig. – 20 Mast Support With Ring Frames

Fig. – 21 Centerboard Installation

The Current Archive - October 2012

THE CURATOR'S LOG

ALERION III: The Builders



Ninety-nine years ago this month the Herreshoff Manufacturing Co. recorded a contract with Capt. Nat Herreshoff to build the 26–foot overall ALERION (HMCo #718). He had carved the model that July, completing the design notes in September for "ALERION…Centreboard Cruising Knockabout for self and fit for Bermudian Waters". Construction began early November and she was launched January 23rd the following year. Capt. Nat sailed, her mostly single-handed, for nearly a decade in Bermuda before returning her to Bristol.

ALERION is known for a beautiful shape and as a fast sailer. But just as iconic, is the considerable pride evidenced in the faces and demeanor of the men who built her. In this Nat Herreshoff Jr. photo, from left to right they are carpenters Ernest Alder, Charlie Sylvester, Henry Vincent, James Clarkson, and painter Willard Kenney. In the foreground the 8½-foot rowboat, partly planked, was

to be stowed in ALERION's cabin for shipment to Bermuda.

What do we know about these talented men?

We first find Ernest Alder in the payroll records of 1899 earning $2.25 per day as number 36 of 91 carpenters. At the time of the photo he is foreman of the small boat shop. Capt. Nat's son Gid, who spent most of his time there after school, remembers Ernest as "my best friend in the shop". In 1923 Ernest moved up to be head of all wood construction when Rufus Murray left for Nevins. This was just before the Haffenreffer family bought the company at auction and experienced men were leaving because of fears the company would close for good. At the 1985 Herreshoff Employees Reunion there were many who remembered him; Nat Gladding remembered that during the 1930s Depression, when jobs were few, Herreshoff was hiring to build RAINBOW. When Nat could not afford to complete his studies at Brown, Ernest kindly found him work as a helper. Following his Herreshoff years Ernest established the Warren Boatworks.

ALERION was the first boat that 16-year old Charlie Sylvester worked on at Herreshoff. In his career he built many of the company's H12½s, dinghies and yacht tenders. There are a number of photos of Charlie in the company records: December 1914 he is sitting in ROBIN the first H12½ fully rigged in the North Construction Shop; in 1932 he is turning over the hull of the Northeast Harbor 30 TSANA; and these are just a few of the many photos of Charlie at work on small boats. (Charlie left the company for a brief period during the work drop-off in the early 1920s.) In 1940 he went to work for the Portsmouth Naval Shipyard, retiring in 1964. During that time he partly rebuilt ALERION for owner Ike Merriman. After retirement from the shipyard, Charlie taught Barry Thomas the method of dinghy construction used at Herreshoff. (See Building the Herreshoff Dinghy: The Manufacturers Method by Barry Thomas Mystic Seaport Museum. June 1977). Charlie died in 1983.

Henry Vincent is remembered as "an exceptionally fine workman". He built the Herreshoff canoe that is in the Mystic Seaport Collection. In the 1920s he started a small yard of his own in Warren where he lost his life in a boat launching accident.

We have found no records of James Clarkson. Willard Kenney continued employment at Herreshoff during WWII.

To learn more about the legacy of ALERION and celebrate her centennial year plan on attending the 5th Classic Yacht Symposium at the Museum on Saturday April 21, 2012.

John Palmieri
Curator

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Maynard Bray and Carlton Pinheiro, *Herreshoff of Bristol.* Herreshoff Marine Museum. 2nd edition 2005.
Nat Gladding Reminisces. Herreshoff Marine Museum Chronicles. No. 14. Fall 1986
Nathanael Greene Herreshoff Design Record Book. Courtesy Halsey C. Herreshoff.

The Current Archive - January 2012

THE CURATOR'S LOG
Sailing ALERION III

A century ago this coming July Nat Herreshoff carved the half-model of ALERION III and construction started that November. Over the intervening 100 years ALERION had five owners who sailed her extensively; first Capt. Nat in Bermuda, and then all five on Long Island Sound and New England waters (1). Here is some of the published commentary about her sailing qualities in those years.

L. Francis Herreshoff wrote about his single-handed sail in 1920 to deliver ALERION to Bristol from the arriving Bermuda steamer in New York (2). What started in good weather ended in a strong early spring southwester with heavy seas that left him marveling at how her backstays held, the spars and sail survived the strain, and the bow raised to shake off the water in a following sea.

In New York he found her "as well built and fitted out a small yacht as has been my lot to see". Towed to City Island by a Herreshoff launch from J. P. Morgan's steam yacht CORSAIR III, ALERION was quickly rigged with help from the crew of the America's Cup contender VANITIE. Shoving off in a light breeze, with "a bottle of water, some sardines and a loaf of bread", he reached Greenwich by sunset. On the third day he sailed 14 hours in a cold strong nor'easter to make New London after dark. Lingering for three days while the storm raged, he started again in light winds that quickly became a very strong southwester. About the storm, he writes; "As the southwester rushed down on us it was heralded first by a rustling noise, then a hissing like ten thousand pythons". With a 15-fathom painter for sea anchor, storm trysail jib and mainsail fully reefed he rushed past Point Judith lifeboat station where he could see men wondering, "What … fool is out there today?" Safely reaching Bristol, having covered 52 miles in eight hours, he was left with two lasting impressions; the "great pleasure" of the sail and the lesson to "be careful how you put to see in the springtime".

Another article in the 1920s tells of a group sitting on the porch of the East Greenwich YC on a hot, windless day. As they watched, a little green sloop rounded the point, glided through the harbor and back out. A new member asked, "What kind of boat is that and what in blazes makes her go?" The answer, "Why it is Capt. Nat Herreshoff and his ALERION, and they both make her go!" (3.4)

The appreciative third owner of ALERION, Amory Standish Skerry, described her thus; "(Nat) designed her to be the most perfect "single hander" of which he is capable. Any one who has sailed

ALERION knows how well he succeeded." Amory remarked on how well she sailed to windward; "You trimmed sail for the course you wanted…then lowered or raised the centerboard until perfect balance of the helm was attained and she would mind herself on course as long as the wind held true". (5)

Even Capt. Nat offered his own flowery testimonial, declaring- "She was a very satisfactory boat." (6)

John Palmieri
Curator

The story of ALERION and her legacy is being featured with a full afternoon program on April 28, 2012 at the 5th Classic Yacht Symposium.

(1)L. Francis Herreshoff, A Sail in the Alerion. The Rudder. Sept. 1943
(2)The Log of Mystic Seaport. Vol 21 No.3. p. 99
(3) I had a similar experience in 2009 sailing, the improved Alerion, SADIE in Bristol Harbor with Adam Langerman. It was flat calm and nothing else, big or small was moving, but we ghosted along on our course around Hog Island.

(4)Amory Standish Skerry, Alerion. The Log of Mystic Seaport. Vol 21 No.3. pp 96-99
(5)Nathanael G. Herreshoff, Recollections. Edited by Carlton J. Pinheiro. Herreshoff Marine Museum, 1998.

The Current Archive - February 2012

THE CURATOR'S LOG

INGOMAR: The Most Successful Campaign Since the Schooner AMERICA

Don't miss the April 28th, 5th Classic Yacht Symposium featuring construction of the new schooner INGOMAR. It is the latest chapter in a story that goes back over a century.

The year 1899 brought a big change in the life of Morton F. Plant. He had followed his railroad magnate father in business, but in 1899 Henry died, writing Morton out of control of the $22M estate. A lawsuit awarded him $14.6 M and a new lifestyle. The first $3M built a pleasure dome at Avery Point, Groton, CT (now a U CONN satellite campus), and fame followed as a developer, yachtsman, baseball team owner, and for trading his 5th Avenue New York mansion with Cartier's for $100 and a $1M black pearl necklace. Most importantly he had Herreshoff build ten yachts including a pair of 28-foot steam launches, the first NY 40, the 127-foot steel centerboard schooner INGOMAR and the 130-foot steam yacht PARTHENIA.

When approached by Plant to build a schooner for racing in Europe, Capt. Nat had not designed a schooner since the 1866 SADIE (1) and as L Francs Herreshoff writes in Capt. Nat: Wizard of Bristol; "… (he) very much disliked the rig and said it was too complicated and costly, and that it had too much wind resistance". Capt. Nat and the Company however did have recent experience building the fast and lightly built America's Cup defenders with features more advanced than the British contenders. Unlike the spartan interiors of the defenders INGOMAR was fitted with solid mahogany companionways, hatches and skylights, a luxurious all butternut and mahogany cabin, a ladies cabin upholstered in green plush with many mirrors and artistic hangings, and a circular main saloon with red plush transoms.

Because of the priority given to the 1903 Cup Defender RELIANCE, INGOMAR was built in the North Shop (without the marine railway). Launching on greased ways she hit the water at 10 mph, performed a graceful circle in the harbor and returned running her stern gently into the North wharf with no damage.

Though built to race overseas Plant gave her a summer tryout- winning almost all her races. Encouraged by the results planning started for the 1904 season in Europe. Charlie Barr and many of the winning RELIANCE crew signed on for the campaign. The centerboard was removed and her

draft was increased by adding a slab of lead to the bottom of the keel.

Experienced English yachtsman Brooke Heckstall-Smith sailed in the after guard for most of INGOMAR's 1904 races and was impressed with her features (2):
• Wheel and foot-brake rather than a tiller as used on Brit boats.
• Very large high main and foresail with small topsails with light Oregon pine spars; spars much smaller than Brit racing schooners.
• Light but extremely strong working gear. Uncluttered decks.
• Riveting and finish of hull were "magnificent".

But it was in the racing that she proved her mettle. INGOMAR's record of 17 trophies in 22 races in the summer of 1904 was the most successful campaign of an American vessel in European waters since the schooner AMERICA in 1851.

John Palmieri
Curator

1 Nat, aged 18, made the sail plan and all the drawings for the boat that had been modeled by his father and blind older brother John.
2 Brook Heckstall-Smith, All Hands on the Mainsheet. London. Grant Richards. 1921.

The Current Archive - March 2012

THE CURATOR'S LOG

Capt. Nat Herreshoff in the 21st Century

The twenty-first century provides a singular opportunity for the Classic Yacht Symposium to explore the body of work by Capt. Nat Herreshoff and the Herreshoff Manufacturing Co. This opportunity develops from a congruence of factors.

• First, nary a year goes by that is not a 100th anniversary of one or more of the most famous and successful Nat Herreshoff designs. Already gone by are the Buzzards Bay 30s, the sloop NELLIE, and the NY 30's. This year, 2012, it is ALERION III, 2013 the NY 50s, 2014 the Buzzards Bay Boys Boat and the Buzzards Bay 25, 1916 the Fish and the NY 40s, and in 1919 the S Class. Additionally stretching from 2003 to 2015 are the big steel racing schooners.

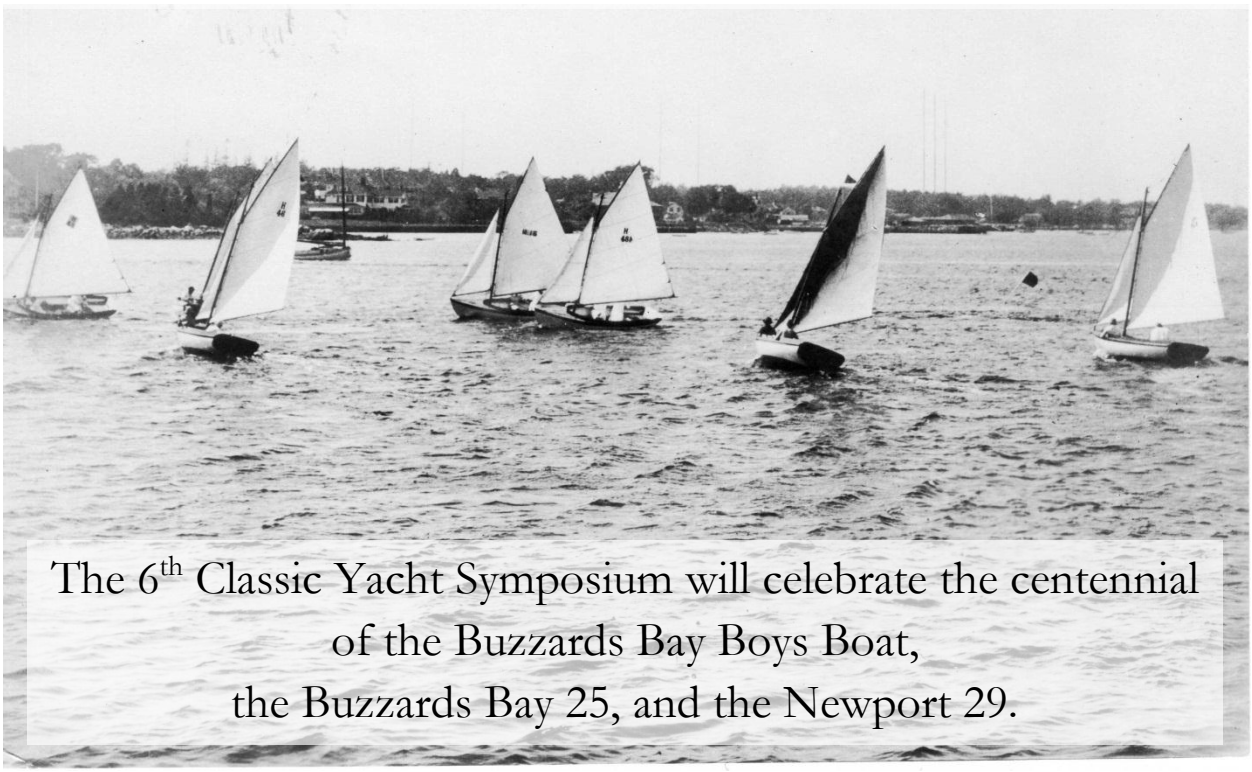
• Second, representatives of all the above designs are today being cared for by committed owners, faithfully maintained and restored to original condition by internationally recognized professionals and are competitively racing as they did a century ago. Additionally new replicas are being built and modern derivatives are being created with enhanced designs using new materials. In truth there is more energy and excitement in the field than any time since the boats were originally built.

Now, Capt. Nat left little written commentary about his designs for us to dissect. But thanks to Halsey Herreshoff we do have his personal design records housed at the Museum and there are the company drawings carefully conserved at MIT by Kurt Hasselbalch. These records together with all this activity by the best in the business are creating new insights into his genius on a daily basis. Even those who design and build derivatives add to our knowledge because they start with developing their own understanding of the original design.

This year's program features A Century and More of the Big Schooners and The ALERION Revolution: What Nat Herreshoff Started in 1912. See you at the Museum on April 28.

John Palmieri
Curator

~See you in 2014~



The 6th Classic Yacht Symposium will celebrate the centennial
of the Buzzards Bay Boys Boat,
the Buzzards Bay 25, and the Newport 29.

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