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THE MAGAZINE FOR WOODEN BOAT OWNERS, BUILDERS, AND DESIGNERS

Classics in Cannes
L. Francis Herreshoff: His Pivotal Yachts
A Fast Plywood Power Launch

MAY/JUNE 2015
NUMBER 244
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Cover: The Sonderboat TILLY XV chases the 8-Meter-class sloop FRANCE last September at Régates Royales, a five-day competition for classic yachts in Cannes, France. That event included a lineup of magnificent yachts, including a number from the boards of William Fife, Sparkman & Stephens, and N.G. Herreshoff.

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Photograph by Benjamin Mendlowitz

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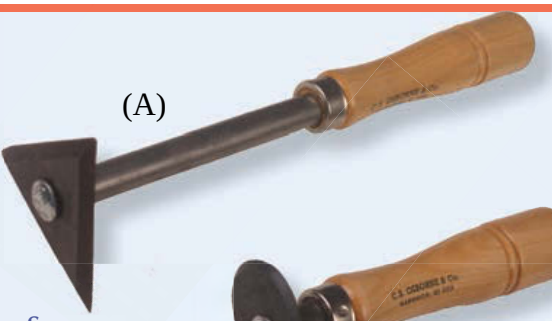

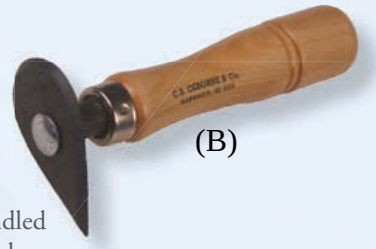

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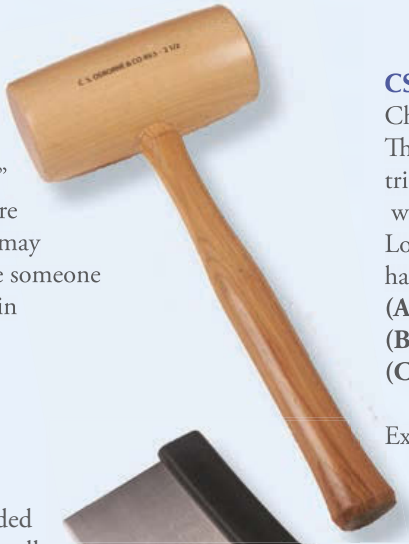

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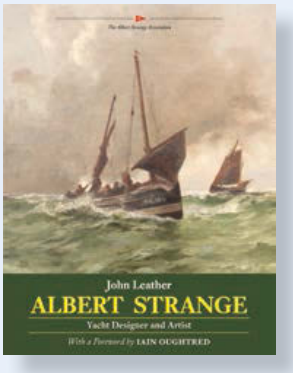

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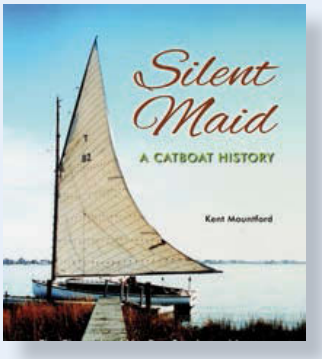

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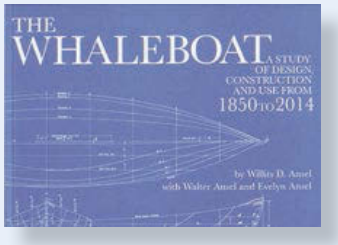

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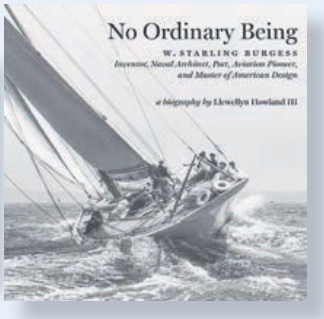

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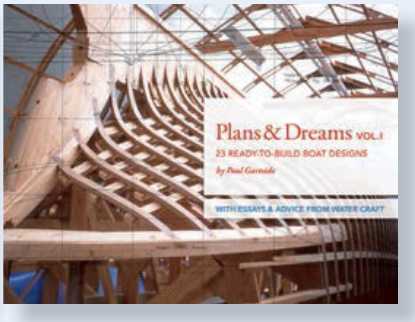

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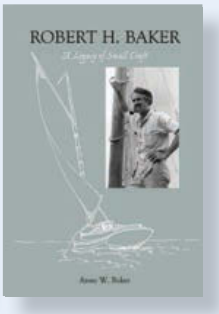

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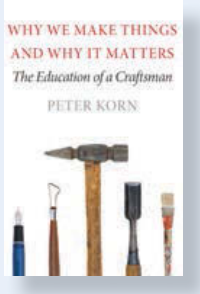

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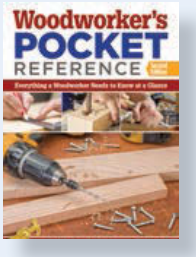

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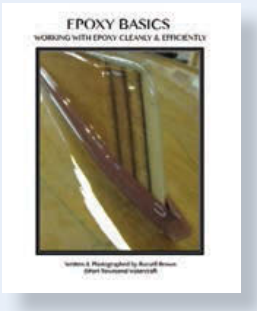

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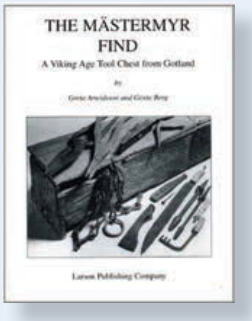

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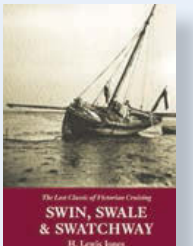

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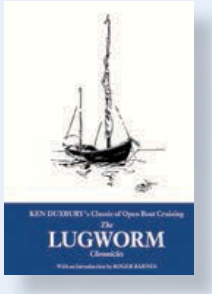

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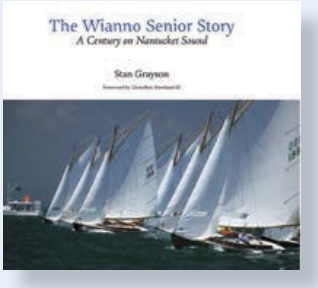

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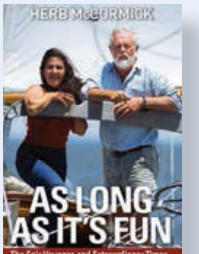

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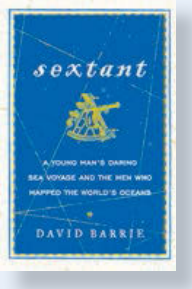

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Big Ship in a Small Town

More than 20 years ago, a small group of dedicated builders began constructing an exact replica of the 18th-century French frigate L'HERMIONE. The original vessel of that name was launched in 1779, and the following year Gilbert du Motier—better known as the Marquis de Lafayette—sailed in her to Boston as part of a fleet meant to support the colonial rebellion against British rule. Lafayette, L'HERMIONE, and three other frigates carried 5,000 troops who helped turn the tide of the war.

The new vessel is the largest and most authentic ship reconstruction in recent memory. Save for a few concessions to safety, such as carefully concealed mechanical propulsion, electronic navigation, and power generation, she was built and rigged of the same stuff, and in the same way, as the original. In its early years, this project seemed a quixotic and impossible dream. Over time, however, as we received reports from and photographs of the job, it became clear that the builders meant business. By the time you receive this magazine, L'HERMIONE will be en route to the United States, for her builders are replicating not only the frigate, but her voyage, too.

Senior editor Tom Jackson visited L'HERMIONE's construction site 14 years ago, and various *WoodenBoat* correspondents have sent news of her over the years. Still she's always seemed exotic and far off, and her planned visit to the United States in the distant future. Imagine our surprise, then, when we heard late last summer that plans were afoot to bring her to Castine, Maine, which is not far from this magazine's headquarters. The town has historical significance to L'HERMIONE: When the original vessel returned from Boston to France, Gen. George Washington requested that she divert to Penobscot Bay and report on happenings at the British fort at Pentagoët (now Castine), strategically located at the head of the bay. (The town's Loyalists lifted their homes from their foundations and barged them to Nova Scotia after the Revolution—but that's another story.) The leadership at Castine's historical society became enthralled with the possibility of bringing the new L'HERMIONE to town, and that will happen on July 14–15. (For a complete schedule of the U.S. tour, and Marc Jensen's article about his time aboard, please turn to page 54.) She'll be spectacular wherever she goes. But at Castine and on Penobscot Bay, where it doesn't take much effort to time-travel by squinting away modernity, the frigate is going to stand particularly tall.

(Coincidentally, two other boats in this issue have significance to Castine. Bill Mayher writes about the business of chartering classic yachts beginning on page 48, and the featured boat in that article, the William Hand motorsailer GUILDIVE, sails from the town's waterfront. And beginning on page 26 we learn that Simon Watts, who tells of his personal history with the International 14 dinghy, taught sailing in the town many years ago in his own I-14.)

WoodenBoat
41 WoodenBoat Lane • P.O. Box 78
Brooklin, ME 04616–0078
tel. 207–359–4651 • fax 207–359–8920
email: woodenboat@woodenboat.com
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CHAIRMAN & EDITOR-IN-CHIEF
Jonathan A. Wilson
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EDITORIAL
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LETTERS

The Norwegian Snekke

Dear Editors,
Thank you heartily for Evelyn Ansel's well-written article on the Norwegian snekke(WB No. 243). There isn't a better small wooden boat afloat than the snekke; they are tough and dependable and graceful to behold. I have owned two of them over the past 30 years on the island of Hirta off the mid-Norwegian coast. My first was a 21-footer built in the More og Romsdal county of western Norway, and I miss it dearly—though I don't miss its ever-so-reliable but killer-to-crank Sleipner diesel.

My second, and current snekke, was built in the same region by Samuel Brubek some 60-odd years ago. I returned this one to a sailing snekke—as it was originally. It's 16′ long and sails exceptionally close to the wind—and rows beautifully, too. This boat had long been a lighthouse keeper's launch at Titran, on the island of Froya. I relieved it of its well-worn Sleipner gasoline motor—a heresy in some eyes—and added an outboard rudder and a mast, and it has given me many a pleasurable hour on Dolm Sound.

Because the More og Romsdal fishermen had to sail far offshore for their daily catch, the hulls of these locally built snekker were necessarily deeper than those of southern Norway. Today, many locals and vacationers prefer these snekke as opposed to the more common plastic skiffs and cruisers, because they have a more comfortable motion. It also is quite true that a snekke under sail can keep pace with a motorized one. That I know for certain.

Richard Thrift
Charlottesville, Virginia

Dear *WoodenBoat*,
I have been interested in finding a source for variable-pitch propellers for boats smaller than 50′ LOA for many years. While folding propellers are available, and variable-pitch propellers are used on large vessels, I have yet to come across a small variable-pitch propeller that is currently manufactured.

In your cover article in the March/April 2015 edition about the Norwegian snekke, I couldn't help but notice the diagram for the "reversible prop" on page 27, in which small forward-only motors were used, and the reversing propeller was used to provide backing thrust. If a propeller can reverse, it must also adjust its pitch in the process. Do you have any information on whether such a product is still produced in Norway for the snekke-type boats? Or, is there possibly a source for an antique propeller of this type?

Thanks for your magazine. It is constant inspiration for those of us who have fiberglass craft, but long for wood.

Jay Wilson Preston
Charlo, Montana

The editors reply—
We consulted author Evelyn Ansel on the answer to this question, and she in turn consulted with one of the sources in her article, Lars Solberg. Lars tells us that "these propellers were so universally used, and virtually everlasting (provided they didn't hit a hard rock), that every decently stocked workshop, such as mine, has an assorted collection of them. In fact, I used to know a guy who had a whole garage full of them. If you or other readers wish to contact me with your size requirement (diameter, horsepower, and rpm), we could see if a suitable propeller could be found. Please contact me at allsidiu@online.no."

Gougeon Apprenticeship?

Dear Editors,
Great issue! I enjoyed the VASA piece in Currents (WB No. 242), the Meade Gougeon article, the Sound Interclub article, and am looking forward to the Nigel Irens article. It's all great reading.

I have a question regarding Jim Brown's excellent Meade Gougeon article. At the bottom of the first column on page 30 it says: "In the late 1960s, Meade's younger brother, Jan, served an intense apprenticeship under an established boatbuilder. It was there that he learned to glue wooden parts together with epoxy." Do you, Meade, or Jim know who that wooden boat builder might have been? The reason I ask is that there is a persistent rumor that one of the Gougeon brothers (I actually thought it might have been Meade) worked at Metro Marine in Bronte, Ontario, Canada. Metro was an innovative wooden boat builder in the early and mid-1960s doing glued strip-planking to build a number of early Cuthbertson & Cassian designs prior to the advent of RED JACKET. In actual fact, Erich Bruckmann, who built RED JACKET and would go on to establish Bruckmann Manufacturing, which then became the Custom Division of C&C Yachts, was the shop supervisor at Metro Marine starting there in the late 1950s upon his arrival in Canada from Austria. He took Brion Jorgenson and Horst Manzel with him when he left Metro to open his own company. Another alumnus of Metro was Vic Carpenter, who also went off and established his own business, but sticking to wooden construction. Boats that Metro built designed by Cuthbertson & Cassian included LA MOUETTE, PIPEDREAM, PINTAIL one designs, and THERMOPYLAE.

So if you can find who that "established boatbuilder" was, we might be able to put this question to rest.

Rob Mazza

The editors reply—
Thanks for your good question—and for these fascinating historical details. Jan served his apprenticeship with Vic Carpenter, whose significance you've touched upon in your letter. Vic, who passed away in 2012, was profiled in WB Nos. 45-46.

In Praise of Wood Technology

To the Editor,
For roughly 40 years I've labored, usually joyfully, to maintain my Curtis Applegarth–built Chesapeake Bay skipjack, APPLEJACK. And, for as long as I can remember, Richard Jagels's Wood Technology columns have been a steadfast source for advice, encouragement, and good reading. The science is accessible to the unschooled, and the novice reader wants to know more. How Jagels does it issue-after-issue, year-after-year, is a mystery.

I recall writing to Jagels more than 20 years ago, seeking input on using an epoxy paste to fill a void in APPLEJACK's stem. A few months later, I got my reply, not in the mailbox, but appearing in Wood Technology. I guess this is part of his genius. Just as with his words, Jagels is a master of economy; there's no wasted effort. He simultaneously resolved my problem, provided advice to other readers, and satisfied his responsibilities to *WoodenBoat*.

Some time ago I decided that I needed to write to applaud Jagels. Upon opening WB No. 243 and finding Wood Technology at the magazine's beginning, rather than at its end, I concluded the time has come. Obviously, the editors get it: this jewel belongs up front. So, albeit belatedly, I write.

I don't waste words writing to Jagels. Usually, it's just a matter of reviewing what he's already addressed. In those rare instances that I don't find the answer, I've learned to wait patiently since virtually every wood technology question seems to eventually make its way into his columns.

George Jackson
Elizabeth City, North Carolina

Dear *WoodenBoat*,
I've reread Dr. Jagels's article on glues (WB No. 243) several times. It's hard to put down! The discussion of resorcinol and epoxy was particularly absorbing, but it left me with questions about the relative efficacy of clear glue line resorcinol. Is it as good as its purple-brown cousin?

I was disappointed that Jagels made no mention of Cascamite (urea-formaldehyde resin). I use it above the waterline and in exterior furniture. The mixing, application, and cleanup are excellent, and I have no complaints about its efficacy or longevity. However, I wondered if it has been tested against epoxy, resorcinol, and other common boatbuilding glues.

St. John Starkie
via e-mail

Richard Jagels replies:
I made a quick check on the Internet and called a few colleagues, but could find no information on a resorcinol resin that cures to a clear glue line. If any readers can provide me with more information, I would be happy to do some research for a possible future column. I did not mention Cascamite (urea-formaldehyde resin)—or the U.S. version that is sold as Weldwood plastic resin glue—because this adhesive requires premixing while offering no advantages over the more readily available water-resistant formulations of polyvinyl acetate (PVA) in the U.S. However, if urea-formaldehyde is readily available in your area and the newer versions of PVA are not, then by all means this would be a reasonable glue for above-waterline areas.

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ALUMNI WORK WEEK	Making Friends with Your Marine Diesel Engine with Jon Bardo	Build Your Own Annapolis Wherry with Geoff Kerr	Fine Strip-Planked Boat Construction with Nick Schade	Build Your Own Stitch-and-Glue Kayak with Eric Schade	Build Your Own Baidarka with Mark Kaufman	Building Beach Pea with Geoff Kerr		Traditional Wood-and-Canvas Canoe Construction with Rollin Thurlow
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			Coastwise Navigation with Jane Ahlfeld	Elements of Sailing with Jane Ahlfeld and Annie Nixon	Skills of Coastal Seamanship with Andy Oldman	Craft of Sail on TAMMY NORIE with Joel Rowland	Seascape/Landscape in Watercolor with Paul Trowbridge	Bronze Casting for Boatbuilders with Michael Saari
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Elements of Sailing with David Bill and Annie Nixon	Rigging with Myles Thurlow	The Art of Woodcuts with Gene Shaw	Sail Cover Construction with Aimee Claybaugh	Elements of Sailing II with Martin Gardner and Robin Lincoln	Open Boat Cruising with Geoff Kerr	Marine Photography with Jon Strout and Jane Peterson		
Paddle, Pedal and Row with Mike O'Brien	Elements of Sailing for Women with Jane Ahlfeld & Gretchen Snyder	Metalworking for the Boatbuilder & Woodworker with Erica Moody	Elements of Sailing with Jane Ahlfeld and Rich Naple	Craft of Sail on MISTY with Queene Foster	Sea Sense Under Sail with Havilah Hawkins	Sea Sense Under Sail with Havilah Hawkins		
Sailing Downeast with Andy Oldman	Sailing the Friendship Sloop with David Bill	Elements of Sailing with Andrew Breece and Rich Naple	The Catboat with Martin Gardner	Elements of Coastal Kayaking with Mike O'Brien	Coastal Cruising Seamanship with Hans Vierthaler	Advanced Coastal Kayaking with Stan Wass		
	Cruising Through the Watches in Tandem with Hans Vierthaler & Queene Foster	Tallship Sailing and Seamanship with Capt. Barry King & Jane Ahlfeld	Coastal Cruising Seamanship with Hans Vierthaler					

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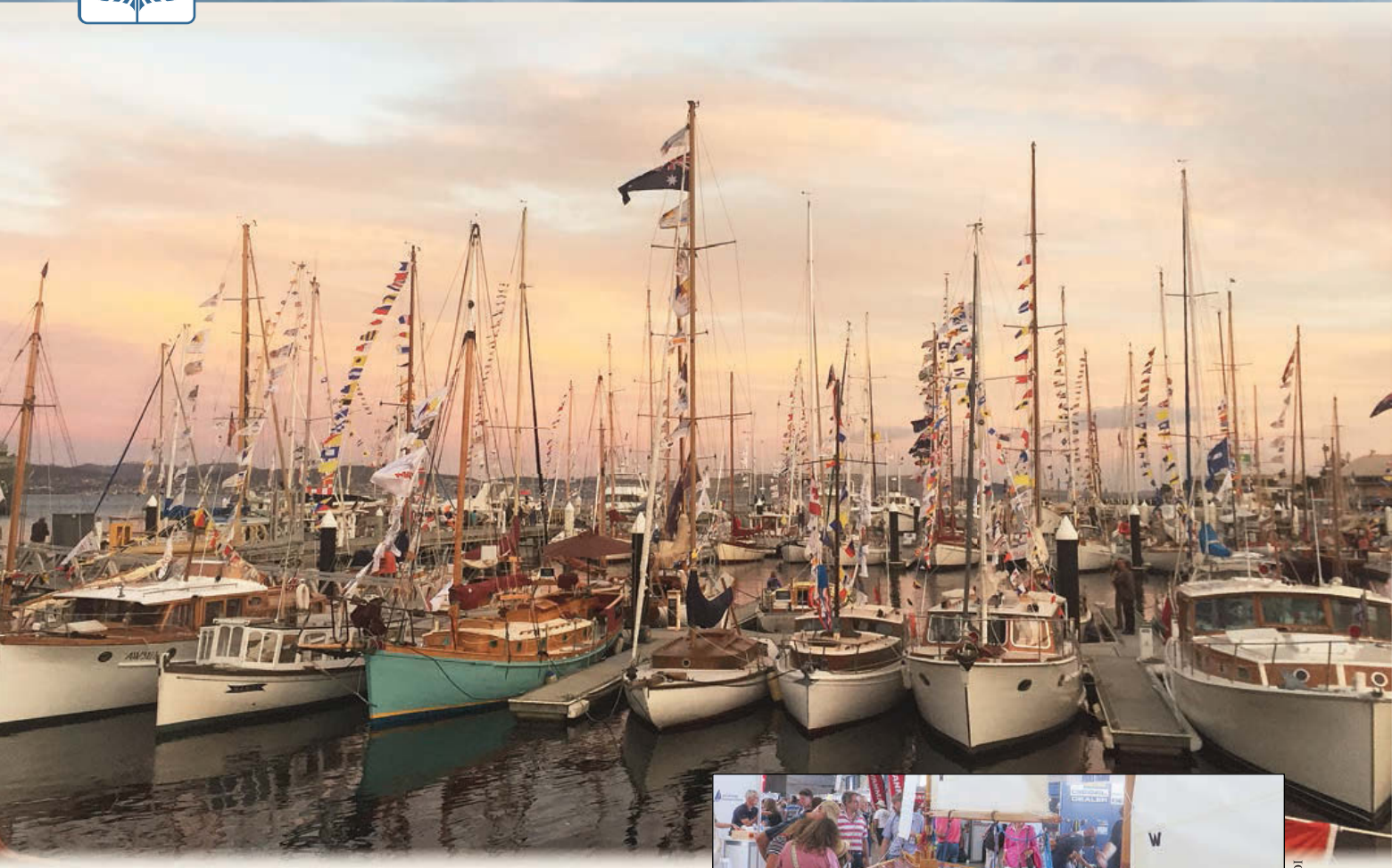


LEFT: TOM JACKSON, ABOVE: CORINNE RICCIARDI

***Top*—Although rough conditions in Bass Strait kept some boats away, about 550 wooden boats in stunning variety gathered in February for the 2015 Australian Wooden Boat Festival in Hobart, Tasmania. *Inset*—The quality exhibited in small-craft construction was uniformly excellent, one example being Cameron Smith's SAVANNAH, a 16′ water-ballasted gaff yawl he built in 2014 to a design by Paul Fisher of Selway Fisher Design, Wiltshire, England. The design is a glued-lapstrake plywood interpretation of a Suffolk Beach Punt.**

In far Tasmania, a festive walkabout

by Tom Jackson

In one fine February morning of rowing among the moored fleet and walking the docks of the **2015 Australian Wooden Boat Festival in Hobart, Tasmania**, one thought kept recurring to me: how thoroughly ideas spread across the globe. Tasmanians, themselves noted for far-flung adventuring, seem to have an innate sense of what a long, long way they are from most anywhere—so they lay out an extraordinary welcome. As a guest presenter at the International Wooden Boat Symposium, held within the larger festival, I had flown 17,479 miles from Portland, Maine, only to rediscover what a small world it really is.

It has always been so. People with common interests may find each other faster in an Internet-connected world, but that doesn't mean they pined away in solitude earlier. They've always found a way. I imagine Tasmanian boatbuilders home after the Great War patiently awaiting their post-worn copies of *The Rudder*, out of date but timeless. There used to be a tag line at the bottom of many pages of that great magazine—"Please mention *The Rudder* when writing to advertisers"—repeated in Spanish, Italian, German, Japanese, French, implying connection to something bigger, something universal. In February 1920, an eager Tasmanian subscriber would have read about new engines, ogled photos of a new Fellows & Stewart 51-footer, the Elco Cruisette, and at the dawn of the Roaring Twenties the megayachts portrayed in C.D. Mower's article, "The Trend of Yachting." Plans for a new 63′ schooner by John G. Alden would have made an impression. The first

AMERICA's Cup challenge since 1903 loomed, the race having been deferred since 1914. Hungry for new ideas and eager to know what was going on in the wider world, they might send away for plans, turn to the exceptional resources they had at hand, and "give it a go." In the festival, the results from that period show up even today.

An extraordinary number of boats in the Hobart fleet are more than a century old and others are edging nearer that mark—and almost all looked in excellent condition. A list of the designers represented by this fleet would qualify as an encyclopedia of American and European luminaries. For example, my wife and I sailed into and out of Hobart in the pleasant company of Philip Myer and his wife, Joy Phillips, in their K. Aage Nielsen–designed 42′6″ doubled-ended ketch HOLGER DANSKE, a boat that figured prominently in *Worthy of the Sea*, the book Maynard Bray and I wrote about the Danish-American designer's work. Here are some of the other American designers whose names show up in Hobart: John G. Alden, Phillip Rhodes, L. Francis Herreshoff, John Hacker, Chris Smith, Howard I. Chapelle, William Atkin, Bob Perry, and many, many others. The English: William Fife, Maurice Griffiths, Albert Strange. And among them, the home team: Australia's own Walter Wilson, Alexander Lawson, Alfred Blore, W. Macpherson. As might be expected, the commercial fishing boats that are a celebrated addition to the festival fleet had the air of serious seaworthiness, and many had been converted to pleasure cruising. Just as visitors are welcomed warmly, ideas are taken up quickly here, as long as they seem well-adapted to the challenges. This island in the Roaring Forties, named in the age of sail for the winds at 40 degrees south latitude, has a wild western coastline. Even in the enticing bays and the shielded expanse of the D'Entrecasteaux Channel leading north toward Hobart, it can still blow hard.

Influences from afar continue in our own times. I saw robust powerboats inspired by Maine lobsterboats just a stone's throw from STORM BAY, a 1926 centerboard fishing smack restored over a 10-year period by Tim Phillips and crew at the Wooden Boat Shop in the state of Victoria. Some of the small boats lining the walkways were designed by Iain Oughtred in Scotland, François Vivier in France, Paul Gartside in Nova Scotia, and John Welsford in New Zealand. Companies have emerged to build CNC-router-cut boats and market kits made for home builders. A recurve drift boat, imported from Jason Cajune of Montana Boatbuilders for flyfishing, stands not far from a punt of the type used for river travel by turn-of-the-last-century Tasmanian pine loggers. Uniformly, the quality of craftsmanship and construction seemed high, and the quality of materials used was immaculate. These builders are almost patriotically loyal to their woods, such as Huon pine, King Billy pine, and celery-top pine (see WB No. 148 and others).

The idea of the festival itself is an import. Held every two years, it was inspired by the enormous maritime festival in Brest, France, held every four years in conjunction with the every-other-year festival in Douarnenez. This year's Hobart festival was its eleventh edition, the first having been held in 1994. For inspiration, Tasmanians have traveled far afield to have a look at, among other things, the Port Townsend Wooden Boat Festival in Washington State. This year's symposium had a heavy representation of Americans—I was among them—but one previous focus was on Danes, and 2017 likely will focus on the Dutch. Like the boats in the fleet, such outsiders are welcomed to augment the slate of Australian speakers, and as a result the event remains fresh.

Although designs from around the world were represented, no one designer or country dominated. The wide array of types seemed to imply a long history of highly individualistic builders and skippers. A healthy number of boats designed by their builders themselves—always a source of the occasional oddity—bolsters the idea that here, individualism reigns. These builders seem to crave continual renewal, something unique to their tastes, boats that would do well in local conditions, be beautiful, and show those Australian woods to best advantage.

Tom Jackson is WoodenBoat*'s senior editor.*

Around the yards

■ **Corsair Boats**, in Rosebud, Victoria, Australia, was founded in 2008 by **Mark Abbott** to specialize in wooden boat construction, and the company since has focused on one home-grown type and one notable import. The home-grown boat is the racing sailboat called the **Couta boat** (see WB No. 137). The company builds the historic type using traditional plank-on-frame construction, relying on Huon pine, a slow-growing, resilient wood native to Tasmania. Abbott also extensively uses Huon pine and other Australian woods in building his adaptation of the second type he is making a

TOM JACKSON

Taking inspiration from Maine lobsterboats, Mark Abbott of Corsair Boats recast the type as a cruising powerboat for Australian waters. MENINDEE, 37′6″ LOA with a sheathed strip-planked hull, is the smaller of two such designs the company is building.

specialty, **the Maine lobsterboat**, long admired far and wide for seaworthiness and handiness. The most immediate inspiration for Abbott's powerboats—the **Bass Strait 35** and **Bass Strait 40**—is a single yacht, BENITO, a 44-footer that Victoria resident Will Baillieu commissioned from Peter Kass, a noted lobsterboat builder in South Bristol, Maine (see WB No. 227). Once the boat arrived in Australia, it turned a lot of heads among the locals in Port Phillip, and soon Abbott thought to adapt a lobsterboat hull by Lowell Brothers of Yarmouth, Maine. He built a 40-footer and a 35-footer side-by-side at Corsair Boats, both of strip-planked construction using western red cedar and mahogany planking, sheathed in fiberglass cloth set in epoxy. Both boats have larger-than-usual cabin structures for lobsterboats, with comfortable accommodations. MENINDEE, which is 35′ on the waterline and 37′ 6″ overall, with a beam of 12′ and a draft of 3′ 11″, powered by a 370-hp Yanmar diesel, attended the Hobart festival as the first example of what Abbott hopes will be a line of such boats. The Bass Strait 40 is 42′ 6″ overall, with a beam of 13′ 8″, a draft of 4′ 9″, and a 530-hp Yanmar diesel engine. *Corsair Boats, Rosebud, Victoria 3939, Australia; www.corsairboats.com.au; +61–5981–2451.*

■ MENINDEE's immediate eastern neighbor at the Hobart festival was **EFFICIENT**, another **Maine lobsterboat–inspired creation**, this time designed by **Andrew Dovell** and built by **Wooden Boat Shop** in **Sorrento and Queenscliff, Victoria**, the same company that restored the fishing smack STORM BAY mentioned above. At 44′ LOA, she, too, is strip-planked and sheathed in fiberglass cloth set in epoxy. Her engine is a 530-hp Yanmar 6CX diesel, pushing her to a maximum of 26 knots or a cruising speed of 18 knots. The company specializes in wooden construction, including both new custom boats and restorations, and it also builds wooden blocks, flagpoles, and spars and has a well-stocked chandlery. *Contact Wooden Boat Shop, 129 Hotham Rd., Sorrento, Vic 3943, Australia or Shed 4, 10 Wharf St., Queenscliff, Vic 3225, Australia; www.woodenboatshop.com.au.*

TOM JACKSON

EFFICIENT is a sheathed strip-planked 44-footer built by Wooden Boat Shop in Victoria, which builds and restores a wide variety of boats and has an extensive chandlery.

TOM JACKSON

Tony O'Connor brought his François Vivier–designed Jewell thousands of miles from Western Australia to exhibit at the festival. His company, O'Connor Wooden Boats, is licensed to build to the design and to market kits.

■ In *WoodenBoat*'s *Small Boats 2015*, I wrote about the first boat completed to **French naval architect François Vivier's Jewell design**, a 19′ 8″ yawl, with a beam of 7′ 3″ and a draft of 4′ with the centerboard down. So coming around a corner at the Hobart festival I very quickly recognized a new boat built to the Jewell design. **Tony O'Connor**, proprietor of **O'Connor Wooden Boats**, had hauled her by trailer the long distance—2,601 miles plus a long ferry ride, to be exact—to Hobart from **Rockingham**, which is just south of **Perth** in **Western Australia**, clear on the other side of the continent. The trailer, O'Connor pointed out, still carried a patina of red dust from his crossing. The boat was rigged and very nearly completed, needing only its centerboard, more varnish, and the last of the rigging.

O'Connor comes from a family of boatbuilders in the River Shannon area of western Ireland, and after graduating in physics and mathematics from University College Dublin, he left a job to train instead for boatbuilding at the International Boatbuilding Training Center in Lowestoft, England. Since 1991, he has worked as a boatbuilder, first in England and Ireland before emigrating to Australia. His shop's **computer-numerically controlled cutting machine** speeds his construction of the Jewell design, of which the one at the show is the first he has built. He is authorized by Vivier to build boats to the design and also to market CNC-cut construction kits in Australia. Now there's a story of globalization: A French design built by an Irish guy in Australia, a boat with one sister built by a professional yard in Maine (French & Webb, Belfast) and another by a home-builder in Switzerland. O'Connor's other recent projects have included a Caledonia yawl, one of Iain Oughtred's globe-girdling designs, and, during a 2013 return visit to Ireland, a traditionally crafted Shannon River punt built to lines measured from surviving hulks. *O'Connor Wooden Boats, Unit 4 , 12 Day Rd., Rockingham, WA 6168, Australia; +08–9592–1826; www.oconnorwoodenboats.com.*

■ The boat I used to illustrate my lofting demonstration at the International Wooden Boat Symposium was a simple 12′ **Paul Gartside**–designed outboard skiff, for which he generously sent plans. In the festival itself, I encountered a handsome and beautifully crafted Gartside–designed daysailer,

which was my introduction to the **Denman Marine** company of **Kettering, Tasmania**. TWO DEGREES, built to Gartside's, design No. 146, was framed in celery-top pine and lapstrake planked in book-matched Huon pine by her owner, **Ken Stewart**. He then turned the hull over to Denman Marine for completion, and it turns out that Denman had already built boats to Gartside's designs, among them the 16′ rowing skiff Bob and a 10′ traditionally planked lapstrake dinghy.

I quickly noticed that Denman also turns out to be the **Australia distributor for boat kits** from the ubiquitous **Chesapeake Light Craft** of Annapolis, Maryland, and also for **Swallow Boats** of England. The company has also built a number of Iain Oughtred–designed Caledonia yawls, Joel White–designed Shellback dinghies, and is developing a 16′ sportfishing boat of the company's own design. Meanwhile, a **23′ electric launch** with a generous solar-panel array on the hard top over its large cockpit has been built to a design by New South Wales naval architect David Payne. The company uses CNC cutting extensively, for example to develop the building jig for the Payne design, which was entered into CAD for the purpose. Its general-purpose boatbuilding extends from traditional construction to glued-lap plywood, stitch-and-glue, strip-planking, and cold-molding, and their size range is from the diminutive rowing craft to 50′ yachts. Denman also has completed notable boat restorations, among them an in-progress project to bring life back to the 1886 racing yacht IMP, built in Hobart's own Battery Point, now a desirable neighborhood and a historic district. At the festival, the 13′ inboard-powered lapstrake boat TUPPENCE was on exhibit, built in San Souci, New South Wales, in 1930. Her Blaxland engine had been restored by an earlier owner, whose successor sent the boat the Denman for the restoration of the hull. *Denman Marine Pty. Ltd., 2888 Channel Highway, Kettering, Tasmania 715; +61 (0) 413–765–984; www.denmanmarine.com.au.*

TOM JACKSON

Denman Marine finished out a Paul Gartside–designed 14′ daysailer that had been beautifully planked up by Ken Stewart. Denman, located in Kettering just 20 miles from Hobart, uses CNC cutting machines extensively and markets boat kits by both Chesapeake Light Craft of Maryland and Swallow Boats of England.

TOM JACKSON

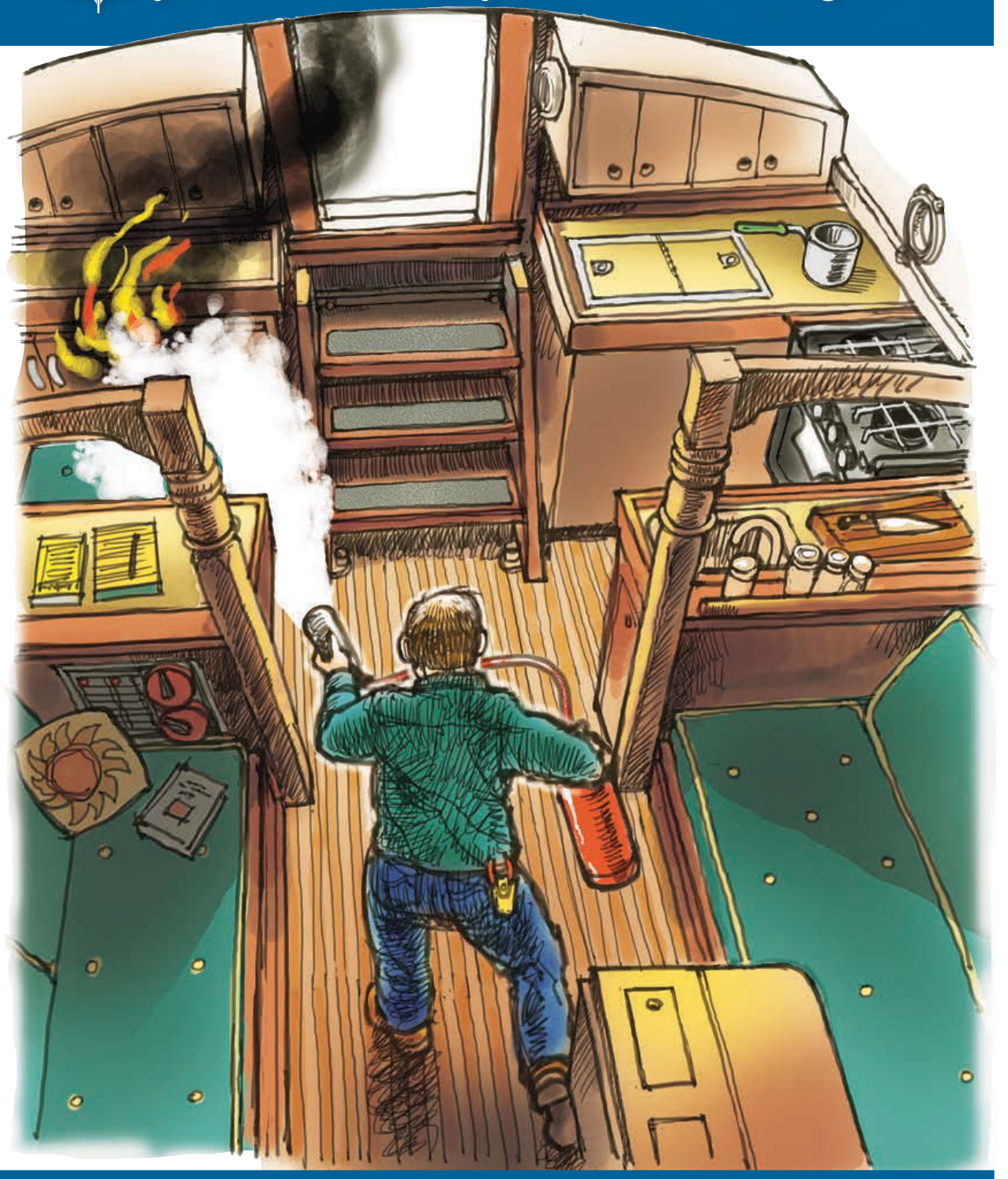
A boat with many past lives, OLIVE MAY of the 1880s is being restored at Dean Marks Boatbuilding in Port Huon, Tasmania, for sailing. Her owner, who also owns an inn and restaurant, will take passengers on food-centered excursions in the area.

■ As the Tasmania walkabout continued, I was able to visit **Dean Marks Boatbuilding** in **Port Huon**, not far from Franklin, about an hour's drive southwest of Hobart. There, the **1880s gaff-rigged ketch OLIVE MAY** was undergoing her most recent round of work, which has so far involved breaking tons of concrete out of her bilges in preparation for new floor timbers, new engine bed logs, restoration of her interior, and getting her back into trim for sailing. She has been used lately for Huon river excursions under power, but her **ketch rig and lifting centerboard will be reinstalled**, and she'll have an exterior ballast keel bolted on to keep her on her feet while sailing. Her Huon pine planking was largely salvaged. Her decks are being sheathed in 'glass cloth set in epoxy to keep fresh water from penetrating into her upper structure in the future. The hull is batten-seam planked below the waterline, and the exterior in way of that planking has been sheathed in fiberglass cloth set in epoxy. Above the waterline, she is lapstrake-built. Originally built as a double-ender, her counter was cut off in one of her many lifetimes and replaced with a transom. That transom, in turn, has been replaced at Marks. Her owner, Sean Langman, also owns a restaurant and inn, and he uses OLIVE MAY for **charter outings** that emphasize **local fruit and seafood—**and **wines**, which, if anything like the Tasmanian wines I experienced, will be staggeringly good. A relaunching is planned whenever the project is finished. Langman also owns the small marina in the harbor, whence 11 classic boats made the several-hours voyage down the Huon River and then up the D'Entrecasteaux Channel to Hobart to participate in the festival. *Dean Marks Boatbuilding, Kermandie Marina, 4518 Main Rd., Port Huon, Tasmania 7116; +04–12–744–890; www.deanmarksboatbuilding.com (in progress). See also www.huonvalleyescapes.net.*

■ In **Franklin**, **Andy Gamlin**, one of the founders of the Hobart festival and more recently the proprietor of **Wooden Boat Centre Tasmania**, is essentially retiring from the role and **concentrating on building a boat of his own design**. His **23′ double-ender**, a sliding-gunter sloop with a 7′ beam, is intended as a camp-cruising adventure boat, with water ballast in three separate tanks. It has an unusual retractable sort of skeg that receives the rudder's lower fitting; when the

Getting Started in Boats

from the Editors of WoodenBoat *Magazine*

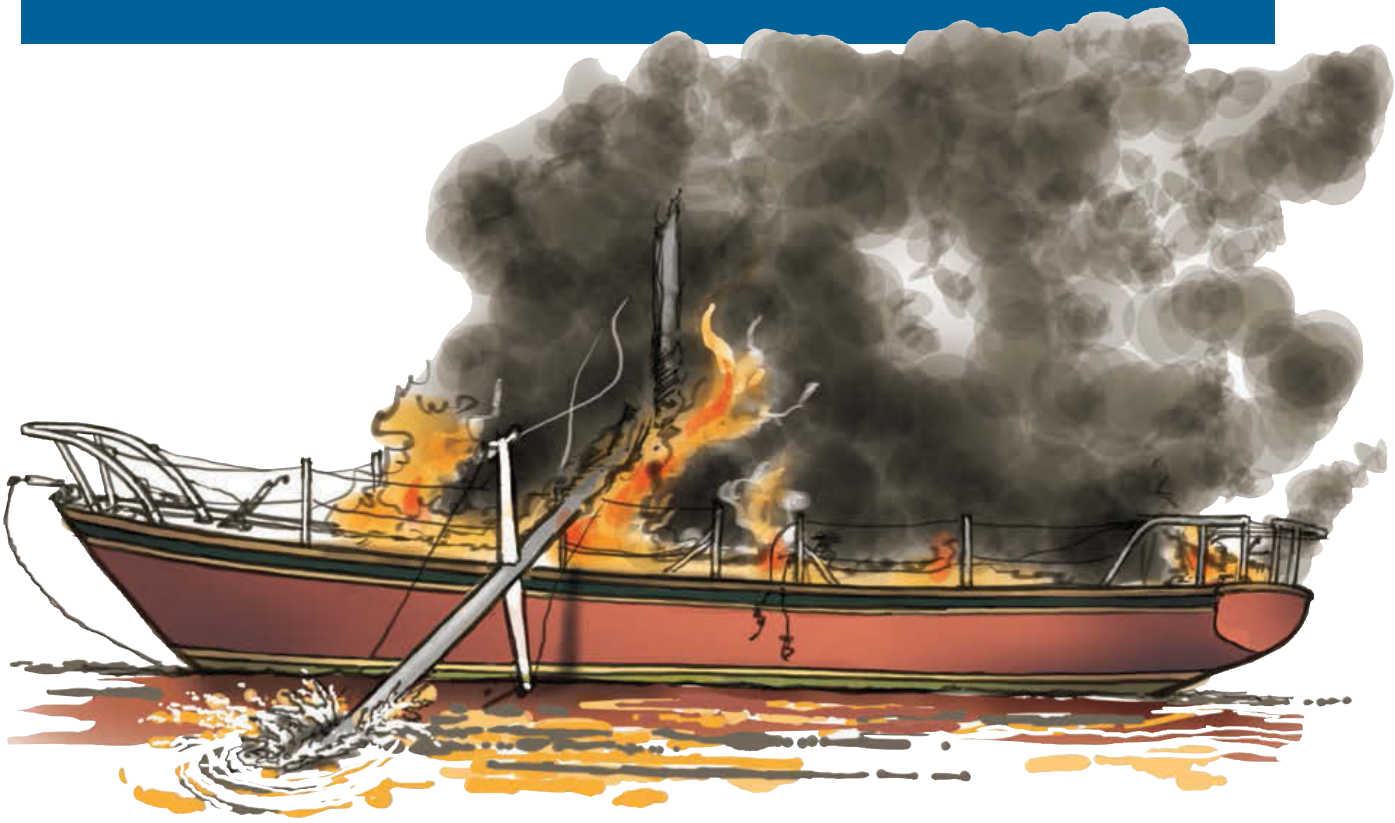


Volume 51

Fighting Fire Afloat

Fighting Fire Afloat

Text and Illustrations by Jan Adkins



Boats are wretched, awkward, and mortally dangerous places for a fire. Most boats are built of flammable materials, and most cruising boats have an auxiliary engine fed by highly combustible fuel within a tight compartment. Most cruising boats also have a galley—essentially, a fire-pit designed to contain a fire to some degree. A boat offers no easy retreat from a blaze: Most have but a single path for movement fore-and-aft.

That sounds like a grim scenario, but take heart: There are rules and sensible tactics to minimize fire risks and even to deal with fires on boats. As you get started in boats, you'll learn to be obsessively vigilant of flame in any form, and to have an awareness of the risk of fire every moment of your time on the water. The key to fire-risk management is preparation. Thoughtfully preposition all the tools of defense within ready reach, alert every new crew member to the locations of these tools, and describe their functions.

There is no good outcome to a fire at sea. The best you can hope for is a mess and some expense. In the event of a fire, make the mess, expend your tools, and don't spare anything in killing a fire.

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What Fire Needs

Fire requires: Ignition, fuel, and air. Deny it any one of these, and it dies.

Prevent ignition studiously. Open flames of any kind will at some time bolt for escape. Imagine these three scenarios: priming fluid for a kerosene stove—flaming alcohol—spills onto the sole; a lee lurch of the vessel throws a dish towel onto the lit stove; a corroded electric connection arcs across flammable cleaning supplies; an unshielded electric motor ignites fumes. Avoiding these scenarios, and any others you can imagine, requires organization and forethought.

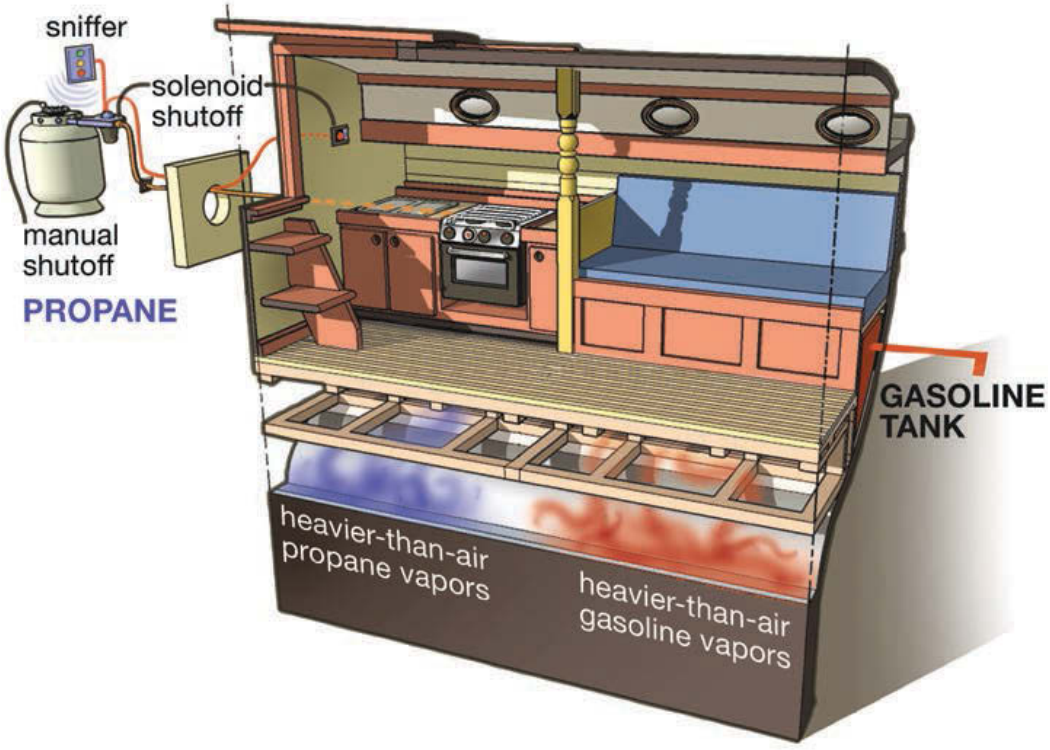
Deny fuel. Identify all of the combustibles on your boat—fuel, fabric, aerosol cans, solvents, grease, paper, wood—and keep them away from any means of ignition. One boat owner imagined that the place where paper towels would be most useful was over the stove. A vagrant breeze unwound the roll while coffee was brewing. The dangling paper ignited and the flames began to travel up toward the curtains, the overhead, and the plastic food containers. Only a quick-witted and lucky throw of the entire roll—up and out of the galley and overboard—stopped a potential grief.

Cut off air. Scientifically, fire can be defined as "rapid, exothermic oxygenation." Easy-bond oxygen atoms combine with flammable atoms of many kinds. That's why many commercial vessels have a paint locker—a tight-seamed metal compartment or chest that isolates flammables from oxygen. Use caution with these in the event of an emergency: Opening the door, lid, hatch, or whatever seals the locker introduces a gust of oxygen. In fact, if you're ever opening *any* compartment during firefighting, you'll be introducing more oxygen, so beware the possible jet of flame that will blast out of the oxygen-deprived space.

Fire demons. Among the most dangerous substances pleasure boats carry is gas under pressure, be it propane, butane, or LNG (liquefied natural gas). Gasoline, which is highly volatile, is almost as explosive. The sinister qualities of these demons is that they easily spread as explosive vapor. That vapor is heavier than air. Vapor sinks and collects in a boat's bilge, where the feeblest spark can set it off. From a distance, the results would be spectacular.

Boaters have learned by bitter lesson to store gasoline with exaggerated care. The parts of the fuel train that supply gasoline to an engine are subject to vibration, damage, and subsequent leaks. They *must* be checked many times through the season. There is no excuse for not being intimately acquainted with your fuel-lines, no matter how cramped your engine space is.

Propane Safety



Propane is stored in a separate, vented locker and provided with quadruple safeguards. Here are the essential elements of the system:

1. A propane tank has a manual cutoff. It must be hand-closed if the stove isn't used for even a few hours.

2. The propane line has a solenoid cutoff that requires you to electrically activate its opening. It usually has a red "on" light. When you're finished cooking even a light meal, turn the solenoid off.

3. Most propane stoves have a pilot-light sensor that turns propane off if the flame is extinguished. Close the valves to each burner and the oven, every time.

4. Many recent propane installations include an electronic "sniffer" within the propane locker.

Chemically, propane has no odor. Bottlers add smelly *mercaptan* to warn you of a leak. *If you smell a propane leak at the dock:* Stop. Think. Then act. First and deliberately, put out all open flames, close the solenoid to the propane line, and turn all electric power off with the airtight main battery switches. Do *not* turn off individual electric devices, since this might create a gap-spark. Open forward windows; move along quickly but not recklessly. Take a care not to strike metal on metal and create a spark. Open skylights, and exit through the companionway, leaving the hatch open. If the engine is running, turn it off. Leave the boat and call 911 for firefighters. Notify all nearby boaters to make a perimeter and let natural ventilation take its course.

If you smell a propane leak on the water, turn off your propane's solenoid and the manual valve. Stabilize the boat; if you're in a sailboat, reduce sail as practical, and maintain steerageway, with the engine off. If you're in a powerboat, call for assistance—preferably from deck, on a handheld VHF or mobile phone, since you should also shut down all power using the main battery switches. Open portholes, skylights, companionway, and hatches. Avoid metal-to-metal sparks. Ensure all crew are wearing PFDs, and place all but essential crew in the bow. Check for smell in 15–30 minutes. Sniff your bilges. If the smell is completely gone, sail or be towed to the nearest easily fetched dock. Call firefighters (again from a portable device) and alert them as to your arrival at the dock.

Fire Extinguishers

THREE TYPES OF FIRE EXTINGUISHER deal with three classes of fire.

A – combustible solids such as wood, paper, fabric, plastic

B – flammable liquids such as gasoline, kerosene, alcohol, grease, varnish, paint, solvents

C – electrically energized fires (using a non-conducting agent)

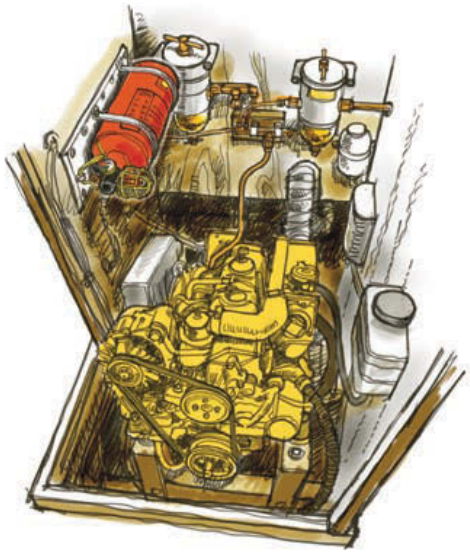
One type can't handle all three.

TYPE A extinguishers are often water-based foam, meant to cling to and snuff embers. But these may actually spread a flammable-liquid fire. Used on an electrically charged fire, water can conduct a damaging shock. A few extinguishers use a recently developed aqueous foam; it's low-conductive, and may be used on Type C fires.

TYPE B extinguishers are often dry-chemical suppressants, sometimes compressed CO_2, which simply deny oxygen to the fire. They're effective if there is restricted ventilation; their gas dissipates quickly, so reignition is a hazard. Used on a Type A fire, the drive of high-pressure CO_2 vapor could spread live embers to other fire hazards. A flammable liquid fire can easily reignite from a glowing ember or bit of red hot metal; keep at it.

TYPE C extinguishers can be CO_2 or can use non-conducting dry agents such as sodium bicarbonate and potassium bicarbonate. Some use mono-ammonium phosphate—a corrosive substance meant to melt barriers and creep into tiny crevices when fighting complex electrical circuit fires; you don't want this stuff near your computer or nav equipment.

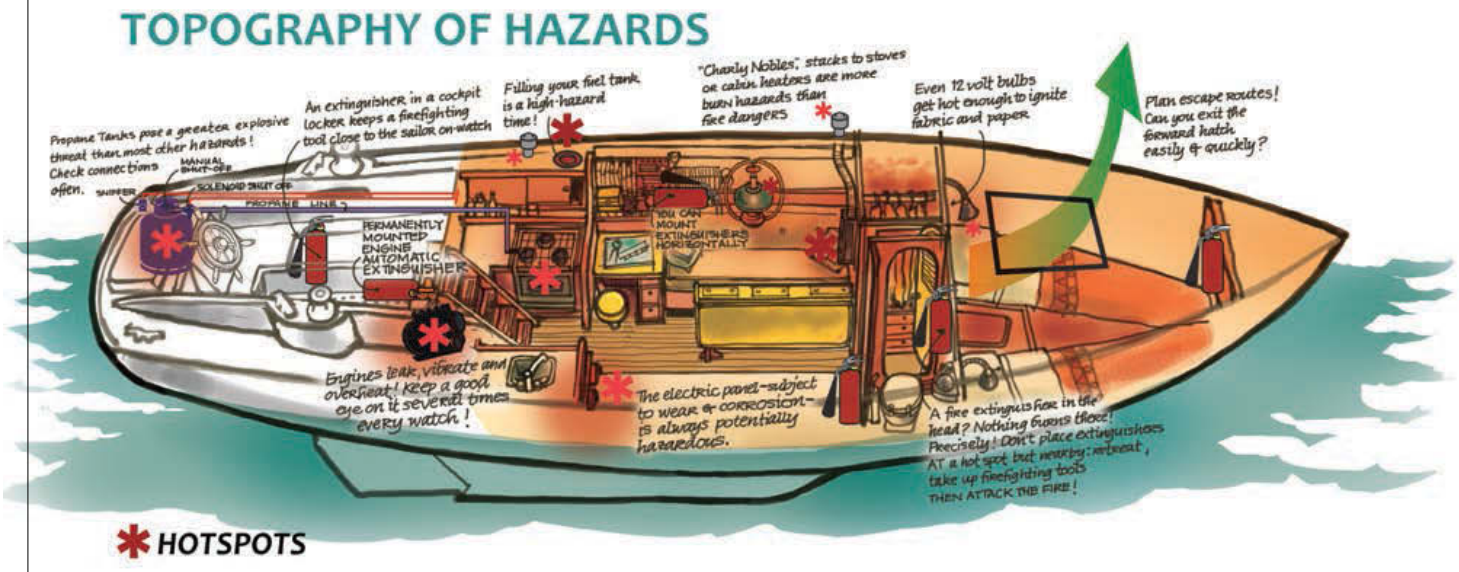
Fire Extinguishers, Continued



Coast Guard requirements for extinguishers are *minimums* and don't constitute a practical firefighting tool set. Many boat owners see a red cylinder, install its holder securely, and assume all is well. Consider consequences. You need at least two *types* of extinguishers: an A type and a B–C type. You and your crew must know which to use in a fire incident.

You may seriously consider a third extinguisher: a permanently mounted fire suppressor in the engine space. These are seldom CO_2 canisters because their sub-zero blast could crack your engine block. Until recently, the suppressant used in this application was Halon, a nontoxic gas that excludes oxygen. Halon is no longer used because it's especially harmful to the ozone layer, but several gas substitutes serve its purpose.

Hotspots, and Placing Fire Extinguishers



Where will a fire happen? The engineroom, galley, and electric panel are common hot spots. If you have a cabin heater, then you have another battleground. Examine your situation, and choose your tools and where to place them to plan for a swift and complete victory.

The first rule of fire-extinguisher location is to place them *outside* of the hot spots. You don't want to reach through a fire to get an extinguisher. Also, disperse them: One should be reachable from the helm, another a step and a bit from the galley, and another forward.

Fighting a Fire

Do not allow fire to escape its bounds.

Know your tools: Your extinguishers should release easily from their mounts, and you should know where the safety pin is and where the nozzle is.

Don't fight the flame; fight the fire beneath it.

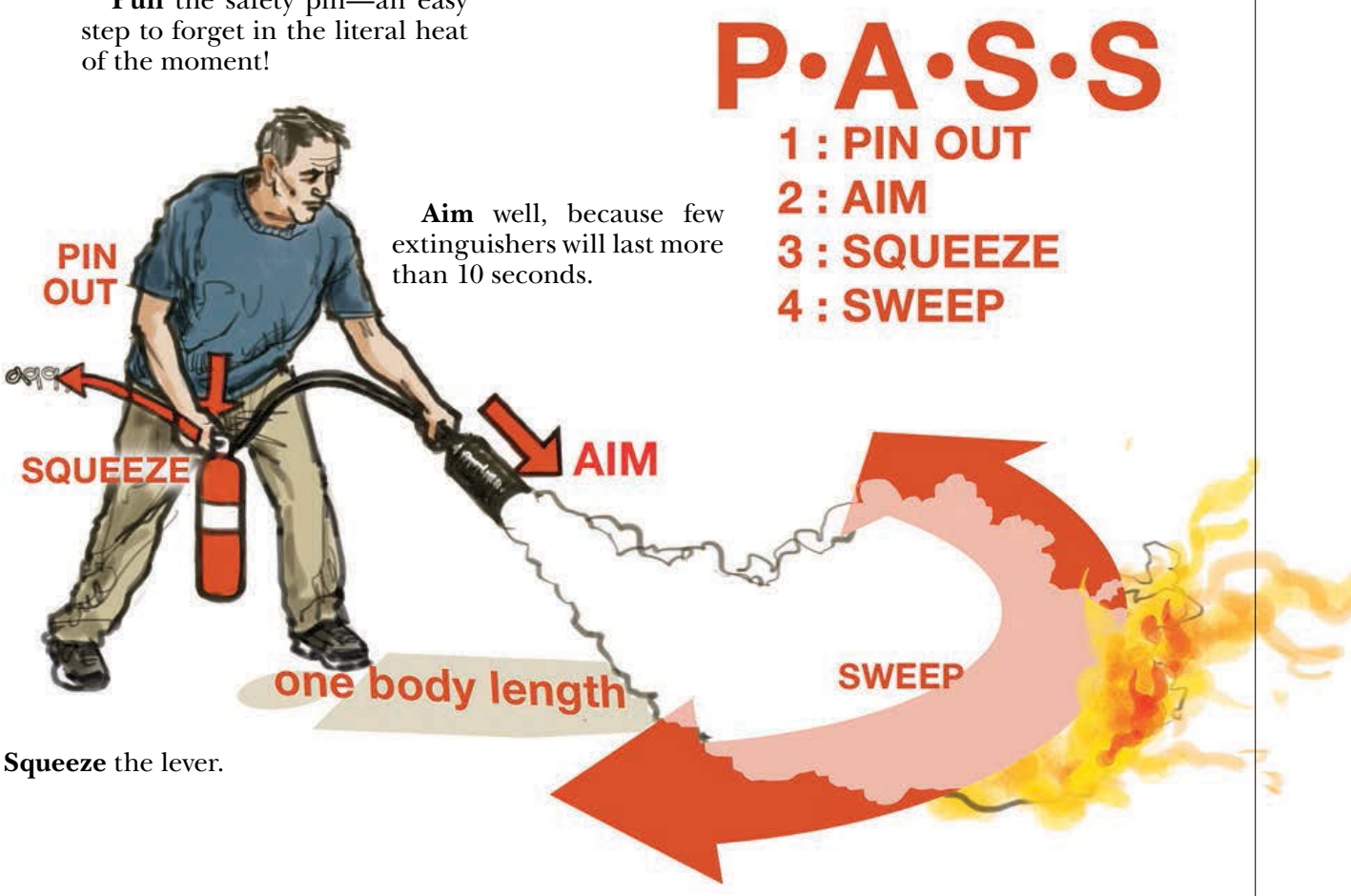
Stand back a body length and look at the fire; think slow, act fast.

Get all of the fire out. Remember reignition: Fetch another extinguisher and stand watch; the emergency is over only when the fire is dead.

Beware cascades of error: if a fire started, something was wrong. Identify it and correct it. What damage has the fire wrought?

To use a fire extinguisher, remember this memory aid: P.A.S.S. It stands for the following:

Pull the safety pin—an easy step to forget in the literal heat of the moment!

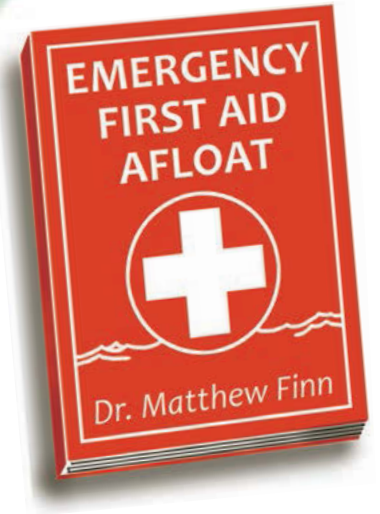


Aim well, because few extinguishers will last more than 10 seconds.

Squeeze the lever.

Sweep the suppressant in a back-and-forth motion at the fire's base.

Treating Injuries



Is anyone scalded or burned? Do you know how to assess and treat a burn? These subjects are beyond the scope of this brief introduction to firefighting, but critically important topics. Copy a good burn reference and clip it into the logbook. The American Red Cross is a good source for training and information (www.redcross.org). No burn is inconsequential; get to shore and have a burn of anything more than a superficial nature professionally tended.

Getting Started in Boats is dedicated to those who are new to boats and boatbuilding. Please tear out and pass along your copy to someone you know who will be interested.

Earlier volumes of *Getting Started* are available in past issues of *WoodenBoat*, and as PDF (electronic) files, from The WoodenBoat Store, www.woodenboatstore.com

TOM JACKSON

A 23′ double-ender, planked in recycled King Billy pine, is under construction by Andy Gamlin in the former Wooden Boat Centre Tasmania, which he ran and recently sold to Franklin Working Waterfront Association. The sliding-gunter sloop, water-ballasted, is of Gamlin's own design.

rudder is unshipped, the skeg can be retracted, for example to avoid damage during trailering. Gamlin had originally conceived the centerboarder's design as an entrant in Design Challenge III, a contest for fast expedition sailboat designs co-sponsored by *WoodenBoat* and its sister publication *Professional BoatBuilder*. He didn't finish the design in time to meet the entry deadline, but that hasn't stopped him from going on to finish the design and build the boat. What really makes the construction unusual is its planking: the hull is entirely strip-planked in King Billy pine, a rare find these days. The **planking stock** was **recycled**, remarkably, from the dismantling of an **80-year-old wooden water pipeline** of about 4′ diameter, bound every 6″ or so with iron hoops. Except for iron staining on the exterior surface and signs of cavitation on the inside, the wood was perfectly fine. "I went out in the bush with an electric saw and just took the faces off and the sides off," Gamlin said. Planed to ⅝″ thickness from an original dimension of perhaps 1¼″, the famously resilient wood was perfect for planking, sheathed inside and out with fiberglass cloth set in epoxy. In lieu of edge-nailing, he used **bamboo trunnels** to hold the planking while the glue set. Back at the festival, I had taken note of SPIRIT, another Gamlin on exhibit. In 1980, he built the lovely 14′6″ Whitehall, still in perfect condition, working from plans in Howard I. Chapelle's *American Small Sailing Craft*. That project inspired him to go to the first Brest festival in 1992, which in turn inspired his contribution to the leadership of the first Australian Wooden Boat Festival in 1994. A tip of the hat and a raise of the pint for the man, if you please.

Offcuts

One of the reasons that Andy Gamlin has had time to concentrate on his own boat construction is that in October 2014 he concluded the sale of Wooden Boat Centre Tasmania, which is being incorporated into a new nonprofit group, the Franklin Working Waterfront Association.

Many changes are afoot in the wooden boat world in Franklin, which lies along the Huon River about a 40-minute drive southwest of Hobart. The Shipwright's Point School of Wooden Boatbuilding was founded there in 1990 by **John and Ruth Young** (see WB No. 156). Later, as the Wooden Boat Centre Tasmania under Gamlin's leadership, its mission was broadened to incorporate a visitors' center and

TOM JACKSON (ALL THREE)

***Above left*—Small craft line the Franklin Working Waterfront Association's piers, while boat projects are underway in the buildings beyond. *Right top*—A four-year restoration is beginning in Franklin for CARTELA of 1912, Australia's oldest continually licensed passenger vessel. Restoring her for steam power is part of the project. *Right bottom*—Eight boats competed in a St. Ayles Skiff Regatta along the Huon River in Franklin in the February days immediately following the Australian Wooden Boat Festival in Hobart.**

to promote general and wider understanding of the craft of wooden boat building. The **Franklin Working Waterfront Association**, in turn, envisions a historic seaport for Tasmania, inspired by the fame of Mystic Seaport Museum in Connecticut.

"What we're on about is to turn this whole waterfront into one maritime precinct," said **Greg Guy**, the **association's president**. The boatbuilding eduction program will continue, now in conjunction with the Australian Maritime College. In addition to short courses, a two-year diploma and associate degrees will be obtainable as part of the college's marine engineering program, and those with greater aspirations can continue at the college itself. With that collaboration in place, the organization hopes to enroll 12 students for courses slated to begin in February 2016 and take in 12 additional students each year after that. Meanwhile, small-craft construction workshops have continued, most recently resulting in a stunning traditionally built dinghy lapstrake-planked with Huon pine, which was exhibited at the Hobart festival.

Another project under way on the Franklin waterfront is the **restoration of CARTELA**, a 123′ LOA, **1912 passenger and cargo steamer** documented as Australia's oldest continually licensed passenger vessel. She is owned by Steamship CARTELA Ltd., a nonprofit organization that is coordinating a projected four-year restoration. Last year, engineering students at Australian Maritime College worked on a strategy to remove her diesel engines and restore and reinstall her original triple-expansion steam engine. Such a large project in Franklin raises the prospect of other large projects: "We want to set ourselves up as **Australia's refreshment port for tall ships and heritage vessels**," Guy said. The hope is to incorporate a 300-ton slipway into the historic town's waterfront plan. And, the organization has its eye on a former fruit-drying shed that could be renovated to create numerous spaces for lease, with the hope of attracting maritime professionals to set up shop. The ultimate goal is to make Franklin even more of a destination for wooden boat aficionados and tourists, and the effects are already showing: "When I came here four years ago with my boat," Guy said, "I was the second boat on the southern jetty, and there was one boat on the a mooring up here. Now, there's 26 boats in the marina, and a dozen or so on moorings."

The **Living Boat Trust**, next door, adds another restoration element to the milieu. Started by Shipwright's Point graduates **Chris Burke** and **Pip Gowen** after they completed their education, the trust focuses on building, repairing, and maintaining important local wooden boats, many of them small craft. Lately, another building project was added: a St. Ayles Skiff built by an organization called Women on the Water. The glued-lap rowing craft, designed by Iain Oughtred for community rowing programs first popularized in Scotland, has won adherents for similar programs around the world. In fact, immediately after the Hobart festival, the **2015 St. Ayles Skiff Regatta** was held in Franklin, with eight boats from around Australia and New Zealand competing, some with crews from farther afield. Among the coxswains was **Robert Ayliffe**, of Stray Dog Boatworks (www.nisboats.com), who had assembled a **crew of new immigrants** to Australia, many of them from Iran, to share in mutual effort and camaraderie.

In Franklin, it is clear that the pieces of the puzzle are assembled, and people are working hard to put them together.

Franklin Working Waterfront Association, 3333 Huon Highway, Franklin, Tasmania, 7113; +61(0) 362–663-586; www.woodenboatcentre.com.

The influence of overseas yacht designs and innovations on Tasmania in no way diminishes the pride that boat owners show in local craft. In going through the online fleet list (until I reached the point of exhaustion), I counted 19 boats of 100 years old or more. Most were beautifully kept or restored.

One particular example caught my eye. **GYPSY, a gaff-headed centerboard cutter 36′ on deck**, was **built in 1914** by blacksmith Win Tatnell and sawmill operator William Ball on the Tasman Peninsula. The design was by Alfred Blore of Tasmania, adapting a larger, full-keel design by Sydney naval architect Walter Reeks. She is lovingly maintained and sails regularly—but what is most remarkable about her is that **she has been in the same family's ownership since 1918**.

Steve Knight, chairman of the Australian Wooden Boat Festival, Inc., is her current owner. As he tells the story, after serving with the English army in Gibraltar, his great-grandfather "slipped on the ice on a footpath in London during one winter and said, 'Bugger this, I'm sick of this cold place.' And they came to live in Tasmania. There's no mention anywhere, or belief anywhere, that the family was involved in yachting before they came to Hobart." After returning to Tasmania after serving in the artillery corps on the Western Front during World War I, his great-uncle, Jack Knight, joined a younger brother, Sid, in buying GYPSY. With no heirs, Sid left the boat to a nephew. "My grandfather, Doug Knight, took over, and he died in 1968. My father, Barry Knight, took over then, and unfortunately he died when he as only 41 years old in 1975, just after I turned 17." After an appropriate time, someone gently asked his mother what would become of GYPSY, and young Steve interrupted: "I said, 'Nothing. I'm taking over.'" Crew, also, have been extraordinarily loyal to the boat: "I think we've had **six crew members** over the journey **who have been crew for 50 years or more**," and most of her current crew have sailed with her between 20 and 40 years.

"There are all these other lovely traditions," Steve said,

TOM JACKSON (BOTH)

***Above*—Steve Knight's GYPSY has been very little altered since her launching in 1914 in Taranna, Tasmania. The Knight family has owned her since 1918. *Inset*—A sociable boat, GYPSY has had loyal crew, some sailing with her for 50 years.**

sitting below in the rustic saloon: basically settee bunks lining each side—"It's cozy, yeah; six blokes end to end"; the lifting centerboard amidships in its trunk—"that's well designed, because its top holds exactly one dozen bottles of beer"—a small galley to starboard aft near the companionway, and little else. "We do a **10-day cruise every year**, which she's done every year **since 1919**, so in 2018, it'll be her 100th consecutive annual 10-day cruise. Our first opening day was 1918, so if my arithmetic's right, that means that **2017 will be her 100th opening day**—she's never missed one. It's a great tradition; the yachting fleet sails around in the Derwent, takes a salute from the governor, and then they go off and have a party. And also, in 2018 it will be 100 years in the family."

What contributes to such longevity? "Four things. First, the Huon pine. I mean, these cabin sides are solid slabs of Huon. She's **planked with 1⅜″-thick Huon pine planks**. Secondly, they obviously **built her well**. And, I think, two other things: Maintenance. **If you keep them up, they'll reward you**. And the last thing is **using them**. You have to use the boat. In the summer, we go out three weekends out of four, I reckon. She does the 10-day trip, and often a couple of weekend trips. We use her from the beginning of October through to about the middle of June." After her annual haulout for maintenance, "we slip her in August, and then everything's back on, and off we go again."

She rarely races anymore and sails primarily the comparatively protected eastern coast of Tasmania, most of which is nevertheless still wide open to the Tasman Sea. Beyond the southern tip of Tasmania, the coast is much more forbidding, with few harbors and vast exposure to powerful winds from the west. "The bottom of Tasmania records some pretty ferocious conditions on occasion," Steve said. Plus, the local cruising grounds are among Australia's finest. "Last year we went up the east coast like we normally do, almost **halfway between Maria Island and Schouten Island,** an area that's **probably my favorite part of the world**—just glorious: red granite, the most incredible white beaches, and sort of azure blue sea; you can see the fish in 40 and 50 feet of water."

"Whilst I'm confident in her," he said, "and she's built like the proverbial outhouse,"—I think you know the one; brick is involved—"the fact is, she's a hundred years old."

And counting.

Footnote: In addition to GYPSY, the **century-plus boats** in Hobart, listed with name, year built, LOA, type, designer, and place built were:

- **ADMIRAL**, 1865, 20′10″, rowing boat, Thomas Morland, Tasmania
- **AOTEA**, 1900, 35′11″, sloop (converted), William Fife, Tasmania
- **BRITANNIA**, 1898, 35′, converted fishing sloop, Davey, Tasmania
- **CLARA**, 1892, 28′, sloop, Thomas Williams, Tasmania
- **ELF**, 1907, 31′, sloop, William Hand, Tasmania
- **FROLIC**, 1870, 44′, launch (conversion), unknown, Tasmania
- **GRANUAILLE**, 1905, 48′11″, cutter, James E. Doyle, Ireland
- **KATHLEEN**, 1918 (close enough), 20′, cutter, Dodd Ritchie, Tasmania
- **MALLANA**, 1907, 43′, ketch, Fred Moore, Tasmania
- **MAY QUEEN**, 1867, 66′, Alexander Lawson, Tasmania

- **NANCY**, 1917 (close enough), 35′, fantail launch, Harry Rowe, Tasmania
- **PANDORA**, 1910, 30′2″, raised-deck sloop, William Hand/Alfred Blore, Tasmania
- **PREANA**, 1896, 55′, steam yacht, Robert Inches, Tasmania
- **RIAWE**, 1912, 36′, motorsailer, Ned Jack, Tasmania
- **SAO**, 1898, 28′, gaff sloop Ned Jack, Tasmania
- **TERRA LINNA**, 1880, 28′, racing cutter, George Luckman, Tasmania
- **VANITY**, 1911, 40′, gaff cutter, William Hand/Alfred Blore, Tasmania
- **WINSOME**, 1912, 34′ 8′, motorsailer, Alfred Blore, Tasmania

As with boats anywhere, some of the old boats have been much altered over their lifetimes: fish boats converted to pleasure use, no-longer competitive race boats with cruising accommodations added, sometimes-ill-advised deckhouse changes. At some point, the tribute paid to an ancient survivor is to take her back to what she was. **The steam-powered launch PREANA** is one such example. Once a derelict, she was **rescued by an association**, and today she shines in every way.

As is often the case, an individual stepped in, in this case **Jim Butterworth**, who is now listed as project coordinator for **Steam Yacht PREANA Trust**, a nonprofit organization. Retired now, he had a varied career, of which I only caught parts: a heating and refrigeration business, a hotel on the waterfront, a hand in many things. He also had a soft spot for historic boats. He had already done one restoration when someone told him he ought to get the PREANA. "The bow was open all the way down, pretty much," he told me. "She was pulled up in the mud, the water was flowing in and out. But the original planking was still there, and the original keel." The boat was **built in 1886** by **Robert Inches** at a **Battery Point shipyard** in **Hobart**, designed around an English-built Simpson Strickland, 60-hp, triple-expansion steam engine, and given accommodations of Edwardian grandeur for W.G. Gibson, a wealthy flour mill owner. She quickly became a fixture on the Derwent River, for example spectating at sailing and rowing regattas, and she is today the last boat known to have accompanied Antarctic explorer Douglas Mawson's ship AURORA down the Derwent River at the outset of his 1911–13 expedition. She's the last wood-fired steam yacht in Australia. After Gibson was killed in a mill accident in the 1930s, PREANA was converted to other uses: a funeral director had her for a while, then she became a commercial fish boat. Deckhouses were removed and reconfigured. At some point, a flying bridge was added. Her steam engine was long gone. Eventually, she sat idle for many years at a stretch.

The **restoration**, which the trust **started in 1992**, had the goal of restoring her grandeur. Butterworth himself found a 1905 U.S. Navy pinnace steam engine and rebuilt it, along with a new boiler, and installed it to turn the 35″ propeller. The hull was restored, strengthened, and outside ballast added to pass regulations for carrying passengers. She has modern gear: electronics, refrigeration, microwave oven, even a flat-screen television, all neatly hidden behind gleaming woodwork. Her missing original bronze portholes were found—all but one, which had been sold. "The fellow who had it 40 years hadn't paid the marina rent, so the marina guy took the portholes," Butterworth said. "We had to buy them back, but there was one they knew they had sold," which turned out to have been used as an architectural

device in a new house. "Two years went by, and I wouldn't phone him. Then, I thought, damn it, I *will* phone him." The upshot was that if a substitute could be found for the house, the owner would trade. "I found a smaller one, and took it over, sheepish-like, and he said, 'Nah, mate, make me a blackwood one, and she's yours.' So we got all the portholes."

After years of restoration, she has the varnished grandeur of her period, her steam engine gleams as much as the wood does, her crockery is monogrammed, her silver samovar is from the 1700s, her bronze is polished, her volunteers beam with pride. "Everything that's not from the 1800s, we did the best we could do to hide it." PREANA has become a fixture on the Hobart waterfront, and festival time is a time to blow her whistle, literally and figuratively.

Steam Yacht PREANA, 250 Macquarie St., Hobart, Tasmania 7000; www.preana.org.

TOM JACKSON (ALL THREE)

***Top*—Volunteers have made the steam yacht PREANA's Edwardian interior gleam, although she was a derelict until her restoration began in 1992. *Above*—PREANA, built at Battery Point in Hobart in 1886 for a wealthy flour mill owner, was a fixture on the Derwent River in her early years. *Inset*—With the vessel's original English steam engine long gone, volunteer Jim Butterworth found a 1905 American replacement, rebuilt it, and keeps it, too, gleaming.**

Across the bar

■ **Robert Lane**, 89, January 15, 2015, Friendship, Maine. After serving as a tugboat captain with the merchant marine in Europe during World War II, Mr. Lane returned home in 1945 to Middlebury, Vermont. Having chosen to apprentice as a boatbuilder, he very soon chose to move to Rockport, Maine. There, he started his career, built a 24′ cruising powerboat for himself while still in his 20s, and met and married Esther Lash. In 1951, he and his father, Carl, a noted maritime writer, started their own company, Penobscot Boat Works (see WB No. 161). At first, Penbo, as the company was often known, focused on the production of lapstrake runabouts. Facing increasing competition from production fiberglass boats, they successfully shifted to semi-custom cruising powerboats, 34′ to 44′ LOA. Notable designs were the Offshore Cruiser, Carrier Trawler, Fifty Fathom Trawler, and Cruising Houseboat, all from Bob Lane's board. The style was influenced by workboat traditions but also informed by the extensive cruising experience the family had gained over many years. Mr. Lane's designs were themselves influential in the broader development of what came to be known as trawler yachts, and Penbo boats were widely admired for their seaworthiness and cruising comfort. Mr. Lane always favored wooden construction, which allowed hull and accommodation alterations to meet the needs of the company's seasoned clientele. He also designed the Quoddy Pilot, a 31′ strip-built sailboat. Penobscot Boat Works was sold in 1973 but ultimately closed in 1981. Mr. Lane had one final boat, the 40-footer STAR OF MAINE, built for himself, and for years he and his wife cruised annually to the Bahamas, returning to their home, which by then was in Friendship.

■ **Newt Kirkland**, 74, September 15, 2014, Cherry Hill, New Jersey. Mr. Kirkland was in his mid-50s when his interest in boats turned from sailing to construction. He joined the nearby Philadelphia Ship Preservation Guild and before long he was working at the Workshop on the Water at the Independence Seaport Museum, also in Philadelphia. During his time at the Workshop, he contributed to the construction of four A-Class catboats, two sandbaggers, and two whaleboats and also participated in the restoration of numerous other traditional watercraft, working as an instructor for students and volunteers alike.

■ **Theodore "Ted" Manley Crosby**, 76, January 25, 2015, Osterville, Massachusetts. For 50 years, Mr. Crosby worked in his family's famous Crosby Yacht Yard, founded in 1850 in Osterville. Mr. Crosby led the construction of Wianno Seniors, Crosby Catboats, and Crosby Stripers. Other than crewing aboard the Woods Hole research vessel ATLANTIS after his graduation from Barnstable High School in 1956, his career was entirely devoted to the Crosby yard.

■ **Wendy Lee Carroll**, 58, February 1, 2015, Sedgwick, Maine. Ms. Carroll worked for 24 years as office secretary at Brooklin Boat Yard. A native of Portland, she earlier worked there in banking and insurance, married, and raised three daughters. After divorcing, she moved with her daughters to Sedgwick, where her mother lived. Five years later, she started at the boatyard, where she was much loved. The chaotic parking area had only one regulated space, saying, "Reserved for Wendy." She was active in rural life, including gardening and crafts, and never lost an enthusiasm for beach walking that started during childhood visits to grandparents in Castine, not far from Sedgwick.

A Queue of Questions

by Richard Jagels

My virtual mailbox has been swollen with electronic queries. I'll tackle three of them in this issue: bending wood with ammonia, black locust as a boatbuilding wood, and taking care of teak trim.

Exotic Wood-Bending Techniques

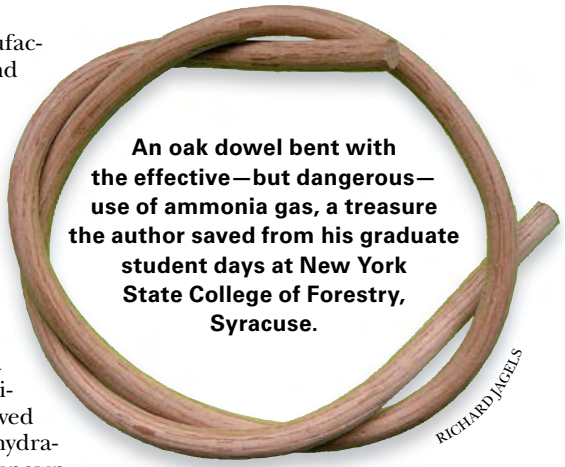
Leon Olson of Andover, Minnesota, writes: "I found Dr. Jagels's article, 'Bend, or Buckle and Rupture' (WB No. 237) fascinating. Trying to get wood to bend to the shape required for a boat can be a challenge, one that I have failed to overcome more than once. While I was in college, I took a class on building laminated furniture, and one of our classmates tried bending wood with ammonia gas. He was able to take a 1″ dowel and tie it into a knot. He was very clear that ammonia gas not handled correctly would be deadly. I never tried it because of the danger. There appeared to be no side effect other than bleaching the wood. The gas plasticizes the lignin to a greater degree than steaming the wood. I have always wondered if bending wood with ammonia gas would be worth the effort in boatbuilding in certain circumstances."

Fifty years ago, when I was a graduate student at what was then the New York State College of Forestry at Syracuse (now SUNY Environmental Science and Forestry), chemists in the Wood Science Department invented a new way of bending wood using either anhydrous ammonia or compressed gaseous ammonia. I recall the amazing tightly coiled and twisted wood "sculptures" displayed near their lab. Since then, the process has been used quite sparingly—and primarily by artists and furniture-makers. Ammonia is corrosive not only to aluminum, brass, and copper but also to human lungs, eyes, nose, and skin. Steel pressure tanks and specialized protective gear for workers are required. Your classmate who bent a birch dowel was lucky that he didn't suffer deleterious health effects.

The high cost of pressurized equipment and safety gear precludes using these techniques for most boatbuilders. If someone wanted to create breasthooks, knees, or other relatively small bent-wood items, the best solution might be to contact a furniture manufacturer who has the equipment and expertise to custom-make these items.

I should add here that other chemicals have been tried for plasticizing wood. The *Wood Handbook* lists urea, dimethylurea, low-molecular-weight phenol formaldehyde resin, dimethyl sulfoxide, and ammonia, in addition to the traditional hot water and steam. In a cursory search, I found some additional chemicals that have received attention, among them aqueous hydrazine and caustic soda, otherwise known as potash.

All of these would be more costly and more difficult to use than hot water or steam. Ammonia-bending does have one advantage over steam-bending: The bent wood does not lose as much strength. But cost and health risks preclude its usefulness for most watercraft construction.



RICHARD JAGELS

An oak dowel bent with the effective—but dangerous—use of ammonia gas, a treasure the author saved from his graduate student days at New York State College of Forestry, Syracuse.

Uses of Black Locust

Florida boatbuilder Peter Welch writes, "I am making a quote for a potential customer who wants a lapstrake boat of the Atkin Happy Clam design. He has extolled the virtues of black locust and wants the hull built of that wood. My quick Internet search of the wood suggests that it will not bend uniformly. The result would be an unstable structure that would require a lot of fairing for a good paint finish. Are there other downsides, such as poor adhesion for paint, caulking compounds, or common glues such as epoxy? Perhaps the correct application for black locust is in the deadwood and framing in the bilge?"

Black locust (*Robinia pseudoacacia*), also known as yellow locust—and not to be confused with honey locust (*Gleditsia triacanthos*)—was once so revered that millions of seeds were regularly shipped to London in the early 1800s. Planted throughout Europe in gardens and street plantings, the wood eventually found use in furniture making, where the lumber compared favorably with satinwood (*Chloroxylon swietenia*) and burls closely resembled Amboyana (*Pterocarpus indicus*). Even today, black locust is widely cultivated in Europe, especially in Hungary, where the wood is highly regarded.

In its native habitat in the United States, black locust is reported by the U.S. Forest Service to be "not a commercial timber species but is useful for many other purposes." Among the list of useful purposes are fenceposts, mine timbers, railroad ties, ship timbers, and trunnels. The *Wood Handbook* characterizes black locust as "very heavy, very hard, very resistant to shock, and very strong and stiff. It has moderately low shrinkage" and the "heartwood has high decay resistance." Other sources rate it excellent for steam-bending and state that it is easy to glue and takes a finish well.

Why then is black locust so little used commercially? The explanation provided by the U.S. Forest Service is that the wood in the living tree "is severely damaged by insects and disease, probably more than any other eastern hardwood species. Ubiquitous attacks by the locust borer (*Megcallene robiniae*)...make growing black locust for timber production impractical. Locust borer larvae construct feeding tunnels throughout the wood, and the holes serve as entry points for heart-rot fungi that cause extensive decay."

In Europe, where this borer is absent, black locust can develop to its full potential. In Hungary, more than 49 varieties of black locust have been identified. They differ in stem form and in nectar characteristics; in many areas, this species is planted for honey production. Here in the United States, if black locust trees are planted on ideal sites and

harvested early—generally before the tree is 30 years old, when its growth slows and borers become more active—then acceptable lumber can be produced.

Most sources I have checked indicate that black locust is easily steambent. The exception would be for crooked timber. Black locust on many sites produces root suckers that produce thickets of crooked stems, which would not produce acceptable lumber.

If acceptable black locust lumber can be obtained, it can be used as an ideal substitute for white oak. Although somewhat heavier than most white oak species, it is more resistant to decay. Its best uses would be for framing. I think that the original plan for Happy Clam specified white oak framing and Atlantic white cedar planking. The specific gravity at 12% moisture content (MC) for Atlantic white cedar is 0.31, less than half that of white oak (0.68) or black locust (0.69 or higher). Planking with locust would produce a very heavy boat, which would reduce freeboard and require more horsepower to achieve reasonable speed.

Caring for Teak

Reader Nyal McDonough writes to say he is a fan of wooden boats but sheepishly admits that he "succumbed to the relative ease of maintenance and bought a fiberglass boat last year. The boat is a 1981 Sabre 28, but it has a good amount of teak outside as well as inside." He seeks my advice on the care of the teak, noting "the emphasis for me is on the serviceability and long life of the wood. I am much more interested in sailing than admiring the brightwork."

The simple answer I can offer is "do nothing." Teak is wonderfully forgiving when exposed to the weather. Many years ago, I attached teak footpads to the side decks of a fiberglass lobster skiff I owned. After 27 years of letting the teak weather naturally while the boat remained on a mooring all spring, summer, and fall, the teak was gray but otherwise perfectly sound when I sold the boat. The primary reason for doing regular maintenance on teak exposed to the weather is to retain the color and look of the original trim. But once you start sanding and oiling or varnishing, you will need to continue the process, probably annually. If the teak trim on the Sabre already has a finish, you can let it weather until the finish begins to deteriorate and then remove the remainder with light sanding.

I need to offer one caveat to this advice. If the teak on the boat is either an imposter—that is, a teak substitute— or if it is true teak (*Tectona grandis*) but is derived from exotic plantations outside its natural range, then the advice I have offered may not hold. Much of the teak from exotic plantations, for example those in Central America, has properties that differ from the native woods and have excessive amounts of sapwood. This wood is generally not appropriate for exterior applications.

So, if you have high-quality teak trim, sit back, hoist the sail, and enjoy the ride.

Dr. Richard Jagels is an emeritus professor of forest biology at the University of Maine, Orono. Please send correspondence to Dr. Jagels by mail to the care of WoodenBoat*, or via e-mail to Senior Editor Tom Jackson, tom@woodenboat.com.*

SIMON WATTS

My Affair with the International 14

A personal history

by Simon Watts

The International 14 (I-14) is the world's oldest International dinghy class—and one of the most exciting to sail. It's been a formally recognized class for nearly 90 years, but its origins go much farther back—to the late 1800s. While today's I-14s are carbon-fiber, two-trapeze racing machines, earlier boats were built of wood.

My affair with the I-14 began in Montréal in the 1950s when I was a young engineer working for Alcan—the aluminum company of Canada. On weekends, I hung out at the Royal St. Lawrence Yacht Club, which had a fleet of wooden I-14s. These boats—both lapstrake and carvel—could be bought cheaply because they were being replaced by molded wooden hulls and, only a few years later, by fiberglass.

During my three years in Montréal I owned a

***Above*— The International 14 became an international racing class in 1928, making it the oldest in the world so designated. The author has been sailing them since the 1950s, and recently used the remains of a derelict boat for patterns to build a brand-new one in Nova Scotia.**

SIMON WATTS

The author's dinghy bears close resemblance to ALARM, a legendary I-14 designed by Uffa Fox.

series of I-14s—one lapstrake, the rest carvel—and on weekends would load up the current boat and go camping with a few like-minded friends. I usually had a crew of two and with camping gear, food, and supplies, it was a tight fit. I don't ever remember reefing, although we did capsize a couple of times and had to be rescued by the Sea Scouts—for which I expect they all got badges.

There's a lot of water around Montréal—lakes, the St. Lawrence River, and various creeks and waterways. Running down a narrow channel one day, we passed close to a nunnery—Soeurs de Bon Pasteur. Too busy waving to the novices (who were chaperoned by two nuns in full regalia), we failed to notice the high-tension line across the channel. Our 23′ mast met it, and I've often thought how gratifying it would have been for the sisters if these two impudent young men had been consumed, or at least singed, by heavenly fire.

On another occasion we landed at a small French-Canadian village and were accosted by the local gendarme who informed us that *les shorts* were forbidden there. When we explained we had come by boat, the crisp retort was, "Good. Then leave by boat."

The International 14 got its start in the 1890s when several areas around England had fleets of dinghies for racing and general recreational use. Each locality followed its own traditions and built boats with available materials at an acceptable price. Although the fleets varied in design, they tended to be open centerboard boats, 12′ to 14′ in length, usually lapstrake with a sliding gunter rig. Some had short bowsprits and carried a jib. (One advantage of the gunter rig is that when shortening sail you also shorten the mast.)

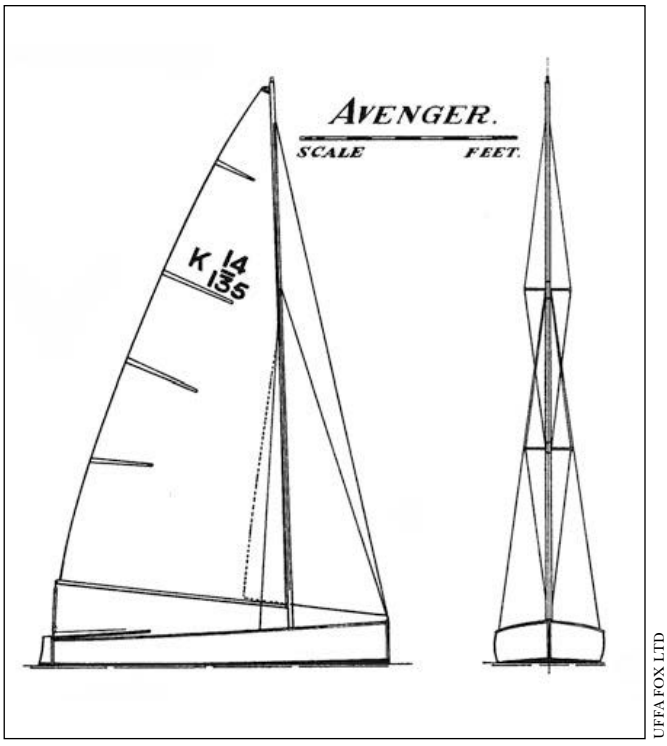
Most of these early boats traveled to races and regattas by rail, and a 14′ hull was the longest that could be sent by train, anywhere in England, for six shillings. Spars could also be sent, but their length was limited by this rule: length of boat plus 18″, or 15½′. This delayed the adoption of the marconi rig, although some owners devised two-piece bamboo spars that could be put together with an ingenious brass coupling similar to a fishing rod.

Every locality had basic rules regarding size, sail area, and all-up weight, so competing boats were similar, if not identical. Clubs sailing on the sheltered waters of the Norfolk Broads, lakes, and rivers could handle more canvas than those in tidal estuaries or the open sea. This gave rise to two rigs: The inland rig set at 140 sq ft, and the sea rig at 120. The relative merits of sloops versus cat-rigged boats was hotly debated and finally settled by a historic race in 1911 won by Morgan Giles's sloop FIREFLY.

By 1923, the concept of a class of 14′ dinghies was generally accepted. Restrictions on masts were abandoned, and after some wrangling

EYEMOUTH INTERNATIONAL SAILING CRAFT ASSOCIATION

Uffa's influence is clearly evident in this photograph of one of his boats (right) next to an earlier Morgan Giles design. The flat, wide after sections and straight run of Uffa's boats gave rise—literally—to the first planing dinghy.



UFFA FOX LTD

AVENGER may have been fast, but she was no freakish boat of limited utility. In 1938, Uffa Fox sailed her across the English Channel to Le Havre, France.

the two rig sizes were abolished in favor of a single one of 125 sq ft—still plenty of sail for a 14′ boat. From its beginnings, the I-14 was a *development* class, controlled by a set of rules that allowed for innovation and changes in hull and rig as long as they fell within a set of specific limitations on length, weight, and sail area.

Still, there were ongoing disputes between the rule-makers and those of an inventive turn of mind—which continues up to the present day. Inevitably, the rule-book got heavier, more complicated, and more difficult to comply with. One rule states that "If any member of the crew leaves the boat voluntarily he shall be deemed to have been lost overboard." I can't help wondering what circumstances gave rise to that one.

The Solent, on England's south coast, is a tidal but protected water between the Isle of Wight and the mainland. The principal harbor, Cowes, had everything the yachting fraternity could want—including first-rate designers and boatbuilders. Among them, in the 1920s and '30s, was Uffa Fox, something of an *enfant terrible* but with an original and inquiring mind (see WB Nos. 221–224). He was the first to realize that a 14′ sailboat could be made to plane, thus almost doubling its speed.

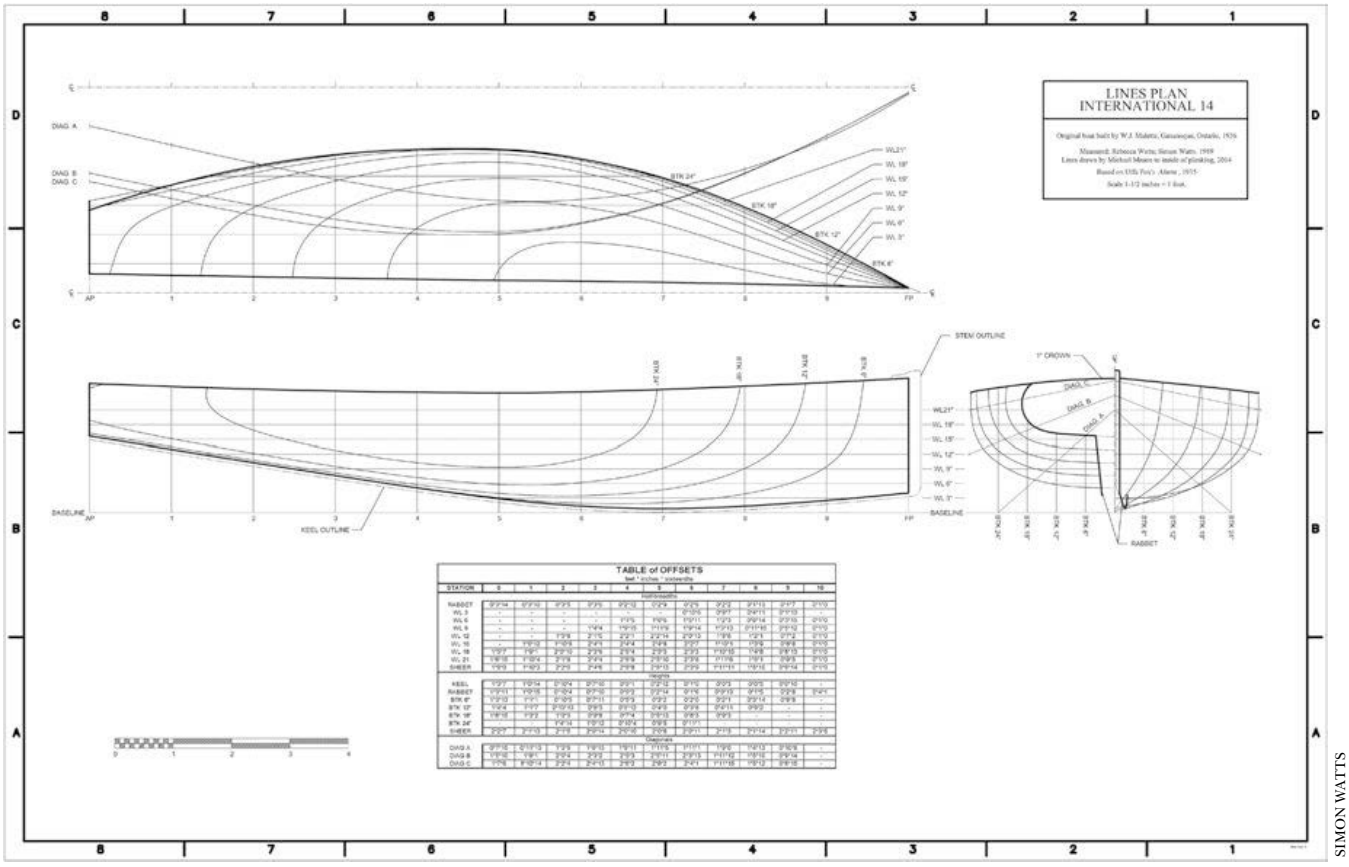
At that time, Uffa lived on a converted ferry in Cowes harbor so was well placed to observe and make comparisons between the area's multitude of sailing craft. In 1925, he designed and built his first 14′ dinghy, ARIEL. Planked carvel with low freeboard to cut down on windage, it had a sliding gunter rig, roller reefing, and other innovations.

ARIEL was followed by RADIANT in 1926, and Uffa used her as a sort of laboratory, changing mast position, ballast, centerboard, and sail proportions in search of better performance. With a bit of coaxing, RADIANT could be induced to plane downwind, but it wasn't until the advent of AVENGER in 1928 that the planing hull on a sailing craft had finally arrived. Being the first true planing dinghy with good windward performance, she was way ahead of her time and set the pattern in dinghy design for years to come. Other I-14s planed on occasion, but AVENGER would pick up her skirts and go at the slightest provocation. Out of 57 starts in 1928, she finished first 52 times.

AVENGER was not merely a fast freak. In 1938, Uffa sailed her across the English

INTERNATIONL 14 ARCHIVE

The International 14 has evolved over the years—to the cold-molded construction we see here, and on to the modern composite trapeze-ballasted machines of today.



SIMON WATTS

The author's International 14 is a near sister of Uffa Fox's ALARM, which is in turn a near-sister of AVENGER.

Channel to Le Havre with a crew of two plus all their gear and provisions. After winning two races there, they sailed back to England, taking 37 hours due to adverse weather: It was a hundred-mile dead beat to windward.

With AVENGER came new sailing techniques. Unlike older boats, a planing hull with its flatter floors had to be kept upright no matter what, so using the weight of the crew effectively became key to winning races.

Uffa strove to keep the weight of the crew in the middle third of the boat. As he said: "Bow and stern must rise easily, otherwise they tend to dig in or drag. If that happens, the race is as good as lost." Toe straps were tried out so the crew could lean outboard and use their weight more effectively. Straps were soon banned by the Rules Committee on the grounds that they would give men—usually larger and heavier than women—an unfair advantage and thus discourage husband-wife and family teams.

Toe straps were finally permitted in 1936, after which the trapeze was introduced. It must have been a shock for the race committee to see a crew with only their feet touching the boat—literally "hanging out." This device, too, was soon banned for much the same reason as toe straps. It wasn't until 1969 that the single trapeze was permitted; the double trapeze was allowed a few years later.

The trapeze marked a watershed in the development of the International 14. Some of the older members of the fraternity lost interest and withdrew their support because they thought (and future events bore them out) that the class would now develop into an ultimate open-water sailing machine rather than the all-around craft of its origins. It has since become a thrilling high-wire act, but not a boat you'd want to take on a picnic—or across the English Channel.

The class never really caught on in Europe, perhaps because the specified English weights and measurements did not fit neatly into the metric system; 14′ becomes an awkward 4.2672 meters, for example. However, interest in the I-14s did cross the Atlantic, and the class became popular in the United States and Canada, then Australia and New Zealand.

Uffa continued to experiment with hull design and came out with a new boat called ALARM, in 1936. Her lines show little change from AVENGER because, as Uffa put it: "Any really successful design stands good for a long time—it's so nearly perfect that it needs little alteration." ALARM had a thwart-stepped mast (not a success), built-in buoyancy tanks, and other innovations—but more of her later.

In 1960, I moved to Boston, taking my most recent I-14, a carvel version, with me. I kept her on the back porch of a friend (later my wife), but soon realized that an I-14 was impractical because of the numerous bridges spanning the Charles River. I made do with the MIT dinghies and the new singlehanded Olympic class boat, the Finn.

While still a student at MIT, I spent three consecutive summers teaching sailing in Castine, Maine. My wife and I took the I-14 with us, and it was quite a contrast to the club boats, which, as the locals put it, were "ten feet long and nine feet wide." Step on the gunwale of these club boats, and they barely tipped, whereas the I-14, with its 24′ mast, would capsize instantly. I tried to convince the parents of my students that the seemingly safer boat was actually the more dangerous of the two because it encouraged bad habits, but I don't think anyone believed me. The students thought otherwise, however, and one lad was so taken with our I-14, and became so expert at handling it, that he persuaded a wealthy uncle to buy it for him.

Some years later we moved to Putney, Vermont, and I began taking groups of Putney School students camping and cruising on Lake Champlain. We rented the boats from a local boatyard, and while poking around one day I came across one that looked vaguely familiar. It was 14′ long, built lapstrake, with a plywood deck nailed over the top—and it was for sale. I bought it for $250—including the mast, sails, rudder, and trailer—and took it back to Putney.

It was only when I had it in the workshop and had stripped off the deck that I realized it was the same boat I had owned in Montréal a half-dozen years earlier. The decking was a clumsy attempt to convert it to the popular Jet-14 (see sidebar). By then the boat was in poor shape, and the planking had been nailed and re-nailed so many times at the stern that I had to remove the transom, make a new one of teak, and move it forward, thus shortening the boat by an inch.

This odd coincidence renewed my interest in the I-14s and in the history of this particular boat. I discovered, not surprisingly, that it was of Canadian origin, one of four built in 1936 by W.J. Malette in Gananoque, Ontario. One ended up in the Antique Boat Museum in Clayton, New York (see WB No. 240), another is owned by relatives of the Malette family, and the one remaining is unaccounted for.

Malette built his boats lapstrake with cedar planking and white oak frames, and fastened them with copper clench nails—not rivets. They had no built-in buoyancy, minimal seating, and skimpy floorboards nailed to the frames. The mast was rigged in the traditional "birdcage" pattern with an ingenious gooseneck so the mainsail can be reefed quickly and easily by rotating the boom as many turns as needed.

By this time, the late 1960s, we had acquired an island summer home in Nova Scotia. We took the I-14 with us and kept her on a mooring near the house but with such a tall mast, sudden shifts of wind were liable to capsize her. The solution was to tie her up by the stern, with a few pounds of ballast in the bow so she swung like a weather vane according to the wind.

Our three children learned to sail this boat, often reefed down because they lacked the weight to offset a full mainsail. Eventually, we acquired a cut-down main for this purpose—"like training wheels," some teen remarked disgustedly. My daughter, Alison, remembers her experiences sailing the I-14 as "an exhilarating ride, challenging, and often wet. It was a very responsive boat, which made for an ideal learning experience. When the wind was light, just ripples on the surface, we would glide with surprising speed while other boats got out the oars." When going to the mainland, her sister Rebecca preferred to take the I-14 rather than the family rowboat because "it was more sporty."

After 20 or so years, the old boat reached a point where "she leaked so awful bad" in the local vernacular, that the hull had to be fiberglassed; this added about 30 lbs to the weight. With a view to eventual replacement, Rebecca and I measured the boat in 1986, made brown paper patterns, rolled them up, and forgot about them. Twenty-five years later the boat was still going, but was now beyond economical repair. Four years ago, as a retirement project—I had just turned 80—I volunteered to build a new boat as a 50th birthday present for daughter Alison.

COURTESY JET-14 CLASS ASSOCIATION

The Jet-14 One-Design

ALARM had a remarkable renaissance in 1952 when the boatbuilder and designer Howard Siddons combined ALARM's hull with the rig of a Snipe to produce the Jet-14. Unlike many hybrids, the Jet-14 was a great success: simple, inexpensive, and relatively easy to build. It could also be handled by youngsters. These boats are still raced across the U.S. and Canada, and the class association claims a fleet of over 1,100 boats.

—SW

SIMON WATTS

The author's new I-14, on shakedown in Nova Scotia.

The roll of brown paper patterns was still around—somewhat chewed by mice but usable—so I transferred them to ⅛″ plywood and used them to make molds, transom, and other vital parts full-size. I also drew a 14′ longitudinal section on plywood so I knew the correct placement of the molds. The rudder was not original, but I found a vintage I-14 and made a pattern of its rudder. The old boat was put out to pasture near the workshop in Nova Scotia for reference.

I was fortunate to find a Nova Scotia naval architect, Michael Mason, who made a lines drawing from the patterns—which predated the fiberglassing. Michael faired them with considerable difficulty and produced a set of lines and a table of offsets. By comparing lines drawings it became clear—even to my untutored eye—that what we had was a Canadian version of ALARM. The minor discrepancies I put down to the age and history of the original boat.

ALARM was the most influential of Uffa Fox's dinghy designs and the most widely copied. The original boat was sold and taken to America, where molds were made and used for the large fleet of U.S. 14′ One-Designs. The molds were then sold to another builder and several hundred more hulls produced. Thus ALARM's hull shape was the most common of any 14 built during that period. I've little doubt that was Malette's source for the International 14s he built in 1936–7.

We built the new boat on Middle Island, Nova Scotia, over three summers with plenty of young enthusiastic help. I used local materials—white pine and red oak—but was unable to get good bending oak—straight-grained, green, or barely air-dry. Instead I glue-laminated the red oak frames using a jig with movable blocks, and fastened them with screws driven through the laps from the outside. This makes a neater, stronger boat with fewer rivet heads projecting to scar the crew.

Unlike the original boat, I attached the floorboards to oak floor timbers and not directly to the hull frames and also moved the seats aft so the crew could sit in the middle third of the boat as Uffa had intended. Apart from that, the new boat is a faithful copy of the original; it even has the original boat's steel centerboard, mast, boom, rigging and sails.

So what is the appeal of this design, and why should anyone go to the considerable trouble of building one? I think of ALARM—and the near sister I replicated—as a classic because it marks a high point in the evolution of the International 14. Uffa Fox had refined it to the point where no significant changes could be made until the advent of new materials or changes in the rules.

International 14s are like no other boat I've ever sailed. They are responsive, light on the tiller, and able to take advantage of the mere ghost of a wind. It was a thrill for all of us to see the new boat sailing—especially for the grandchildren to whom the original boat was just a relic. Added to speed and agility is their proven seaworthiness—although taking one across the English Channel (and back) is not high on my agenda.

Simon Watts has been making furniture and building boats for more than 50 years. For many years, he taught six-day classes around the U.S. and Canada, and is co-founder of the Arques School of Boatbuilding in Sausalito, California. He has written a number of boatbuilding monographs—called the Classic Boat Series*—the plans and manuals for which are available as digital downloads from The WoodenBoat Store (www.woodenboatstore.com) or on disc from www.simonwattswoodworking.com.*

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Breathe Easy

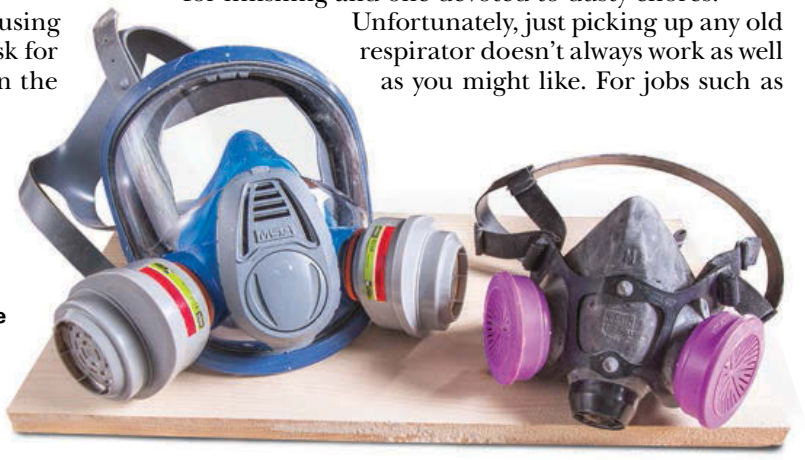
The right respirator cartridges and a good fit will keep lungs healthy

by Ken Textor · Photographs by Joe Devenney

Few people would decline to insure a $700,000 boat for several hundred bucks a year. Yet, when faced with a similar financial trade-off of whether to buy and use a good respirator for boatbuilding chores, potentially avoiding expensive lung disease treatments later in life, many are shortsighted and skip the respirator. I used to count myself among them.

Today, however, it's a rare day that I'm not using either my respirator or a high-quality dust mask for just about any finishing or woodworking task in the shop. Fumes from finishing work and dust from most woodworking chores will put lungs at risk of developing various expensive and life-threatening medical problems, including cancer. Indeed, the chemical make-up of some common boatbuilding woods produces dusts that are listed as "toxic." Hence the two respirators, one for finishing and one devoted to dusty chores.

Unfortunately, just picking up any old respirator doesn't always work as well as you might like. For jobs such as



***Above*—More than a mere nuisance, wood dust can be hazardous to health, and dust from some species can even be carcinogenic. Protection from fumes, too, is essential in both professional and amateur boatshops. (These photos were taken in the woodshop at the Maine Maritime Museum in Bath.)**
***Right*—Whether in the full-mask version (near right) or half-mask (far right), a good fit is a must and the cartridges must be appropriate for the job.**

spray-painting, a passive respirator, which just uses various filtering media to keep your lungs safe from airborne particulates, is insufficient. In fact, spray-painting jobs usually require a supplied-air setup, which operates much like a diver's aqualung. That's a topic for another time. For now, I'll just stick with the passive respirator and what it can and cannot do.

Occupational breathing problems have been under scrutiny for hundreds of years, going back at least to Leonardo da Vinci's first "respirator" for sculptors who were constantly exposed to dust from stonework. His piece of cloth dipped in water and tied over the nose and mouth was the forerunner of today's dust mask and, later, the respirator. By the late 19th century, the increasing number of deaths attributable to poor air quality in coal mines provided the final impetus for developing lung safety devices capable of addressing both the hazardous dusts and deadly fumes found in the workplace.

Respirators today often combine both dust and fume protection in one device. This sounds great, but it's really only part of the solution. The most important aspect of the respirator is getting one that fits properly and feels comfortable. The fit is crucial to ensure that fumes and dust are indeed filtered and not sneaking in around your nose or cheeks (see sidebar, page 35.) Comfort is critical, too, because if a respirator is uncomfortable, you tend to avoid wearing it.

Driven in part by increased governmental safety regulation of the workplace, respirator manufacturers have kept these two critical points in mind and have come a long way toward creating better products. Although there are literally dozens of respirator manufacturers, four of them—3M Company, Mine Safety Appliances (MSA), Draeger Safety, and Honeywell—tend to dominate the retail outlets where boatbuilders usually shop. (All four have respirators under various other names. For example, Honeywell is often North or North Safety, 3M can be AO Safety, and so on.) But all are driven by the same workplace air-quality regulations, so the filtering media tend to be the same. Thus, choosing among them generally boils down to personal preference, with cost being only a minor factor. In my own experience, the prices of comparable respirators tend to be competitive, usually within about 15 percent of each other. Improved durability and handy extra features tend to drive up the price of a basic respirator.

Respirators come in two basic varieties: single-filter cartridge style and double-filter cartridge style. There is no difference in the safety of one over the other. With the appropriate filter in use (see sidebar, page 36), both will keep toxic fumes out of your lungs. However, in nearly 40 years of working on boats, I've found the double-cartridge style allows me to see my work unobstructed, and it generally doesn't clang into things when I'm working in tight spaces.

And while we're on the subject of seeing things, there's the question of using a respirator as a "half mask" or with a full mask, which includes a clear safety shield that completely covers your eyes. In finishing work, I've gone to the full mask because some varnishes these days include additives to guard against mold and mildew. These additives can make your eyes tear severely. Heavy doses of plain old oil-based paint fumes can also make sensitive eyes tear. So, unless I'm just concerned with sanding dust, I use a full face-mask respirator.

In fact, I have an entirely separate half-mask for sanding tasks only. Respirator cartridges will do a fine job keeping out sanding dust—too good, in fact. The dust will usually clog up a fume-preventing cartridge, forcing a replacement (at about $20 per replacement) long before it would otherwise be necessary.

Again, respirator manufacturers know dust-only masks are sometimes preferable and the same half-mask or full mask you use for fumes can be fitted with a dust-only cartridge. So my dust mask is no good for fumes, only dust. And although it's not recommended by cartridge manufacturers, many woodworkers lengthen the life of a dust-only cartridge by using a vacuum to suck particles off the cartridge's fine paper mesh at the end of a sanding session.

And speaking of paper in dust masks, I have often wondered why all-paper dust masks are still on the market. I have yet to find one that fits well enough to keep airborne particles out of my nose, mouth and lungs. They are cheap, but they do remind me of all the old jokes about a screen door in a submarine.

Remember, too, that sanding dust from wood can be just as toxic as sanding dust from various non-organic items commonly found in boat repair and

More than just adjusting for a good fit, the straps should make a respirator comfortable to wear. To prevent his eyes from tearing up, the author favors a full-mask respirator when doing finishing work.

Testing the fit

***Far left*—Blocking the cartridges while inhaling, as the author demonstrates, will quickly show whether the fit is effective; if not, air will leak in around the face mask. *Left*—Blocking the exhaust and exhaling will also prove whether the mask fits properly.**

Facial structure and beards are two individual characteristics affecting the fit of a respirator. I have both a beard and sharp, thin facial features, which creates a big problem when buying a suitable respirator. On the other hand, a clean-shaven Santa Claus would be pretty easy to fit with a proper respirator. So buying a respirator is as personal as buying a new pair of shoes: They both have to fit well.

Most respirator manufacturers have responded to these issues by creating a silicone face mask, which is very pliable and tends to fit nicely on even the most hawkish of faces. Most offer these masks in small, medium, and large sizes. Some even have instructions on how to measure your face to make the right choice. Still, I had to go through several manufacturers' respirator masks before I found that the medium-sized MSA brand suited me best. For other users, another less-expensive mask may work fine. The MSA mask was about 15 percent more costly than its competitors, but for me it helped pass the crucial "fit test."

Another solution to the problem of fitting a mask to a bearded face is to avoid it altogether with an innovative device called the Resp-o-rator. This re-imagined respirator looks like a double-barrel snorkel, with the tubes of the snorkel emerging from the wearer's mouth and then curving around the face and pointing aft. Filter media cap the ends of those tubes. I've not used one, but the general consensus, gleaned from online reviews, is that it works well after a short period of getting accustomed.

There are two parts to the basic fit test for any respirator to be useful. As the photo at left above shows, the negative-pressure fit test is pretty simple to do: Just cover up the intakes with your hands and inhale. The silicone mask should completely collapse inward, toward your face, and there should be absolutely no outside air leaking in. To be sure your test results are accurate, be certain you don't press the mask inward when you cover up the intakes. Deforming the mask will lead to unrealistic results.

The positive-pressure test, shown in the photo at right above, simply reverses the negative test. In covering up the mask's exhaust outlet, your exhalation will make the mask puff up, and might even make your ears pop, but no air should escape the mask.

If you detect a leak in either test, that mask is not for you. Admittedly, retailers of masks are not fond of customers returning a mask that didn't fit properly and is no longer in its original packaging. But it's just like a brand-new or recently repaired boat: A little bit of leaking is unacceptable. So, like me, you may have to go through a few respirators before you find the right one.

Even though there's little you can do about how your face is shaped and how that affects the fit of your respirator, you can take steps toward making a respirator fit better. If you have facial hair, you may have to make some adjustments in order to achieve a fit that doesn't leak. A big Santa Claus–type beard just isn't going to work. You will get leaks every time. I had to trim my beard very short and back from the edges to get a good fit. Compared to even 10 years ago, respirator manufacturers these days are more conscious of the bearded user, designing masks that cover a bigger area of the face and thereby encase most of the beard within the mask.

A better fit can also be achieved by adjusting the straps that hold the respirator on your head. There should be two adjustable straps, one that goes over the crown of your head and one that fits around the base of your neck.

There are other tests for the efficiency and advisability of any given respirator, but these generally have to be conducted by specially trained safety inspectors who use testing equipment not normally available to the general public. For the average boatbuilder, a respirator that passes the basic fit tests will go a long way toward safeguarding long-term lung health.

—KT

construction. For instance, dust from greenheart, a South American wood sometimes used in keels and other heavy timbers, is known to cause cardiac and intestinal disorders in addition to being a lung irritant. Teak can cause rashes, vision problems, and asthma-like responses, in addition to being a lung irritant. Iroko also produces asthma-like symptoms as well as giddiness. Dozens of other common boatbuilding woods have varying levels of toxicity, enough to convince me to always use a respirator. To check out

Choosing the correct cartridge for fumes

Passive respirators can be fitted with a bewildering array of cartridges. Apart from the simple dust or particulate filters, there are up to two dozen different types of media designed to filter various fumes. Fortunately, boatbuilders seldom need to stray from the most common one, the GME P–100 cartridge, which meets the National Institute for Occupational Safety and Health's 42 CFR 84 P-100 standards.

The institute, NIOSH for short, is part of the federal Centers for Disease Control and recognizes the need for this type of wide-ranging cartridge for small-business and individual use. But the P-100 definitely should not be considered a "one size fits all" solution.

For instance, while the P-100 offers protection for everything from organic vapors (oil-based paint fumes) to ammonia, formaldehyde, and sulfur dioxide, it would be useless against carbon monoxide, which is a gas commonly associated with many paint strippers. Certain types of welding also produce fumes not covered by the P-100. Ditto for certain paint thinners.

For specialized respirator needs, many manufacturers provide a telephone hot line to help guide you to the proper cartridge selection. Most industrial supply companies carry the most common cartridges and can have specialized ones delivered within a few days.

—KT

specific species, see the list at www.wood-data base.com/wood-articles/wood-allergies-and-toxicity.

The care of a respirator is pretty simple but important to the device's effectiveness. A respirator's fume-filtering cartridges are sold in sealed plastic, mainly to keep the active, filtering ingredients in the cartridge from activating before you use it. Once out of the packaging, it's important to seal the mask-and-cartridge unit back up in plastic after each use. If you fail to do that, the active ingredients in the cartridges will continue to react with the ambient air and a replacement cartridge will be needed much sooner than necessary.

Most fume-filtering cartridges will last through about 40 hours of use. Although safety experts argue against the practice, many respirator users employ the "smell test" to determine when to replace an old cartridge. That is, if you put the respirator on and there is even the slightest hint of the smell of the finishing fumes, it's time to change the cartridge. I use both the 40-hour guideline and the smell test.

In addition to keeping your respirator in a sealed container while not in use, I'd also recommend keeping it in a relatively even-temperature, sunlight-deprived and dry environment. Under such conditions, most respirator masks will last three to seven years. Because my shop is not heated or cooled, and has lots of south-facing windows, I quickly found respirator masks won't last more than a few years in such conditions. First, the elastic headbands go and then the silicone mask itself deteriorates, all of which compromises the purpose of the mask.

Proper storage—by sealing the mask in a plastic bag—ensures that the cartridges will remain effective as long as possible.

Respirators cost anywhere from $50 to $200 and more. Half-mask respirators used only for dust can cost as little $30 and up to $100. Replacement cartridges effective against various fumes cost between $10 and $30 each. Dust-only cartridges cost around $10 to $15. Averaged out over the years, I spend about $200 per year on this basic breathing equipment, by my calculation. But that is much, much cheaper than medical procedures and devices that become necessary when abused lungs finally fail.

Ken Textor has been writing about, working on, restoring, building, and living on boats since 1977. He lives in Arrowsic, Maine.

Each September, for one week, the old harbor of the French town of Cannes is host to Régates Royales. This annual gathering of fine classic yachts is but one stop in a racing circuit that consumes most of the late-summer Mediterranean season. The rich and varied fleet includes all types of beautiful yachts, from a vintage Danish Folkboat, to a 100-year-old German Sonder boat, and on up to the fine cutters, sloops, and schooners of the Fifes of Scotland and the Herreshoffs of Bristol, Rhode Island.

Many of the yachts here have been extensively restored, but they retain surprising originality thanks to a classic-yacht rating rule that penalizes changes from the original design and materials; the yachts are thus very true to how they were built and rigged 50, 75, or 100 or more years ago. Most of the yachts that were launched with gaff

The Vintage Yachts of Régates Royales

An international fleet gathers in Cannes

Photographs by Benjamin Mendlowitz

topsail rigs, but altered to marconi at some point, have gone back to their original configurations. They've also kept the number of penalty-inducing winches low, so the big boats require big crews to race. Most of these crews are not shy about setting as much canvas as the wind allows.

Yes, it is an expensive game. But it's not exclusive. A spectator, whether billionaire or salary-man, will find much to be studied and admired by walking the stone quay between races. On the water, the yachts employ and train countless young sailors, and the work required by the yachts keeps busy a constellation of boatbuilders and associated tradespeople. Gatherings such as this one help to preserve the finest examples of the halcyon days of classic yachting—and the skills to keep those yachts going.

—Benjamin Mendlowitz

***Above*—**Spectators at Régates Royales may stroll along the stone quay, where the yachts are all moored stern-to, Mediterranean style, awaiting the next race. Once the docklines are secured and winched snug, the battle flags and passerelles are rigged, guests head to the bar, sails are carefully furled, and fresh water and chamois come out so the crews can remove the day's salt from the brightwork. The regatta is hosted and managed by the Cannes Yacht Club, with the sponsorship of watchmaker Panerai—which also has a fine horse of its own in the race (see page 47).

The Fife cutter HALLOWE'EN and the Fife schooner ALTAIR battle it out on a reach on the second day of the regatta. HALLOWE'EN was built to lines inspired by the International 15-meter class, and launched in 1926 for a European owner. She sailed for many years from Long Island Sound and Marblehead, Massachusetts, as COTTON BLOSSOM IV, before being restored at the Museum of Yachting in Newport, Rhode Island, and then returning to Europe. ALTAIR, although driven by an older-style rig than HALLOWE'EN's, is five years younger: She was launched in 1931. *HALLOWE'EN 71′ 3″ LOA × 14′6″ beam × 9′6″ draft; 40 tons displacement. ALTAIR 108′ LOA (sparred) × 20′5″ beam × 14′ draft; 161 tons displacement.*

JAP is a Cork Harbor One-Design—one of only ten built. Six of these sloops survive to this day—three in sailing condition. Designed by William Fife III in Fairlie, Scotland, she was built in Ireland by Carrigaloe Gridiron & Workers, in 1897. She was refurbished in 2002 by Fairlie Restorations in Southampton, England. This diminutive yacht has proven to be a force to be reckoned with on the classics circuit. *30′ LOA × 7′5″ beam × 4′7″ draft; 4.5 tons displacement.*

MARIQUITA is one of only six International 19-meter class sloops ever built, and the only survivor. She was launched in 1911, and refurbished around 2004 by Fairlie Restorations. *102′ LOA (sparred) × 17′ beam × 11′8″ draft.*

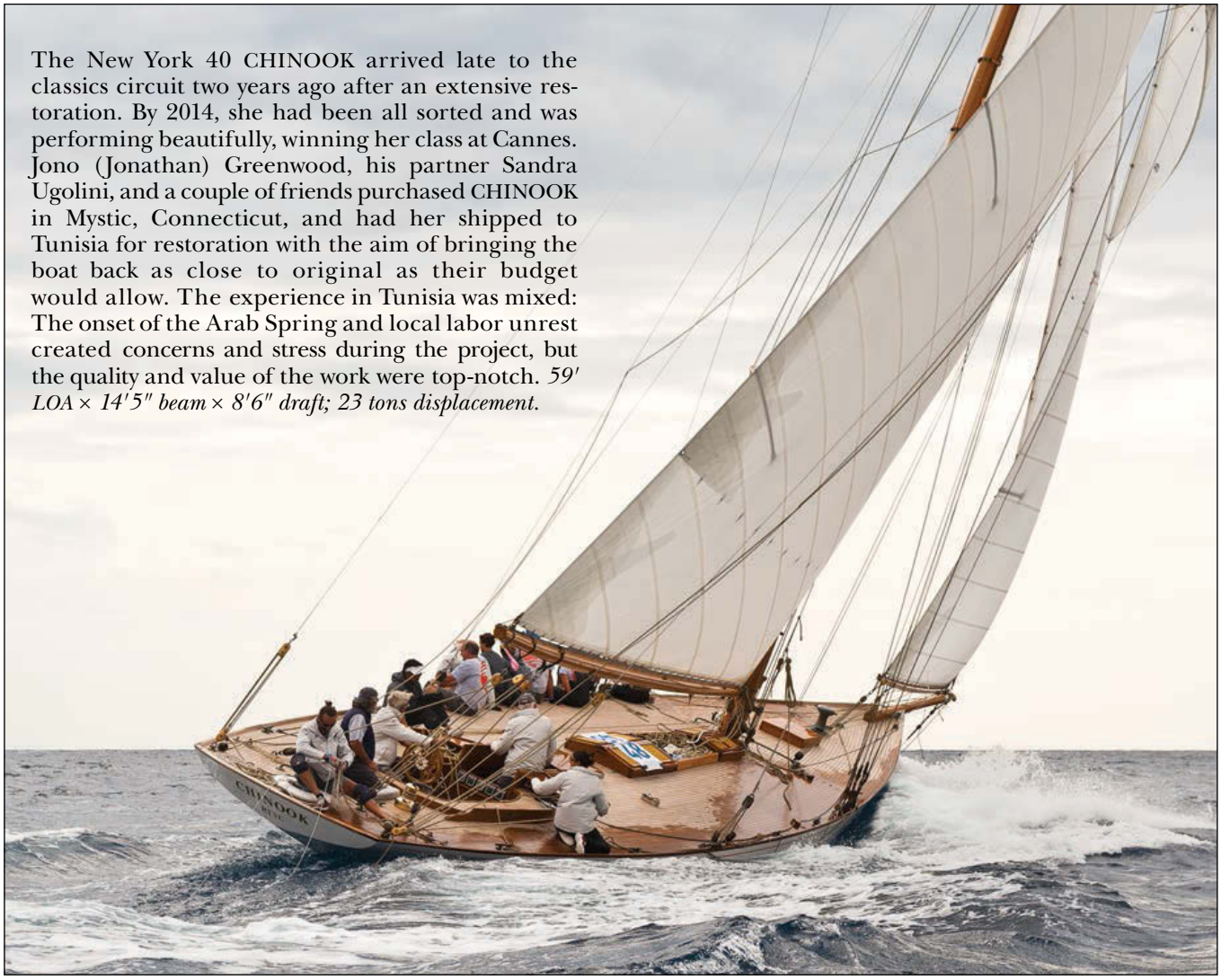
MARIGOLD, launched by Camper & Nicholson of Gosport, England, in 1892, was one of the first major designs of Charles Nicholson. She was built as a day racer, and as such her intact original interior accommodates only eight guests. She was relaunched in 1992 after a two-and-a-half-year restoration with the dual goal of orginality and meeting Lloyd's A-1 standards. She has no deck winches or extraneous machinery. *106′ LOA (sparred) × 23′9″ beam × 15′ draft; 165 tons displacement.*

The Sparkman & Stephens–designed yawls ARGYLL and SKYLARK go head-to-head. ARGYLL was built by Simms brothers of Massachusetts and launched in 1948. She raced extensively on the U.S. East Coast until 1972, with successes that included a Bermuda Race victory. She's been cruising in the Mediterranean for the past decade, and on the classic racing circuit there since 2010. SKYLARK, launched by Maine's F.F. Pendleton shipyard in 1937, had a storied early career, which included a multi-year circumnavigation in the 1960s and '70s. By the early 2000s, she was rescued in decaying condition from a Fort Lauderdale canal. Her structural restoration was done by Loughborough Marine Interests in 2003, and the refit completed by East Passage Boatwrights in 2008; the latter phase included deck joinery, systems, and an updated layout. *ARGYLL 56′6″ LOA × 12′6″ beam × 7′10″ draft; 18 tons displacement. SKYLARK 53′ LOA × 12′ beam × 7′ draft; 20.14 tons displacement.*

ORIOLE, a Herreshoff New York 30, was launched in 1905. New York 30s (see WB No. 184) were Universal Rule–influenced one-designs for New York Yacht Club members, and had a storied career there before being replaced by the Sparkman & Stephens–designed New York 32s in 1936 (see page 46). ORIOLE was restored by William Cannell Boatbuilding of Camden, Maine. *43'3" LOA × 8'9" beam × 6'3" draft; 8 tons displacement.*

The Fife-designed cutter EVA was launched 1906, by the Fife yard of Fairlie, Scotland. She has similar dimensions to an International 8-Meter, though was designed just before the introduction of the International Rule to which 8-Meters were designed. Two other boats were built to this design; the first, CARMEN, was built by Christian Jensen and launched in 1902—three years before Jensen joined forces with designer Johan Anker (see WB No. 239). EVA was relaunched in 2003 after a major refit. *57' LOA (sparred) × 9'10" beam × 6'6" draft; 9 tons displacement.*

The New York 40 CHINOOK arrived late to the classics circuit two years ago after an extensive restoration. By 2014, she had been all sorted and was performing beautifully, winning her class at Cannes. Jono (Jonathan) Greenwood, his partner Sandra Ugolini, and a couple of friends purchased CHINOOK in Mystic, Connecticut, and had her shipped to Tunisia for restoration with the aim of bringing the boat back as close to original as their budget would allow. The experience in Tunisia was mixed: The onset of the Arab Spring and local labor unrest created concerns and stress during the project, but the quality and value of the work were top-notch. *59′ LOA × 14′5″ beam × 8′6″ draft; 23 tons displacement.*



The 12-Meter-class sloop SEVEN SEAS was designed by Clinton Crane and built by Henry B. Nevins of City Island, New York, in 1935. Crane, a Harvard-trained engineer who'd also studied in Glasgow, ran his own yacht design firm from 1900 to 1912 before taking over the management of his family's mining business. He remained a productive amateur designer, however, and designed the J-class sloop WEETAMOE, which narrowly missed being chosen to defend the AMERICA's Cup in 1930. He also designed the 12-Meter GLEAM, which is impeccably maintained and sailed in Newport, Rhode Island. *68′2″ LOA × 12′ beam × 9′ draft; 123 tons displacement.*

DORADE, the breakthrough design of a young Olin Stephens in 1931, won both the Transatlantic and Fastnet Races in 1931—and the Fastnet again in 1933. She later won her class in two Bermuda Races and a Transpac from San Francisco to Hawaii. She received a cosmetic restoration in 1997 by Cantiere Navale dell'Argentario, and a deep structural restoration in 2007 by Buzzards Bay Yacht Services (BBYS) of Mattapoisett, Massachusetts. BBYS later built her new masts—original in appearance, but with cleverly concealed internal halyards. In recent years, she's been an active participant in classics regattas on both sides of the Atlantic, and has also sailed again in the Bermuda Race and won the Transpac in 2013. *52′ LOA × 10′3″ beam × 8′ draft; 15 tons displacement.*

The Nordic Folkboat CABRUFA is a relative newcomer to the classic fleet at Cannes. She was built in 1970 to a 1942 design. The design itself was the result of a competition hosted by the Scandinavian Yacht Racing Union, which sought a wholesome, low-cost boat that would have wide appeal. More than 4,000 Folkboats have been built to date, in both wood and fiberglass. *25′2″ LOA × 7′2″ beam; 1.9 tons displacement.*

MOONBEAM IV is the fourth of a series of MOONBEAMs designed and built by Fife between 1858 and 1920. This particular one was completed in 1914—though not launched until 1920 because of World War I. (The 1903 MOONBEAM III also sailed at Régates Royales.) After the second day's race, MOONBEAM IV's crew was having too much fun to call it a day: Upon finishing, they headed back out for a couple of spectacular reaches, affording the spectator boats and fellow competitors in the area an encore performance. *115′ LOA (sparred) × 17′10″ beam × 13′ draft.*

The New York 32 SIRIUS and the California 32 CHOLITA approach the windward mark on day two of the racing. SIRIUS is one of a 20-boat one-design fleet designed by Sparkman & Stephens and built by Nevins as the New York Yacht Club's successors to the New York 30s (see page 43). An impressive number of them are still sailing today; two, SIREN and ISLA, have sailed in recent Bermuda Races, while another, FALCON, won the Marblehead-to-Halifax Race in 2011. The Cal 32s, designed by Nick Potter, appeared on the West Coast in 1936, the same year the New York 32 fleet was launched. CHOLITA, hull No. 1 of the class, was nearly derelict when purchased and restored by Cantiere Navale dell'Argentario in Italy. *SIRIUS 45′4″ LOA × 10′7″ beam × 6′6″ draft; 12 tons displacement. CHOLITA 46′6″ LOA × 10′9″ beam × 6′9″ draft; 14.2 tons displacement.*

TILLY XV was designed by Wilhelm Von Hacht and launched in 1912 in Hamburg, Germany. She is designed to the rules of the German Sonder Class, a development class that had a strong following in both Germany and Marblehead, Massachusetts, around the turn of the last century. In fact, German and American sailors competed against each other in Sonders on several occasions—both in Marblehead and Kiel. TILLY XV, as her name implies, is one of a long line of Sonders of the same name, and one of her older sisters competed at Marblehead in 1906.

EILEAN was launched by Fife in 1937. After a long career that included 36 Atlantic crossings—and serving as the music video set of the 1980s band Duran Duran's now-classic rock song "Rio"—she fell into a state of disrepair. She was purchased from Antigua in 2006, by the watchmaker Panerai, sponsor of this regatta and many others, and restored meticulously over a three-year period. *72'10" LOA × 15'3" beam × 10' 7" draft; 50 tons displacement.*

Benjamin Mendlowitz has traveled the globe for over 30 years to photograph wooden boats, and has been a regular contributor to WoodenBoat *throughout his career. He also photographed "Workboats in Yacht Clothing," which appears on page 48 of this issue.*

Workboats in Yacht Clothing

Making a living with a classic

by Bill Mayher

Photographs by Benjamin Mendlowitz

Along the Maine coast there's a brief interval every August when summer appears to have become a permanent condition. Blossoms stand sturdy on their stems, their colors rich with confidence. Mornings glide in so warm and tender you could wear them as skin. It is on such sweet and dreamy days that even hardened veterans of Maine coastal weather let their guard down and dare to concoct schemes of different lives. I know because it happened to me on an August morning in the late 1970s.

My wife, Caroline, and I were sitting with a friend above the beach on Calderwood Island in East Penobscot Bay. Goldenrod, purple aster, evening primrose, and rosa rugosa bloomed riotously along the shore. Newly fledged warblers chattered and flitted through the woody margins. As I waded ashore barefoot, even the North Atlantic seemed to have lost its sting. A summer of sailing was drawing to a close, and sitting above the beach we were heartsick thinking about laying up our boats and going ashore. That's when we talked about launching a day-charter business the next summer. A couple of sloops, the magic of coastal Maine to explore with paying passengers…how could you beat such a surefire business plan?

Of course, even then, as swallows swooped up their breakfasts overhead and terns peppered away at tiny herring schooling along the beach, it was the airiest sort of fantasy. Our friend had a boatyard to run and a boat to build. Caroline and I had wintertime teaching jobs to the westward. Nonetheless we talked on about the dream. This coast was just so beautiful, so close at hand, so beguiling in its social and natural history, surely there'd be a living here for a lovely wooden boat or two.

Four decades later and a lot of living in between, it seems like our Calderwood fantasies might not have been so foolish after all. Although we never pursued our own pipe dream of operating a charter business, we learned from a recent encounter that such an enterprise can work and be fun—and perhaps even turn a decent living if you have the right skills, the proper boat, a good attitude, and are sailing in the right place (see sidebar). You also must manage to do it all at a price that people, especially families, can afford. Such an experience is both precious and, in this frazzled world of ours, increasingly rare.

Last summer, while dining at Dennett's Wharf—a restaurant overlooking the harbor of Castine, Maine—we watched a sturdy and beautiful William Hand motorsailer named GUILDIVE leave the dock with passengers aboard, and then return and tie up just about when we were finishing our supper. Naturally, my friend and I went down to the float to take a closer look. GUILDIVE's owner-skippers, Kate Kana and Zander Parker, were happy to show us around, and then offered to take just the four of us on a sunset cruise.

When we boarded GUILDIVE on that summer evening, the water was aglow with early twilight, and the wind was down. The boat's striking varnished teak pilothouse with its rhythmic array of windows and a handsome visor thrusting forward gave her an air of confidence, while the broad teak decks made us feel totally invited. Indeed, the allure of a trip aboard GUILDIVE is, first of all, the boat herself. She is more than a mere conveyance from which to experience the Maine coast; rather she is a *part* of that coast. At 56′ overall, she was built in 1934 by the Wheeler Shipyard in Brooklyn, New York, the outfit famous for building Hemingway's sportfisherman PILAR (see WB No. 233).

Although glancing up at her rig inspired confidence that the boat could move, I had few expectations that a 46-ton vessel with the drag of a 38″ propeller was going to speed along under sail alone. Nevertheless, with her taller-than-designed rig, GUILDIVE slid through the water easily enough, and my thoughts turned to William H. Hand, Jr., her designer. He, after all, made a career out of making boats go faster than one might expect. But he always put seaworthiness ahead of speed—from his early days as a designer when he mostly drew sailboats, through the revolutionary Hand V-bottomed motorboats (see WB No. 208) that forever changed powerboat design

The 56' William Hand–designed motorsailer GUILDIVE carries guests on day charters from Castine, Maine. A successful classic charter yacht should have a tale to tell, and GUILDIVE's pedigree offers a compelling story of design and construction.

Kate Kana and Zander Parker have owned GUILDIVE since 2008. Most years, they move the boat to Maryland for the winter, and offer specialty cruises on their delivery trips.

at the dawn of the internal-combustion era. The fact is that William Hand drew slippery boats. Hand's and Wheeler's stories—GUILDIVE's story—brings us to the first rule of chartering classics: The boat should have a tale to tell.

Hand's story is a classic in the annals of yacht design: Beginning with a boyhood spent cruising the Atlantic coast aboard his father's U.S. Revenue Service cutter, he was exposed to the astonishing variety of fishing and commercial craft that sailed between Chesapeake Bay and his native Maine. It is here that he developed his great eye and sense of proportion and detail, as well as his instincts for utility in watercraft of all sorts.

Among his most enduring designs are the motorsailers he owned himself and used for swordfishing trips out of Menemsha at the southwest corner of Martha's Vineyard, Massachusetts. Hand was a committed and skillful fisherman, and the motorsailers he designed were handsome beyond measure, and commodious and economical to run. When under sail alone, they allowed him to approach with devastating stealth and harpoon the great fish sleeping on the water's sun-warmed surface.

During the 1930s, he built a new motorsailer for himself almost every year. Then he'd sell it to one of a long list of waiting customers and build himself another. As a youngster of no more than 10 years in the late 1940s, I remember prowling the docks of Hand's beloved Menemsha and seeing several Hand motorsailers tied up along the wharf. For me it was an early and powerful imprinting. I have never forgotten the purposeful curves of their stems; the long swordfish pulpits springing impossibly forward to put the harpooner out over the fish; the short, handy-to-manage rigs; the ample pilothouses that got Hand and his pals out of the weather; and the long lines of bronze portholes suggesting splendid evenings below when a day's fishing was over.

And now, a great many years later, there we were aboard GUILDIVE sailing into the gloaming with about the most hospitable and cheerful young sailors imaginable. Kate and Zander had been doing charters day-in, day-out all summer, yet were working overtime for our pleasure. They remained totally enthusiastic about their chosen life aboard GUILDIVE. Which brings us to the second rule of chartering classics: Be competent.

They met each other while sailing out of Long Beach, California, on the schooner BILL OF RIGHTS. Kate had a freshly minted classics degree from a college career that included a semester of sailing with the Sea Education Association of Woods Hole, Massachusetts—a program that had ultimately led to work as a professional

Day Chartering: Fundamentals of Success

Are you thinking of starting a day-charter operation? There are plenty of used boats on the market that could serve you in style, and six-pack licenses are not difficult to earn. Likewise, a boat limited to carrying six paying passengers does not require a great deal of special equipment or licensing beyond what's regularly required by the Coast Guard for a private yacht.

The accompanying article covers six rules common to successful operations. They are:

1. First off, be sure the boat you choose is a classic with a tale to tell. Day charterers want the authenticity and beauty of a historic vessel both when they go out for a sail and when they describe the experience to friends. A common production boat lacks the intrinsic draw of a rare classic.

2. Be competent. Passengers should feel that you are really good at sailing your boat, no matter the conditions. Anything short of total command is a calamity waiting to happen.

3. To make things work financially, it will probably be necessary for you to do much of the maintenance work on your boat yourself, so be sure you enjoy doing it.

4. Find a lovely bay or estuary to do your sailing in. Setting off from a blank shore and returning when the time is up will be boring to your passengers—and killingly so for yourself after a couple of weeks in business.

5. Make sure you are the sort of skipper who enjoys taking people out. Passengers are not likely to enjoy an afternoon spent with some grim-faced captain holding a death grip on the wheel while counting the minutes before it's time to dump everyone back on the dock.

6. Try to get a manageable boat so that passengers can help steer or hoist the sails or trim the sheets if they are so inclined. When charterers speak of repeat customers, it is often those who participated who are most eager to return.

—BM

GUILDIVE's large, well-sheltered pilothouse offers a warm space for guests to relax in less-than-perfect weather. There's also ample deck space for sunny days.

crew member. Zander was a Nova Scotia native who had loved traditional boats from his earliest days. After earning a degree in cognitive science at Canada's prestigious Queens University, he had enrolled at Maine Maritime Academy to follow his true passion in boats, ultimately serving as the first mate of the academy's William Hand–designed schooner, BOWDOIN.

When Kate and Zander got together, it seemed only a matter of time before the idea of buying a vessel that could both earn its keep in the charter trade and serve as their home appeared on their horizon. After they made a false start involving the purchase of a 70′ schooner for a dollar, towing it to Nova Scotia and selling it for a dollar, Kate discovered GUILDIVE on the market in Annapolis. At the time Zander was working as the second mate aboard the schooner BLUENOSE II, which was visiting Boston Harbor. This relative proximity enabled him to make a quick trip to inspect GUILDIVE in detail and take her out on the Chesapeake for a two-hour trial. A day and a half aboard was all it took. Thanks to endless conversations between them, they knew their boat when they saw it. And thanks to her then-owner Dmitri Bernhardt's efforts over 30 years of ownership, GUILDIVE was in the kind of condition they could put to work immediately—and maintain. Which brings us to rule No. 3: To turn a profit, you'll likely have to do much of the maintenance yourself. And it helps if you enjoy doing it.

To make it to the age of 80, an anniversary GUILDIVE celebrated last summer, a boat needs a lot of friends, and Dmitri Bernhardt was the best of these. He had purchased GUILDIVE from a couple that had owned her for 20 years previously. Now, 30 years and 80 new planks later, Dmitri wanted to be sure he was passing GUILDIVE on to the right stewards. "He wanted to know our vision for the boat," Zander says. "When we said we wanted to live on her and run a business with her, it was the right answer."

Once they bought GUILDIVE, the decision to locate her in Castine followed easily. Zander's experience at Maine Maritime Academy made him familiar with the town and its surrounding waters. Quickly he was able to make a deal to tie her up in front of Dennett's Wharf, where her salty good looks would enhance a maritime scene that already featured the schooner BOWDOIN, an academy tugboat, and an ever-expanding fleet of handsome wooden boats—not to mention a stunning natural setting. Those are the elements of rule No. 4 of a successful classic-yacht charter business: Operate it in the proper setting.

Kate and Zander quickly developed a repertoire of short sailing trips guaranteed to please a variety of passengers: out by Dice's Head Lighthouse at the mouth of the harbor and into Penobscot Bay; up the Bagaduce River estuary when tide and wind serve; and, on a regular basis, across the bay to Searsport to visit the Penobscot Marine Museum where one of the more charming and unexpected maritime collections in the country can be viewed.

But even more beguiling than the boat and the setting is the positive attitude that Kate and Zander bring to each charter. Simply put, they love the boat and her history and their role in her continuing that story. And that's the nut of rule No. 5: Be passionate about it, for that passion is infectious. As one of their visitors wrote in a Tripadvisor review:

> The night we sailed with them we were the only ones who signed up to sail (it was mid-September). We told them it was crazy to go out with only two customers. Their reply was that they couldn't think of anything they would rather do than share their love of the water and sailing with someone new. Memorable cruise, even more memorable people.

Everything about Kate and Zander's commitment to both living and working aboard GUILDIVE serves to make passengers feel like they've had a special experience. Interestingly enough, it seems to be the very limitations of GUILDIVE's six-passenger limit that makes

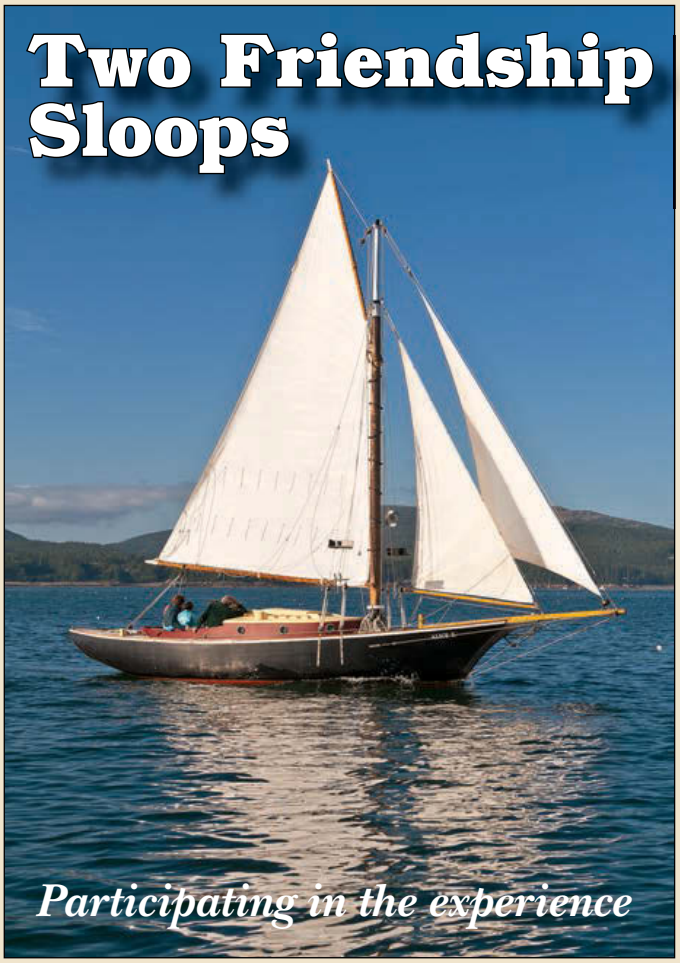
A well-organized and well-stocked galley allows for efficient meal preparation aboard GUILDIVE—which is also her owners' home.

Launched as RESTLESS in 1934, GUILDIVE has also carried the names ISTAR II and SIXPENCE. At 56′ LOA and 46 tons, she provides plenty of space for six passengers. When she's not sailing, her GM 4-71 moves her along reliably.

short cruises aboard so memorable. The enterprise becomes centered on making people feel comfortable. Everyone is invited to pitch in, especially kids who often help raise the sails and steer, and have been known to crawl forward into one the bunks to read or take a nap. And that's the sixth and final rule of a successful operation: Have a boat, and an attitude, that allow your passengers to participate. Doing so will likely lead to repeat customers. Even in 2013, when GUILDIVE took a sabbatical cruise to Lunenburg, Nova Scotia, for the summer, people followed her to Canada because a sail on GUILDIVE had become an integral part of their family's vacation plans.

Zander says, "We didn't see ourselves as having this much community around the boat, and we never thought we would get so emotionally involved." But community and a sense of emotional engagement around what he calls "a workboat in yacht's clothing" has clearly become the central pivot in Kate and Zander's life, a central pivot that should hold for years to come.

Bill Mayher is a regular contributor to WoodenBoat.



A few weeks after our evening aboard GUILDIVE, while sailing the waters around Mount Desert Island, we couldn't help but notice a couple of Friendship sloops popping in and out of Northeast and Southwest Harbors on the sort of regular basis that suggested they were doing day charters. They'd scamper over the waters of Mount Desert Island like field spaniels, cutting in behind the ledges here, tacking through a mooring field there, or just boiling along on a broad reach with the panorama of the cliffs and mountains of Acadia behind, an untrammeled vista of the open ocean stretching beyond. Naturally curious about what was going on here with these fetching little sloops, I soon met Karl Brunner, whose business, Sail Acadia, carries paying passengers on day trips.

Like Zander and Kate, Karl turned out to be a completely relaxed and charming sort of guy. From the days he attended Colorado College as a geology major to his decision to hike the Appalachian Trail straight out of college, Karl has spent most of his life outdoors. He taught himself to sail in an 18′ Cape Dory Typhoon sloop on the seaward end of the Damariscotta River where he had grown up, done a stint working in the mountains of North Carolina, and then turned back toward the sea in a serious way, crewing on traditional schooners, delivering boats to the Caribbean, and returning home to sail every summer in Maine.

At one point Karl's grandmother gave him a copy of Roger Duncan's book, *Friendship Sloops*. Friendship sloops of the 19th and early 20th centuries are about as famous as any Maine-built boats. Clipper-bowed sloops of generally less than 35′, they have shapely counter

Karl Brunner has been a Friendship sloop aficionado for many years. Day chartering has allowed him to turn his passion into a business, while sailing constantly throughout the summer.

sterns, large cockpits, and masts stepped far enough forward to enable them to sail tolerably under mainsail alone. The boats were originally employed across a broad spectrum of Maine fisheries. As summer rusticators built cottages along the coast in the last quarter of the 19th century and wanted live lobsters for shoreside picnics, Friendship sloops were perfect boats to catch them from. Later, as Maine fish dealers began to transport fragile lobster cargoes to Boston and New York markets using wet-well smacks, the demand for lobsters increased—and so did the number of Friendship sloops.

The result of this market was that an untold number of sloops were built, especially around the shores of Muscongus Bay where small yards employing three or four men began turning out a new sloop every four or five weeks. The most famous of these builders was a man named Wilbur Morse of Friendship, who when asked what defined a Friendship sloop said, with stunning Yankee directness if not exactly Yankee understatement, "Any sloop built in Friendship by Wilbur Morse."

Like GUILDIVE, the Friendship sloop ALICE E has a story to share: She was built in 1899, when such sloops were still used widely for lobstering and fishing.

Karl's grandmother's gift set him on a path. He fell in love with Friendship sloops, just as Roger Duncan had done years earlier in a scene described in the book:

> The first Friendship sloop I remember was ELEANOR, owned by Isaac McFarland and anchored in Back Cove off New Harbor in the late 1920s. As a boy, fishing from a punt or sailing a skiff, I had often seen her there, drowsily swinging to her mooring in the narrow cove. I recall in particular one cloudy, summer day, a chill easterly wind blowing into the harbor. I was trying to beat out, my flat-bottomed skiff bucking and pounding into the sharp chop. Just then, out of Back Cove swept ELEANOR, now fully awake. Her topsides green and her deck gray, she came fast, heeled into the gray easterly wind under her huge mainsail, her powerful bow trampling the chop. She tacked thunderously right over me, bore off outside the point, and faded into the mist, leaving that deep impression of power and grace that is to me a Friendship sloop.

This newfound passion put Karl to thinking: These boats had a story to tell. He could buy one, take people out, be on the water pretty much full time, and make some money doing it. His first sloop was a fiberglass model built by Bruno and Stillman, which he named HELEN BROOKS after the grandmother who had given him the book.

Although this boat had more maintenance issues than some might expect from a fiberglass boat, his charter business proved to be an immediate success—so much so that after a few seasons he saw the need for another boat to keep up with demand. After considerable searching, he finally settled on a "Dictator" model Friendship built from molds Jarvis Newman of Southwest Harbor had taken off a restored, McLain-built sloop of that name. After trucking her up from Florida, Karl soon realized she had structural problems that needed major attention before she could become a workhorse in his fleet. By that time it was May, he already had bookings, and he was desperate. Lucky for him, he came across the 1899 sloop ALICE E. She was not only an authentic cedar-on-oak beauty, she had been rebuilt a few years earlier by shipwright David Nutt and then owned, over the intervening years, by one of New England's most authoritative wooden boat surveyors, Paul Haley. It was more than luck; it was a miracle, really. Within weeks she was good to go.

Like GUILDIVE, this pair of sloops sailing the waters of Mount Desert Island are more than mere waterborne sightseeing buses: They are themselves a *part* of this coast, and their passengers are more than mere observers: They are participants.

—BM

L'HERMIONE	
LOA	145′
Beam	36′11″
Draft	16′4″
Displacement	1,166 tons
Sail area	10,764 sq ft
Mainmast height	155′
Cannon	26 gun deck 6 main deck
Displacement (laden)	1,260 tons
Complement	242

Launched in 2012 after 15 years in construction at Rochefort, France, L'HERMIONE was a vision of the 18th century during her extensive sea trials in 2014, seen here in the Bay of Biscay, about 70 miles south of Brest. A faithful re-creation of the flagship of the Marquis de Lafayette's fleet bringing aid to the American Revolution in 1780, she will visit the U.S. eastern seaboard this year.

The Return of L'HERMIONE

An authentic French frigate sets sail for America

Text by Marc Jensen • Photographs by Nigel Pert

"You have to see this!" my French cousins told me when I visited them in the coastal community of Charente Maritime in 2001. They were speaking of a new wooden-hulled ship under construction, and sharing my interest in sailing they knew I would find the project as compelling as they did. With my daughter Madeleine, 11, and son Ben, 8, in tow, they led the way to the historic naval dockyards at Rochefort, where L'HERMIONE, a faithful reconstruction of an 18th-century frigate, was still in its early stages of construction.

The project celebrated the original ship of the same name, built in 1779. In 1780, the passionate 21-year-old Gilbert du Motier, Marquis de Lafayette, sailed aboard the original L'HERMIONE for Boston, making good on

***Above*—Quayside at the historic port of Bordeaux, the objective of the ship's longest sea trial passage, L'HERMIONE received about 12,000 visitors in five days.**

A routine quarterdeck muster assured that the sailors coming on watch would be fully informed of the sea state, weather conditions, and any updates about the ship's gear.

his promise to Gen. George Washington to return to America with France's support for the American colonies' rebellion seeking independence from Britain. L'HERMIONE was joined by three more new frigates, several ships-of-the-line, and 5,000 troops, a formidable force that helped tip the balance of the war in the colonies' favor. When I first saw the modern reconstruction of L'HERMIONE, her dense framing of oak was nearly completed, rising above the same stone-lined dry-docks where ships like her were originally built.

I was hooked. Every summer, we returned to France, and I kept up with the ship's progress while Madeleine and Ben absorbed French culture and practiced their language skills. The people I met in the shipyard were intrigued to have an American show such interest, and they were curious to know whether I thought my countrymen would be excited to have the ship visit our shores. The prospect seemed distant, but I assured them that if they sailed her across the Atlantic, she would receive a warm Yankee welcome.

She was launched in 2012, and her masts stepped and rigging completed the next year. Many years in planning, her voyage to the U.S. eastern seaboard will take place this summer (see sidebar page 65), starting at Chesapeake Bay and ending in Castine, Maine, before leaving U.S. waters. She'll also touch at Lunenberg, Nova Scotia, and the French islands of St. Pierre and Miquelon off Labrador before heading across the Atlantic on her return to Rochefort.

Over the years, my acquaintance with the ship and her supporters deepened. In 2011, Madeleine landed an internship in a laboratory in Toulouse and learned that Pierre Gras, the father of one of the lab's directors, had been a key volunteer at the shipyard. When I met Pierre the next year, he introduced me to leaders of the Association Hermione Lafayette, which organized the project and owns the frigate. By fall 2012, I was traveling along the U.S. east coast as a volunteer with a French team sent to identify potential ports-of-call for L'HERMIONE. The voyage would happen—all we needed to do was raise $2 million, maybe $3 million. Once again, this crazy idea that started in 1997 with a small group of enthusiasts was up against a challenge. But by then, we were used to it. She would sail, and little did I know then that I would even have the chance to go to sea aboard the authentic frigate.

A continuing mission

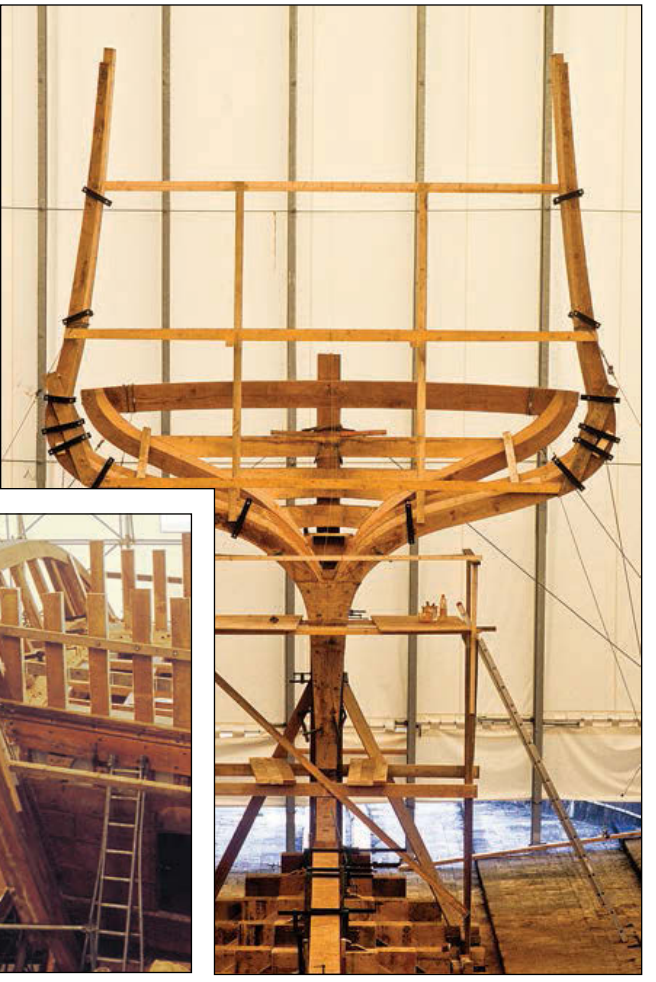
On the new L'HERMIONE, Lafayette might recognize the education taking place around the decks from time to time. In his day, young future officers, chosen from the upper classes, would have learned navigation and the skills of ship management. Lafayette was a mere 19 when he sailed to America for the first time, and in his honor a curriculum involving science, technology, engineering, and math courses has been developed to bring hands-on learning to high school students in both France and the United States. Data collected from observations on board and from transponder buoys set during the voyage will help students follow climate and ocean trends. Other subjects range from cooking and music to marlinespike seamanship and propulsion, and from navigation and sail handling to sanitation and the environment.

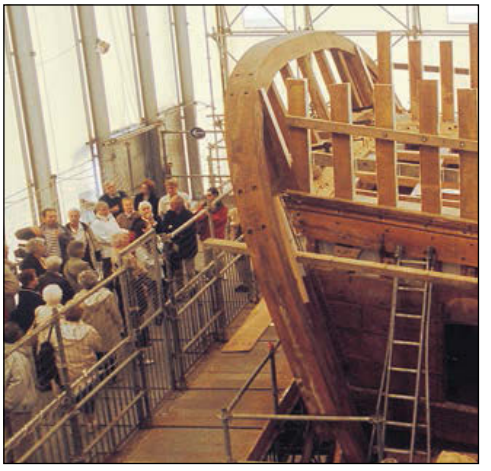
Over the past six months, the Friends of Hermione-Lafayette in America association has been inviting American and French schools to connect with each other with the aim of studying in a coordinated way

On May 17, 2014, L'HERMIONE's natural linen sails were ceremonially raised for the first time at the Rochefort dockyards where she was built and where the original L'HERMIONE was built in 1779. The naval dockyard, founded in 1660, will be her home port, and part of her role will be a continuing education mission.

The Construction

The idea was a bold one: Build a new L'HERMIONE not only using techniques of the period but also in the very dry-docks where the original ship and her three sisters were built. The dockyard and extensive naval arsenal, which is now a UNESCO world heritage site, was founded in 1660 by Charles-Jean Colbert during Louis XIV's reign. Restoring the dockyard—and building a ship—dovetailed nicely with the long-term restoration of the site, with its period dry-docks, its magnificent ropewalk building, and its branch of the national maritime museum. Long filled in, the dry-dock had to be excavated for the purpose, exposing its stepped stone walls and floor, but leaving a berm to hold out the river water until the new ship was ready for launching. Breaching the berm allowed water into the dry-dock to





***Far right*—L'HERMIONE's structure is built entirely of oak. Setup began with the keel laying, after which an aftermost assembly of the sternpost and horizontal timbers was erected as a unit. Matching the original warship's framing schedule, she has closely spaced double-sawn frames of heavy scantlings. *Right*—The historic stone dockyard, with its temporary modern weather cover, was open to the public and became a popular destination for visitors. The author first saw the ship in 2001.**

L'HERMIONE and all that her reconstruction can teach us about the technological differences between the late 18th century and today and the history between our countries that began with the friendship of Lafayette and Washington. These school pairings allow for shared development of curricular ideas and the building of bilingual friendships.

These schools, along with others who will join along the way, will be invited to participate in a series of webinars while the ship completes her crossing from France to the United States. Students in these schools will be given the opportunity to ask questions of experts, both aboard L'HERMIONE and ashore, while being encouraged to establish partnerships and exchanges between students at other schools if their interests align. The webinars will address how any activity discussed was done today and in the 18th century. A key element, across all disciplines, will be the evolution in the role of women aboard, acknowledging that one-third of the crew today is female and that L'HERMIONE's second-in-command is a female naval officer.

The overall goal of the L'HERMIONE education initiative is to create and share new interdisciplinary curriculum studies based on rare primary sources and 18th century artifacts; promote the exchange of ideas and studies between students in France and the United States; and encourage historical literacy and new gateways to the past through innovative online formats and in other media. In support of this, after 2015, the School Exchange Program will continue, at the initiative of teachers and school leaders, to explore the historic friendship between France and the United States, using the Lafayette-Washington alliance as the springboard for more than 200 years of relations between the two countries. The Hermione School Exchange Program will establish annual contacts between American and French public and private schools, first on the Atlantic seaboards of both countries and then across both nations, using the L'HERMIONE education program in both its online and person-to-person formats.

By late August 2015, L'HERMIONE will return to Rochefort, where she is expected to attract more than a quarter of a million visitors per year. She will take part in the Maritime Festival of Brest in July 2016 and is contemplating a voyage to India in 2017. L'HERMIONE was built to be a working classroom and as such will continue to sail and train volunteers for years to come.

—MJ

With a "bone in her teeth" L'HERMIONE makes way under full sail in the Bay of Biscay. For his carving of the lion figurehead, Andy Peters of Maritima Woodcarving in England conducted detailed research into the figureheads of French frigates of the 1780s.

float the ship, and a new floating gate was later installed to make the dry-dock completely functional.

The original L'HERMIONE was famous in her own day. Contemporary paintings and other works of art depicted the ship, but none of her drawings by naval architect Chevillard Aîné survive. In an ironic twist of fate, however, the British Admiralty—which had a longstanding policy of recording the hulls of all vessels, including war prizes—had taken the lines off CONCORDE, one of L'HERMIONE's sisters. Workable plans, therefore, existed. L'HERMIONE was known as a Concorde-Class "frigate of 12," a reference to the 12-lb shot fired by her 26 principal cannons, which were supplemented by six smaller guns firing 6-lb balls. In 1779, her launching was the climax of an 11-month construction. The modern project took 15 years to complete, culminating with her launching in 2012 (see WB No. 228).

For the construction, the Association Hermione Lafayette engaged the highly trained woodworkers of Asselin Enterprises, a French company specializing in restoring historic buildings, many of them involving elegant and challenging timber-frame techniques. The construction of the new L'HERMIONE followed traditional practices as much as possible. In naval dockyards such as the one at Rochefort, for example, dockyard models were typically built ahead of the full-scale construction, to confirm the order of assembly and avoid costly mistakes. Many of the historical models in the museum collection are of this same type of vessel. The new L'HERMIONE followed suit: Jean Thomas constructed a new dockyard model, at a scale of 1:18, working about six months ahead of the actual construction. Sadly, Thomas died in July 2010, but not before seeing the role his work played in the success of the project.

L'HERMIONE is planked with oak over tightly spaced double-sawn oak framing, and all of her backbone timbers are also oak. Her oak planking varies in thickness from 3″ below the waterline to 7″ above, where the planking would defend against cannon fire. Most of the oak used in her construction came from Asselin's suppliers, who meticulously chose lumber that would best suit the need.

Re-creating Ironwork

Little was known about the inherent strength of the iron pieces needed for her construction. The ironworking team knew what each piece should look like and how it would function, but the actual work was a "best guess" to replicate the original process; testing of each piece followed. The blacksmith, Aurélien Velot, often needed several attempts to get individual pieces just right. Velot was a 25-year-old philosophy major when he became aware of the project, which was compelling enough to him to cause a career change. He was certified as a blacksmith before joining L'HERMIONE's building

***Above left*—Thirty-one cast-iron cannon were fabricated in forges in Angoulême, where foundries made cannon in earlier centuries for the Rochefort dockyards. The ship's 32nd cannon is an original, recovered from the wreck site of the 1779 L'HERMIONE. *Above right*—Arélien Velot and his crew made most of the ship's ironwork at a quayside blacksmith shop in Rochefort, which became a popular public exhibition of their skill.**

crew in June 2006, when he teamed up with Johanna Stehr and Jerome Truchard to fabricate thousands of fittings, from the smallest hinge to the chainplates. The chainplates were particularly difficult to engineer, with months refining the manufacturing process to achieve the right balance of strength and low weight. Velot will be among the 63 volunteer sailors during her voyage to the United States.

Especially noticeable among L'HERMIONE's ironwork are her two anchors and her cannons. The anchors, each weighing 3,300 lbs, were cast by the Carlier Foundry in St. Amand. For strength and security, each has an iron stock instead of the traditional wooden one, but wooden pieces have been fitted around the stocks for a more authentic appearance.

In the 17th and 18th centuries, cannon-casting foundries for the Rochefort arsenal were located upriver on the Charente. The Route des Tonneaux et Canons, a regional nonprofit organization that promotes the history of foundry work in the region, oversaw the casting of 31 cannons for L'HERMIONE at the Safem Foundry at L'Isle d'Espignac, near Angoulême. The molds, made to be as authentic as possible, were designed by an engineering student at the nearby Institute Universitaire de Technologie, Université de Poitiers. The final cannon that the foundry fabricated for the project was ceremonially delivered by boat on June 21, 2014, carried down the Charente River to the dockyards at Rochefort, just as in the 18th century.

The original L'HERMIONE had 26 12-pounders and six 6-pounders, for a total of 32 guns. So why only 31 for the new L'HERMIONE? The reason is that the reconstruction carries one cannon—amidships on the port side—that was actually recovered from the wreck of the original ship, which was identified off the coast of Croisic in Brittany. The cannons averaged nearly four tons of iron each to make, and L'HERMIONE's armament will account for about 44 tons of her 1,100 tons of displacement.

Nods to Modernity

Although authenticity in construction was highly valued during L'HERMIONE's construction, safety at sea—and French and international requirements—demanded practical approaches to some aspects of L'HERMIONE's outfitting.

For safety, L'HERMIONE is equipped with two rotating-pod outdrives, each with an electric motor powered by a 300-kW diesel generator. Troubles with prototype engines emerged, so they were swapped out for an older, proven model. Although authenticity in construction and rigging was a top priority, the practicalities of safety—and navigation regulations—necessitated such anachronisms, hidden from public view as well as possible.

L'HERMIONE's three masts are supported by almost 5 miles of hemp standing rigging, and its natural linen sails are controlled by more than 10 miles of manila running rigging. Rigging practices accurate to the late 18th century were used throughout.

In the original ship's era, as many as 60 men were required at the foredeck capstan to hoist those heavy iron anchors. The modern L'HERMIONE is equipped with twin electric windlasses to make the process much easier and faster. Unlike the original hemp hawser cables, her starboard anchor has a chain rode 629′ (192m) long, and the port side rode is 541′ (165m).

French and international rules require L'HERMIONE to carry standard navigation lights, so her masts were made hollow to conceal the wiring, while iron rings reinforce the joints between staves, just as in the original.

She is equipped with two 300-kW diesel-driven Kohler generators, which power two propellers housed in fully rotating pods. The pods are mounted on each side of the hull, well aft for maneuverability in tight quarters. Under power, L'HERMIONE cruises at 7 knots in calm water. A separate 85-kW generator provides electricity for day-to-day needs, such as lights and modern navigation and communication equipment.

Sails and Rigging

L'HERMIONE's masts were stepped between March and June 2013, and the upper masts were raised using the ship's own rigging, as in former times, so as to familiarize her crew with setting and striking them when necessary—for example, to lower the rig to clear bridges when she enters a long list of U.S. ports.

A team of Swedish riggers, led by Jens Langert of JB Riggers, handled ordering, treating, and setting up of 15.5 miles (25 kilometers) of natural cordage—hemp for standing rigging and manila for running rigging. In all, 1,500 individual lines were made up, tarred, whipped, stretched, and installed. The riggers continued adjusting and refining the rig during the autumn 2014 sea trials off the French coast and across the English Channel.

Parrels for a topmast yardarm sling are but one example of wooden components used throughout the frigate's rigging. Replacement pieces are made by hand on board as needed and installed while underway.

The mainsail weighs 1,600 lbs dry and takes 30 crew more than half an hour to furl. The author had direct experience of working aloft, including furling sail, during the ship's Bordeaux-to-Brest passage in 2014.

The linen sailcloth was cut and the seams stitched by Incidence Voiles in La Rochelle and Voilerie Burgaud in Noirmoutier. The bulk of the sailmaking work came in the final stages, involving extensive handwork by L'Atelier Voilerie Anne Renault of Fouras. The work by Renault and her small team became a popular exhibit at the shipyard, where for four years they painstakingly hand-finished the sails with cringles, boltropes, and reefpoints. In all, 23,680 sq ft (2,200 square meters) of linen cloth were transformed into 17 sails, which were publicly unveiled in May 2014 with thousands of people watching. Renault herself will serve as the onboard sailmaker during the 2015 voyage.

Life Aboard

During a two-week training voyage in October 2014, I was able to join L'HERMIONE's crew for the first time. After watching the ship take form over so many years, it was highly emotional for me to go aboard to the welcome of Charlène Gicquel, second in command. L'HERMIONE was alive with the voices of sailors hurrying to carry out their assigned duties. The port, starboard, and 'midship watch quarters each had their own feel—photos from home, musical instruments hanging from hooks, regional flags, humorous musings pinned to the bulkheads. But always the groaning of the docklines and the creaking of her decks reminded me that I was aboard a ship of the 18th century.

***Far left*—Anne Renault was the chief sailmaker for L'HERMIONE. After the body seams joining the sail panels were machine-sewn, the real work began—bolt-roping, installing cringles, and a thousand other by-hand tasks to make each of the 17 sails ready. *Left*—The clew of the foresail shows the extensive handwork involved in the lower corners of every square sail.**

In the author's experience, shipboard duty involved constant vigilance not only to sail trim and chafe but also to the camaraderie of the crew.

I quickly settled in, stowing my gear in my 3.5-cu-ft (100-liter) footlocker. About half the crew were assigned hammocks, the others bunks—and I was lucky enough to have a bunk. L'HERMIONE's initial sea trial voyage was from Rochefort to Bordeaux, and I joined as part of a replacement crew of 10 sailors for the leg from Bordeaux to Brest. The stop at Bordeaux became a five-day celebration of the ship and the city's renewed waterfront. Tickets sold out within hours, and tens of thousands of people came from all over southern France for a chance to walk her decks. As departure neared, we fresh crew members were given our orientation and instruction. Familiarizing ourselves with the space belowdecks took several days—the companionways spiral, passageways lead in bewildering directions, and it is difficult to remember where you are and how to get to where you need to be. I used all of my senses to find my way around: The smell of the galley and the sounds of the engineroom became reliable references.

With only about 5′ of headroom in the berth deck, we learned to bow our heads to avoid being knocked unconscious. We also quickly realized that movement is more efficient when squatting, which allows getting around with eyes straight ahead—even if passing shipmates with an ape-like gait.

Life is regulated by the ship's bell. The watches began once we left the Bordeaux pier; I was in the port watch, on duty from 8 a.m. to noon and 8 p.m. to midnight

***Above left*—After a four-hour watch, the crew had time to reflect on their experience, make notes in their journals, and simply enjoy time out of the weather. *Above right*—Upon leaving Bordeaux, the crew struck up a song of farewell. Along with adequate rest, activities such as singing and calisthenics on the quarterdeck helped to maintain team spirit.**

each day. After each four-hour watch, we were on call as a reserve watch for another four hours. Only at the end of the reserve watch could we sleep undisturbed for four hours until the cycle started all over again. One quickly becomes habituated to this rhythm, and well rested—unless of course, the weather turns sour and after eight hours of solid work you try to sleep in a tossing bunk. I found myself grateful for time below.

There are literally hundreds of lines to remember, both in function and location. There are lines to raise and strike sails and yards, to control their shape, and to brace them around. When a command comes for a maneuver, one has to know where to go and what to do. The sailors bonded over this shared learning, and the veterans helped the newcomers find their way, mostly with good humor and patience.

After a voyage along the U.S. eastern seaboard ending in July, Commandant Yann Cariou (barely visible at the port quarter rail) will shape a course east to begin L'HERMIONE's return to France. Castine, Maine, her final U.S. port of call and by far the smallest, had an important role in French colonial history and was visited by the original frigate.

One evening, as we were furling the mainsail in a rain squall, individuals tried to start work as soon as they arrived on the yard, to no avail. Only when we worked as a team, with all 30 of us in place and getting our fingers around the canvas, could we begin to lift this sail, which weighed 1,600 lbs dry. We learned to read the body language of the sailors to each side, since hearing was impossible with the scream of the wind and foulweather-gear hoods covering our ears. It took more than half an hour to finish the job, but we descended the ratlines feeling victorious, part of something meaningful.

From the helm, the line of sight forward is remarkably unimpeded. The poop deck rises just enough to see all that lies ahead, with the exception of the area just under the bowsprit. The bow lookout is in radio communication, but can resort to hand signals if needed. The ship is also remarkably responsive to the helm. When the rig is balanced, with the sails trimmed correctly, she indeed "sails like a bird," as Lafayette himself so aptly said of the original.

Starting from age nine, Marc Jensen has been sailing New England aboard everything from the 1933, 35' Crocker ketch POLE STAR to a Bénéteau 473 that serves as his present home afloat at New Rochelle, New York. He has family ties to La Tremblade/Ronce les Bains, France, where he lives seasonally and finds inspiration among traditional sailing craft.

The U.S. Tour

L'HERMIONE is visiting the U.S. east coast this summer, docking at 12 ports of significance to the original vessel, for free public access. Program details, which are being finalized, will include musical and theatrical presentations and a traveling "heritage village" at selected ports (see www.hermione2015.com). Her ports of call are:

Yorktown, Virginia, June 5–7
Mount Vernon, Virginia, June 9
Alexandria, Virginia, June 10–12
Annapolis, Maryland, June 16–17
Baltimore, Maryland, June 19–21
Philadelphia, Pennsylvania, June 25–28
New York City, July 1–4
Greenport, New York, July 6–7
Newport, Rhode Island, July 8
Boston, Massachusetts, July 11–12
Castine, Maine, July 14–15

She will also stop at Lunenburg, Nova Scotia, on July 18 and the French islands of St. Pierre and Miquelon off Labrador on July 19 before returning to France.

HART NAUTICAL COLLECTIONS/MIT MUSEUM

Seamarks: Three Pivotal Designs by L. Francis Herreshoff

This article is the first of a three-part series adapted from the author's forthcoming biography of L. Francis Herreshoff, volume one of which is to be published by Mystic Seaport (Mystic, Connecticut) in late autumn this year.

– Eds.

Part One: The schooner JOANN

by Roger C. Taylor

In late 1923, L. Francis Herreshoff, working at the design firm of Burgess, Swasey, and Paine (BS&P) in Boston, designed his first yacht with a clipper bow—a shape that would become his artistic favorite. The yacht, a 50′ schooner, was BS&P Design No. 257, and her owner was Waldo Hayward Brown.

Waldo was born in Salem, Massachusetts, in 1896, making him six years younger than Francis. His grandfather, Joshua Brown, designed and built more than 40 significant commercial vessels and yachts at South Salem between 1856 and 1887. Waldo inherited this interest; he was inquisitive and bright, and as a youth haunted the shipyards of Boston's North Shore. As a high school student prowling the Marblehead waterfront, he visited the Burgess Company, then building airplanes, and he met proprietor Starling Burgess, the legendary polymath yacht designer (see page 98 for a review of Burgess's biography).

After graduating from Phillips Academy in Andover, Massachusetts, Waldo studied naval architecture at MIT for a year, and then, in 1917, enlisted in the Naval Reserve Flying Corps. While waiting a month for

***Above*—L. Francis Herreshoff designed the 50′ clipper-bowed schooner JOANN in 1923, in collaboration with his friend Waldo Brown. The boat paid no heed to racing rules, and was instead based upon an earlier merchant vessel. The new schooner was a pivotal boat in the annals of design: The clipper bow would subsequently appear in numerous other Herreshoff yachts, including the legendary TICONDEROGA.**

JOHN N. BROWN/MYSTIC SEAPORT (BOTH)

***Left*—L. Francis Herreshoff carving a half-model of JOANN on Friday, November 23, 1923. He had already drawn the lines by this time, and is making the model merely to show the schooner's shape in three dimensions. *Inset*—Waldo Brown in his naval aviator's uniform.**

an opening at the Navy's ground school, he worked at the Burgess Company, helping assemble fuselages and wings. He subsequently breezed through ground school and was first in his flight-school class at Key West, earning a commission as ensign in 1918. Near the end of World War I, Waldo flew coastal patrol in a seaplane out of Chatham, on the elbow of Cape Cod. He took part in the "Battle of Orleans," the only action in the war in which aircraft attacked the enemy off the East Coast of the U.S., making an unsuccessful bombing attack (the bombs turned out to be duds) on a U-boat.

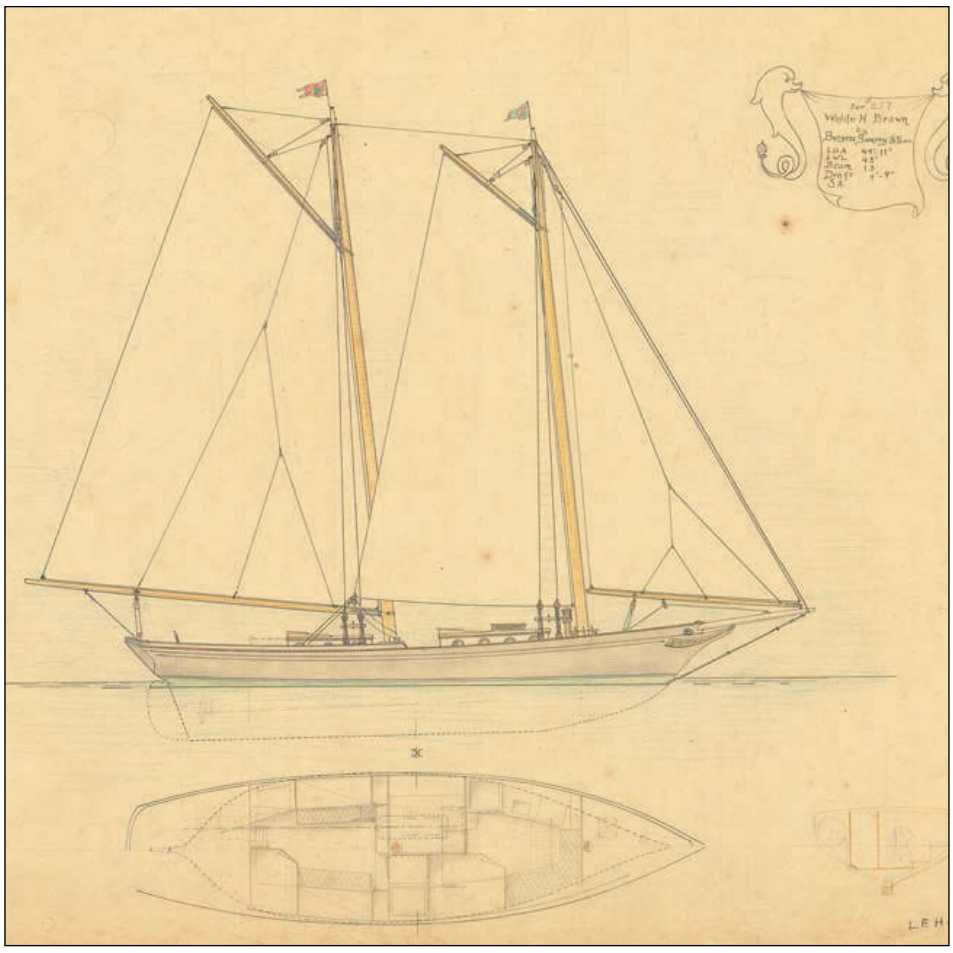
Waldo left the Navy in January 1919, and within two weeks he married Frances M. Gray. His father-in-law, Paul Gray, had, with his brother David and Ora James Mulford, founded the Gray Motor Company in 1905 to build automobile and marine motors in Detroit; in 1910 they founded a successor to that company, the Gray Marine Motor Company. Paul and David's father, the Detroit banker John Simpson Gray, had bailed out Henry Ford's then-failing automobile business, on condition that he be allowed to run Ford's business side. The Grays invested heavily in Ford. It was said that Frances Gray's family was worth $39,000,000 in 1912.

After a short time selling bonds in Boston, Waldo went to work for the Gray Marine Motor Company, which began also to produce Gray automobiles in 1922. When the first car came off the production line, Waldo drove it from Detroit to Boston, where he was to run the sales agency. "I sold all I could get—at first; was given the whole state of Massachusetts and later all of New England, but in 1924, after having built up a complete wholesale and retail organization with about forty persons on the payroll, the Gray organization in Detroit collapsed and there was nothing to do but pick up the pieces." Actually, the Gray Motor Company continued in business for two more years after Waldo left, but they were years of decline.

The first piece Waldo Brown picked up was to see about getting a dream ship built. The first major vessel that his grandfather Joshua had modeled and built, in 1856, was the schooner CLARENCE BARCLAY, a well-known and successful pilot boat out of Salem. Waldo had inherited a fine painting of the BARCLAY, and he had admired the schooner in the painting all his life. He wondered if a smaller schooner-yacht could be designed

The Salem pilot schooner CLARENCE BARCLAY, modeled and built in 1856 by Joshua Brown, grandfather of Waldo. This is the vessel that inspired JOANN.

JOHN N. BROWN/MYSTIC SEAPORT



MYSTIC SEAPORT

L. Francis's preliminary outboard profile drawing of JOANN. The slightly longer overhangs and longer main boom and gaff give the design more grace than shown in the final plans from which the schooner was built.

and built along her lines to make a smart-sailing and able family cruiser. His concept of basing a yacht design on that of a pilot boat was sound, for pilot boats had to be both seaworthy and fast to be successful. To test his idea, he carried the painting into the offices of Burgess, Swasey, and Paine.

Waldo, as we have mentioned, was by then already acquainted with Starling Burgess. He was also acquainted with one of Burgess's partners, for he owned the 54′ Loring Swasey–designed powerboat BOY SCOUT. He may have previously met L. Francis Herreshoff through Charlie Welch, a client of Francis's who was so important that he eventually reached the status of patron. In any event, it was Francis, then working for that firm, who responded with enthusiasm to Waldo's proposal. "Sometime around 1924," Francis would write in a letter years later, "a young man, Waldo Brown, came to me with an oil painting of a boat his grandfather had had built in Salem in about 1850. She was a very nice looking boat that was used for a pilot boat, and he asked me if a modern boat of that type would be practical. I told him that she would not only be practical, but better than the usual boat of that time that was designed to fit some of the measurement rules, and he gave me an order to design that boat which was a schooner named JOANN, 50 feet on deck." Sixteen years later, Francis repeated this account in *Yachting* magazine. What he did not say was that Waldo Brown was an active participant in the design of JOANN.

For Waldo's part, when he summarized his career for the U.S. Navy Bureau of Navigation to give his qualifications to justify a promotion to lieutenant in the Naval Reserve, he wrote, "I...spent the summer of that year [1926] cruising up and down the coast in the Sch. Joann, a vessel of about twenty tons which I designed myself and navigated myself with the aid of just one paid hand—a cook."

Both men were being disingenuous. They had become good friends since the creation of JOANN, and the design was certainly a collaborative process. That process would lead Francis Herreshoff—through Waldo Brown and then through a far more successful car salesman named Harry E. Noyes—to the great TIOGA designs of the next decade. The main credit for this wonderful series of yachts, which culminated in the legendary ketch TIOGA II (now called TICONDEROGA), must go to Francis; it was he who brought them to artistic and practical perfection. But credit is also due to Joshua Brown, for modeling the CLARENCE BARCLAY, and to Waldo Brown for his recognition of his grandfather's achievement, his determination to follow it up, and his own contributions to the design of the new schooner.

Francis's signed and dated drawings indicate that Waldo worked with him on JOANN's design in the BS&P office at 585 Boylston Street, at least from January 1, 1924, through July 2. He was probably not an employee of BS&P; in his career summary for the Navy, he appears to list every company he worked for, even briefly, but there is no mention of BS&P, nor does his name appear on any of the firm's drawings other than some of those of JOANN. Waldo wrote that after his departure from the Gray Motor Company, he worked for about two years as assistant to the manager of Wellington, Sears, and Company, a large cotton-goods manufacturer headquartered in Boston. He doesn't state exactly when he started that job, so we don't know whether he made his drawings for JOANN as a full-time project before he started work for Wellington, Sears, or whether he squeezed them in as he was starting a

new job. In any case, Waldo—because of his acquaintance with Starling and because he had at least some background in naval architecture, and perhaps not least because the prospective vessel, based on a specific forerunner, was his own concept—seems to have made an unusual arrangement to participate in the design in the BS&P offices.

Francis's preliminary outboard profile and sail plan established the characteristics of the design. When he later drew the lines plan, he eliminated what little drag to the keel he had shown on the preliminary drawing to reduce the draft, and he shortened her overhang a little at both bow and stern. The latter change stole a little of the grace of the preliminary version. How much Waldo collaborated on these key drawings is not known, but as the owner—with one eye on the painting of the Clarence Barclay—he must have had his say. The standard title block of the lines drawing indicates that it was drawn and traced by Francis and checked by Waldo. The offset table, taken from the lines drawing, purely a measurement-and-recording task, was entirely Waldo's work.

The lines plan shows a relatively shoal-draft hull, drawing only 4′8″. JOANN's homeport would be Marblehead, but she was to spend time at Harwich Port, on the south side of Cape Cod, in tiny Wychmere Harbor, where Frances Gray had inherited 10 acres of waterfront property that her grandparents bought in 1866 and developed into a family compound. It was the 5′ depth of Wychmere Harbor and its narrow, dredged entrance across the sand flats that governed the schooner's draft. Moreover, Waldo wanted to be able to ground her out, and so her designers specified iron for the ballast keel rather than more easily damaged lead, and they did not give her a centerboard, for the sand and gravel of Cape Cod could easily jam a centerboard trunk.

"JOANN is a little shallow for best performance to windward," Francis would write many years later, "but she is a fast, able boat under all other conditions." He would also remark that she made "quite a little leeway," especially "when first coming about." Len Hornick built the fine schooner MARY HARRIGAN to the design of JOANN, and he added a centerboard. For a time, Len used his vessel for teaching a class at WoodenBoat School in Brooklin, Maine. This writer can attest, after some memorable Caribbean cruising in the MARY HARRIGAN, that, with the centerboard, she sails to windward like any other Herreshoff boat: exceedingly well.

It was Waldo who drew JOANN's sail plan, dated February 1, 1924, using Francis's lines drawing for the shape of the hull in outboard profile. He made changes to Francis's preliminary sail plan, all of which moved the center of effort forward: He decreased the rake of the masts, and he shortened the mainmast and the main boom and gaff, removing about 100 sq ft of area from the mainsail. Presumably, Francis approved of these changes. In any event, the result is a vessel that balances beautifully.

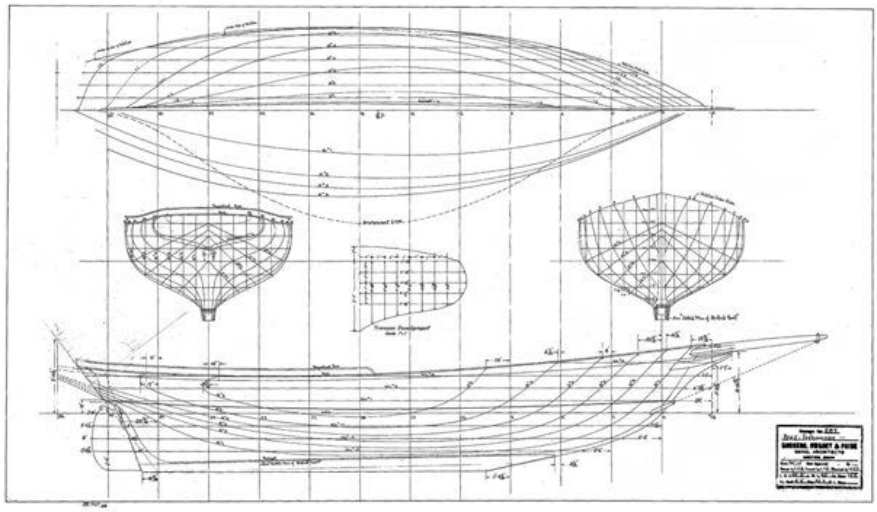
Waldo redrew the sail plan in a drawing dated April 5, 1924. The two sail plans are identical, except for these details: In the second plan, the mainmast, already kept short, has been shortened a little more, the reefs in the mainsail are shallower, and the main lazyjacks and foresail brails are led a little differently. In the lower, righthand corner of the new sail plan, Waldo noted, "Drawn and Traced by Waldo H. Brown." On the copy that Francis saved, the words "Drawn and" have been erased (though they are still barely legible on the original). Apparently, Francis wanted the record to show that JOANN's sail plan was essentially his creation, since it was based on his original, preliminary sail plan. Francis was Waldo's friend, but he was also competitive and proud. Actually, he may have needed a little reining-in by Starling. While the backstory is not known, it's suggestive that in successive advertisements featuring JOANN in *The Rudder* magazine by the Stearns Motor Manufacturing Company, of Ludington, Michigan, the credit for the schooner's design was changed from L. Francis Herreshoff to BS&P. (It's also rather curious that JOANN had a four-cylinder Stearns gasoline engine rather than a Gray.)

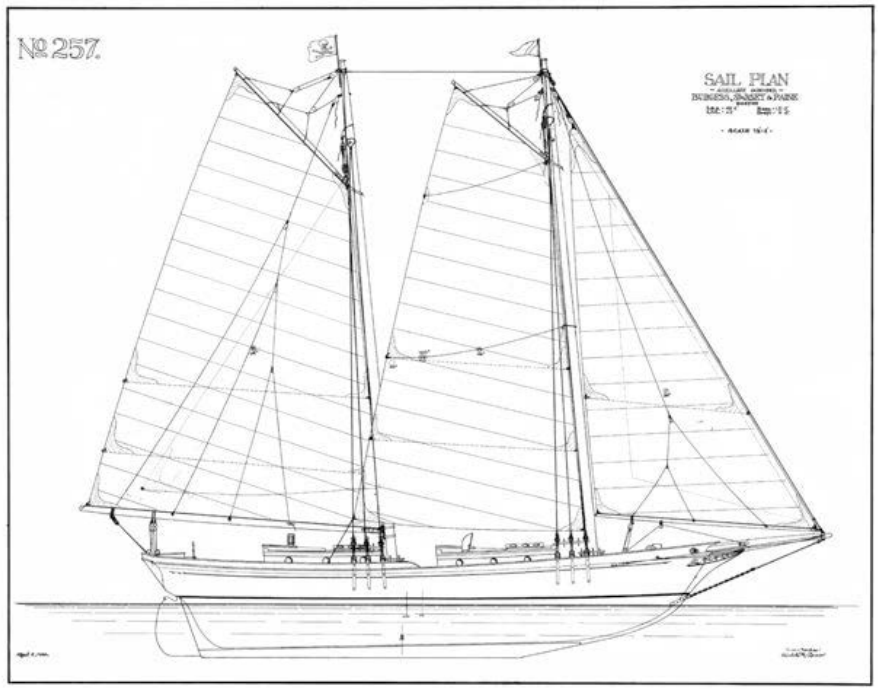
The purpose of the overlapping foresail, the typical arrangement on early pilot schooners, was not only to gain sail area, but also to make the sail set better. The combination of a relatively short gaff and long foot allowed the sheet to draw the leech aft, as well as down, so that the head of

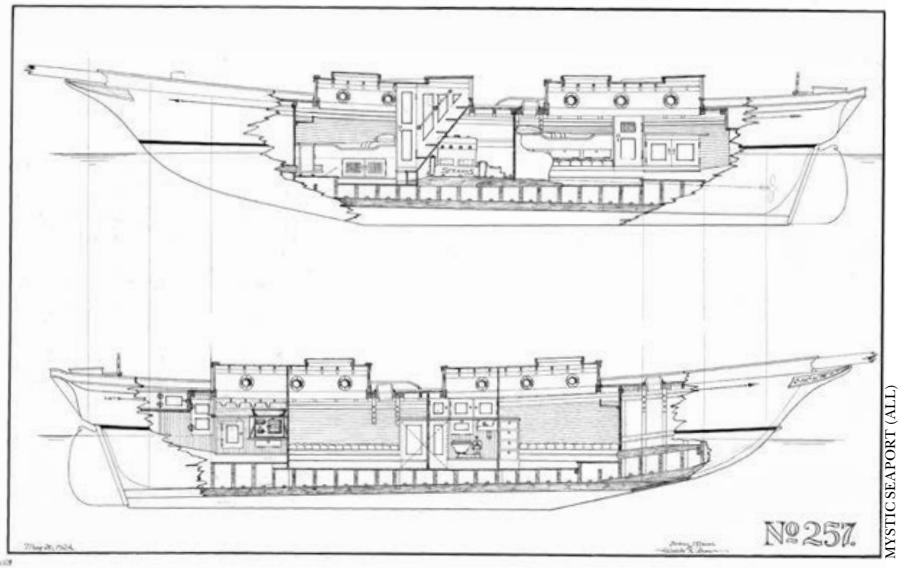
MYSTIC SEAPORT

JOANN under her original rig, with the overlapping foresail.

***Right*—The lines of JOANN were drawn and traced by Francis. Waldo checked them and made up the table of offsets. *Middle*—JOANN's sail plan, as made by Waldo, dated April 5, 1924. With the overlapping foresail, her sail area is 1,422 sq ft. *Bottom*—Waldo made detailed interior profile drawings of his schooner, dated May 20, 1924.**







MYSTIC SEAPORT (ALL)

the sail could be kept from twisting off so far to leeward, thus losing power. A further advantage of the overlapping foresail was that when the schooner was hove-to under just the foresail, the sail could be trimmed readily to windward of the mainmast and adjusted to control with precision the vessel's headway, or bring her to a complete stop. The drawback of the overlapping sail was the necessity to tend the foresail sheets when tacking, and since JOANN's foresail had an area of almost 500 sq ft, the strain on the lee sheet was heavy in a breeze. The sheets were single-part to avoid blocks crashing against the mainmast (or somebody's head) when going about. They led through turning blocks on deck and forward to a two-part tackle, which was still a hard pull; after a season of coping with this gear, Waldo cut down his foresail and put a boom on it, so it would be self-tending.

In a spar plan that Waldo drew and traced, dated April 2, 1924, he included an unusual stern view of the schooner with her mainsail trimmed for a close reach. On her stern, he lettered the name JOAN, evidently a name modification that he decided against. He named his schooner with a combination of the names of his two children at the time, John and Ann.

Francis drew and Waldo traced JOANN's 'midship construction section. This drawing was approved by Loring Swasey. Waldo drew and traced the main construction plan, adopting the system that Francis used of putting only circled numbers on the drawing and including a table of remarks keyed to the numerals, which avoided cluttering the drawing with labels.

Waldo drew and traced the cabin plan, dated February 6, 1924, and he changed the schooner's arrangements below considerably from the preliminary cabin plan that Francis had sketched. He did keep the main saloon about where Francis had placed it, and

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MYSTIC SEAPORT THE MUSEUM OF AMERICA AND THE SEA

ABNER KINGMAN

JOANN, now called BRIGADOON, sails on San Francisco Bay under the longtime ownership of Terry Klaus.

he retained the idea of a separate engineroom amidships, though he moved it from port to starboard. In a beautifully detailed drawing dated May 20, 1924, Waldo showed interior profiles of the cabin from both sides.

In all, Waldo made eight carefully drafted plans showing JOANN's design in great detail. He was obviously enjoying the process of putting his visions of the CLARENCE BARCLAY's successor on paper. In later years, Francis sold JOANN's plans as a set of 10 sheets for between $75 and $105.

The design firm selected the Britt Brothers of West Lynn, Massachusetts, to build JOANN. Chester and Andrew Britt, both in their 50s, had migrated south from Harpswell, Maine, and had worked as carpenters until 1902, when they opened a boatshop at 24 Raddin Street, on the Saugus River. Besides a number of small craft, they had built 64 powerboats up to a length of 68′, many of their own design, and 23 to designs by Loring Swasey. They had never built a sailing yacht, and JOANN was not a simple one, but Swasey must have had confidence in them. For their part, the brothers may have been intrigued by the JOANN's hull

shape, particularly her clipper bow, for she may have reminded them of handsome schooners built in Maine. Chester, Andrew, and their 15 employed boatbuilders built the schooner well, and would build ten more boats to Francis's designs.

Francis sailed in JOANN with Waldo and his wife, Frances. Years later, to emphasize his belief in keeping the cabin and accoutrements of a cruising boat simple, he wrote a droll description of a hard chance he had experienced in the schooner. He and the Browns, and "a young man from the city who had done most of his cruising in books," were caught off Gloucester in a sudden squall that heralded the onslaught of a northeaster. Francis's enthusiasm for the schooner rig was as an artist, not as a sailor. He would write, "If the Gentle Reader loves the looks of a schooner as I do, my advice to him is to buy a fine painting of one and let it go at that." And he wrote: "I wish more were done in U.S.A. to encourage yawls and ketches for with high rigs they certainly are efficient for their sail area and much better than the schooner which I think is the invention of the Devil." But that day, in JOANN, the schooner rig came into its own. While Waldo and his "brave little soul" of a wife were below trying unsuccessfully to cope with "the best part of a four course meal...scattered over the floor together with a lot of broken china and most of the pots and pans off the galley" (Francis's object lesson in simplicity), Francis and the city slicker had the schooner scudding for harbor at 8 knots, safely under foresail alone.

JOANN was indeed a fine yacht-version of the pilot schooner CLARENCE BARCLAY; Waldo got just the vessel he wanted. She turned out to be the forerunner of nine more clipper-bowed designs by Francis. Once the constraint was removed of designing with the image of a working pilot schooner in mind, Francis gave his clipper-bowed yachts more grace and beauty than JOANN's. But Waldo's idea of a boat was the vital catalyst for some of Francis's greatest designs.

JOANN, now owned by Terry Klaus, is still sailing. She hails from Alameda, California, having been trucked to the West Coast many years ago under the ownership of the sailor and actor Sterling Hayden. Hayden, who sailed in Banks fishing schooners as a young man, wanted a more conventional schooner rig, with a taller mainmast. He engaged the top team of Murray Peterson and Aage Nielsen to design such a rig, and the old JOANN, now called BRIGADOON, still carries it.

Roger Taylor lives on board a Dutch steel powerboat, WATER LILY, with his wife, Kathleen Carney. When not acting as captain and commissary officer on board the Lake Champlain Maritime Museum's replica canal schooner LOIS McCLURE, they have patrolled the rivers and canals of Holland, Belgium, and France in WATER LILY. But now they have "retired" and threaten to add a boat for the Intracoastal Waterway.

Setting Up to Build H-28

Thinking ahead for economy, performance, and longevity

Text and construction photographs by Karsten Mæhl

LARS ARVID OMA

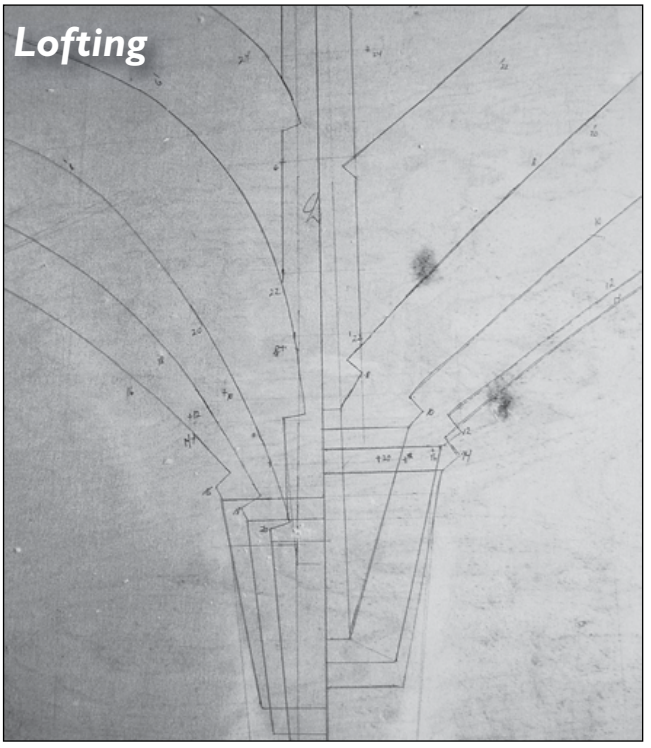
Ten years ago, while reading L. Francis Herreshoff's *Sensible Cruising Designs*, I instantly fell in love with a classic little yacht of shippy appearance. The boat, L. Francis's H-28, looked like the one for me: small, seaworthy, good-looking, and with room enough for some extended cruising.

The H-28, as the name implies, is 28′ long and has a draft of only 3′6″. The boat is long-keeled and relatively heavy, with a displacement of about 4 tons. It has a large cockpit, offset propeller shaft, and large transom-hung rudder that gives excellent maneuverability under sail. The boat has an ample 9′ beam, and as a result the cabin is quite spacious. While H-28 is not among the fastest 28-footers of its time, most observers agree that the design is exceptionally seaworthy. Despite the design's spartan accommodations and limited stowage options, H-28s and their variants have made demanding ocean passages, including circumnavigations.

I pretty much decided, upon my first encounter with the design, to build the boat. Herreshoff originally designed the H-28 as a ketch, but a year or so later published a sloop-rigged version, and that's the rig I chose. Eight years after commencing construction, I launched a new H-28—having spent most of my spare time on the project.

There are two approaches to building an established design. One is to build exactly what the designer drew. The other is to allow some changes. I find it rewarding to figure out some solutions for myself—to customize. While some people see this as like swearing in church, as an old boatbuilder I couldn't resist using modern materials where I thought they would add strength to the boat without destroying the looks—such as using plywood sheathed in fiberglass and epoxy for the deck. I do agree, however, that

***Above*—H-28 is one of L. Francis Herreshoff's most enduringly popular boats. The author, a shipwright in Norway, built a boat to this design over the course of eight years, and planned the project to require relatively little time under a temporary shelter.**



L. Francis Herreshoff's table of offsets for the H-28 make lofting the boat relatively easy. The lines are to the outside of the planking, so to determine the shapes of the frames, the planking thickness must be deducted, as shown here. For a lofting surface, I used a light-colored plywood.

one should think very carefully before "improving" any design, because there are consequences related to all changes—consequences that often are not easy to foresee.

L. Francis described H-28's construction in painstaking detail in a series of articles published in *The Rudder* magazine in the 1940s; he later gathered these articles together as a chapter in *Sensible Cruising Designs*. He had strong opinions about changes, writing that "If the H-28's design is only slightly changed, the whole balance may be thrown out." The reality is, however, that not many boat designs have been altered as much as the H-28. It has been lengthened, made deeper and with more beam, with higher topsides, more sheer, more displacement, and altered deckhouses and deck layouts; H-28s been given bowsprits, built of fiberglass, cold-molded in wood, and welded together in steel. Most of the fiberglass versions were produced in the 1970s and '80s by the Walker Company in Australia, Parkins Marine in the U.S., and Compass Yachts in New Zealand. Some enlarged wooden versions were built in the 1960s; these include the Bermuda 30 by Cheoy Lee in Hong Kong and the Samurai 28 by International Marine in Japan.

My changes have more to do with structure and trim than with aesthetics. My biggest alteration was to move the lead keel forward a bit to avoid squatting from weight placed aft. To move the lead ballast keel forward, it was necessary to shorten it and make it deeper; as a result, my H-28 has about 4″ more draft than the original. Since I wanted to maintain the designed waterline and the shortened keel slightly increased the underwater volume, I had to make the ballast about 180 lbs heavier than designed. These changes added wetted surface and weight, but I believe the slightly diminished speed is far outweighed by the fact that the boat trims nicely on her waterline with one or two people in the cockpit, and with sheets, docklines, and other gear stowed in the cockpit lockers.

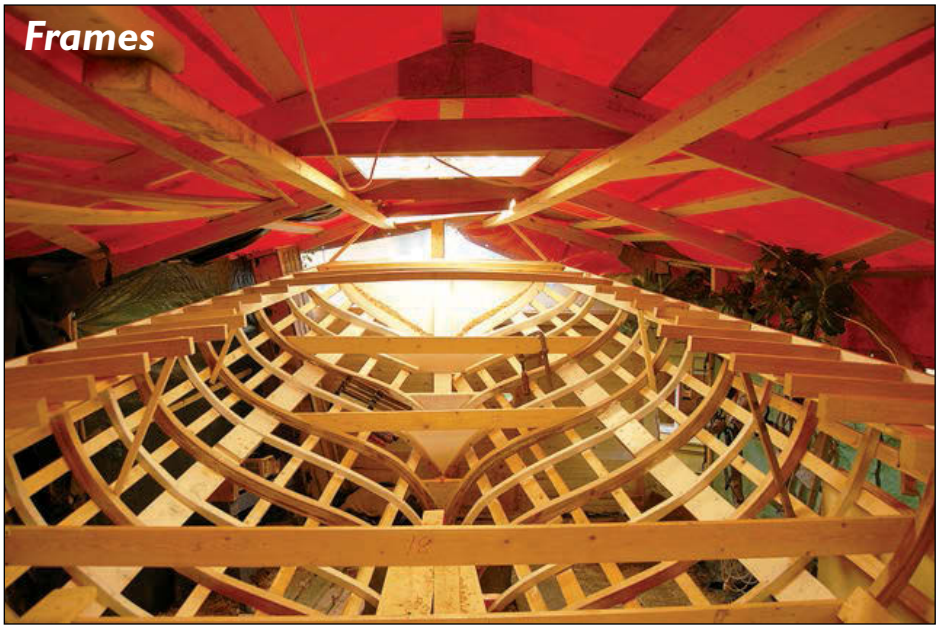
Whereas L. Francis specified steam-bent frames, I chose to laminate every other one for strength and durability. Steam-bent frames are pre-stressed by bending, whereas laminated frames are not, so I expect there'll never be any breakage. Also, they don't spring back like steam-bent ones do, and, in fact, hold their shape so well that I did not have to use the temporary

I started with the lead keel because the boat under construction would be much steadier with the ballast in place and the options for bracing the hull would be limited in the narrow shed. Lead is a very easy material to work. It melts and drills easily, and one can even use an electric planer on it. But, as Herreshoff points out, it needs to have some antimony added in order to work well. I cast my keel of antimony-containing scrap lead in a wooden mold buried in the ground so it wouldn't break under the weight of the lead. I lined the mold with plaster to protect it from the hot lead, and used an old hot water tank as a melting pot.

The next step was making the timber keel and the floors and bolting them together. All the measurements came from the lofting. A light, full-sized pattern makes it much easier to find the right piece of wood. The keel assembly was then bolted to the lead ballast keel, isolated from each other by a layer of tarpaper. In the H-28, most of the ⅝" keelbolts are tapped about 4" into the lead. It's crucial to lubricate with oil when tapping and drilling lead.

molds specified by L. Francis that are common to most plank-on-frame boatbuilding projects. Instead, the laminated frames themselves defined the boat's shape. Why, then, did I laminate only half the boat's frames? It was a matter of economy: Laminating is a lot of work, and the weight of the glue results in a heavier frame. By laminating only half of the frames, I saved time and weight compared to a full set. And I believe the resulting structure will remain strong enough even if some of the intermediate steam-bent frames were to break.

To avoid a hump in the sheer near the chainplates caused by the pull of the rig, I glued the edges of the topside planks together. This, along with the laminated frames, the plywood deck, a bulkhead in the chainplate area, and an extra hanging knee, I feel make for a stronger and more durable structure. Edge-gluing planking in this manner is controversial, and with good reason: Excessive shrinkage due to drying out can cause split planks. But I have a number of factors working in my favor with this technique: I used only vertical-grain heartwood, which is reasonably stable; I limited the widths of my planks (and thus their ability to shrink and swell) to a maximum of 4½"; I dried my planking to 14 percent moisture content—which matches the drying effect of the average humidity in my area; I built a leak-free deck in order to control humidity inside the boat; I oiled the planking both inside and out in order to limit shrinking and swelling; I painted the hull, and maintain that



Half the boat's frames are laminated with epoxy from 3/8" laminates, and the remainder steam-bent. While oak has a reputation for gluing poorly, I've never had a problem with it. One critical step in my process is to retain the rough-sawn surface of the laminates for gluing, rather than planing them smooth. The rough surface gets a better grip on epoxy.

Steaming

A steambox was required for half the frames and a few of the planks. While most of the planks can be bent to shape without steaming, the garboard and the plank above it—the so-called first broadstrake—have quite a bit of twist, and thus must be softened with steam. To make a steaming setup, I used an old gasoline tank (well flushed with water!) for a kettle and made the steambox of plywood, about 8′ long and a foot square in section. Propane heated the kettle. Surprisingly little water is needed for the required one hour of steaming—only about 1½ gallons. (I avoided wasting propane by not putting more water in the kettle than what was needed—but also taking care to not boil the kettle dry.) The inset photograph shows the new plank in place.

painted finish carefully; and I live in northern Europe, whereas if I lived in a sunny tropical region I would have resorted to double planking.

I built the boat of fir and oak, which I could acquire locally. The fir that grows in Norway has been widely used for building boats of all sizes, including keel, frames, deck, planking, mast, and superstructure. Still, Norway's fir is not the ideal wood when compared with other options: It varies hugely in quality, only the heartwood is reasonably rot-resistant, it has a lot of knots, and it swells and shrinks quite a bit with fluctuations in humidity. But even if it is not ideal, it is usable if chosen

Setting up

After the stern and stem timbers were sawn to shape, the frames laminated, and the keel assembly completed, it was time to put it all together. I hired a crane truck to move the keel assembly to the building site, then built a temporary shed over it. There was no heat in the shed, so I spent some cold winter hours there. Gluing and painting had to be done in the summer.

When setting up the hull, the first thing I did was to position the keel assembly so the faces of the floors were plumb and their tops dead-level. The next step was to carefully and accurately fasten the stem and the stern to the keel. Then the laminated frames were raised and riveted to the floors. I was mindful during this operation that the frames be located accurately and symmetrically, and well fixed in their positions. To help strengthen things, as soon as the stem, stern, and frames were in place and fastened, I fitted the sheerstrakes. That and the ribbands against which the remaining frames were bent stiffened up the whole affair sufficiently.

With the hull all framed, the rest of the job—deck construction, engine installation, planking, interior joinerwork, painting—went along more or less as specified by L. Francis in *Sensible Cruising Designs*. If you think that eight years of my spare time was a lot to build a boat like this, I can tell you it was not. I worked a full-time job during those years, and did most of my building in winter. Needless to say, I had to get up early on the weekends!

selectively, it is abundant and cheap, and it is sustainably harvested.

I used Norwegian fir for the planking and European oak for the rest of the boat. The oak has many of the same qualities as American white oak: It is strong and rot resistant, and it holds screws very well. It is ideal for frames, deckbeams, stems, keels, and other timbers. For the mast and boom I used Oregon pine—called Douglas-fir in the United States. Although a little heavy for a mast compared to spruce, it is strong and looks very nice.

Because I was building the H-28 in a relatively small yard, the building shed would be quite dominating and not much to my wife's liking. So, I produced many of the components of the boat before setting up the shed. The things I built in advance included: all of the hardware, the mast and boom, the rudder, the hatch and doors, the laminated frames, the stem and stern assemblies, the transom, and the entire backbone including the ballast keel, timber keel, floors, and a portion of the garboard planks. In doing so I needed the shed for only four of the eight years I spent building. It was fun to see how far I could get before I had to assemble the pieces. I knew from earlier experience that if you build the hull first without tending to any of the later details, it's a very long way to the finish line when the hull is

Timeline

Here's a summary of what I accomplished each year:

December 2005: Lofting
2006: Made jigs and patterns for the frames, fittings, boom, spreaders, and lead keel.
2007: Finished the lead keel and the keel assembly, including the floors and garboards.
2008: Built mast, laminated frames, built cabin doors.
2009: Built the companionway hatch, stern and stem, and transom. Built the shed, assembled the backbone structure, erected laminated frames, and hung the sheerstrakes.
2010: Installed the steam-bent frames, deck beams and deck; built the cabin trunk and engine bed.
2011: Placed the engine on its bed, began building the cockpit and planking the topsides, painted and varnished.
2012: Built the rudder, completed the planking and cockpit.
2013: Completed the engine installation, built the accommodations, and installed the systems (tanks, pipes, electrical).
2014: Completed the painting, installed the propeller, launched and rigged the boat…and went sailing!

The greatest moment came when the shed was removed. After thousands of working hours I could now for the first time see the boat as a whole. I had been a bit worried that the sheer would not come out right because of the narrowness of the shed, but it turned out to be fine.

The Cost of Construction

L. Francis Herreshoff designed H-28 as a relatively simple boat that could be built by an amateur during the not-so-affluent times immediately following World War II. I find Herreshoff's low cost and DIY approach to the H-28 very appealing compared to many of today's complicated and expensive building and restoration schemes. That said, the building costs for the H-28 turned out to be surprisingly high.

Wood, bronze fastenings, a new Vetus 16-hp engine, sails, glue, lead, deck hardware, rope, paint, plywood, the folding propeller, and other assorted items added up to the equivalent of US$50,000. That's a lot of money, even in oil-rich Norway. If you are looking for a cheap boat or if cost is a big factor, you are much better off with a good used boat for a quarter of the money. But building your own boat can be very rewarding; it is a chance to use and develop your creative skills, and also to say, "Look what I've made!"

—KM

completed, and you grow impatient with the rest of the job. Do it the other way around, and it's easier to pay attention to all the details that are not directly a part of the hull. Then, when the hull is finished, you are that much closer to sailing—which we finally did last summer.

We keep the boat in the Hardangerfjord on the west coast of Norway, where the weather is unpredictable and often rainy. The 2014 season, however, was exceptionally sunny. What a gift for a newly launched boat! The H-28 performs well, acting somewhat like a bigger version of a Folkboat. I find her easy to sail, and very maneuverable—almost like a big dinghy. She points fairly high and performs very well in a seaway—as long as there is reasonable amount of wind.

Karsten Mæhl is a ship preservation consultant at the Hardanger Fartøyvernsenter (see WB No. 183) in Norheimsund, Norway.

Plans for the H-28 are available from Mystic Seaport (Catalogue No. 38.4 2). There are 13 sheets, and they cost $40 per sheet (there is a discount for members). The set covers the entire process, from rudder fittings to two different sail plans. For information, contact Collections Research Center, Mystic Seaport, P.O. Box 6000, 75 Greenmanville Ave., Mystic, CT 06355; 860–572–5367; collections@mysticseaport.org.

Albaola—The Sea Factory

The extraordinary voyage of Xabier Agote

Text by Peter Neill

Photographs by Mendi Urruzuno

Xabier Agote is a verb. Many of us are prepositions, adjectives, or adverbs; some of us are nouns, occupying fulsome volume in time and space but taking little action. A verb, on the other hand, drives ideas through energetic connection, and that function inhabits Agote's work and life as he quietly and profoundly defines and demonstrates how maritime heritage the world over can be vitalized, exemplified, and communicated to a global audience on the verge of forgetting this most significant element in our common history.

Xabier Agote—known to all as Xabi or X—was born in 1964, the son of a lawyer in San Sebastian, Spain, a city that lies at the heart of Euskal Herria, or the "Basque Country." This country has historically been separated from Spain by work, culture, social organization, and language. Although politically a part of Spain, the Basque Country exists as a cultural identity bordering the Bay of Biscay from Bilbao into France. Denied in the 20th century following World War II, the region has been notorious for its secessionist fervor, at one point evinced by bombings and revolutionary protest by a faction determined to restore the legitimacy of a way of life.

Agote was born into the post–civil war decades of Franco, during which Madrid had moved to assimilate and deny independent cultures—Basques, Catalonians, Galicians—into a common Fascist Spain. Basque schools were outlawed; speaking the language publicly was prohibited; and profits of local enterprise, both from agriculture and shipping, were appropriated into a national financial system that provided little in return. The situation was tyrannical and confiscatory, and characterized by obsessive cultural assimilation. But a stubborn people, known for their distinct character and independence, did not tolerate such a condition in the postwar era. They resisted by their continuing financial achievement and contrarian success, and by undertaking many acts of resistance, invert and overt, that foreshadowed a continuing cultural commitment intended to secure the political and economic concessions that today reveal a Basque Country that's on the verge of a new and preferential political and social identity—and a renewed relationship with Spain.

Young Xabi's own deep connection with his culture began with a boat. At the age of 12, he wanted one, and when he could not buy one he began to rent a wooden skiff to row around the harbor in San Sebastian, where

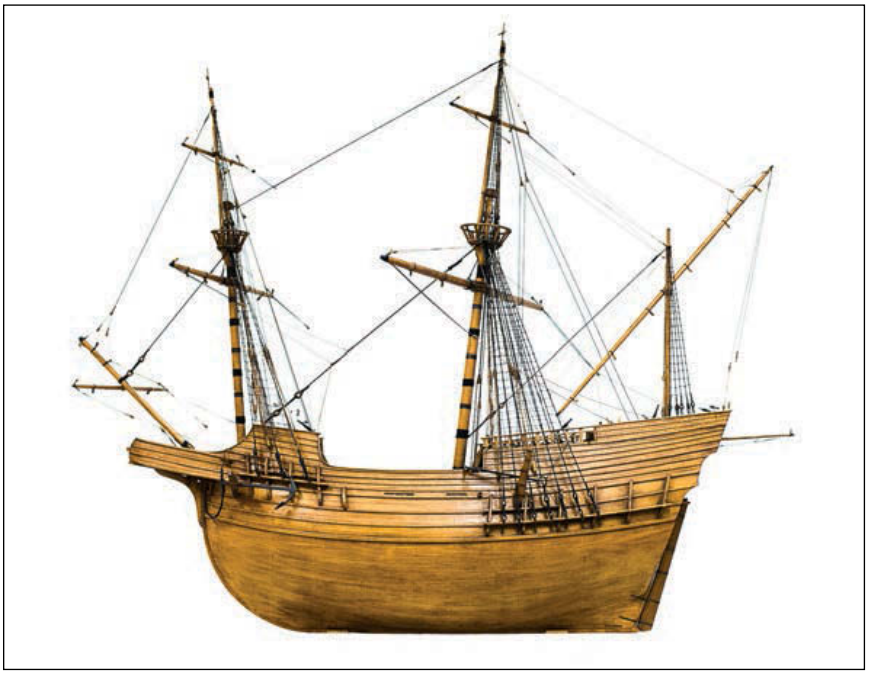
After studying boatbuilding in Maine in the 1990s, Xabier Agote (near left) has led a revival of the maritime traditions of the Basque Country. His efforts have included archaeological digs, replica vessels, and retraced voyages. In recent years, he has developed a permanent maritime heritage center in the Basque city of Pasaia.

he would encounter the fishermen and seamen and recreational sailors who made that working waterfront a special place apart from the world of bourgeois professionals represented by his parents and younger siblings, all of whom are lawyers. His father rejected the idea of purchase "because no one makes those old wooden boats any more." What a challenging statement to a young mind that seemed already possessed by an instinctual understanding that his life to come was meant to rectify an unacceptable cultural loss.

By chance, he saw an edition of the French television program *Thalassa*, a documentary series about the sea begun in 1975 and still broadcast today, hosted by Georges Pernoud and focused on maritime geography, ecology, fishing, transportation, yachting, and boatbuilding. The producers of *Thalassa* had come to the United States to profile innovative maritime heritage programs, museums, and projects—concepts that had not yet arrived in Europe. Among them was Lance Lee's Apprenticeshop, then located in Rockport, Maine. The Apprenticeshop resonated with Agote, but the few openings for students from abroad were already taken, so he applied for and was accepted to the apprentice program of Maine Maritime Museum in 1995. The museum's apprentice program had been founded by Lee—though he'd since moved on from it—but it still emphasized the synergy between construction skills and cultural experience.

Agote fell in love with Maine as a place filled with optimism and possibility. "I learned in the United States a different approach to life, " he told me when I visited him in the Basque Country last autumn. "European society is very old and often pessimistic, oppressed not liberated by history. Suddenly everything seemed possible. You work, you dare, you succeed. That may have been my natural attitude as well, but I never would have realized it without my American experience."

Adventure followed: A never-completed, underfinanced schooner construction project at Moosehead Lake in Maine; a small-boat passage across the Atlantic; work on fish boats and in the fish market; competitive recreational rowing; and, transformationally, the successful construction of AMERIKETATIK, a 39′ Basque *trainera*, at the Apprenticeshop in 1998, financed by Basque community groups in the U.S. and elsewhere, and launched that year at the South Street Seaport Museum as part of a festival organized by the Basque Club of New York. "AMERIKETATIK" said Agote, "is a beautiful [type of] boat, first born around 1750 to fish with nets for anchovies and later as a form of entertainment as races between the fishermen became very popular along the coast. All the elements—the making, seeing, touching, and feeling—were there in her. AMERIKETATIK was the catalyst for what was to become Albaola."



Agote's most ambitious project to date is a replica of the Basque whaleship SAN JUAN. That project is in progress now, and photographs of it appear on the following pages.

The construction of SAN JUAN is being accomplished largely with local oak. *Left*—A pattern is used to choose stock for a floor timber. *Below*—A similar pattern is lifted from the vessel's full-sized lofting.

Albaola—The Sea Factory of the Basques—is the Basque maritime heritage organization Agote founded in 1997. It was primarily a concept at that point, for it lacked permanent physical space, but its goal was broad and ambitious: It would recover and promote Basque maritime culture through research, technology, and actual boats and objects; it would practice seafaring and craft; and, perhaps most critically, it would engage the public.

Agote returned home from Maine in late 1998. Accompanied by a crew of 12 mostly inexperienced sailors locally selected anew each day, he voyaged in AMERIKETATIK from Vigo, Portugal, to France, visiting 29 ports in 29 days in a heritage expedition that captured the public imagination through its audacity and its accompanying cultural celebrations. "Each day the welcome got bigger," Agote said, "the mayor of the next town outdoing the hospitality of the mayor of the last." The journey itself transcended personal accomplishment and seamanship, incorporating teamwork, the arts, education, history, and modern life into a purposeful campaign for change: "I saw that voyage as the model I was looking for, as the tool I needed to use maritime experience to make a better world, to advocate for identity, social harmony, peace, and reconciliation."

In 2003, he again made a symbolic voyage in AMERIKETATIK. This time it was a circumnavigation of Ireland in the context of *Navigating Peace*, a six-week expedition for harmony and reconciliation of Ireland in partnership with friends from the Causeway Coast Maritime Heritage Group, a volunteer organization that re-enacts Celtic voyages from Ireland to Scotland and beyond. Agote returned home from Ireland with a vision: a novel amalgam of boatbuilding, skills training, researched replicas, sea experience, expeditions, visits to festivals and maritime celebrations, exhibits, talks, and outreach, the involvement of artists and musicians, of poets and chefs, science and ecology, international competition and cooperation, and the inevitable resultant media and support. There was an enormous, all-inclusive, impossible job to do. "For me, joy is work, all day, every day." And so Albaola took physical form in Pasaia, a small port on Biscay some 20 miles east of San Sebastian. Agote moved there, married, had children, and embarked on his grand experiment.

Looking back over the past decade, three discoveries seem key to the ensuing accomplishment. The first is the recovery of a trunk containing some 500 original plans collected by a boatbuilding family named Mutiozaval from Orio, west of San Sebastian. The drawings were of vessel shapes and types dating from the 15th century to modern times. They had been deposited in the archives of the local aquarium/museum in 1982, and thereafter forgotten until rediscovered and recommended to Agote by a friend. They are a detailed record of Basque small-craft construction—a historical resource that could provide a heritage-driven young builder with intellectual validation as well as authentic detail for replication of a lost Basque material culture. Agote resolved to build from this catalog one boat per year, in a small shop in Pasaia, as a public demonstration of craft and historical determination. In the process, he would train apprentices and volunteers, and then use the resultant fleet for a program of community sailing in traditional vessels.

The second discovery was also archival: In 1972, Canadian historian Dr. Selma Barkham had discovered in the Archivo de la Real Chancillería in the northwest Spanish city of Valladolid a vast collection of documents and records of Basque whaling expeditions in which there were multiple references to places in Atlantic Canada with Basque-derived names used by the Basque whalers of the 16th century for capturing

The original SAN JUAN sank in Labrador in 1565. Its replica is being built as an exhibition in Albaola's massive main construction shed, whose walls of windows admit ample natural light.

and processing whales for oil to be shipped back to Europe. These Basque endeavors were the beginnings of a global industrial fishery to be later dominated by Dutch, English, and American ships. At its height, the Basques were sending as many as 20 ships round-trip annually to *terra nova*, importing up to 10,000 barrels of whale oil per year. Dr. Barkham found very specific reference to the loss of a ship from Pasaia, the SAN JUAN, sunk in 1565 at "Butus," what is today known as Red Bay, Labrador. In 1978, Parks Canada, under the direction of respected marine archaeologist Dr. Robert Grenier, went to the exact place designated by the record and found the wreck. It was still in excellent condition, having been submerged for over 300 years in accessible coastal water. The discovery documented what is still the oldest whaling vessel known. The ship was recovered, analyzed, and left preserved in the same waters she had lain in for centuries.

Remarkably, underneath the ship's structure, a *txalupa*, or shallop, one of the five small whaleboats traditionally carried aboard, was also discovered, almost entirely intact. Like the SAN JUAN, she too was recovered and conserved, but on land. In 1998, Dr. Grenier telephoned Xabi and invited him to come to Canada to examine the shallop and help identify construction details. Grenier describes the moment as Xabi, "this restless, impassioned boy," stood silently for almost an hour before the reconstructed boat, examining every part, join, and assembled whole as an act both analytical and devotional. Agote remembers telling the archaeologists that the vessel had two maststeps, not one as surmised, and then identified each structural element by its Basque name, including a complicated final strake of planking or sill, called *albaola*.

Agote returned to Pasaia to build a replica of the shallop from the documented plan, and then, in 2006, supported by the Canadians and other friends, led a crew of six Basque volunteers and a Mi'kmaq Amer-Indian on a voyage from Québec City to the Gaspé Peninsula to the outports of Labrador and Newfoundland, retracing similar passages by their forebears down the St. Lawrence River to the Atlantic in search of cod and whales. This was no safe, scripted, pleasurable, celebratory voyage; the crew often rowed 10 hours at a stretch, and sailed in what were very challenging conditions for a small open boat at sea. They were dressed in hand-made woolen clothes, goatskin coats, and leather boots; they collected their own fresh water, ate the very same food that sustained those who had sailed the route before, and came ashore at the remote beaches where archaeological remains showed the flensing and

The SAN JUAN replica aims to preserve not only a material object, but also the skill to build it. More than 200 oak trees were harvested for its construction.

As of January, SAN JUAN's first few frames had been raised; by the time this magazine is printed, planking will have commenced.

trying-out places where the whales caught centuries before were hauled ashore and processed into oil. Very few witnessed this astounding experience; the local welcomes were heartfelt and profound by the descendants of Mi'kmaq and possibly even Basques from so long ago, but the meaning of this re-enactment as a tribute to the courage and culture was left mostly private—except for an extraordinary film that was made throughout (see Currents, WB No. 220, and view the trailer at www.woodenboat.com). It was not presented as personal achievement, but rather as collective affirmation of what it means to be Basque.

The third discovery came in the form of growing support for such adventure by the public and the local government, which both began to recognize not the exploits of an eccentric young man, but rather a phenomenon that was contributing to the redevelopment of Pasaia following the decline in local fishing and shipbuilding—heretofore its lifeblood. The town fathers responded in 2000 by providing a small building on the east side of the port for the organization's first boatshop, moorings in the harbor for traditional vessels, support to execute the modest grants that came in from the European Union and elsewhere, and ultimately the transfer of a small bankrupt industrial shipyard with its empty buildings, two rusted slips, and crumbling concrete bulkheads that faced, perfectly sheltered, the dramatic narrow entrance to the harbor from the sea. Along the green hills above runs a section of the historic walking route toward the tomb of St. James far to the west in Santiago de Compostela in Galicia; appropriately, it is a route for pilgrims.

AMERIKETATIK is an open Basque fishing boat—of a type known as a Trainera—that Xabier Agote built after his apprenticeship in Rockport, Maine, in 1997.

Few could imagine what was to come. A visit today reveals a completely refurbished building, a new dock, two functioning railways for hauling larger vessels, and a newly erected construction shed built mostly by volunteers from scrounged and local materials. The place has become at once a museum, an educational center, a performance space, and the locus of the most ambitious project yet: a 52′, 250-ton, three-masted replica of the SAN JUAN, with lines taken from the archaeological documentation in Red Bay. The project is intended to symbolize the renaissance of Basque culture, and is partially financed by the cultural capital of Europe, San Sebastian, for 2016.

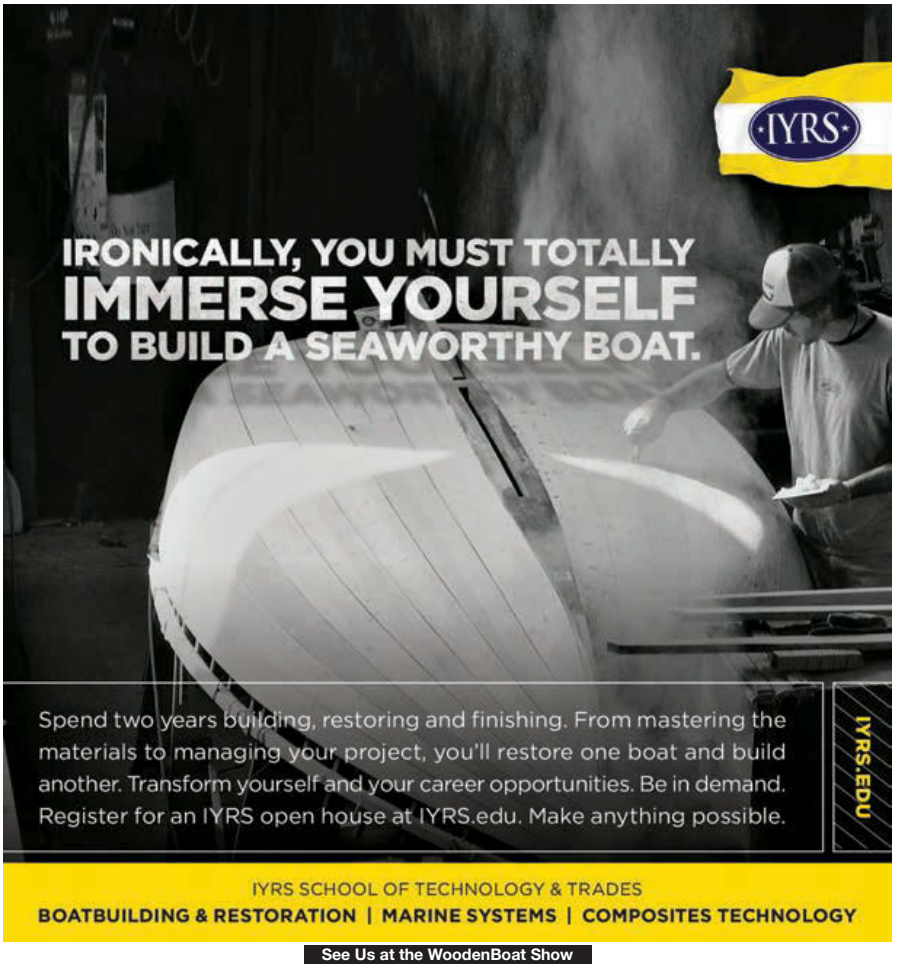
Albaola is sublimely economical and utilitarian. The entrance offers a quiet welcome and exhibit area where the displays—researched, written, designed, and built by Agote and his team—present the maritime history of the Basque country through selected artifacts, photographs, maps and archival material, and succinct and accessible text. Yet another replica of the SAN JUAN's shallop is on display, with the expressions of the mannequin crew taken from the faces of those who made the re-enactment voyage. There is heavy emphasis on the social history of the region, showing how the wool for the clothing, flax for the sails, hemp for the lines, barrels for water and oil, and watertight boxes for food used to be grown or fabricated. Contemporary farmers, growers, and craftspersons are making these

Agote had AMERIKETATIK shipped from Maine to the Basque country upon his return home, and proceeded to make a high-profile voyage in her.

same things for the replica's upcoming voyage from San Sebastian, across the Atlantic, back to Maine, and on to Red Bay—which is now a World Heritage Site.

The exhibit area is connected to the construction hall through a long corridor lined with rough-cut local planks. In the first room, frames are hewn with axe and adze. There are a few paid shipwrights, but most of the workers are volunteers, some of whom found the project by accident, without prior interest or skill, and have stayed for a year or longer, galvanized by the work and the excitement that is palpable everywhere. A school group enters and the carpenters put aside their tools to become teachers, explaining and demonstrating, simply and authentically, the purpose of the adze, how it is used on the very piece before them, and where and to what end that piece will serve the ship. The group moves on, and the work resumes immediately.

The second hall, some 40′ high, is supported by trees stripped of bark, fastened with spikes and cable, supporting corrugated plastic sheets that form the walls and roof and admit a marvelous diffused natural light illuminating the sculptural presence of stem, keel, and transom, augmented almost every day with a new frame, shaped, moved, placed, and secured almost entirely by hand. The vessel's floors, futtocks, and knees have all been harvested from trees from the nearby forests. Her planks and decking lie stacked in the outside yard. Her sails, rig, and fastenings will be made from local materials by local people. She will carry local dried vegetables, roots and grains, local fish, local sausage and cheese, local apples and cider. She will collect and store her own water and bake her own bread aboard. She will have no engine, but will have crude accommodation, essential safety and navigational equipment, and a mostly volunteer crew. She will not commemorate the glory of battle, or the paradox of empire, but she will celebrate



In 2006, Agote and a crew of Basque sailors voyaged in a replica shallop from Québec City to Labrador, retracing a historic Basque route. They wore authentic historical clothing and sought little publicity for the trip.

the value of labor, utility, commitment, and the unique cultural identity as embodied and evoked by this project, in this place, in this time, through international exchange. This ship is being built with joy, all day, every day. She will be built by hands and hearts at Albaola. She will be all Basque.

But what does that really mean?

"It is not just to have been born here," says Xabier Agote. "To be Basque is to speak and feel Basque. *Euskara* is the word for Basque in Basque; it means one who speaks the language. It is an attitude and an identity. There is something about being Basque that relates to the spirit of preservation. The language is very old and its origin is a mystery. It was not written down until the 16th century. We have been occupied by Romans, Christians, Royalists, and Fascists, and yet our sense of self and purpose survives in an oral tradition that continues to this day. We are in love with our past and feel responsible to our ancestors to maintain this continuity. Albaola is not the end, but the way."

The tradition seems inextricable from sociability. Food and drink are very much part of the conversation. It is no surprise that the Basque country today is known for its traditional and modern cuisine, with several three-star restaurants famous for culinary innovation

located within minutes of Pasaia. A lunch in the local tavern is a succession of salads and perfectly fried fish, cider and beer, and constant interruption by friends and strangers who seem at once intimately part of the story, the joke, the song, the opinion, the plan. "The most revealing voice in our culture," says Agote, "has been the long tradition of troubadors, public orators, and performers, who still today improvise poetry sung in perfect meter to traditional melodies, punning and commenting on the personalities and politics of the present. On the Canadian voyage I wanted someone to narrate events to us and about us through this language. I found John Maia, who still works with us here, and we have become fast friends. He is a very famous man in the Basque country, winning the many competitions in this art form that flourishes today as yet another vivid expression of who we are. Through him and clowns and musicians, all steeped in our popular vernacular tradition, we add the human voice to everything we do. We sing together and play together, just as we work together.

"What we have done represents about 20 percent of what I would like to do here. We have more projects, more building, more education, more outreach, and more social engagement before us. The regional leaders—the mayor and Port Authority—begin to see us as a serious driver for economic development. The restaurant and travel people tell us we are attracting more and more people, making a difference. A year from now, five years from now, there will be so much more, that is what I can say."

Albaola—the sea factory. There is no question that Xabier Agote is a *maker*—a builder of boats, individuals, friendships, collaborations, institutions, experiences, and ideas. He is creating a place for living heritage, not a conventional museum or predictable educational program, but a phenomenon that is multifaceted and creative, a place for renewal of a town, skills, traditions, and shared understanding of history. Albaola is what a museum or a school or a community development project should be: authentic, complex, continuous, and alive.

Xabier Agote is a man outside of time. In his fisherman's smock and beret, he speaks and lives with a dedication, relentlessness, and fervor that suggest that there may be no Basque word for failure. He is part romantic, part comic, part mechanic, part historian, part artist, part philosopher, part entrepreneur. He is all visionary, but without pretense. He is socially and politically aware. He is a most natural man. In his sea factory, he makes things happen.

Xabier Agote is a verb.

Peter Neill is director of the World Ocean Observatory, an organization dedicated to providing information and education about the health of the ocean. Learn more at www.worldoceanobservatory.org.

LAUNCHINGS

Edited by Robin Jettinghoff

These pages, along with the Boat Launchings section of www.woodenboat.com, are dedicated to sharing recently launched wooden boats built or restored by our readers. If you've launched a boat within the past year, please email us at launchings@woodenboat.com, or write us at Launchings, WoodenBoat, P.O. Box 78, Brooklin, ME 04616.

Please include the following information: (1) the boat's length and beam; (2) the name of its design class or type; (3) the names of the designer, builder, owner, and photographer; (4) your mailing address along with an email address or phone number; (5) the port or place of intended use; (6) date of launching; and (7) a few sentences describing the construction or restoration. (8) Send no more than five photographs (jpg images at 300 dpi) and enclose a SASE if you want anything returned.

DOROTHY-SUE LOTKE

Paul Lotke of Gladwyne, Pennsylvania, spent 18 months building this West Point Skiff at home before trailering her to Pleasant Lake in Casco, Maine, for her launch. SONGO BLUE is strip-planked with ½″ strips of Sitka spruce, then covered with a layer of carbon fiber and a layer of Kevlar. See *WoodenBoat* No. 130 and www.westpointskiff.com for more information.

SEAN KITSON

This slender beauty was built by John Barry of Ennis, Ireland, over the winter of 2014. LILLY is a 16′ Peterborough canoe made from larch planking on red oak ribs. John found the plans in John Gardner's *Building Classic Small Craft* (www.woodenboatstore.com). He created two iroko-decked areas to provide storage and buoyancy. She was launched on Lough Bunny in County Clare, Ireland.

ARTHUR GERMANI

Douglas Germani spent 11 years building LIVIA ROSE, an Eagle Harbor 19 pocket cruiser, before launching her with brother Stuart and nephew Tyler in Baddeck, Nova Scotia. LIVIA ROSE has a cedar-strip hull, with plywood deck and interior. Auxiliary power is a 3.5-hp outboard motor. Doug says she is a delight to sail. Designed by A.C. Gondola at Northwest Marine Design, plans are no longer available.

PATRICK COX

Kerry Elwood of Salem, Oregon, recently designed and built this 28′ trailerable houseboat he named WATER WOODY. The hull, 9′ wide and drawing only 12″, is built of marine plywood, then sheathed in fiberglass and epoxy. Kerry powers the boat with twin Lehr 9.9-hp propane outboards. The design includes a composting head, solar panels, LED lighting, and a woodstove. Contact Kerry at www.waterwoody.com.

ROB MACKS

Rob Macks, who taught us how to build a baidarka in *WoodenBoat* Nos. 242 and 243, recently launched OOTEK, a soft-chined Greenland Sea kayak. The 17′6″hull is strip-built from western red cedar with ash and ebony accents. The traditional animal spirit effigies on the deck are made of flame maple. Plans, kits, and finished boats are available from www.laughingloon.com.

ALICE ABERNETHY

Mike Abernethy had taken every boatbuilding class offered by North Carolina Maritime Museum in Beaufort, while he researched what kind of boat he wanted to build. His wife found Karl Stambaugh's Redwing 18 in *Small Boats* 2008, and that struck the right chord for Mike. He spent over 1,100 hours building WANDERLAND before launching her last summer on Sutton Lake in West Virginia.

DICK COLEMAN

A couple of years ago, the 50′ Trumpy MANATEE was damaged when the roof of her storage building collapsed. MANATEE was repaired, but the 12′ Jimmy Steele–built tender that had been on her cabintop was destroyed. Graham Ero, with able assistance from Dorsey Westcott, carefully built a new tender, SEA CALF. The hull is built from cedar planking copper-riveted to oak frames. Contact Graham at grahamero@live.com.

MALCOLM WHITE

MAGGIE MAY is a 26′ gaff yawl designed by Steve Dalzell (stevemdalzell@gmail.com), who recently retired from The Landing School. Her builders, Farrow and Chambers, of Grimsby, England, built her of cedar planks using the Speedstrip planking system developed by Joseph Thompson. MAGGIE has two layers of khaya laminated over the planking, and her deck and coach roof are of plywood. Owner Andrew Bray sails her off the English coast.

MICHAEL RADELT

After discovering the Bevins Skiff while visiting WoodenBoat School, Father John Rocus decided to build one with students at his Holy Spirit Church Elementary School in Brighton, Michigan. He and Gary Debevec led 12 students and three of their fathers in the construction of the 11′8″plywood hull. They launched PHILOMENA last May on Winans Lake. If you want to build this boat with kids, plans are free from www.alexandriaseaport.org or www.woodenboat.com.

In 2001, Jim and Debbie Gawiuk of Revelstoke, British Columbia, started building AVERIE ROSE, a 50′ motorsailer designed for them by Paul Gartside (www.gartsideboats.com). In June 2014, they finished the hull and trucked it 350 miles west to Richmond, British Columbia, on the Salish Sea. They had her systems installed there, then motored to Port Townsend, Washington, for sails and rigging. Jim and Debbie should be ocean voyaging soon.

BRIAN GAWIUK

KIM SPERRY

Last September at Sleepy Hollow State Park in Lansing, Michigan, Kim Sperry launched IRENE WILLIAMS, a Penobscot 17 designed by Arch Davis (www.archdavisdesigns.com). The planking and bulkheads are marine plywood, the stringers are Douglas-fir, and the trim is ash. At 17′ she'll hold three rowers comfortably. Kim will work on sails next.

The Boatbuilding Class at John Paul II High School in Greenville, North Carolina, built this plywood-and-epoxy 15′ Diablo motorboat and launched her last summer. The five students—Haylee, Brendon, Jacob, Matt, and Savannah—along with instructor Glenn Joyner built this boat during the 2014 spring semester. Profits selling the boat will benefit the school. Plans are available from www.instantboats.com.

RHONDA JOYNER

CRISTINA MARTINEZ

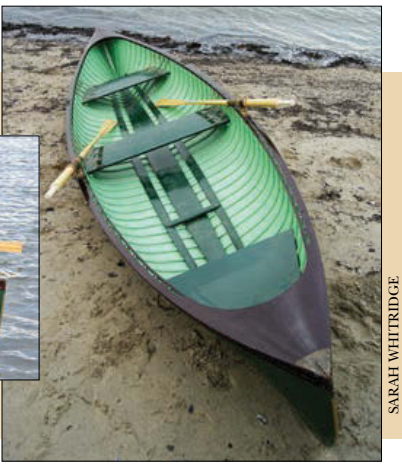
Tim Start of Bristol, England, hired Tim Loftus Boatbuilding (www.timloftusboatbuilding.co.uk) to build a 25′ junk-rigged sailboat from oak and larch trees on Start's land. LEAF is built from larch planking on grown oak frames, copper fastened, with oak cabinsides, and a plywood deck. The unstayed Douglas-fir mast carries a 400-sq-ft junk rig sail. A 5-kW (48V) Torqeedo outboard provides auxiliary power.

ANGRA TOO is a Castagnola 38 triple-planked wooden superyacht recently built by Construzioni Navali Tigullio in Lavagna, Italy. Just under 125′ (38 meters) long, with a beam of 27′ (8.1 meters), she displaces 146 tons and has a cruising range of 500 nautical miles at her cruising speed of 28 knots on her three diesel-fueled water jet engines.

LORENZO RAVELLA

RELAUNCHINGS

Zach Whitridge recently restored this Sebago skiff, replacing the oak backbone, a few frames, and one cedar plank of the 16′9″× 3′7″rowing boat. Her lineage is uncertain, but she closely resembles a skiff on display at the East Sebago Historical Society. That skiff was built by Carlton Martin and Curtis Sanborn in East Sebago, Maine, around 1920. Zach rows his skiff in Casco Bay, Maine.



SARAH WHITRIDGE

ANN SINGLEMAN

Ten years ago, Erick Singleman considered himself very lucky to pay just $3,000 for the pile of boards contained in the Herreshoff 12½ hull advertised by the Wooden Boat Rescue Foundation. He replaced 90 percent of the wood over the last decade, as he slowly and beautifully restored her. ALEMANA, hull No. 1498, originally built in 1941, was launched in time to sail to the Herreshoff Museum Rendezvous last August.

Laurence Pierson bought this 16′3″, 1960 Cruisers Seafarer from a friend who had ignored it in his garage for several years. Laurence rebuilt the transom, repaired frames, replaced the keel and much of the deck and hull, and refinished the boat. He then installed a new outboard and seat cushions. After six months of work, he relaunched her last summer in Torch Lake in northern Michigan.

PATRICK McLAUGHLIN

JAMES LEES

Richard Rhodenizer recently restored this 36′8″schooner, PEGASUS, built by Jimmie Smith of West Dublin, Nova Scotia, in the 1970s. His restoration included a redesigned interior, raising the topsides by 4″, moving the mainmast 5″aft, new lead ballast, and a new deck and cabin trunk. Michele Stevens's sail loft made the new set of sails. Richard sails PEGASUS out of Riverport, Nova Scotia.

Hints for taking good photos of your boat:

1. Set your camera for high-resolution images. We prefer jpg format, at 300 dpi minimum.

2. Stow fenders and extraneous gear out of the camera's view. Ensure the deck is clean and uncluttered.

3. Take your photographs in low-angle sunlight for best results. Early morning or late afternoon usually work well.

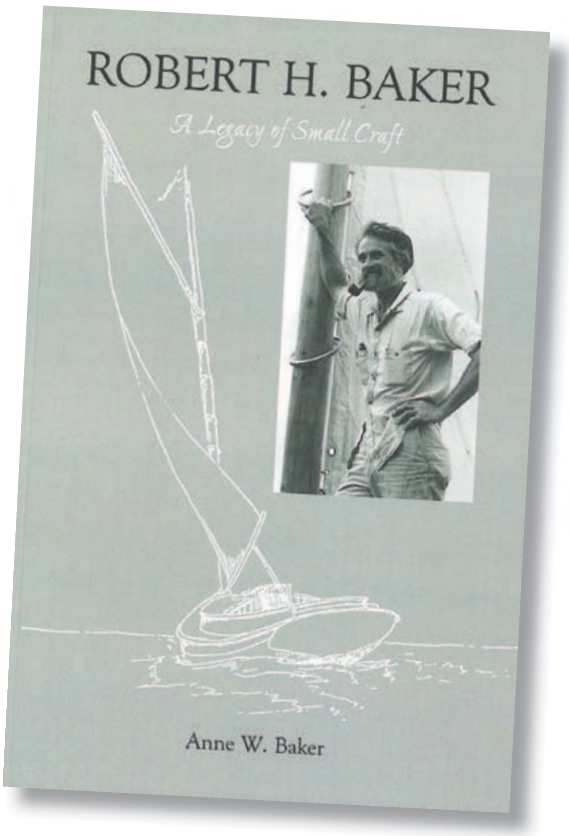
4. Keep the horizon level and the background simple and scenic so your boat stands out from its surroundings.

5. Take some pictures of the boat underway and some at rest. Vertical format often works well for sailboats. Shoot lots of images, send us your five favorites.

We enjoy learning of your work—it affirms the vitality of the wooden boat community. We receive so many submissions that there is not room in the magazine for all of them to be published. Launchings not printed in the magazine can be seen at www.woodenboat.com/boat-launchings.

Robert H. Baker: A Legacy of Small Craft

Reviewed by Greg Rössel

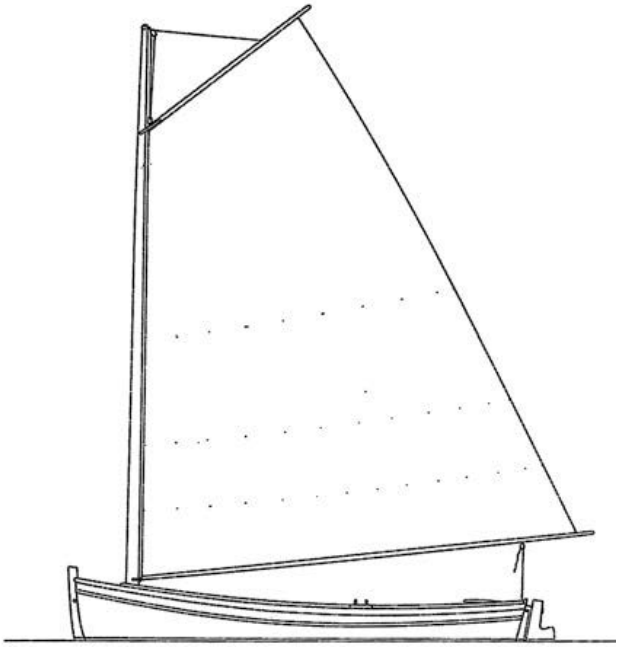


Robert H. Baker: A Legacy of Small Craft*, by Anne W. Baker. Published by* Sarah H. Baker, P.O. Box 39, Cape Canaveral, FL 32920. ISBN 978–0–9905406–0–1. 218 pp, $21.95.

Marine preservationists can be a curious lot. Oft times they are akin to an enthusiastic Indiana Jones pursuing maritime holy grails in musty, collapsing barns and canneries. Or perhaps, like an anthropologist, they seek the missing link in a moldering hulk on a mudflat. Or maybe they're a magnifying-glass-toting gumshoe who painstakingly analyzes found relics and artifacts to help establish the provenance and pedigree of such things as a distinctive dory. And, rather than being content to leave those marine mummies in place, they will then document their quarry, re-create their lines on paper, and then restore or replicate their discoveries to better test their qualities and save them for the next generation. Bob Baker was one of the best of them.

Longtime readers of *WoodenBoat* will likely recognize Bob Baker (1927–1983) from his many articles in the magazine, his portfolio of traditional designs (the Westport skiff, the Rubenesque catboat PEGGOTTY, and the sailing canoe PICCOLO, just to name just a few), or perhaps through the legacy of elegant small craft he produced at his Baker Boat Works. Less well known is the story of Bob's life and his love of boats. Fortunately, before her death in 2011, his wife, Anne Baker, completed a manuscript that, with the able final preparation work of their daughter, Sarah, not only tells Bob's story but also is a memoir of their most interesting life together—as seen through her eyes.

In many ways, Bob and Anne (aka "Pete") were bookends—kindred spirits whose passions for history and design overlapped. Her passion was for restoring old houses and recording their histories and their changes. Bob's was the archaeology (and perhaps the sociology) of working craft; who built and used them; how they were constructed and why; their lineage and how they evolved. Bob grew up summering on the bays and marshes of Westport, Massachusetts, where, even as a teen, he would drag home derelict boats to be rebuilt and experimented with. There were plenty of boats there in those days for a young waterman to mess around with. They included dories and dinghies, smacks and sharpies. Even as a young man he was drawn to documentation. By the time he was in his late teens he'd drawn over 200 pages of designs and sketches of



Sail plan of a Westport Pond boat, as recorded by Robert W. Baker.

watercraft of all sorts. His parents worried over these pastimes; they felt that tennis, golf, and choir were more appropriate career preparation for someone whose godfather was President Franklin Roosevelt. Alas, the die was cast and he was irretrievably launched into a career of boats.

After a short stint as an able-bodied seaman for Woods Hole Oceanographic Institute and another as an orthopedic mechanic where he made braces and artificial limbs for the U.S. Army, he reluctantly applied for an opening in the distinctly non-marine-oriented shop program at a prep school in Rhode Island. Bob soon turned the pen-holder and ashtray-making operation into the Dragon Boat Shop, with students cranking out sloops, dinghies, and prams from his original designs. One design was so successful that it ended up being commercially mass-produced.

But it was on a break from the school, on a honeymoon on Martha's Vineyard with his first wife, that he was drawn back to his first romance with working craft. There he found ORCA, an 1880 No Mans Land boat. Bob forensically studied the hull, looking for clues of its past; he documented it, drew the lines and perspectives, developed a history, and restored it. After this, there was no turning back. As Anne notes, "ORCA had opened the gates, and from this point on 'commonsense boats,' as Bob called them, became his life's passion."

Bob was a collector of old boats, old cars, trains, house parts, and more. Through this connection he met Pete, as he had heard she had a barn full of antique house parts. Her interest in all things antique was a match for his. In Casablanca fashion, "This was the beginning of a beautiful friendship," Pete writes. A year later they moved in together and combined their families from previous marriages—Bob focusing on boats while Pete focused on house restoration.

Thus began their adventures. In 1962, they acquired KALMIA, an 83′, 1909 vintage wooden motoryacht that, while elegant, had also recently sunk. They couldn't leave her to be burned for her fastenings, and it became their project, their home, and eventually their conveyance to the Bahamas and back.

Next was their odyssey to California. Pete noted that Bob was determined to compare 19th-century design and construction methods between small craft built on the East Coast and those on the West Coast. Packing up their Volvo and boat trailer, they set sail via the blue highways of America collecting orphan vessels until they ran out of road in Point Reyes, California. There, in a community that reminded them of their native New England, they set up home base to photograph and measure more boats than they had anticipated—yawlboats, skiffs, launches, houseboats, and tenders. It was the once-again sinking of KALMIA that brought the family back to New England with three boats and one child more than when they left.

With their travels out of the way, it was time to set up a regular shop where Bob could do his marine detective and documentation work. It is in this part of the book that we learn the backstory to many of his more famous captured designs. There were the sandbaggers, the catboats, the wherries, the Woods Hole spritsail boats, dories, whaleboats, and Whitehalls. He also recorded and inked plans for some of the most ancient and primitive working boats of the region, such as BUTTON SWAN and PEGGOTTY (which likely only survived because a thatched roofed tea house had been built atop of her).

By the time Bob was diagnosed with cancer in 1982, he had produced a remarkable treasure trove of designs for posterity. Equally remarkable was that in his final year, Pete had the foresight (and fortitude) to collate his boat plans, journals, files, photos, research, and letters. She interviewed him on tape, pressed him on details, and located mislaid design sheets. She also unearthed Bob's early drawings, some of which are published in this book. Indeed they were a couple who understood the importance of history.

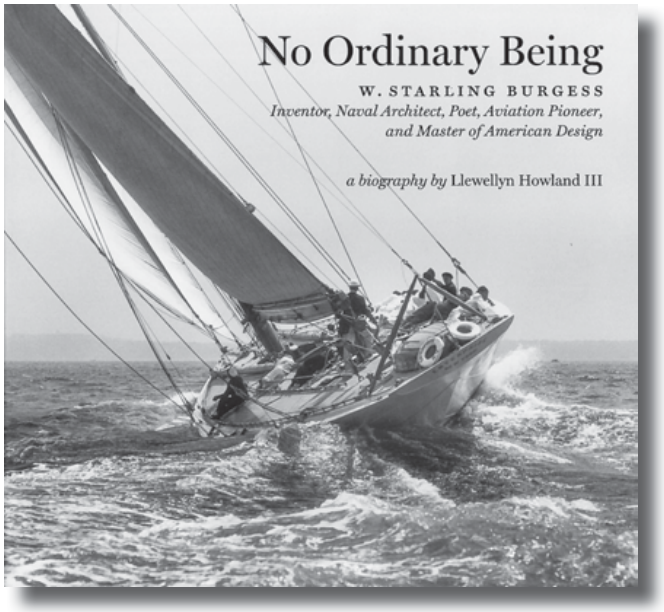
We are all richer that Bob Baker picked a career of messing around with old working boats over one that, well…required golf, tennis, and choir. Bob was determined to capture the rich tapestry of small-craft maritime history, not only the lines and dimensions but also what he called the "souls of workingman's boats." He promoted the simple elegance and practicality in traditional design that that is still recognizable in the best New England boats built today. After all, as Bob noted, "There is nothing much that's new around. It's really old stuff reworked or modern ideas that don't work. Eventually, people will return to what does work. Like traditional small craft."

Greg Rössel is a contributing editor for WoodenBoat.

No Ordinary Being: W. Starling Burgess

Reviewed by Queene Hooper Foster

No Ordinary Being: W. Starling Burgess, Inventor, Naval Architect, Poet, Aviation Pioneer, and Master of American Design, by Llewellyn Howland III. David R. Godine, Publisher, P.O. Box 450, Jaffrey, NH 03452. 456 pp., illus., index. $65. *Available from The WoodenBoat Store.*



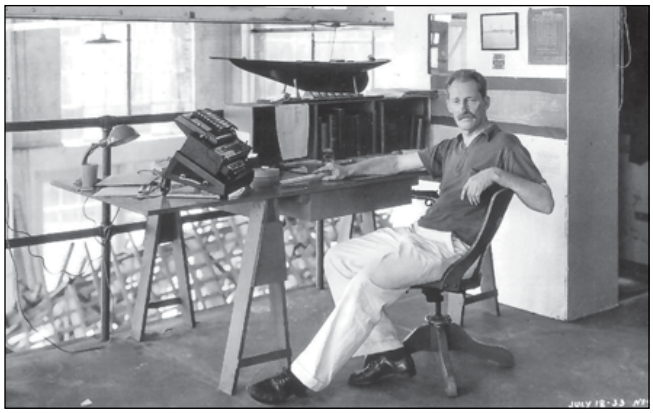
Llewellyn Howland—"Louie," to his friends—would be the first to tell you that he has been writing this biography of W. Starling Burgess for nearly 60 years. His grandfather (and namesake) and Starling Burgess were schoolmates at Milton Academy, and when Howland himself attended that school many years later, his grandfather still told admiring stories of the brash young inventor Starling Burgess and his magnificent design work. A large room in Howland's small house has been occupied by his reference materials and Burgess files for almost 30 years, since his first articles on Burgess were published in WB Nos. 71, 72, 73, and 74 in 1987. Recently, he completed and published *No Ordinary Being*, the first book-length biography on Burgess, who is one of the 20th century's most interesting naval architects and inventors.

Burgess was born in 1878 to well-to-do and loving parents in Boston. His father was Edward Burgess, the prominent yacht designer whose work included three successful AMERICA's Cup defenders, PURITAN, MAYFLOWER, and VOLUNTEER, in the 1880s. Among young Starling's ambitions was to achieve the same level of success as his father by designing winning yachts, and this he certainly did with three J-class Cup defenders, ENTERPRISE, RAINBOW, and the magnificent RANGER. His range of expertise was astounding: from simple daysailers such as the awkward but popular Brutal Beast, to the grand J-class sloops for Harold Vanderbilt. He also designed three supremely beautiful oceangoing schooners—MAYFLOWER, PURITAN, and COLUMBIA—for the Gloucester fishing fleet; many people, including myself, think these three are the most magnificent sailing vessels ever built.

The list of racing champions is long. He designed the schooner NIÑA—winner of the Queen's Cup in 1928 and the Bermuda Race in 1968—which was tragically lost at sea in 2013 (see WB Nos. 237 and 238). His last significant yacht was the passagemaker VARUA of 1940, described rapturously by W.A. Robinson in his popular book *To the Great Southern Sea* (1966).

Burgess also designed many smaller boats: the thriving Atlantic class, R-class sloops, the class of Abeking & Rasmussen-built 8-, 10-, and 12-Meters, and over 200 other yachts and vessels, sail and power, between 1900 and 1945 (these are listed in the book's appendix with dates and dimensions). His P-class sloop CHIPS is still the queen of the classic fleet in Newport, Rhode Island, and a no-expense-spared steel-hulled replica of his schooner COLUMBIA was launched in the fall of 2014 in Florida.

Burgess designed not only boats; he was a pioneering airplane designer, too, and in 1910 started building flying machines in his Marblehead shop where he built small boats. This evolved into a company, Burgess Company and Curtis Inc., which was the first to be offered a license under the Wright Brothers' patents. Burgess, in fact, personally trained with the Wrights. The first airplane to fly in New England was a Burgess-built one, and the photographs of that machine being



W. Starling Burgess at his desk at the Dymaxion factory. On the floor below is the framed-up hull of R. Buckminster Fuller's Burgess-designed cutter LITTLE DIPPER.

transported through the streets of Marblehead show the excitement of that day in 1910.

He also designed and built a three-wheeled automobile, the Dymaxion Car, with Buckminster Fuller; it resembled a plump VW microbus, but with three wheels instead of four. In 2011, the great modern architect Lord Norman Foster meticulously reconstructed a Dymaxion for his own use.

Starling Burgess may have been a genius. He was also the happy beneficiary of surprising good luck, won by his charming eloquence and energy. This combination brought him fruitful collaborations with talented engineers and designers in addition to Fuller—people such as Ken Davidson, L. Francis Herreshoff, and Olin Stephens. The book offers many small sidebar biographies of these famous collaborators. The results of these collaborations were spectacular, as the book recounts. However, he rarely worked with any of these men on more than one project.

Burgess also suffered from catastrophic bad luck, leading to devastating business failures, one after another. In 1918, a fire destroyed the Burgess Company facility, along with the aeroplane plans, parts, and tools, and all production ceased, never to resume. A client died just as the design phase of one large innovative yacht was completed. And Burgess endured numerous personal tragedies: He was married five times, one of his wives committed suicide, and a young son fell from the family boat and drowned. Painful family turmoil was pervasive, and Burgess was addicted to morphine. Howland discovered in his interviews that the designer also committed "unforgivable transgressions," and he doesn't flinch in describing these.

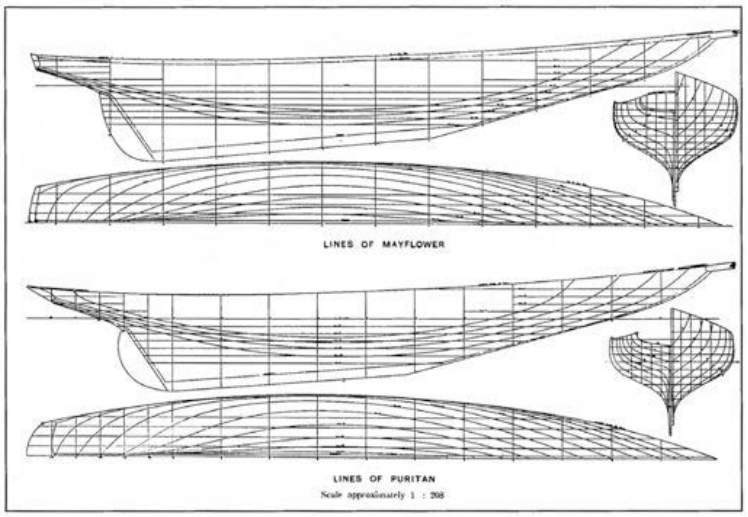
This book is expansive in its coverage of Burgess's long and eventful life—a life that continues to touch many people. I sought out some experts in specific fields to comment and give perspective on some of Burgess's particular achievements. Elizabeth Meyer, well-known yachtswoman, founder of the International Yacht Restoration School, and the owner who restored the J-class sloop ENDEAVOUR, had this to say about Starling Burgess the yacht designer:

> Burgess's record illustrates that he was the outstanding designer of his day. His boats won more races over a wide variety of design parameters than anyone else in that era.
>
> I have participated in many a wild-eyed, arm-waving, bellowing panegyric about Burgess's greatness. I mean, come *on*, how can you not rave about Burgess? What's there not to rave about? Burgess was, is, and will be at the absolute top of the yacht design pantheon, right alongside Nat Herreshoff.

The multihull designer John Marples has built three airplanes and is an accomplished pilot; I asked him for perspective on Burgess's aeronautical achievements. He noted that like all early U.S. airplane builders, Burgess's success was dogged by the Wright Brothers' aggressive defense of their far-overreaching patent on wing warping for lateral stability control. Marples further points out that Burgess was primarily a builder, and that the structural similarities between early airplanes and boats made him a natural fit in the aircraft industry. Burgess's aircraft factory in Marblehead gained recognition for the quality of the aircraft he produced, and gained the admiration of other airplane builders. Burgess sold most of his planes to wealthy sportsmen, who knew his reputation from yacht building. He only built approximately 30 aircraft for sale and was poised for military contracts at the start of WWI, but ran afoul of the Wrights' patents and did not lobby for his share of the contracts.

The talented book designer Sara Eisenman did a fine job of making this book. I asked publisher Spencer Smith for insights into the obviously high production values. He agreed that they are high, perhaps too high for the book to succeed commercially without the sponsorship of two maritime museums—the New Bedford Whaling Museum and Mystic Seaport—and of a group of benefactors, thanked by name in the introduction, who stepped up to bring the long-awaited work into print. Smith observed, too, that it reads more like an adventure story than a technical book. Using mostly primary source material, such as interviews with family members, unpublished letters, and private archives, Howland was able to give a clear impression of Burgess's character. Smith says he has encountered few other books that so neatly combine yachting and social history. I couldn't agree more.

Queene Hooper Foster had her first sailing adventures aboard a Burgess-designed Brutal Beast, but never held that against him.



Lines plans of the Burgess-designed fishing schooners MAYFLOWER and PURITAN. They were both widely admired, and PURITAN was considered among the most beautiful ever designed for the Gloucester fleet.

BOOKS RECEIVED

17th-Century Dutch Merchant Ships: Text, Photos and Plans for the Ship Modeler, by Ab Hoving, plans by C.A. Emke, models by H. Tomesen, graphics by E. Hoving. Published by SeaWatchBooks, 19 Sea Watch Place, Florence, OR 97439, www.seawatchbooks.com. 152 pp., hardcover, $75. ISBN: 978–0–9904010–1–8. *This book for model builders includes historic notes on individual ships, full-color paintings of what they might have looked under sail, and photographs of completed models; includes 24 plans for 10 models.*

The Origins of the Lost Fleet of the Mongol Empire, by Randall S. Sasaki. Part of the Ed Rachal Foundation Nautical Archaeology Series. Published by Texas A&M University Press, John H. Lindsley Building, Lewis Street, 4354 TAMU, College Station, TX 77843–4354, www.tamupress.com. 216 pp., hardcover, $50. ISBN: 978–1–62349–194–9. *In 1281, the Mongolian emperor Kublai Khan sent a fleet of ships to invade Japan. A typhoon, since known as the "kamikaze" or divine wind, destroyed the fleet just as it neared the Japanese shore. The author explains his findings from his research of the archaeological wreckage of that armada.*

SILENT MAID: A Catboat History—The Chronicle of he Bay, People, and History, by Kent Mountford. Published by Fishergate, Inc., 2216 Piney Creek Rd. Chester, MD 21619, www.fishergate.com. 300 pp., hardcover, $45. ISBN: 978–0–692–28975–4. *The author's father owned SILENT MAID (see WB No. 214) for 11 years, starting when the author was 15; numerous photographs—historic and modern—enhance this story of a beautiful boat and the people who loved her.* (Available from The WoodenBoat Store, www.woodenboatstore.com)

Sailing Ancient Seas, by Rod Heikel. Printed by Book Empire, Unit 7A, Lotherton Way, Leeds, West Yorkshire, LS25 2JY, U.K., www.bookempire.co.uk. 164 pp., paperback, $6.00. ISBN: 978–0–957584–93–8. *The author has written several Mediterranean yachting guides; this one is the story of his voyage from Turkey to Southeast Asia, during which he researched the ancient ships that traded along that route.*

Tradewinds: A Tale of the Caribbean, by C.E. Bowman. Published by Tradewind Publishing, www.tradewindpublishing.com. 452 pp., hardcover, AU$29.95. ISBN: 978–1–925171–50–1. *A semi-autobiographical novel about an Australian who wanders the world and happens upon the Caribbean where he decides to settle—more or less.*

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LOON

A 24' fuel-efficient outboard cruiser

by Laurie McGowan and Michael Schacht

Dear Designers,

I want a boat in which to cruise the Great Loop. Some say a trawler is needed for such a trip, but to me that's like saying a diesel-powered motor home is needed to go camping. I want a boat that's able to be trailered, but I'm not a minimalist. So here's my idea: a modified version of Sam Rabl's Kittiwake design. Make it narrow enough to trailer, stand up the transom a little, mount a 40-hp four-stroke outboard on a bracket, make a screen convertible top enclosure for the cockpit, and make the boat home-buildable. Accommodations would include a port-a-potti or electric toilet, a camp stove, and coolers. The boat would be fast enough to get out of the way of a barge on the big rivers, shallow-draft with a full skeg, and have sufficient range for those long passages. It would be as easy to build as a Kittiwake, and would require no lofting; it would be built of plywood and epoxy, and finished in paint for easy upkeep. I guess I want a Mini-Winnie travel trailer for the water. I've built a Simmons Sea Skiff and a Tom Hill–designed Long Point, so that level of construction skill would be nice.

Jack Monturi
Denver, Colorado

Dear Jack:
Thanks for the letter. For those who haven't heard of it, the circumnavigation of eastern North America by water is known as the Great Loop. The trip varies from 5,000 to 7,500 miles (8,000 to 12,100 km) depending upon the exact route followed. It is usually accomplished over the duration of one year, with summer spent traversing the Great Lakes, and winter down south in Florida. Though a trawler-yacht is the more typical vessel, we like the idea of a small, trailerable outboard "looper" very much.

LOON is a 24′ efficient trailerable cruiser for two, with room for an occasional overnight guest, or several more for day trips. The lightweight wood-epoxy construction and narrow 6′5″ beam permit excellent performance from a 40-hp, four-stroke outboard motor. Expect 11 knots at cruise, requiring only 22 hp of power, and a top speed of over 15 knots (for dodging those river barges). The nimble handling and 11″ shallow draft (with motor up) will encourage exploration of even the tiniest creeks and shallowest bays along the route. The flat bottom safely takes to the ground, and makes overnight beaching a viable option.

Though we have not studied the route in detail, LOON's easy trailerability might come in handy as a way to "portage" around some busy canal locks, if desired.

Hull Design and Construction

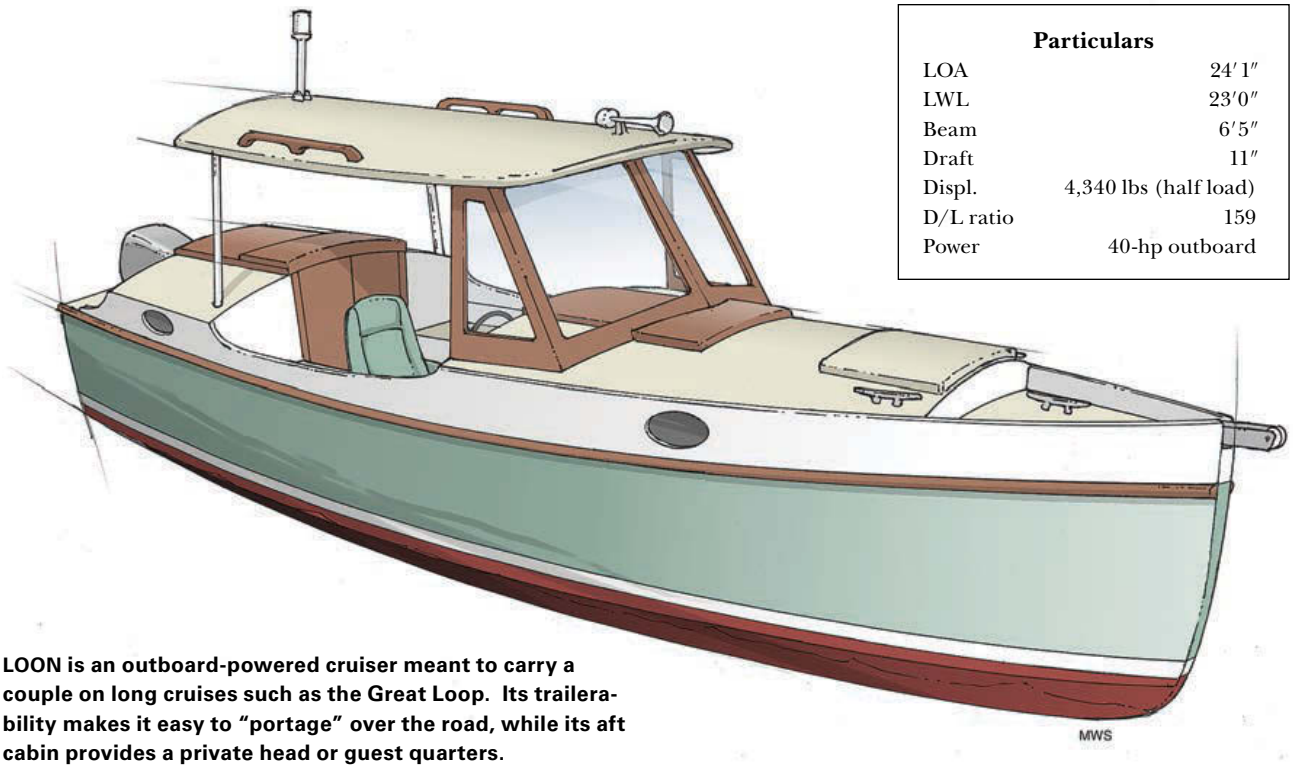
LOON is designed for amateur home construction, using the traditional plywood planking over bulkheads and battens. Epoxy and one of the new waterproof water-based glues are used as adhesives, and epoxy is the sealant for all wood. This makes for an easily built hull that saves expense when compared to the stitch-and-glue method because it requires less epoxy. Epoxy is expensive!

The hull bottom is ⅝″ (16mm) marine-grade fir plywood; the middle and upper strakes, cabin sides, collision bulkhead, cockpit bulkheads, and decks are all of ½″ (13mm) plywood; and the remaining bulkheads and furniture are of ⅜″ (10mm) plywood. The transom is ¾″ (19mm) plywood. The biaxial sheathing cloth on the transom and bottom is 35-oz (per sq yd) (1,175g/m^2); on the upper hull, cabin sides, and in the cockpit it's 20-oz (680 g/m^2) or 10-oz (340 g/m^2). All the framing is of laminated and dimensional spruce, well-sealed with epoxy.

Hull Design

Rather than designing a wide boat, we went for a slimmer shape; that promises good performance, fuel efficiency, and comfort. There is a small amount of rocker aft, and the bottom isn't dead-straight as you'd see on higher speed craft. We're aiming for good performance and ride in the lower teens, so the rocker amount is in between that of a slow- and high-speed craft.

We don't think that a skeg is needed for directional stability as the almost 4:1 waterline beam-to-length ratio is pretty narrow for this length of outboard cruiser; also helping the situation is the fact that back aft the two chines are parallel to the centerline. Some rub strips on the bottom will reduce wear and tear when grounding on hard surfaces. Most boats, and especially



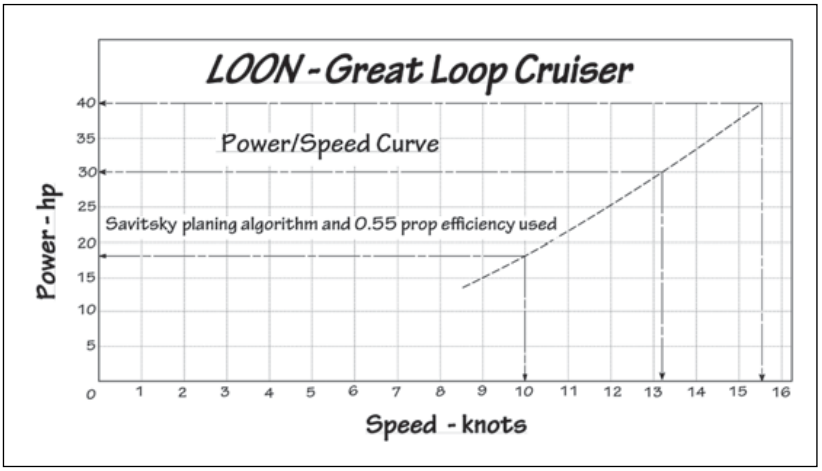
Particulars	
LOA	24′1″
LWL	23′0″
Beam	6′5″
Draft	11″
Displ.	4,340 lbs (half load)
D/L ratio	159
Power	40-hp outboard

LOON is an outboard-powered cruiser meant to carry a couple on long cruises such as the Great Loop. Its trailerability makes it easy to "portage" over the road, while its aft cabin provides a private head or guest quarters.

outboards, turn at the stern; that is, the stern slides sideways. The flat bottom will facilitate this, and the angled mid-hull panel will ensure that LOON banks nicely when doing so.

LOON will have a predictably pleasant motion at speed and in a seaway. The narrow bottom will limit pounding when motoring into waves, but you can always ease off the throttle when it gets too bumpy. The self-draining cockpit with flappered scuppers, and the fairly high topsides will help make sure everyone remains dry and comfortable in bad weather. The boat is perfect for river cruising, and for long stretches of the Great Lakes or the St. Lawrence Seaway, or a cruise along the Gulf Coast or Florida Keys—in the right weather!

A look at the power-to-speed curve shows that there won't be much of a "speed hump"—the temporary squat of a planing motorboat that occurs during acceleration. The change in the Savitsky pre-planing curve (an algorithm used to estimate performance in planing vessels) shows up as a bit of steepness just before 8 knots, and then heads off nicely in a gradual ascent. LOON will accelerate smoothly, with little change in trim after 8 knots.

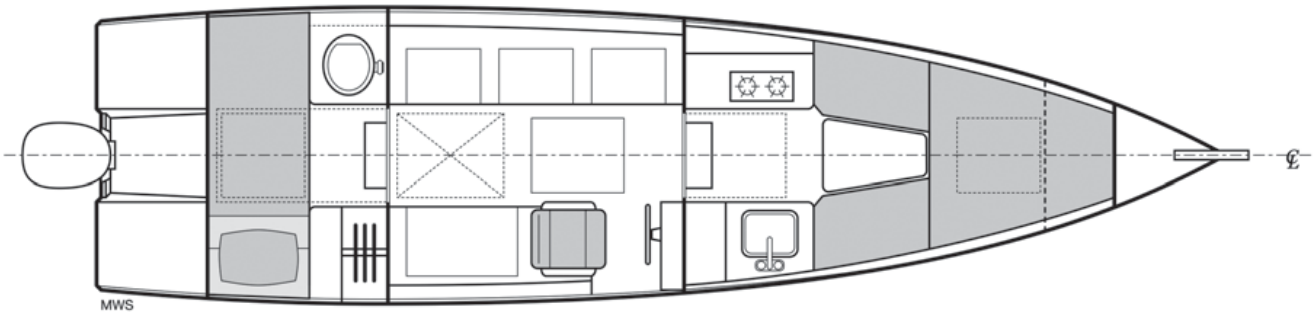


LOON will experience minimal "speed hump" as she transitions from displacement to planing mode.

Layout

The general arrangement is a large central cockpit with a forward cabin, plus a small aft cabin. This cockpit placement accomplishes three things: It makes for an interesting profile in what could otherwise be a fairly plain boat; it moves the heavy weights (tanks, heavy supplies, crew) over the center of buoyancy of the hull so the boat won't squat while underway; and it moves the toilet aft. In such a small boat, separating living space from toilet space is a bonus. The aft cabin, with guest berth, also becomes a handy place to toss bulky stuff when necessary.

The mid cockpit is the main "living room" of the boat, with standing headroom beneath a solid dodger. There are roll-down tents and netting panels to fully enclose the cockpit, turning it into an outside cabin for



The accommodations are capacious for a 24-footer, and include a small galley and V-berth. In addition to the guest quarters in the aft cabin, the cockpit area may be tented off and the cockpit settee converted to a berth.

warmer weather, and providing privacy, weather protection, and bug avoidance.

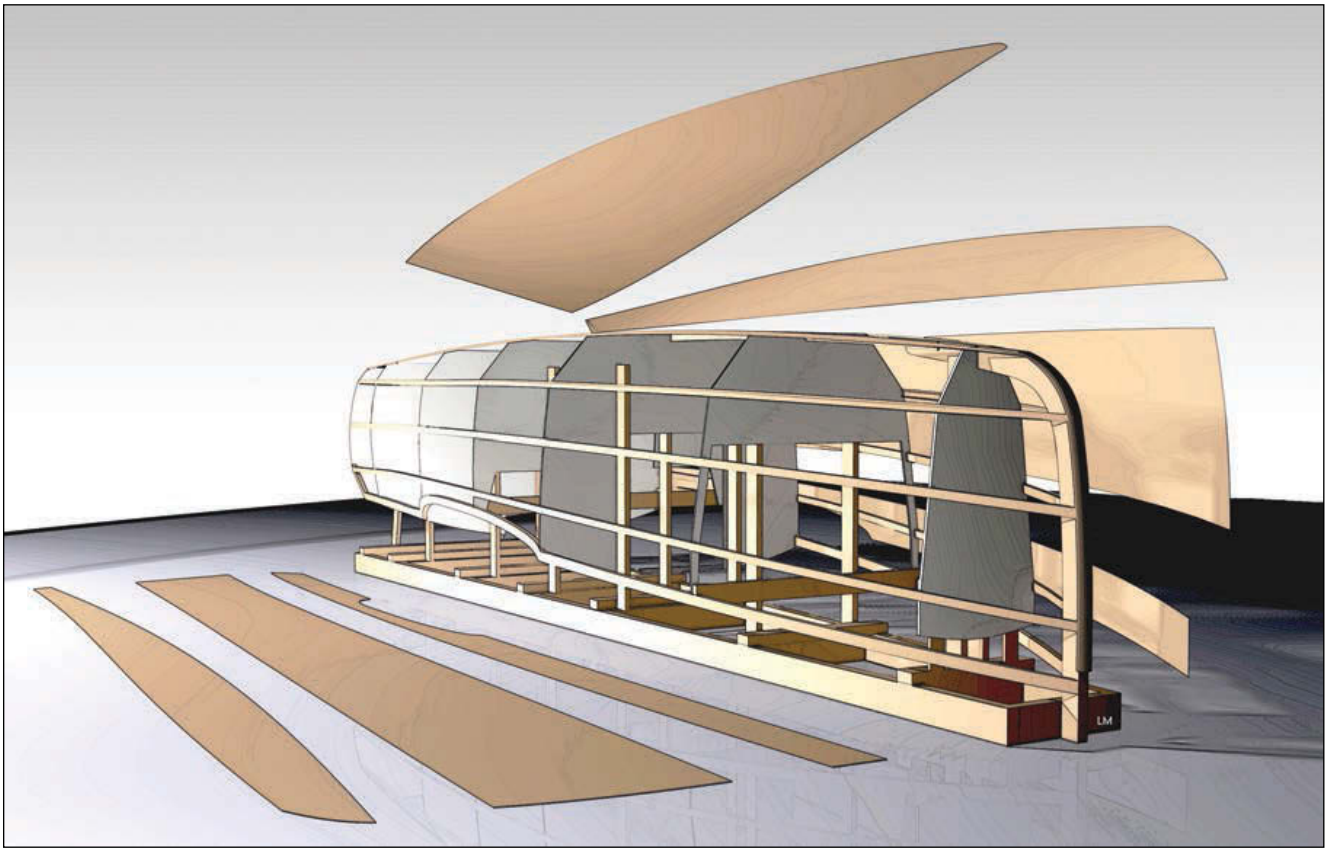
We show a comfortable helm seat, with a shortened cockpit settee aft of it on the starboard side; a removable co-pilot's seat opposite maintains the full length of the 6′6″ (198 cm) port cockpit settee. This allows the port side cockpit settee to be a berth as well. Both settees have hatches to access storage below.

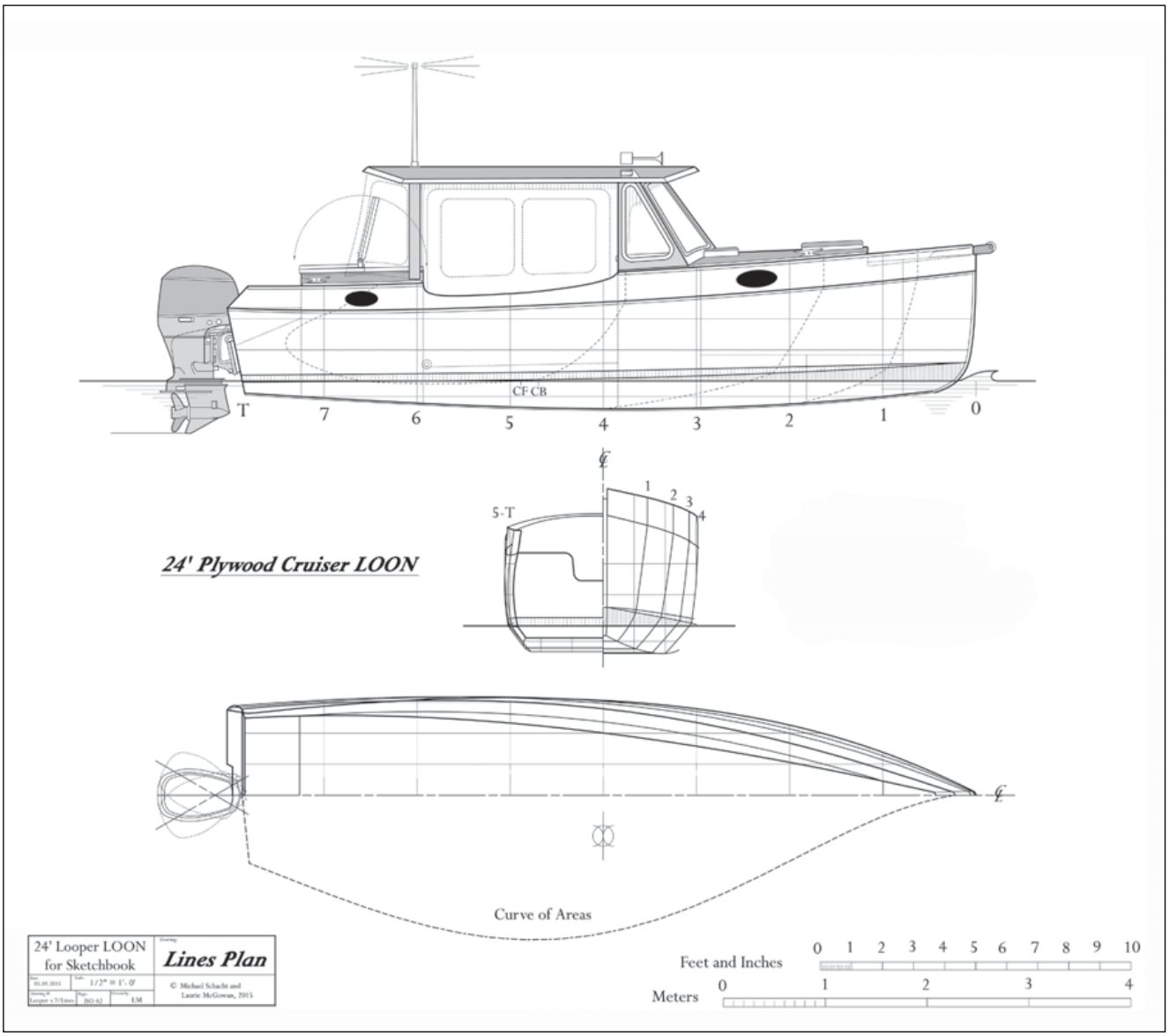
Water and wastewater tanks are located below the port settee, while the battery or batteries are located to starboard. Extra fuel may be stowed in portable heavy-duty polyethylene containers, in a draining (inboard) and well-vented (outboard) part of the port seat.

The forward cabin holds a small galley at the companionway, and forward is a dinette that converts to a V-berth. A forward deck hatch provides ventilation and allows access to the bow, so that ground tackle and docklines may be handled while standing in the hatch.

The aft cabin holds a single athwartship berth, a hanging locker and small navigation station to star-

Construction is simple: The framework is of bulkheads and battens, and the planking of sheet plywood.





The flat, shallow stern will facilitate easy turning, and the angled mid-hull planking panels will promote easy banking in turns.

board, and a toilet beneath a hinged lid to port. The aft cabin's sliding hatch cover is hinged to flip open onto itself. This allows the whole affair to be slid forward to allow work on the outboard motor, or to check the fuel tank. The aft cabin may be omitted if the builder is an avid fisherman, to allow a large and very capacious fishing cockpit.

LOON will suit those who are able to live and travel light, and the rewards will be exploring distant shores in a very satisfying way: You'll see incredible scenery and waterways, meet the locals, and experience memorable regional cuisine and culture. However, LOON's best feature is probably her simplicity and low building and operating costs, which could change the Great Loop from a "someday" wish to a "let's go get some plywood and get started!" proposition.

Michael Schacht is an industrial designer with more than 25 years of experience in the commercial pleasure-boat industry. He lives in Port Townsend, Washington, and is best known for his conceptual design work, which may be viewed at www.proafile.com. Laurie McGowan is a boat designer in Nova Scotia with a diverse on- and below-water work history; he specializes in energy-efficient commercial and pleasure boats. More of his work may be found at www.mcgowanmarinedesign.com.

Do you have a boat concept you'd like to see Laurie McGowan and Michael Schacht develop on these pages? If so, send it to Sketchbook, WoodenBoat Publications, P.O. Box 78, Brooklin, ME 04616, or email it to sketchbook@woodenboat.com. Your letter should be no longer than 500 words.

NEIL RABINOWITZ

ONAMUNI

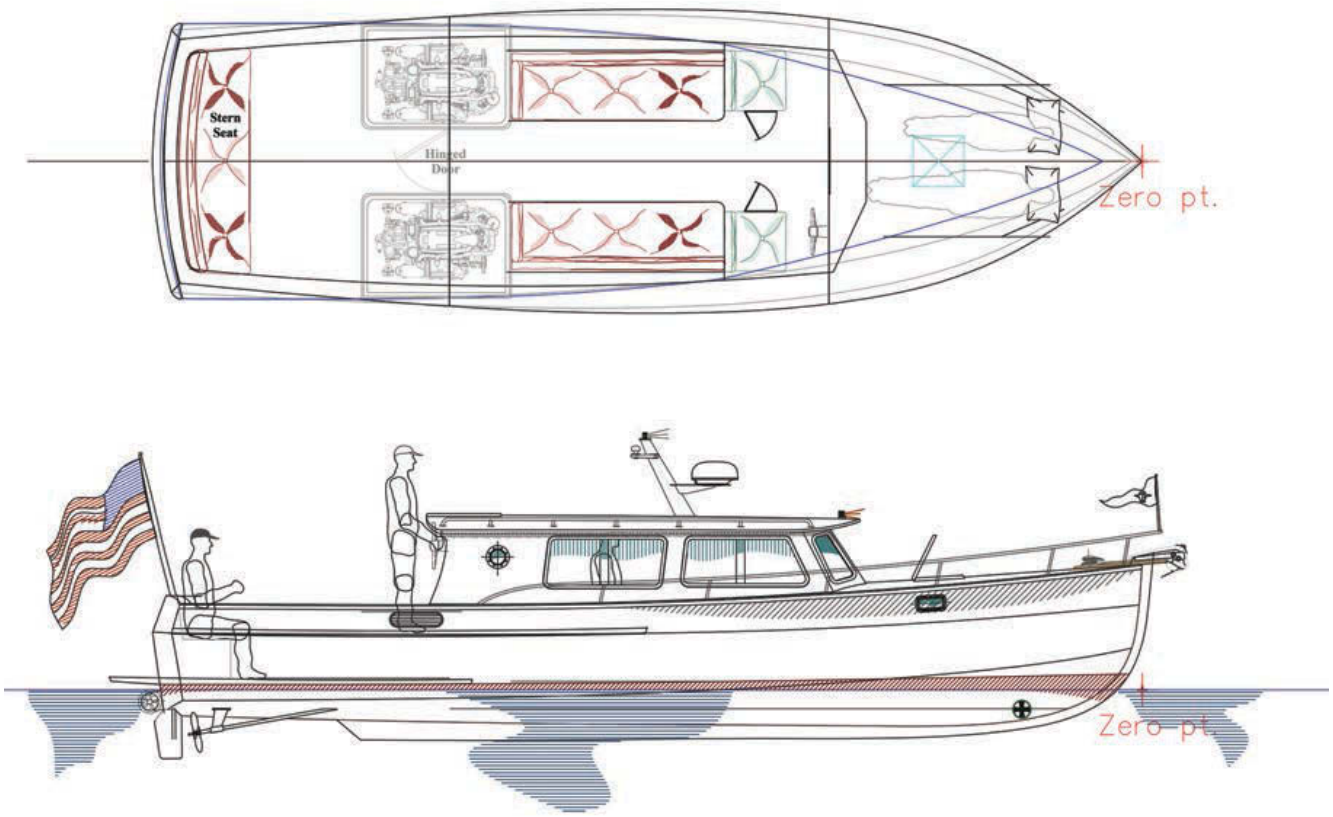
Utility with a kick!

ONAMUNI Particulars	
LOA	32′11″
Beam	10′
Draft	1′8″
Displ.	11,500 lbs

Design by Sam Devlin
Commentary by Robert W. Stephens

Although Sam Devlin didn't invent stitch-and-glue boatbuilding, he certainly can take credit for spreading the word of it far and wide. In the nearly 40 years since he founded Devlin Designing Boat Builders (www.devlinboat.com), he has designed and built hundreds of fine boats in this method, and his plans have been the genesis of uncounted additional owner-built boats. It's a testament to a technique that he describes as "composite construction, combining the best of both worlds—wooden boat building with modern epoxy technology." It also says a lot about Sam's ability to capture a compelling simple, rugged, but graceful aesthetic in his craft. Whether rowboats, sailboats, or his signature Northwest-inspired powerboats, you can recognize Sam's work by what's not there as much as what is: His boats are stripped of ornamentation and complexity, relying on traditional

***Above*–ONAMUNI is a 32′11″ stitch-and-glue powerboat with the very specific role of tender to her owner's Minnesota lodge, which is located on a lake island 26 miles from civilization.**



Because she's a day boat, ONAMUNI's accommodations are minimal. However, a crusing interior could be nicely fitted into the hull.

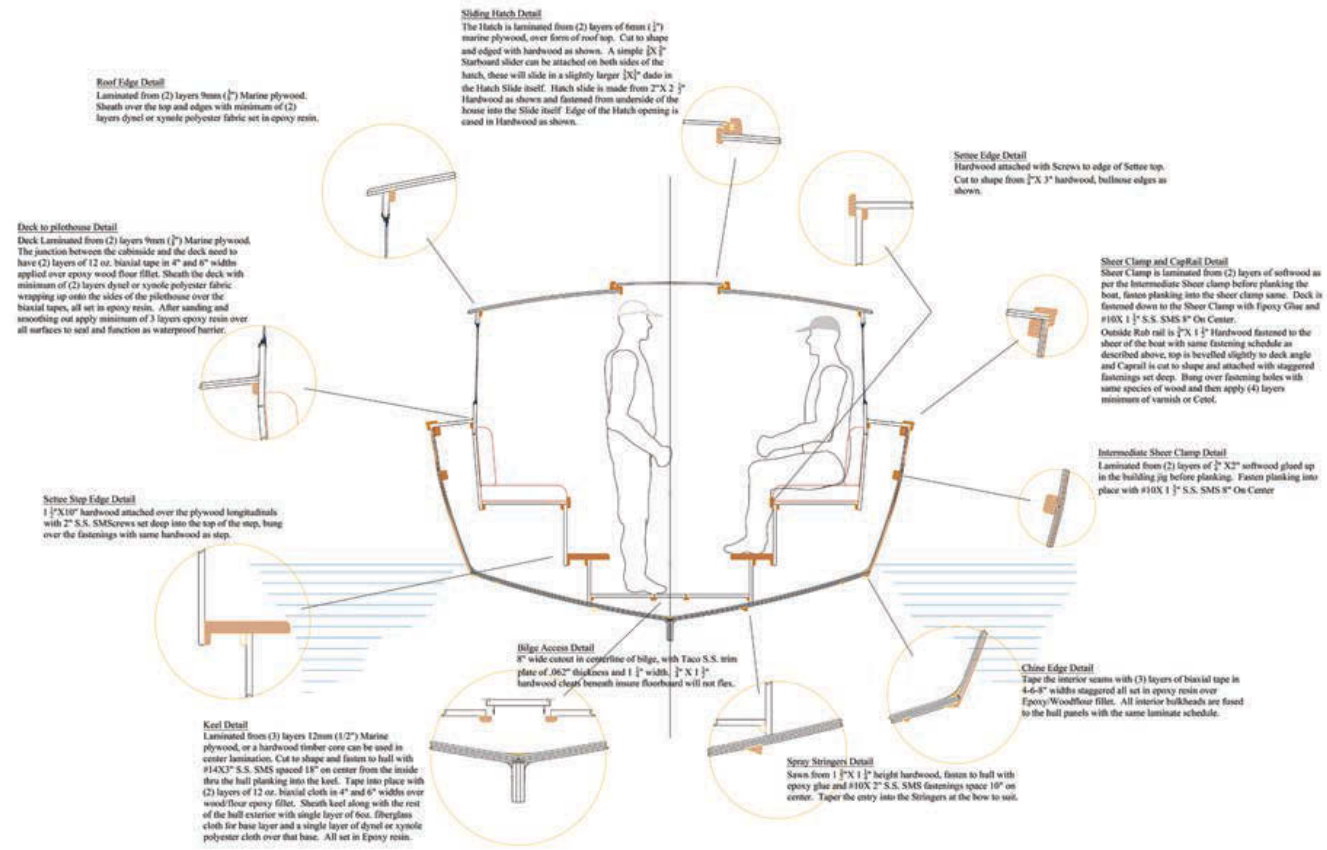
lines and clean paint details for their solid good looks.

Let's put it right out there: I'm not a great fan of stitch-and-glue construction. In its early days, stitch-and-glue was relegated to very simple small craft such as kayaks and skiffs, and it was billed as nearly instant boatbuilding for complete amateurs. Thin plywood panels could be cut to a pre-defined shape and joined together with small twisted copper wires, drawing the edges of the panels together and magically creating a graceful three-dimensional shape from flat boards. At least that's what was promised; the unfortunate outcome was sometimes quite different. If you hadn't shaped the panels just right, or faired their edges, or if your wiring went awry, you were left with a floppy, twisted mess without any frame of reference to see just where you went wrong—and too bad if you didn't realize you had a problem before applying the glue, putty fillets, and fiberglass tape, because there's no going backwards with this method. In general, it's my belief that a true novice is better off ignoring the sirens of instant gratification and beginning with a boat that requires setting up a strongback and molds, giving him a framework to work with.

However, I am a fan of the virtues that Devlin describes in the method and materials: "By using sheet marine plywood and epoxy technology, we can literally weld together the plywood that the hulls are constructed of. The interiors are clean and uncluttered by ribs and excessive framing. By using high-grade marine materials and wood-epoxy sealing techniques, maintenance is kept to a sane level and the life of the boat is greatly increased." Also, Devlin has expanded the use of the method to much larger boats than in its early days, and the number of highly successful boats that have slid out of his shop and from garages and workshops in all 50 states and 80-some countries has proven that Sam's brand of stitch-and-glue is a powerful and enduring way to build a boat.

CNC machining of plywood panels has transformed wooden boat building, but nowhere more so than with stitch-and-glue construction. Where good results once depended on the builder's ability to accurately transcribe offsets and cut cleanly to the lofted line, now precut panels arrive on a pallet ready to go—no unfair lines, no mistakes. Each 4×8 sheet is "puzzle-cut" to fit precisely with its neighbor.

At 33′ overall, ONAMUNI isn't the

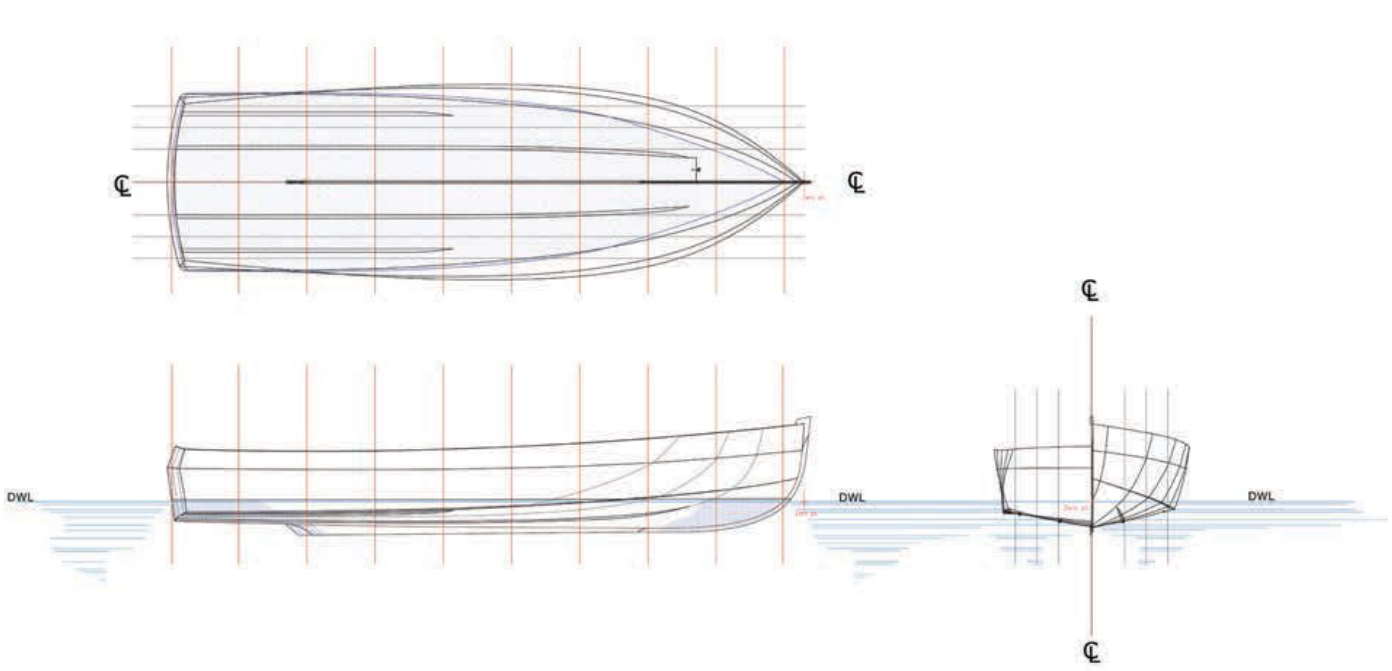


The hull construction is typical stitch and glue—which is to say that panels are wired together, and the seams reinforced with fiberglass and epoxy. Additional skins of plywood bring the hull up to the specified thickness.

largest stitch-and-glue boat (48′ is Devlin's record) but she is getting up there. While relatively light at 11,500 lbs displacement, she's burly enough to require some serious scantlings. Her bottom planking is four layers of 6mm (approximately ¼″) mahogany marine plywood, and her topsides are two layers of the same. Each "strake" is made of five individual sheets. Even with precut panels, imagine trying to twist up a hull of these proportions without some kind of guide to help you. Fortunately, Sam's method has evolved as he has tackled bigger boats—he has incorporated a strongback setup into his stitch-and-glue model. For ONAMUNI, he begins by setting up a ladder frame, reliably straight and level; bulkhead molds are erected upside down on this foundation. A centerline web of plywood defines the stem, the transom is set up in its appropriate orientation, and a few longitudinal stringers define the sheer and a joint in the topsides—and importantly, support the thin plywood panels. Wood keelson and chine logs are

NEIL RABINOWITZ

ONAMUNI in her element. Twin diesels push the boat to 40 mph.



ONAMUNI's topside shape is a departure from some of designer Devlin's earlier work: Rather than a distinctive knuckle defining the seam between panels, a subtly curving section is achieved by fairing that knuckle and then cold molding additional layers of plywood over it.

still absent, so there's no need for shaping and beveling larger, complex timbers. The plywood panels are premarked with bulkhead references, so getting them in the right place is dead simple. The keel and chine joints are filleted with woodflour/epoxy putty, then taped with heavy fiberglass cloth inside and out. Additional plywood layers are applied until the required thickness is built up, with epoxy between layers. Finally, the hull is sheathed with one layer of fiberglass and one of polypropylene cloth for abrasion protection. The resulting skin is tough, smooth, and torsionally rigid, requiring little in internal stiffening, thus saving weight and material cost, and incidentally adding usable interior volume.

Sam has added a refinement in the topsides. Where earlier vessels from his board have shown a distinctive multichined look, with a longitudinal knuckle running along the topsides, ONAMUNI's plans describe how we can fair away the very slight knuckle between lower and upper topsides panels after the first layer, then apply fairing putty before cold-molding the second and final layer of 6mm plywood. This results in topsides that are smooth and rounded, showing off to good advantage her shapely flared bow and tumblehome stern.

Onamuni is a Native American name for Lake Vermilion, Minnesota, where this boat will serve as tender to the owner's lodge, located 26 miles from civilization. With a lengthy run like that, speed would be useful—and fun. Devlin reports, "Her performance was so good that I couldn't find a photo chase boat that could keep up with her, and had to hire a helicopter for the photo shoot." Her owner, who's a sports-car enthusiast, must be gratified. Twin 260-hp Yanmar 6BY diesels push the boat to 40 miles per hour—darn close to 35 knots. Yet fuel consumption remains a reasonable 22 gallons per hour at full throttle; but throttle her back to 23 mph, and you're looking at 10 gph, or about 2.3 mpg. This efficient performance comes as a result of the shallow-V hull-form. Unlike a deep-V, less energy goes to lifting the hull out of the water, and more to pushing it forward. A shallow, highly powered hull like this would be a pounding monster in open water, but should be just right in the short chop of an inland lake.

The engines are located aft, in sizable but useful boxes on each side of the long cockpit. Excellent ventilation—essential for top performance of an internal-combustion engine—is easily accomplished directly through the topsides in attractive louvers. A capacious single fuel tank nestles nicely between the engines on centerline. Keeping the weight centered abaft amidships is a secret to great high-speed performance, and it's enhanced by ONAMUNI's lightly appointed accommodations, as befits a day-boat tender—plenty of sheltered seating, a good inside steering station (as well as a sexy console in the cockpit) and a private head. As you might suspect, Devlin has already spent a little time dreaming up how a cruising arrangement might be snuggled into the boat—but her light weight and small volume will require that would-be cruisers be satisfied with rather spartan accommodations. With a great-looking, fun-to-drive utility launch like this, that's not too great a sacrifice.

Bob Stephens is a principal at Stephens Waring Yacht Design, in Belfast, Maine.

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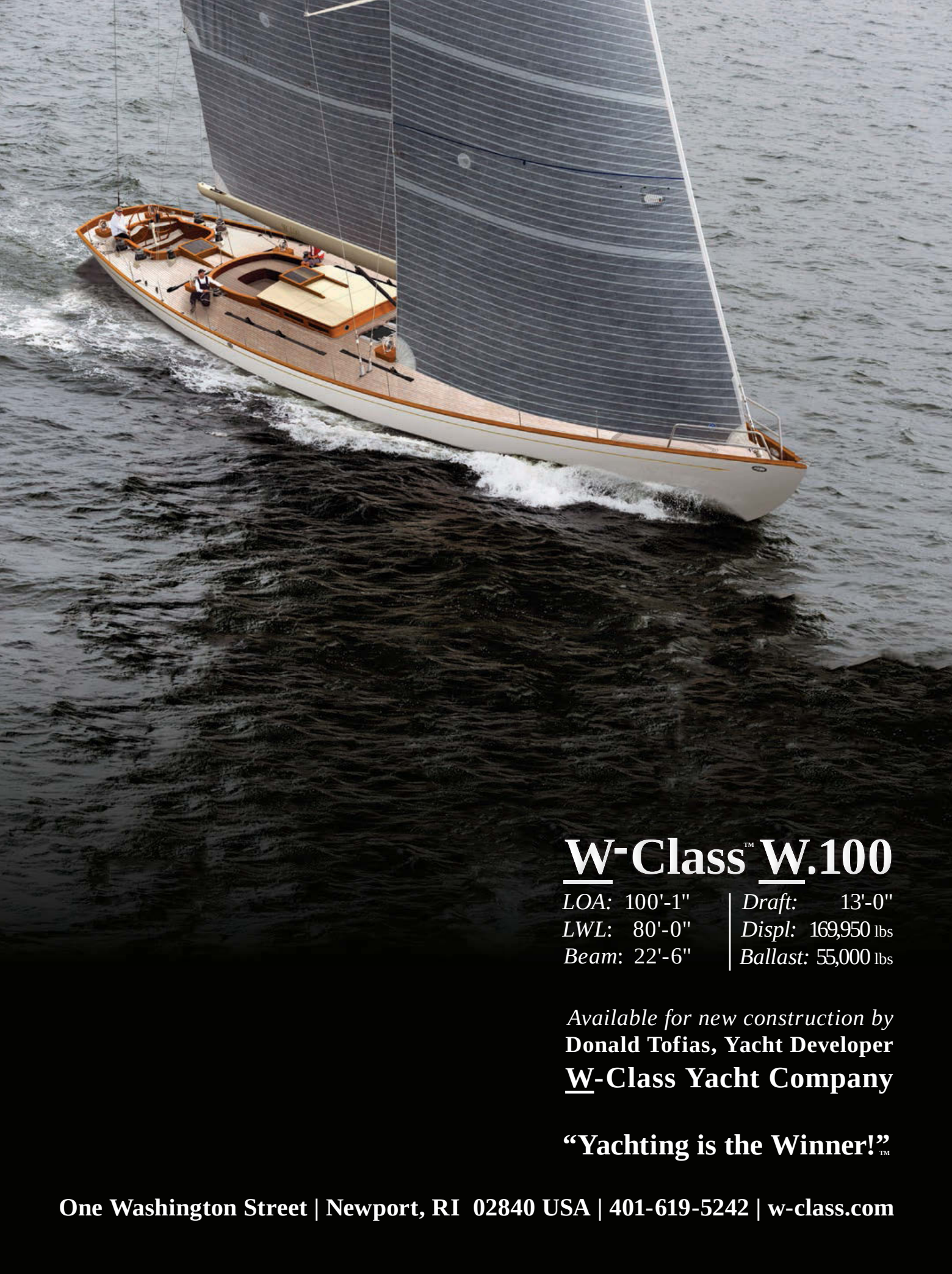

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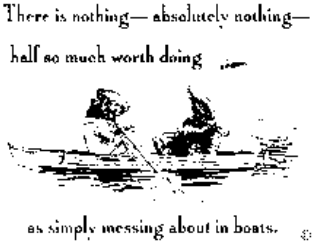

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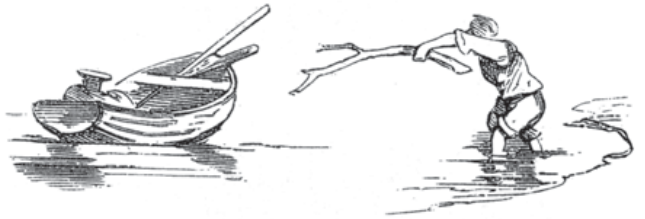

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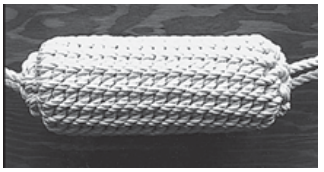

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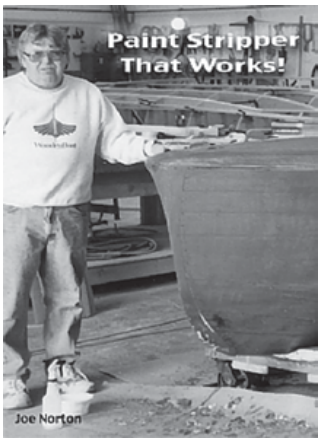

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BOULTER PLYWOOD—Marine plywood 4′ × 8′ to 16′, 5′ × 10′ to 20′—⅛″ to 1″ okoume, sapele, meranti, teak, ash, khaya, teak and holly, teak and rubber. Lumber—Sitka spruce, teak, mahogany, green oak, ash, cypress, fir, Spanish and red cedar, teak decking—lengths up to 20′. Milling services. Nationwide delivery. www.boulterplywood.com, 888–4BOULTER.

WWW.DIAMONDTEAK.COM—True teak wood. Planing, sanding available. Quarter-sawn teak for decking; tongue-and-groove; veneer; custom work. Also mahogany and Spanish cedar. Highest quality. We ship worldwide. 215–453–2196, info@diamondteak.com.

PLANKING STOCK IN LENGTHS to 32′—angelique, silver-balli, wana, angelique timbers. Call for quotes. Gannon and Benjamin, 508–693–4658.

TEAK, MAHOGANY, PADAUK, purpleheart, white oak, teak decking, starboard. Complete molding millwork facilities. Marine plywood. Custom swim platforms. SOUTH JERSEY LUMBERMAN'S INC., 6268 Holly St., Mays Landing, NJ 08330. 609–965–1411. www.sjlumbermans.com.

Wanted

PARTNERS FOR LONG ISLAND School of Wooden Boat Building. Please call Walter at 631–991–7222. lischoolofwoodenboatbuilding.com.

FAERING BOATS WANTED—Faerings or other Scandinavian traditional boats. Any shape considered–barn finds, etc. Please call Bruce at 860–977–0334 or bioelf@mindspring.com.

Boats For Sale

FREE CLASSIFIED WRITING GUIDE

Tips on writing a 'Boats for Sale' ad, and how to prepare for questions from potential buyers. For a copy, call us at 207–359–4651 or email classified@woodenboat.com.

26′ NORWALK ISLAND SHARPIE. Bruce Kirby design. Beam 7′11″, draft 12″ board up. Fast, fun boat. Easily single-handed. Built by professional yacht rigger. Launched 1992. Bruynzeel plywood, epoxy and glass. Fiberglass masts, aluminum booms. Fresh paint and ready to go. $28,000 or best offer. dajames@optonline.net.

"ANANDA," 45′ PILOTHOUSE Ketch—Charles Davies designed, 1979. Professionally owned, upgraded, and maintained. More pictures at www.peaseboatworks.com. Reduced to $75,000. kells.dave@gmail.com.

26′ SEABIRD YAWL 1987—Built and maintained by Hadden Boat Co. Yanmar diesel, new decks 2012. Featured in *WoodenBoat*'s *Small Boats 2012*. Also see www.haddenboat.com. $35,000 negotiable. 207–371–2662.

"SOLO," FRIENDSHIP SLOOP—Solid teak hull and deck, laminated mast, electric motors, two front sails on furler. Road trailer included. Professional construction, easy to sail, always well maintained. $8,800. jacoulombe@hotmail.com, 418–875–3061.

THE WEST POINT SKIFF—Three models: 16′, 18′, and 20′. See our website, www.westpointskiff.com, for more info. 207–389–2468. 18′ available, ready for the water.

ADIRONDACK GUIDEBOAT—Original builder unknown. Original oars. Old seats recaned in traditional method, some restoration done, needs more. Usable as is. Located in NH. Email n.echlin@comcast.net.

CAYMAN ISLANDS: "TALISKER" is a 1971 souter 55, built by W.A. Souter on the Isle of Wight. 2x Cats 3208 in good condition. Last full survey 2013. The hull is wood with a Cascover finish. She has been in the same family since purchased at the London Boat show in 1972. US $80,000 to find a good home. E-mail: jvd@candw.ky.

WE SELL HACKER-CRAFTS. We'll suggest how to best prepare your boat for sale, restore it if necessary, add it to our inventory and aggressively market it. Mike Bonn: 866–540–5546; 518–791–5084; mike.bonn@hackerboat.com

30′ TANCOOK WHALER, 2010, designed by GEORGE STADEL. Wana on oak. Lying Woods Hole, MA. $35,000. 508–540–6604, brboater@gmail.com.

CHINESE SAILING JUNKS—MarineXO custom builds any size and style of wooden Chinese sailing craft. Contact Wayne Moran, +852–948–87720, www.marinexo.com.

CLASSIC SIX-METER —(1935). Freshwater boat; winters inside. Good condition. Ready to go in water. New sails and hardware. Fifth-wheel trailer. Detroit. $19,999 OBO. 248–515–9072 or jeffdes@comcast.net.

60′ US ARMY QUARTERMASTER launch, 1918. Beam 12′, draft 5.5. Designed and built by Luders. Liveaboard and work platform for 12 years. Detroit 671, Northern Light 12kw, hot water heat. $76,500. Newport, RI. 401–743–1490.

2012 CALEDONIA YAWL, BUILT by Tom Regan at Grapeview Point. Lightly used. Essentially as new. Trailer included. $19,000. Stonington, CT. Irvmacdowell@aol.com for complete build pictures.

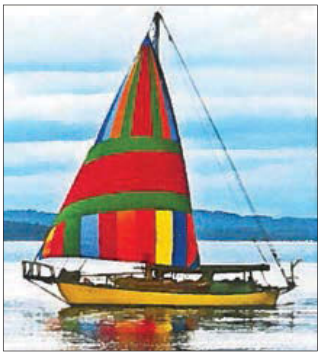
PAUL GARTSIDE DESIGNED 17′OUTboard skiff BOSON. Modified with a deck and windshield for pleasant days. Hull 95% completed. Because of age, builder is selling for cost of materials. 905–634–9892. e.srjnfr@sympatico.ca

WINTHROP WARNER, 39′10″ CUTter. Built by Paul Luke in 1947, designed by Winthrop Warner in 1941. (See *WoodenBoat* No. 75, page 34). New sails 2011, new standing rigging in 2012. Mary Loring is great to go safely cruising in all kinds of weather, a yacht to be proud to own and sail. The coal/wood stove in the cabin enables one to cruise comfortably through December. Selling price: $44,500. Call 201–768–9450 or cell 551–404–2010. See web site http://stan14.purehost.com/.

60′1929 CUSTOM. Mahogany hull, oak frames, twin Detroit Diesel engines. Three staterooms, two heads, shower, full galley, fireplace, AC/heat. $98,000 CT. MVAnnieLaurie@gmail.com.

1958, 22′ CENTURY RAVEN CUDDY cruiser, 225 MerCruiser. Mahogany, fittings, full top and windows in good condition. With trailer. Asking $18,500 ironstone_99@yahoo.ca, 1-905–854–2622.

SELLING A HACKER-CRAFT? Let the people who built your boat sell your Hacker-Craft for you. Mike Bonn: 866–540–5546; 518–791–5084; mike.bonn@hackerboat.com



ATKINS INGRID—MAHOGANY on oak. Full complement of electronics. Beautiful, heavy cruiser. Serious inquires only. $60,000. Contact John at fairanne68@yahoo.com. Photos, spec sheet available.

HUBERT JOHNSON BLACKJACK 24, 1961/2015. Sea trials April. New diesel, running gear, deck hardware, wiring and more. 804–725–3605.

N.G. HERRESHOFF COQUINA—New construction, red cedar hull, spruce mast with Dacron sails. 16′8″, 5′ beam, 22″ draft. Price inquiries welcome—412–580–3197, joe.100zeros@gmail.com.

1906 ELCO 25′ELECTRIC LAUNCH. Hull #283. Total professional restoration on original boat. White oak and cedar with mahogany interior and decks. Original brass railings. Hand-stitched leather seating. New Elco 3-hp electric drive. Brass railings. Custom trailer. $125,000.00. c-irving@sbcglobal.net. 860–608–1627.

HERRESHOFF FISH CLASS, 1916, 21′. Pompano: Original, Famous, Elegant. New sails by Downs. Trailer. Visit http://herreshofffishrestoration.blogspot.com for hundreds of photos detailing re-fit. Needs cockpit/finishing work. Call for more details. Located on Nantucket; can deliver within reason. $15,000. 508–345–8044, Captainconnor@gmail.com.

38′ NEREIA KETCH, L. FRANCIS Herreshoff design, Allan Vaitses built 1970. Mahogany on white oak frames, spruce masts, fir booms, bronze fastened and all bronze hardware. All paint and varnish, well maintained. GPS, radar and radio, all sails, standing rigging and running rigging in good shape. Interior close to original finish. If you are interested in sailing a traditional small ship, contact Pat at 434–531–5710. Offered at $125,000. Visit www.NereiaKetch.com for specs and photos. Located in Chesapeake Bay.

SAND DOLLAR, DESIGNED BY ARCH Davis in Belfast, ME. 12' long. Features include trailer, sail, boat cover, oars, compass, light, bumpers, first aid kit, and two life jackets. Everything you need to sail including a 6-pack cooler! Asking $3,000. Call Craig in RI at 847-409-1627.

20′ CUSTOM ROWBOAT. 1986, 36′ beam, double sliding seat, folding outriggers. Two pair oars. Excellent condition. $12,000. Georgian Bay, Ontario. George Rossiter, 705–444–9216, rossiter@bmts.com.

CLASSIC CHRIS-CRAFT SEA SKIFF. 1961, 32′. Engines overhauled. Located NV. Trailer included. K7PQ244-9343@att.net, 775–771–4770. Trades considered. Asking $22,950.

1939 CHRIS-CRAFT TWIN-COCKPIT, custom runabout. Very nice condition. Very low hours since done. Asking $55,000. 734–397–2663.

ARGONAUT II IS A WELL-KNOWN Northwest classic with a fascinating history. Her Gardner 6L3 Diesel uses only 2.5 gph. See http://argoleeb.wix.com/argonaut-ii-for-sale for more information. $195,000. Call 206–313–0223.

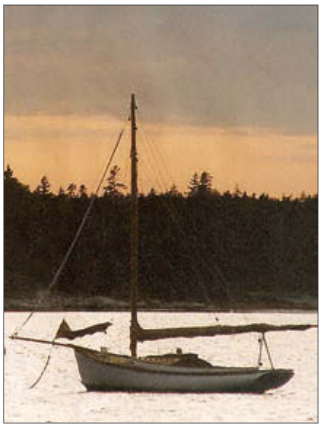
PHOENIX 3—PROFESSIONALLY built (2012) fast, beach cruiser. Unstayed balance lug rig. Easy, fast to rig/launch/reef. With trailer $6,500. 401–524–6048.

CHRIS-CRAFT 1956 SC-27#598 twin-screw small cruiser project. Hull has been re-framed in white oak. Purple-heart engine beds, laminated Douglas-fir chines, all bronze fastened. First layer of cold molded bottom under-way. Two Crusader 270 R & L V-8s with Borg Warner gears included. Long blocks remanufactured in Tacoma, WA. All hardware including some duplicates. Hull is upside down on building platform for easy shipping. Located NW FL. $10,000. 360–461–0455.

1920'S ACKROYD SAILBOAT, 14′. Built by George Corneil. Full restored, mint condition. Two masts, four sails. Georgian Bay, Ontario. $17,500 CND. George Rossiter, 705–444–9216, rossiter@bmts.com.

LET US SELL YOUR HACKER-Craft for you. Many people are hesitant to buy a used boat. They can't see potential problems. Many people don't trust individual sellers. Let the people who built your boat sell your Hacker-Craft for you. We'll suggest how to best prepare your boat for sale, restore it if necessary, add it to our inventory, and aggressively market it. Ask us about our Certified Pre-Owned Program. Mike Bonn: 866–540–5546; 518–791–5084; mike.bonn@hackerboat.com.

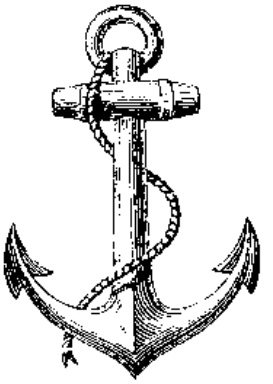
LANDING SCHOOL 26.5—Beautiful classic sloop in excellent condition. Completed in 2003, launched in 2004. LOA 26′6″, beam 7.5′, draft 4.25′. Cold-molded, red Awlgrip, Mahogany brightwork, Yanmar IGM diesel inboard. Mainsail, roller furling jib, spinnaker. Fin keel, spade rudder. V-berth, small galley, two seats in cabin. Cushions for berths and seats in large cockpit. Located in New Harbor, ME. $47,500. Richard Huffman, 203–325–0237.



DOVEKIE IS A CUSTOM SLOOP built by the Ralph Stanley Boatyard of Southwest Harbor, ME. Superb workmanship, gently sailed, stored in private boathouse. A traditionally built classic with fine workmanship throughout, very well maintained. $49,000. Newman Marine Brokerage, 207–244–5560 or email info@jarvisnewman.us.

CHRIS-CRAFT 1950 17′ SPECIAL Runabout—completely renovated. Beautiful new wood on hull. Rebuilt engine (Chris-Craft KL). Rebuilt transmission and carburetor. 12-volt electrical system. New upholstery. Gas tank and windshield updated. Vernier throttle added for safety and control. Custom cover and trailer included. Boat has been professionally maintained. Asking $35,000. Call 773–343–5171 or email tesmond2@earthlink.net for more information and pictures.

"BUCKRAMMER," HISTORIC 24′ Crosby Catboat—Legendary boat of the bestselling books *Catboat Summers* and *Buckrammer's Tales*. Sailaway condition. Two sails, 15-hp Westerbeke 4-60 diesel (includes spare 4-60 for parts), 4-hp Yamaha, CQR anchor and tackle, VHF, GPS, digital depth, Shipmate #2 and propane stoves, enclosed head, jackstands. $25,000 OBO. Email jeconway3@gmail.com, 617–821–7890.



WoodenBoat Classified Order Form

Please circle the issue(s) in which you wish this ad to appear. Example Mar/Apr is one issue.

NOTE: Ads received after the deadline may be placed in the following issue

Issue Date —	Mar/Apr	May/June	July/Aug	Sept/Oct	Nov/Dec	Jan/Feb
Deadline —	Jan 5, '15	Mar 5, '15	May 5, '15	Jul 6, '15	Sept 8, '15	Nov 5, '15

- ♦ Boats advertised for sale must have wooden hulls.
- ♦ One boat per ad. Limit: One photo per ad.
- ♦ "BOATS FOR FREE" ads are FREE!
- ♦ All classified ads are prepaid.
- ♦ Counted as one word = phone and fax number, email or web address. All else: a word is a word. WoodenBoat does not use abbreviations such as OBO, FWC, etc. Please spell out.
- ♦ Please print clearly—WoodenBoat is not responsible for errors due to illegible copy.

TEXT: (20 word minimum or $55.00) Suggested Category _____

1 _____	2 _____	3 _____	4 _____
5 _____	6 _____	7 _____	8 _____
9 _____	10 _____	11 _____	12 _____
13 _____	14 _____	15 _____	16 _____
17 _____	18 _____	19 _____	20 _____
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29 _____	30 _____	31 _____	32 _____
33 _____	34 _____	35 _____	36 _____
37 _____	38 _____	39 _____	40 _____
41 _____	42 _____	. . . . Attach sheet for additional words	

WORD COUNT _____ × $2.75 = $_____ + Photo ($75) = $_____ = $_____ **TOTAL**

(20 words minimum = $55.00 /issue) *(Payment must be in U.S. funds drawn on a U.S. bank).*

Date _____

NAME _____

Address _____

Telephone _____ Email _____

PAYMENT METHOD

☐ Check ☐ Money Order ☐ **MC / VISA / AMEX / DISCOVER #** _____ Exp. Date_____

CVV Code_____ Signature_____

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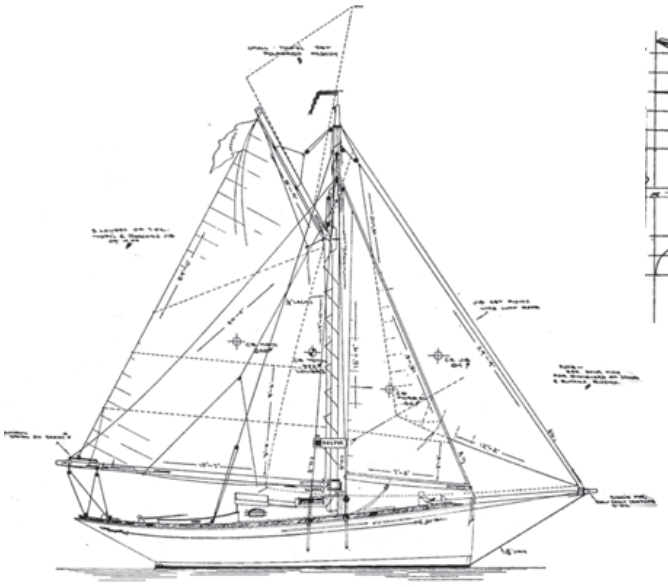
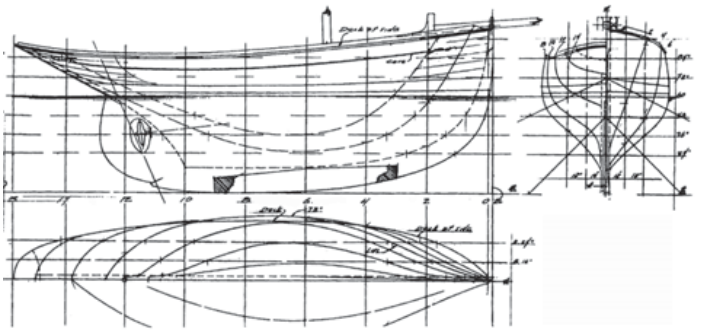
INDEX TO ADVERTISERS





KELPIE

A Cute Victorian Cutter

After absorbing plank-on-edge cutter romance from books by Albert Strange, C.P. Kunhardt, Dixon Kemp, and Claud Worth, young Bill Garden just had to design such a craft himself. While still in his early 20s, he drew the plans for KELPIE as one of what he called his "dear little boats." Upon reflection in later life, Bill thought her a bit too extreme because of her pinched-in ends, but despite this, I feel certain he'd be happy to know that this adorable little craft is still with us after three-quarters of a century.

Deep and narrow designs of this type resulted from British measurement rules that severely penalized beam by taxing commercial craft monetarily and by increasing the handicaps of yachts that raced. They proved seaworthy, but required large spreads of sail to make them move. And as time passed, more moderate hull shapes evolved.

You can't beat these old-time designs for looks. They'll steal your heart away with their long bowsprits, plumb stems, overhanging sterns, tumblehome topsides, channels to widen the shroud base, and gaff rigs. KELPIE is essentially flush decked, but with standing headroom under the skylight and companionway just where you need it most.

The original layout is simple: a toilet forward, a pair of facing settees with fold-down cots behind them, and a galley aft. Over time, this has been somewhat altered, but the engine is still under the cockpit and there's stowage in the lazarette and under the cockpit seats. Not bad for a boat with only a 19′ waterline and little more than 6′ of beam. What a charmer; there's nothing like her!

KELPIE was trailered from Port Townsend, Washington, to Flathead Lake in Montana about a dozen years ago, and the climate there has ruined her backbone through freeze-checking. Her frame heels are suspect as well, so there's a good deal of work ahead. She's complete, however, including a trailer, and her rig and engine are usable. Although presently dried out some, she was afloat as recently as 2013. She comes with a helpful survey that not only lists the boat's needs but also includes a suggested procedure for repair as well as an estimate (1,000 hours total) for how long each step might take.

Fixed up and sailing, KELPIE will turn heads, yet she'll be a nice little boat for two people to cruise in. She'll be steady on the helm and seakindly—a worthwhile undertaking, for sure.

For more details, contact owner Paul Silverman at paul.silverman@mso.umt.edu, and don't miss Bill Garden's article in WB No. 64, "Designs: A Form of Therapy." Plans and a short write-up are in the March 1942 issue of *Yachting*, and full-scale drawings can be obtained from Mystic Seaport.

KELPIE

LOA	25′
LWL	19′
Beam	6′4″
Draft	5′
Displacement	9,000 lbs
Sail area	352 sq ft
Power	10-hp Farymann diesel
Designed by	William Garden
Built by	Gavin Stevenson, Seattle, Washington, 1941

PAUL SILVERMAN

Maynard Bray is WoodenBoat*'s technical editor.*

Send candidates for Save a Classic to Maynard Bray, WoodenBoat, P.O. Box 78, Brooklin, ME 04616.

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I’ve been using Micron® CSC antifouling from Interlux for the last 20 years. I choose it because it provides excellent, long lasting protection.

My customers like that it’s low maintenance, and great value since they don’t have to have the boat repainted at every haul-out. Micron CSC is reliable and we use it on both power and sailboats.

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Cliff Eastman
Owl Creek Boat Works

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