WoodenBoat

THE MAGAZINE FOR WOODEN BOAT OWNERS, BUILDERS, AND DESIGNERS



TALLY HO: An Internet Sensation
Fishboat to Yacht Conversion
John Swain and SULTANA
The Photography of John S. Johnston

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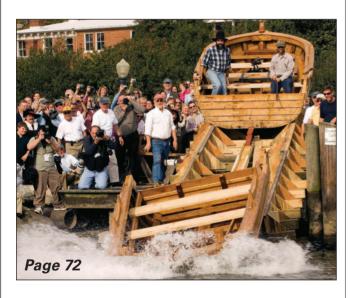
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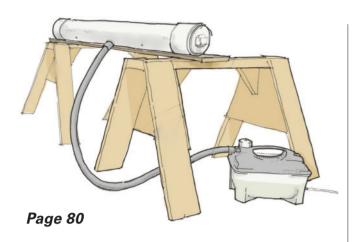
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Cover: Leo Goolden spent seven years restoring the 1927 Fastnet Race winner TALLY HO in Washington State, filming videos all the while; he relaunched in April 2024 and hopes to sail home to England in time for the 2027 Fastnet. Page 46



Photograph by Neil Rabinowitz

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EDITOR'S PAGE

Old Boats and New Media

wenty or so years ago, I became utterly smitten with a 33' wooden ▲ yawl named SEA HARMONY, designed by Albert Strange. When I first encountered her, the boat was swinging to a mooring in my hometown of Salem, Massachusetts. She was soon moved to a floating dock adjacent to an outdoor mall in that city. I had the owner's permission to go aboard, and so on my frequent visits to Salem I'd often divert to study the boat's details up close.

What a boat! She had a long counter stern capped by an elliptical block forming not quite a transom, but rather a fair, tight elliptical curve around the stern. This was balanced by a beautiful convex bow with a short bowsprit. The gaff rig was well proportioned, with a generous mizzen meant to do the maneuvering work of an auxiliary motor in tight quarters. She had been built in England in 1937 by two brothers who were timber merchants; this was reflected in her materials, which included rock-elm frames, teak planking, and a backbone of greenheart.

She was for sale. I studied her copiously but didn't buy her. Thad Danielson did buy her.

Thad is a wooden-boat builder who was then living in Marblehead, adjacent to Salem. His career with SEA HARMONY spanned at least a decade, and during that time he became an Albert Strange aficionado, forging strong connections with a group in England called the Albert Strange Association. When one of Strange's larger masterworks, the 47' TALLY HO (originally BETTY), was moldering away in Oregon, and in danger of being broken up, Thad was nominated by the association to fly out and inspect her. He became the point person for her salvation in the United States, helping to publicize her plight.

Thad was present when a young Englishman named Leo Goolden inspected the yacht for the first time. Tom Jackson recounts this in a quote from Thad in his article about Leo and TALLY HO beginning on page 46—a passage most resonant for me, because it reminded me of the near-sacred experience of sitting below in SEA HARMONY drinking in her details and history, and the visceral reaction that wrought:

We got the cover more or less back on. We were just about ready to leave, and Leo said, "I'm not ready yet. I want to go back just by myself, just go and sit in there and think about it." Which is what he did. And about 20 minutes later, he came out and said, "Well, I think I'm going to do it."

And so began a most exceptional and unexpected rebuilding of a most significant yacht. It would have been difficult to predict that a young shipwright of modest means could spin this clientless restoration into a stable business proposition 20 years ago, but Leo did just that. He made a series of more than 200 videos detailing his Herculean project. The videos brought fans, who brought time, energy, and encouragement to the project. And, through the burgeoning magic of YouTube commerce, the videos brought money. The finished boat graces this issue's cover.

Nic Compton, beginning on page 36, further examines the trend of YouTube-based boatbuilding, with particular emphasis on another young Englishman named Dan Lee. On his channel, Dan Lee Boatbuilding, Dan presents a range of projects and techniques, from varnishing to CNCcutting. Nic presents in his article a list of 10 more YouTube entrepreneurs on similar paths, though each with a very different focus. If you're a subscriber to WoodenBoat's digital edition, you can click links in that article to be taken directly to each of the listed YouTube channels. Pretty slick.

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LETTERS

Senior Moments

Dear Matt:

I was pleased to see the good old Blanchard Senior given her moment in the sun. Growing up in and around Lake Union in Seattle in the 1950s and '60s, as the Wilkinson brothers did, I, too, early on appreciated the grace, beauty, and performance of these fine sailboats. In those days they were seen regularly on lakes Union and Washington;

a friend of mine was lucky enough to own one for many years.

By the early 1970s, I was fortunate, too, in getting hired on at what had been the Blanchard Boat Company yard. When the family closed the business in 1969, the shop and crew were kept in operation by a group of customers who purchased the land and facilities to maintain access to the great skill still available there, not to mention

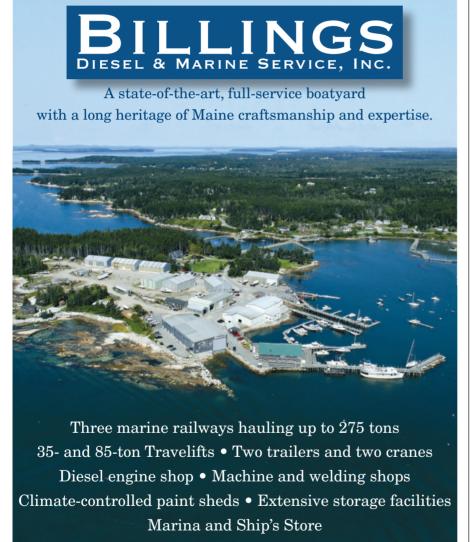
the free moorage. They named their business The Boat Yard Inc.

I started out sweeping the floors, thrilled to be around such great beauty and expertise. When my three-month cleanup commitment came to a close, I accepted an offer of a position as a boatbuilder's apprentice, and thus began the real fun of new construction and repair, working alongside those highly talented craftsmen, some of whom had been there since World War II.

One of the guys I soon met, who stepped up to show the apprentices the craft, was Dave Mullens, an Arizona native. Dave had packed his car the day after high school graduation to drive to Seattle and enroll at what was then the Edison Boat Shop, one of two schools at the time teaching marine carpentry in the Pacific Northwest. He completed the two-year course, then taught by Earle Wakefield, and located on Lake Union at the foot of Stone Way. He had rented a houseboat on the lake nearby, enabling him to walk to school and also putting him right next to Vic Franck's Boat Company, itself a 40-some-year-old family boatbuilding business. Soon enough, Dave hired on at Vic's, working there for about two years until a disagreement with the boss caused him to pack up his tools and head up the lake to Blanchard's, one of several Lake Union yards well known for their fine work.

With so much going on around the lake in those days, qualified shipwrights could easily transfer to a different yard and be eagerly accepted. Within a few more years, I came along, met Dave, and got to hear the following story.

Everybody at the yard of course knew of the many fine craft Blanchard had built over the years, and we all loved the Seniors and Juniors. As a matter of fact, even with the Blanchard family gone, the original hull molds for the Senior were still there, hanging on the wall. But this was the early 1970s, marking the point in the Seattle boatbuilding industry that the change was coming, and composites were moving in. We called it fiberglass, and although most of us loved the wooden-boat trade, those days were numbered. In the winter of 1974, a horrible fire burned the R&H Boatyard to the ground, right across the lake from The Boat Yard, including destruction of what turned out to be the last wooden boat being built on Lake Union, ending a nearly 50-year proud tradition of fine marine craftsmanship on the lake.



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As the now out-of-work R&H boatbuilders showed up at our shop the following Monday. Dave finally told me about his start at Blanchard's. His very first day there, he said, the shop foreman pointed at those Senior molds and told Dave to "cut 'em up." He couldn't believe it, loving those fine craft as we all did, but this was his first day on the job and he could ill-afford another run-in with a boss. So cut them he did, a sorry task, one that meant not only would we not be building any more Seniors but also ensuring that no one else would, either. Many there felt the latter was the real reason they were destroyed.

Dave left The Boat Yard a few years later to commence a 35-year spell teaching boatbuilding at what was then the Gompers branch of Seattle Central Community College, the successor to the Edison Boat Shop. Capitalizing on the local reverence for the Seniors, Dave always shared the story of their end of the line with his students, boosting the Blanchard allure and his own notoriety as he sent his grads off to jobs on the lake, to shops like Vic's, The Boat Yard, Jensen Motor Boat Company, and more.

A hearty congratulation, too, to the Wilkinson brothers, for their considerable commitment to saving such a fine old vessel. Without your magazine, ILLUSION may well never have made a recovery at all, perhaps ending her days right where she started, on the shores of Lake Union.

Gordon Sanstad Island Boat Works Langley, Washington

Dear Matt,

It was gratifying to see the article in WB No. 301 on the Blanchard Senior Knockabouts and the Wilkinson brothers' restoration of a derelict Knockabout to commemorate the Senior Knockabout that their parents owned when the Wilkinsons were boys. One excusable error in the article was the mention of Norman C. and his father, Norman J. (N.J.), being partners at the time the Senior Knockabout was designed. In 1933, N.J. did not have a partner. Indeed, he never had another legal partner after splitting with the Johnson brothers (Johnson Bros. & Blanchard, 1905-15) up to his premature death in 1954, and certainly not young pup Norm who would have been 21 or 22 years old in 1933 and was an employee of the N.J. Blanchard Boat Company at that time.

As a "stinkpot" classic boater, it took me a while many years ago to work up the courage to get to know Norm (who himself became a "stinkpotter" in his senior years). Even in the most cordial conversation his voice tended to sound gruff, but during his mid-80s we became fast friends and I was fortunate to have recorded his many recollections, some of which were published 25 years ago in the book Knee-Deep In Shavings. That brings me to mention a serendipitous connection with Miles and Beryl Smeeton, who were mentioned in WB No. 301 in the obituary of John Guzzwell in Poulsbo, Washington, last August. Coincidentally, the Smeetons were also friends of Norm and are mentioned on Pages 174-75 of Knee-Deep.

Although I was never a "ragman," I have a well-worn Senior Knockabout pennant on a wall in my house.

> Steve Wilen Walla Walla, Washington

> > ٨

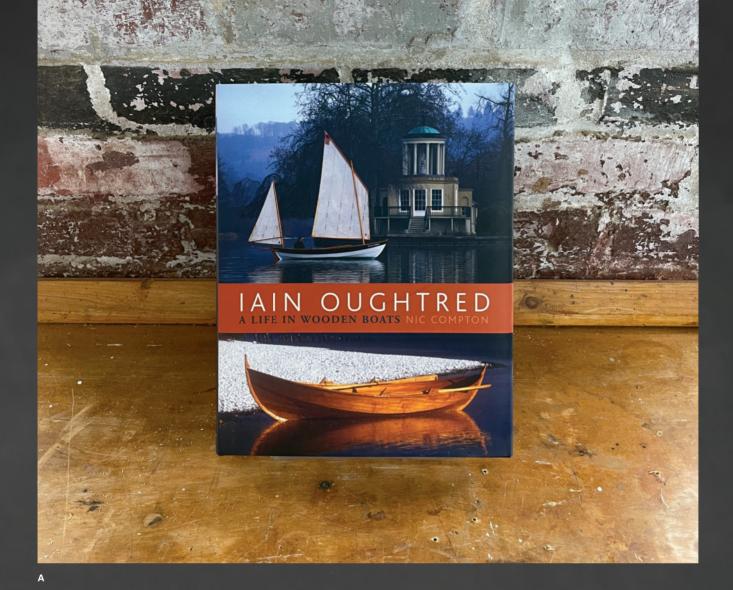








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Left—ELBE NO. 5 (ex-WANDER BIRD), which sank in her namesake river near Hamburg, Germany, in 2019, had her masts stepped and spars installed in August 2024; she's expected to sail again in 2025. Inset—The hull repair work, delayed by the Covid-19 pandemic, was completed in 2021.

A milestone for the schooner ELBE NO. 5

by Martin Schulz

That's it, then," thought everyone involved with the historic pilot schooner ELBE NO. 5 when she was plowed under by a cargo ship in 2019 and sank in the River Elbe near Hamburg, Germany. She had been relaunched just 10 days before the disastrous collision, with the final work being carried out on the sternpost and plank replacements.

After 136 years, everyone was certain that this would be the end of the famous schooner. She had experienced two wars, 13 Atlantic crossings, a rounding of Cape Horn, a Pacific crossing, and abandonment as a floating home. Finally, she returned to Hamburg, her birthplace, in 2002 to become part of the impressive collection of ships cared for by the Hamburg Maritime Foundation, whose most recent acquisition was the 320′ LOD steel-hulled Flying P-Liner PEKING. The foundation is dedicated to its maritime monuments, so it was no surprise that ELBE NO. 5 underwent some serious, and celebrated, restoration work after she arrived in Hamburg.

After the initial shock of the 2019 sinking, "Lotsenschoner NO. 5 ELBE," the association dedicated to her care, joined with the maritime foundation to get the boat back in condition to sail the River Elbe again. The schooner was put on a multipurpose vessel and transported to the Hvide Sande Shipyard in Denmark for work on the hull. In 2020, ELBE NO. 5 was towed back to Hamburg for final works at Peters Werft. Then, the Covid-19 epidemic hit. For the team restoring the boat from essentially an empty hull, this meant not more than two people working on her at the same time, so the work took much longer than anticipated. And there was a lot to do. Overhauling the engine, replacing all of the wiring, reinstalling the original interior (which was restored beforehand), replacing appliances—the list goes on and on.

While the work continued, two Douglas-fir masts had been floating in the Elbe for some time, waiting to be stepped. Douglas-firs felled in the Hamburg Mountains, a forested area within the city, have been used for masts and spars for centuries. Then, finally—on August 9, 2024—the masts could be put in. The schooner was moved to provide the necessary space for this operation and 141 years after the launching of ELBE NO. 5 and five years after the tragic accident, the schooner was back at the pier with her masts in place. The schooner must comply with German safety laws for sailing with trainees and guests, so after the booms and gaffs passed inspection, those, too, were brought aboard. Then the sailmaker brought the sails for a first fitting, after which they were taken off again and put away for the winter.

Leaders of the Lotsenschoner NO. 5 ELBE association expressed regrets about losing the 2024 sailing season but confidence that the schooner will sail the River Elbe, North Sea, and Baltic Sea in 2025 in newfound splendor.

Martin Schulz has been CEO of Museumharbour Flensburg for more than 20 years. He also worked as museum manager for Robbe & Berking Shipyard; event manager for Rumregatta classic yacht race and Dampf-Rundum, a festival of steam power; and writes on maritime subjects.

Around the yards

■ At Rockport Marine in Maine, a world-cruising sailing yacht now under construction is, at 95′ LOA, the longest boat the yard has yet built. The sloop's cold-molded hull was built over permanent bulkheads, three of which are carbon-fiber constructions. The planking started with longitudinal ½8″-thick Douglas-fir on the inside, followed by two ½″-thick layers on opposing diagonals, using Douglas-fir in some areas and western red cedar where weight saving was advantageous. Outboard of the diagonals, carbon fiber





Above left—Rockport Marine in Maine is midway through the construction of the longest yacht, a 95-footer, yet built there. The yacht was rolled outside the building shed in September to receive the deck assembly, which was built on separate CNC-cut molds off the boat. With the deck roughly in place, the boat was rolled back inside for the deck's final fitting, using overhead rolling cranes. Above right—The rollout process was repeated in October for the placement of a teak pilothouse structure, built separately from the deck.

was used strategically, followed by an outer longitudinal layer of Douglas-fir and two layers of biaxial fiberglass cloth set in epoxy, bringing the total thickness to 2%. After the first layer was completed, the subsequent layers were vacuum-bagged, an operation that had to be done in stages for each layer because of the large areas involved.

CNC-cut molds and careful three-dimensional modeling allowed not only the foam-cored plywood deck assembly but also a separate teak pilothouse and trunk cabin assembly to be built simultaneously while the hull's interior fitout and systems installations continued, taking advantage of the open

In July 2024, the **hull and the deck assembly** were both **hauled outside**, united, and then **rolled back into the building** for the deck's **final fitting**. Yard proprietor Sam Temple said that painting the hull black and leaving it outdoors in sunlight helped to give the 'glass-and-epoxy sheathing a post-cure—something the yard has done with other yachts, often maneuvering hulls to gain sunlight exposure evenly.

The deck had been set on temporary blocking for the return trip to the boatshed. Then, the yard's two overhead rolling cranes came into play for the final fitting—a tricky operation, since the deck had to be maneuvered to slide aft into place inside the bulwarks' tumblehome at the stern, then down to fit over the carbon-fiber chainplates. First the deck assembly was fitted dry and screw-fastened to the structure below; then it was removed once more for glue-up and final installation, after which inner bulwark pieces were fitted, hatches were installed, and sills were readied to receive a deck structure built off the boat to be placed over the master stateroom aft.

Before the pilothouse assembly was installed, the yacht's 400-hp Cummins diesel engine was installed in late September. Earlier, the gen-set, Hundested variable-pitch propeller control, hydraulics, fire-suppression systems, and other mechanical systems had been installed. The heating-and-cooling system is designed for interior comfort while the yacht is in sea temperatures down to 40 degrees, which covers most of the globe.

In **October**, the yacht was **rolled outdoors once again**, and the **pilothouse-and-cabin-trunk assembly**, which already had three coats of varnish, was **lifted onto the deck**, following a process nearly identical to the one used for the deck assembly.

The interior installation of furniture for the owners' stateroom and head aft, two guest staterooms, and crew's quarters forward were well along before the deck went down. The interior trim will be a mixture of South American mahogany and, where painted, avodire. Most of the work in the main saloon and galley awaited the late-October finalization and pressure-testing of the yacht's four fuel tanks, two freshwater tanks, two graywater tanks, and two blackwater tanks, all of which are carbon-fiber-and-fiberglass constructions integral with the extensive structure that supports the maststep and the fin keel. The interior work continued after the deck and pilothouse were placed. A cockpit assembly, built in two separate halves, was also built off the boat for placement after the pilothouse's final installation; its coamings will join the pilothouse with the low structure aft.

The keel, which incorporates a 42,000-lb ballast bulb, will be made of mild steel and incorporate fuel tankage bringing the yacht's fuel capacity to 1,300 gallons. The keel's installation will come last, after the yacht is hauled out of the construction bay a final time.

Langan Design Partners (www.langandesign.com) of Newport, Rhode Island, designed the yacht, which will be named OUZEL, and Project Ouzel, as it is called, has been managed in concert with Rockport Marine; Marine Construction Management (www.mcmnewport.com), also of Newport; and Mark Whiteley Design (www.markwhiteleydesign.com) of Lymington, England, which is responsible for the interior design. The yacht is 95'LOA with a waterline length of 70'6", beam of 20'6", draft of 12', and displacement of 154,000 lbs.

It was the Langan firm that brought the project to Rockport Marine, which in 2006 launched another Langan design, the sail-training vessel SPIRIT OF BERMUDA. "They're really good at their job," Temple said of Langan. "They're happy to hear our feedback. They're curious about our methods. A lot of their work is in composites or aluminum, so they're

very open to listening, but then they're also very competent at advising. There's a lot of respect both ways, and that also goes for Mark Whiteley Design." The yard, for example, has kept the designers in the loop especially about weight milestones, to the point where they can install trim ballast as construction proceeds. "I think that the designers have enjoyed our attention to that," Temple said.

The owners, Temple said, had spent time in Maine and "were aware of Maine boatyards and what we do. They thought it was a nice way to build a boat." Composite construction, using wood along with such modern elements as carbon fiber, works especially well with one-off custom yacht construction, he said. "But I also think that there are a lot of advantages in strength-to-weight, in your structure becoming part of your interior, in sound attenuation, and in thermal insulation. So, I'm appreciative that they were open to this method of construction, and I'm also optimistic that it will lead to more of these types of boats being built in the United States and in Maine." OUZEL is expected to launch in September 2025.

Rockport Marine, 1 Main St., Rockport, ME 04856; 207–236–9651; www.rockportmarine.com.

■ "A chance encounter in Cook's Bay, Moorea, in 2023 led Ian Weedman of Brion Toss Yacht Riggers to do a rig survey on the 70′ LOA William Fife III yawl LATIFA," Karen Sullivan writes from Port Townsend, Washington, where the yacht has been hauled out for work. "The owner knew she needed work after spending many years at sea and was deciding whether to sail to New Zealand or Port Townsend to have it done. She arrived here late last summer, ready for a refit of her rig, deck, fittings, and some systems, including a new generator.

"The designs of Fife have been described as the Ming vases of naval architecture, yet even with her 2"-thick teak hull planking and steel frames that have kept her graceful double-ended hull fair for almost 90 years, LATIFA, like any powerful oceangoing vessel that sees hard use, requires periodic deep maintenance. **Project manager Robert d'Arcy**, who heads a foundation that owns the 117-year-old B.B. Crowninshield schooner MARTHA, said that when LATIFA arrived he was impressed: 'She showed up looking like she was ready for a boat show.'

"With her 10′5″ draft, LATIFA is a tall work platform, so d'Arcy's crew built staging all the way around the hull, plus a mezzanine deck. In order to accommodate the 92′ mainmast inside the building that houses LATIFA's hull, d'Arcy grafted a shipping container onto the back of the building. The mainmast is in good shape and needs only refinishing and new spreaders, but d'Arcy said the mizzen may need repair or replacement. A new bowsprit will also have to be built due to some deformation at the tip, where the cranse iron is seated. Weedman and his staff will rerig LATIFA with stainless-steel 1×19 wire and swaged terminals. He said that although he ordinarily wouldn't hesitate to use light modern synthetics such as Dyneema, doing so could affect the yacht's competitive rating for racing in Caribbean and Mediterranean classic-yacht regattas.

"A persistent foredeck leak was located under the gammon iron, which was removed. Whether the aging deck needs replacement or repair is still to be determined. All of the exterior varnish is being stripped and will be completely redone. All of the interior woodwork and furniture was either removed or protected in place with heavy cardboard and tape. Meanwhile, LATIFA's big sail inventory is being inspected by the crew at Port Townsend Sails.

"Weedman said he was delighted to be part of it. 'Many designers of that era were probably not anticipating their boats





Above-The William Fife III vawl LATIFA is hauled out for "deep maintenance" in Port Townsend. Washington. Left-Much of the work will involve rerigging; wood deterioration in way of the cranse iron may require a new bowsprit, and she may need a new mizzenmast as well

being around a century later, yet here we are, rebuilding them and keeping them alive.' he said.

"'In many ways,' d'Arcy said, 'this is just the rudimentary basic maintenance of a vessel of this stature and age that wants to keep going like she's been going. It's authentic."

Robert d'Arcy Marine Services, robertdarcy57@gmail.com; Brion Toss Yacht Riggers, www.briontoss.com; Port Townsend Sails, www.ptshipwrights.com/ptsails.

The 1962 AMERICA'S Cup winner WEATHERLY, one of the last three existing wooden-hulled Cup racers, is in the Bristol Marine boatshed at Somerset, Massachusetts, where she is undergoing an extensive refit," writes Richard K. Hubbard of nearby Swansea. "The owner, Steve Eddleston of Bristol, Rhode Island, called the work a '60-year manicure and pedicure,' but this job is much more than cosmetic. Over the past two years, every part of the boat from keel to masthead has been carefully inspected to ensure that WEATHERLY remains as strong as when she was launched some 60 years ago," writes Hubbard, who served as the yacht's navigator in the 1972 SORC race season and the prerace delivery from Michigan to Florida. The 12-Meter yacht was designed by Philip Rhodes and launched in 1958 at Luders Marine Construction in Stamford, Connecticut.

"Structurally, the **hull itself is in fine shape**, but due to a recent grounding, the keel received some serious bruises that needed to be filled and faired. The bronze rudder shoe was badly corroded and was recast in bronze at the Hinckley Yacht Services yard in Middletown, Rhode Island. The rudder was removed, refaired, and reset in the new shoe.





At Bristol Marine in Somerset, Massachusetts, the 12-Meter WEATHERLY, the 1962 AMERICA's Cup champion, is having an extensive refit, including a deck replacement to original specifications.

The garboard joints were reefed out, recaulked, and faired after some attention to the deadwood just forward of the sternpost. A few more minor dings below the waterline were filled and faired as well.

"The most extensive changes are happening on deck. 'It's been like peeling an onion,' Steve said. He initially decided to just paint the deck, but his advisors recommended removing all the hardware first. Off came all the winches, cleats, stanchion bases, turning blocks, and padeyes. This revealed spots of blackened, deteriorated wood just underneath the fiberglass-sheathed surface. Several cutouts were made in these areas that opened up even more bad wood. Knowing that there was certainly more deterioration that could not be seen, Steve decided to **strip off the entire deck and replace it**. With the deck removed, additional deterioration and several old splices and checked areas were discovered in deckbeams and around the cockpit. Several suspect deckbeams near the bow have also been replaced.

"Archival research at Mystic Seaport Museum and MIT revealed that WEATHERLY's original design called for a small well behind the mast, which will be restored. Amidships, the three original Barient coffee-grinder winches are being rebuilt by Harken and fitted with a cross-connect system. The helm is being moved about 6' forward to the middle of the cockpit, placing the helmsman forward of the running backstays and the afterguard. The new deck will consist of two layers of 12mm marine plywood glued and screwed down, as specified in the original design, and sheathed with fiberglass set in epoxy. Shipwright Terry Bach has installed new white-oak blocking to support the deck hardware. Removable flush-mounted lifeline stanchions and mooring gear will make for a clean racing deck and ease conversions from charter to racing trim, which can occur weekly during her active sailing season out of Newport, Rhode Island. Aloft, the present aluminum round-sectioned mast is being retained for now while an oval-sectioned replacement is sought. New mast partners are being designed by 12-Meter experts at Wyspa Tech (www.wyspa.tech) that will accept either section.

"Belowdeck, WEATHERLY will be put back in shape for charter work after the comfort systems are updated. The present Westerbeke diesel engine will be kept for now, but an electric motor may be in WEATHERLY's future. Project manager William Gammell and his team at Grand Prix Resources (www.grandprixresources.com) plan to have her back in the water in April 2025, ready for charters and tuning up for the 2025 summer racing season.

"Some might say that a historic 12-Meter AMERICA's Cup winner should be restored to her original 1962 cup-winning configuration. But WEATHERLY is still a working girl, and all AMERICA's Cup boats have been modified, some extensively, always seeking that extra edge in speed and weatherliness."

Bristol Marine, Somerset Yard, One Main St., Somerset, MA 02726; www.bristolmarine.com. See also AMERICA's Cup Charters, www.americascupcharters.com/weatherly.

■ Jasmine Thomas, *WoodenBoat*'s own editorial assistant, writes about **projects** that were **under way** during an October trip she took to **Lowell's Boat Shop** in **Amesbury, Massachusetts**:

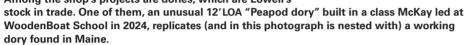
"I toured the shop with Executive Director **Graham McKay**, in company with Molly MacInnis, who has been a part-time boatbuilder at Lowell's for over a decade. An **18' Grand Banks Dory** was in the early stages of construction. This dory has the modern twist of using **glued-plywood** for both bottom and topside **planking**, with fiberglass sheathing, making it lighter and more manageable than a traditionally built dory for racing. However, it honors the classic lines that make dories so recognizable; Lowell's, established in 1793, is the oldest continuously operating boatshop in the United States and is cited as the birthplace of the legendary fishing dory type.

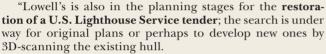
"Next, we took a look at a new 15' Surf Dory whose construction Graham had just begun by scarfing bottom panels together. This boat, too, uses fiberglass cloth set in epoxy to sheathe the bottom; however, it has traditional solid-wood garboards and topside planking. This dory is being built for rowing races involving beach lifeguards in Westerly, Rhode Island. "In addition, apprentices were applying finishing touches to a Joel White-designed Haven 121/2 and a 'Peapod dory,' built along the lines of an unusual 12' round-bottomed workboat found in South Bristol, Maine. Both boats await new owners. The 121/2 was built at Lowell's; the dory was built at WoodenBoat School in Brooklin, Maine, last summer. The boatshop also had a 16' Amesbury Skiff under construction, also with a fiberglass-sheathed plywood bottom, which Graham believes makes the most sense for a wooden powerboat. He said he has discovered that sheathing the bottom and making it paint-ready before building the rest of the hull saves a lot of tedious work in later stages of a project. With just a little more touch-up, the bottom would soon be ready to receive the frames, transom, and stem, and then her topsides would be ready for traditional planking.

"Apprentices were **restoring a Beetle Cat** named MOUSE, which had her bottom seams puttied and screw holes filled, making her 12' hull ready for bottom paint, with topsides preparation and painting soon to follow. They were also **steam-bending new garboards** for a **MAYFLOWER II tender**, a full-bodied boat similar to the ship's 1957 shallop, which Lowell's largely rebuilt in 2021 (see Currents, WB No. 282). The tender and shallop are owned by Plimoth Patuxet Museums in MAYFLOWER II's home port of Plymouth, Massachusetts. The tender is 22'LOA with a beam of approximately 8'.



Above-Graham McKay of Lowell's Boat Shop in Amesbury, Massachusetts, shows a Haven 121/2 that has been under construction by apprentices. Behind him is a MAYFLOWER II tender, which received new garboards as part of a refit; Lowell's also restored the Plimoth Patuxet Museums' similar, but larger, shallop in 2021. Right-Among the shop's projects are dories, which are Lowell's





"Our visit coincided with the well-attended Mighty Merrimack Rowing Race, a three-and-a-half mile course that has been held annually since 1983."

Lowell's Boat Shop, 459 Main St., Amesbury, MA 01913; 978-834-0050; www.lowellsboatshop.org and www.youtube.com/@ lowellsboatshop.

■ "A lot of well-intentioned advice tells people to follow their passions, but in the case of Jason Williams, when it comes to wooden 5.5-Meter racing sailboats, it's not just a passion, but a third-generational sickness," Bruce Kemp writes from Merrickville, Ontario. "Williams, who works as a boatbuilder for his uncle, John Gyles, at Gyles Sails & Marine in Thornbury on Georgian Bay, has taken it upon himself to dive into the shrinking world of wooden North American 5.5-Meters.

"Along with his day job, which currently includes restoring the historic 8-Meter SEVERN II after her sinking in June 2023, Williams spends his off-hours bringing 5.5s back to life with his uncle's blessing and the use of the company shop. His first, JILL, was facing the chainsaw if she had had to spend another season out in the weather, and coincidentally Williams was looking for a new project after restoring the 1924 R-boat MARCARLY for his personal use.

"Enter the Canadian yacht designer Steve Killing. He told Williams to bring his R-boat up to Midland to watch the 5.5 races. 'So, I came one season, and the next season I came to watch again. Then in 2021, Steve said, "I found a 5.5-Meter online, Jason. Go look at it." He went to Ken Lavalette's Woodwind Yachts in Nestleton and found JILL. She was built in 1950 for a 1952 Olympic bid by Denmark's Henning Christensen; the word among the 5.5 crowd is that she was originally named JILL DANSKE. For \$2,000 and the back storage bill, he drove the boat and trailer the 122 miles (195km) to Thornbury. 'I like to have projects. The R-boat was pretty much done.

'Jason told me last summer that the hull was sound. He replaced the deadwood, which had delaminated. 'They had used the original keelbolts,' he said. 'They were bent and one was actually broken. Another bolt had a drill bit that had gotten stuck, so they left the drill bit in and just glued the floor



on top of it. Stuff like that. So I ended up getting all new stainless-steel bolts for it. Then I enlarged two at the front where the lifting eye used to be and lengthened them so there's now a lifting spot for the boat.' He also installed about 10 planks, including garboards: 'I had to tear them off because they were epoxied on,' he said; 'I couldn't save them.' Fortunately, planks hadn't been glued to the stem.

"He had done enough work on JILL to race in the 5.5-Meter North American Championships in August at the Midland Bay Sailing Club. Williams brought an old friend and internationally known racing skipper, Bryan Gooderham, aboard

to helm the boat in the championships, and they won the Classic Division of the combined fleet.

"As of this writing in fall 2024, he still needed to replace the sheerstrakes, the sheer clamps forward, the mast partners, and after cockpit beams, and some deckbeams, so he was expecting to take the deck off to get at the needed work.

"Williams's grandfather, Cedric Gyles Sr., who died in 2023, owned the 8-Meter NORSEMAN, and his uncle, Cedric Gyles Jr., owns SEVERN II. Williams got his start in boat work as a teenager varnishing the bright-finished NORSEMAN, then moved on to the 2007-09 restoration of the 8-Meter RAVEN, owned by his uncle John. He bought MARCLARY in 2009 as a derelict, restoring her over nearly nine years in his back yard in Collingwood, working nights and weekends.

"Williams's next project after JILL will be the 5.5-Meter SJÖHÄXA, and he's hoping for more of them."

Gyles Sails & Marine, 4 King St. W., Thornbury, ON NOH 2P0; www.gylessails.com.



JILL, a 5.5-Meter racing sailboat from 1955, is under restoration by Jason Williams in Thornbury, Ontario, Canada. He completed enough work on her-although she still needed paint-to sail to a Classic Division win in the class's North American championships in Ontario in August 2024.



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Offcuts

■ Lawrence Cheek writes from Whidbey Island, Washington, with an observation from September's Port Townsend Wooden Boat Festival:

"We wooden boat owners and builders like to think of ourselves as contentedly acclimated to sailing upstream against the culture, and thus fearlessly adventurous in painting our boats. Are we really? The festival provided an opportunity for inventory and a few **personal reflections** on this ever-intriguing, often perplexing, **issue of boat topside colors**. I spent a morning walking the festival docks and came up with this tally (which excludes kayaks, canoes, and tenders):

• White, off-white, cream: 96

• Blue: 15

• Red: 6

• Teal: 6

• Gray: 1

• Bright (varnished): 23

• Green: 8

 \bullet Black: 6

• Yellow: 3

• Tan: 1

"My observations were that with white and near-white accounting for 58 percent of the total, we're more eclectic than what you'll see in any North American marina full of production boats, but there's still a powerful mainstream color streak among us, running with the winds of tradition and practicality. White remains the most forgiving, the coolest in summer weather, and the least likely to repel potential buyers if and when it comes time to sell.

"Few of us are pursuing the eminently sensible route of a non-fussy, non-glossy workboat finish. In the 20-odd years I've been coming to this festival, the **proportion of boats** with brilliant and **flawless finishes** has been **steadily increasing**. More than a few amateur owners are achieving professionallevel results. It might be the snowball effect of gatherings like this: You see a breathtakingly beautiful boat, you ache to reach for that level, you ask how they did it. Or you decide that professional help is worth the expense.

"Most of us are **ignoring** the even-more-sensible **advice** to **minimize or banish brightwork**. Fewer than 10 percent of this festival's boats eschewed exterior varnished wood. Despite the maintenance demands, we're **determined to celebrate the woodiness of our boats**. However, a few boats with only

token brightwork show that a quality paint job with thoughtful detailing can be totally satisfying.

"I further concluded that **choosing a color** isn't merely a matter of weighing practicality against beauty. Color shapes or complements the character of a boat. It can add weight and dignity or detract from these qualities, lend a vivacious air, or overshoot the mark into silliness. And boats don't seem to wear contradiction well: the statement wants to be clear and unambiguous. The range of blue tones is astounding and captivating; you almost want to buy a half-dozen quart cans just to experiment. (And this isn't a bad idea: it's impossible to study an inch-square swatch on a color chart and project its effect on the character of a life-sized boat.) A deep midnight blue, for example, projects an air of seriousness and even mystery; in it are depths of unknowability that we'll never penetrate. Red boats remain uncommon, but a hue in the rich, darkish burgundy side of the spectrum lends a powerful gravitas to any boat.

"Dark colors can be problematic even in cool climates. The 23'cutter ANJA, which graced *WoodenBoat*'s cover two years ago (WB No. 290) with a forest-green hull, is **now sky-blue**. Owner Arnt Arntzen told me that the summer sun—in Vancouver, British Columbia!—was drying and shrinking ANJA's carvel planking. 'There were these little squirts coming through the seams at me,' he said.

"However, no rule says that decks must be white. Teal is one interesting and remarkably effective alternative, especially as contrast to a white hull.

"Yellow, inevitably controversial, seems appealing on certain kinds of boats—perky dinghies and houseboats, particularly. If the architectural form of a boat tends to make people smile, yellow will work.

"Black, likewise controversial, sometimes is just the choice of a contrarian personality. Mike Higgins, owner-builder of a 16' catboat with black topsides, explained simply, with a laugh: 'Because it isn't white.'"

■ Will Stirling, who wrote in WB No. 299 about sailing his yacht INTEGRITY through the Northwest Passage east to west, informs us that after hauling out in Nome, Alaska, for the winter, the yacht continued on:

"In order to climb mountains of the Kenai Peninsula and Glacier Bay, we had first to double the Alaskan Peninsula,

leaving the Aleutians to the west for future exploration. After a six-day passage sailing south in decent weather with no sightings of ice, we reached the narrow passage of False Pass. Navigating among shoals, overfalls, and sea otters, we soon entered the small harbor at the settlement of False Pass. We were safely ensconced in a superb harbor outside a fish-processing plant, having completed the most exposed part of the year's travel.

"With the Pacific so close, we were mainly engaged in locating sun lotion and considering tactical tan lines. Having negotiated False Pass without incident, we found the weather rather boisterous in the bay to the south of the narrows. However, there was no ground swell so we re-stowed all Hawaiian shirts, sombreros, and tanning oil, and had a man-overboard drill. All went well until impenetrable fog suddenly descended and we almost lost the danbuoy.





Above—The Roger Long—designed ANJA originally had very dark forest green topside planking, but her owner repainted it light blue to resist the sun's drying effects. Such colorful choices, though still unusual, seem more common among wooden-boat fleets than among production boats. Above right—LACEY, built to an H.C. Hanson design for a log-scaler's boat, has uncommonly bright yellow topsides. She was started at the Northwest School of Wooden Boat Building and finished off by her owner in 2021.

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CURRENTS

"The passage northwest toward Kodiak was characterized by no wind, too much wind, and periods of fog. Nonetheless, the scenery and wildlife were majestic. We had first-class company aboard—a team of mountaineers from the Royal Marines—and found enjoyable anchorages. With the undergrowth almost impenetrable, our tactic was to choose a suitable glacier as a highway to the interior, at a rigorous pace. Start cold, end cool was the rucksack-packing maxim.

"INTEGRITY is once again tucked up for the winter and in safe hands until next year. When sunshine outranks snowfall, her sights will be set upon the Western Aleutian Islands and a passage across to Japan."

■ Since we're updating voyage news: we have word from The WESTERN FLYER Foundation (www.westernflyer.org) regarding the 1937 sardine seiner, which returned to her home port of Monterey, California, last year after a full restoration at Port Townsend (Washington) Shipwrights Co-op and systems installations at Snow &

Company in Seattle (see WB No. 300). In **April 2025**, she will **retrace her famous 1940 voyage** carrying the author **John Steinbeck** and his biologist friend **Ed Ricketts** to the Sea of Cortez, which resulted in the 1951 book, *The Log from the Sea of Cortez*.



INTEGRITY, whose Northwest Passage transit was the subject of a WB No. 299 article, explored Alaska's Pacific coast during summer 2024 and will head for Japan next year.

■ Michael Gorman has been named director of Wooden-Boat School in Brooklin, Maine, replacing Eric Stockinger (who moved to Virginia but continues as The WoodenBoat Store's director). Gorman has worked in educational roles and as a boatyard leader in various places, most recently



establishing an educational and operational boatyard at The Antique Boat Museum in Clayton, New York. At the Chesapeake Bay Maritime Museum in St. Michael's, Maryland, he was the shipyard director (see my article in WB No. 264 about the restoration of the bugeye EDNA E. LOCKWOOD under his leadership), after which he went to the San Francisco National Maritime Historical Park. A tip of the hat and raise of the pint to him, if you please.

than 100 boats, including a third of the remaining Trumpy motoryachts (see WB No. 207). One notable project was a complete hull restoration of HONEY FITZ, a 1930 93-footer by Defoe Boat & Motor Works in Michigan that served through five administrations as a presidential yacht. Another was an awardwinning restoration of the 1923, John G. Alden schooner SUMMERWIND. Mr. Moores never really retired and remained active with his own wooden boat work.

In March 2024, he launched PATIENCE, a 27' triple-cockpit runabout that he designed with inspiration from pre-World War II types. Later that summer, he returned to Lubec to fetch a 1940, 30' scallop boat that he had begun to restore as a 21-year-old; his intention was to finish the project, for which he had already chosen a name: PERSEVER-ANCE. He was working on the boat at the time of his death.

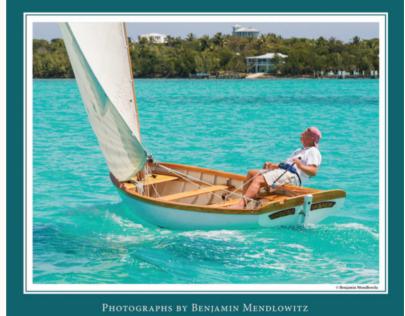
Across the bar

■ James Phelps Moores Jr., 69, October 25, 2024, Beaufort, North Carolina. Mr. Moores, who died suddenly at his home, had a noted career in wooden boat restoration and is particularly known for a string of large Trumpy yacht refits at his Moores Marine, first in Florida and later in North Carolina. His first introduction to boats was in Indianapolis, Indiana; he is said to have hidden from his four sisters by crawling under the cover of the family's Lyman runabout, where he studied details and vowed to build such a boat someday. When he was 14, his father died and his family moved to Miami, Florida, where he bought his first sailboat. As he matured, he ventured to Caribbean islands, and he eventually worked as a sailing charter captain in the British Virgin Islands.

At 21, Mr. Moores sold a wooden sailboat that he owned, SOLAN GOOSE, so that he could buy R.S. Colson Boat Works in Lubec, Maine, which he ran while also apprenticing and working with notable Maine boatyards to learn more. His first boat, a dory, took so long to build that after he sold it, he calculated that he had earned 3 cents an hour. In time, he built dories and commercial fishing boats, mainly for Canadian clients. Business was lean, however, so to support his wife and two young sons, Mr. Moores packed up his tools in the mid-1980s and drove to south Florida in search of work. He eventually started Moores Marine there. It was at first a one-man shop, but it grew along with a reputation for specializing in antique and classic wooden boat restorations and refits. In 2007, the company expanded with the construction of the 17-acre Moores Marine Yacht Center in Beaufort. Later, he acquired five more acres on the Intracoastal Waterway and created Beaufort Marine Center. He sold both boatyards in 2020, donating much of the wooden-boat supply inventory to the North Carolina Maritime Museum.

During his nearly 40-year career, Mr. Moores restored and refitted more

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Restoring a Herreshoff 121/2

29-5

Build Your Own Stitch-and-Glue Kayak with Eric Schade

> Woodcarving with Reed Hayden

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onboard NORA

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Construction

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20-26

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Sue LaVoie

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Then Tim Phillips called Jim Woods one day in 2015 to alert him to the plight of an old cray-fishing boat, Jim's interest was piqued: "Tim told me that he wanted to save the boat, but what he really meant was that he wanted me to do so!" The boat in question was MARGARET PEARL, designed by R.H. (Dick) Thompson and built by Jack Behrens at Battery Point in Hobart, capital of the Australian island state of Tasmania, in 1958. She had a small gasoline engine and a single mast on which to set auxiliary and steadying sails. And she was a mess.

MARGARET PEARL had suffered a number of mishaps over the years, but somehow survived them. In the late 1990s, she grounded on rocks that stove a hole in the port side big enough to drive a small car through. Her crew somehow managed to beach her and roll her over to her starboard side to make temporary repairs, and then motored her home while listing her to starboard, to keep the repaired area clear the water. "They used these boats very hard," Jim said, "and while they loved them, the money was more important than the boats. Repairs and maintenance weren't necessarily carried out to a particularly high standard."

Thompson, the designer, was a commercial mariner and a sometimes-harbormaster of Devonport who designed hundreds of Tasmanian fishing vessels, both

commercial and recreational; Behrens was a very successful fisherman, and a well-respected boatbuilder. This duo created MARGARET PEARL for Cyril "Dodger" Long, who had been a gunner in Lancaster bombers during World War II, then an auctioneer, and then a crayfisherman based at Stanley on Tasmania's north coast. Long fished MARGARET PEARL for 23 years before selling her in 1977 to Keith Ford, who for two years continued her career pursuing crayfish and went longline shark fishing in the off-season.

A succession of owners followed after 1979, and MARGARET PEARL was variously used for shark fishing and scalloping—as well as crayfishing. She was truly an industrial vessel: when one of her owners, Greg Rainbird, had her, he drove a tractor onto the foredeck and removed its tires so that the wheel drums could be used to haul the scallop dredges. Her most recent former owner, Peter Kelly, died in 2010, and this resulted in MARGARET PEARL's precipitous decline; five years later, the harbormaster in Portland, Victoria, about 170 miles west of the mainland city of Melbourne, had to dispose of her.

After traveling to Portland and "spending a weekend poking and prodding at her," Jim bought MARGARET PEARL for one Australian dollar. "Which," he said "turned out to be probably many hundreds of thou-

Above—The 56' MARGARET PEARL, a commercial crayfishing vessel designed and built in the Australian island state of Tasmania, was restored between 2015 and 2020 and in the process converted for adventure-cruising.





Left—MARGARET PEARL was launched for Cyril "Dodger" Long in 1958; he used her for crayfishing for 23 years. Under subsequent ownership, she was also used for shark fishing and scalloping. Right—She declined precipitously after 2010 and was in danger of being broken up when acquired by Jim Woods, who restored and converted her.

sands of dollars too much. Tim is an expert at having a vision and then inspiring someone else to fulfill it." He then acknowledged his own weakness in the transaction: "But he didn't have to work all that hard on me."

Jim Woods has been involved in wooden boats since he was a teenager. In the early years he helped restore, maintain, and sail his friend Ric Lansell's Couta boat, WEEROONA. Couta boats are sloops with 19th-century origins, used to fish for barracouta in Port Phillip Bay and Bass Strait (see WB No. 137) WEEROONA's crew cruised her around Port Phillip Bay and Bass Strait, and even took her to Whitsunday Islands in Queensland, "living under the foredeck for a couple of months." These outings gave him a firm foundation in the suitability of old fishing boats for sensitive conversion to pleasure craft.

The first boat he owned was RON OF ARGYLL, a 50' canoesterned gaff ketch built in 1928 by Alexander Robertson & Sons of Sandbank, England. This was "a bit of an impulse buy," Jim said. She was in poor condition and so he took her to Tim Phillips, his friend and the proprietor of the Wooden Boatshop at Sorrento, near Melbourne. Tim had been largely responsible for a much-touted Couta boat revival in Australia. "[RON OF ARGYLL] was one of his first forays out of the Couta boats with a bigger boat restoration," Jim said. "It was a bit of an eye-opener and a learning

experience for both of us, I think." Jim and his friends then had "a lot of adventures in her," including chartering her in the Whitsundays for about seven years and making a number of trips up and down Australia's east coast. "I think we were a bit of a wild crew," Jim said. "I was between wives at that time...."

His next boat was the 44' WINDWARD II, built in Hobart in 1929 and more of a racing boat. With a low freeboard, no lifelines, and "a huge rig," she didn't really suit his workboat-cruising mentality but was "good for the boys for a bit of fun." One particular memory that has stuck with him was taking her back to Hobart, her first return to the place of her build since she was almost new, and where a number of people who remembered her came aboard and showed him their old photographs. "One of the things I like about



Seen here in her home waters near Melbourne, Australia, MARGARET PEARL is an ideal vessel in which to access remote places.

R CHEW/SOUTHERN WOODEN BOAT SAILING



The new wheelhouse is built of $\frac{1}{2}$ " and $\frac{3}{4}$ " plywood, sheathed on the exterior with fiberglass cloth set in epoxy. The structure is larger than that of a traditional crayfishing boat to allow space for passenger seating.

wooden boats is the connection with the past custodians," he said. "That is what it is all about."

Even when he had his own boats, Jim often cruised with friends on their crayfishing boats, in particular with Tim Phillips in his 1925 54' gaff cutter STORM BAY, and with Gary Kerr in his 1981 49' ketch JANE KERR, both of which had fished for cray commercially but now did so only for fun. In the early 20th century, there were hundreds of boats harvesting crayfish around the Tasmanian coast—"the southern rock lobster capital of the world," according to Jim. They evolved from sailing boats to motorsailers and then to pure motorboats, which are either fast day boats that return to port each night or large steel vessels that stay at sea for a week or more. Both STORM BAY and JANE KERR, with their long keels and heavy displacement, are of the type; they were designed and built for "getting people out, being safe to work on, and getting them back" in all weather. Jim has fond memories of cruising with Tim and Gary, both of whom have covered many miles in their crayfishing boats—often in company and both offshore and on rivers stretching far into the Tasmanian wilder-

Jim was thus primed for a crayfishing boat of his own.

Jim intended to restore MARGARET PEARL in Queenscliff, near his home in Melbourne, but first he needed to get her there from Portland, a sea voyage of approximately 200 miles. The hull had opened up significantly above the waterline and so "thousands"

of dollars were spent on caulking compound, which was liberally applied in the seams." The GM 6-71 diesel engine was made operational (albeit without affording any great confidence) and several electric bilge pumps were temporarily installed along with a portable gasoline generator to power them. As it happened, the voyage to Queenscliff—accompanied by JANE KERR—went off almost without incident, although at one stage Jim forgot to activate the bilge pumps until his crew told him they were knee deep in water in the forecastle.

MARGARET PEARL was hauled at Queenscliff marina and lightened by the removal of the wheelhouse and various other items; she was then transported to Queenscliff Maritime Museum, which had agreed to provide space ashore. It may have seemed more obvious to have asked Tim Phillips to restore MARGARET PEARL at his yard at Sorrento, "but he said to me, 'You can't afford three of my guys for four years doing this job'," Jim said, "and he was quite right." So he managed the project himself for most of the time, with his friend Greg Phelan taking over in the latter stages. Jim engaged one of Tim's most experienced shipwrights and frequently had the benefit of input from Tim himself, but most of the work was carried out by three local house carpenters.

One of the first jobs was to remove the concrete ballast, which was about a month's work for a couple of temporary workers. The timber keel was retained, but the stem and sternpost were partially replaced with new ones shaped from makore, a West African hardwood. About 70 percent of the 2"-thick blue-gum planking was saved, but the rest—including the garboards and a few planks around the stem—was replaced with makore. All but five of the frames were renewed; the replacements were laminated (but through-fastened with \(^{5}\)16" bronze bolts, and not glued) from three pieces of 1" \times 3" wood—Queensland blackbutt, at first, until that was found to be too brittle and prone to breaking despite steaming, and American white oak for the remainder. The floor timbers, beam shelves, stringers, and laminated deckbeams were all renewed in Victorian mountain ash.

In the early stages, it became clear that the project required significantly more work than initially anticipated, and Jim decided to "bite the bullet" and make sure it was all done thoroughly. "If we didn't start with a structurally sound hull," he said, "we would be continually removing joinery and systems so we could fix bits."

MARGARET PEARL has no external ballast, but 7 tons of lead was installed in the bilges. "Tim told us it had to be packed in a certain way, sitting on bearers on the frames and with angle iron to hold it in place," Jim said. "It was loaded into the boat by my son, Tim, and his mates. They got very competitive about it to see how much they could pick up at a time. They were going like stink. Tim, bless his cotton socks, placed the entire 7 tons in position himself."

After a ¾"-thick plywood subdeck was fitted, ¾" iroko planks were straight-laid on top of it. Below the plywood and between the deckbeams, short lengths of non-structural western red cedar were fitted to give the appearance of laid decking to the overhead.

A new wheelhouse was built from ½"and ¾"plywood, and then sheathed on the outside with fiberglass and epoxy. This structure, with design input from Tim Phillips, is larger than that of a traditional crayfishing boat to allow space for seating aft. With childhood memories of traveling on the wooden ferries from Sorrento to Queenscliff and admiring their clearview screens, with their rotating glass discs to shed spray and rain, Jim had

always wanted one himself, and so it was now an easy decision to fit one in the central window of his new wheelhouse.

Along with other boats of her type, MARGARET PEARL always had a substantial wet well amidships to keep crayfish alive until the catch could be offloaded. Jim and Tim had "some philosophical differences" with regard to this; Tim passionately believes it should have been retained, even if

small, just as it has been on both STORM BAY and JANE KERR. Jim's decision to dispense with it, however, freed up space for a very comfortable saloon and galley, deep amidships where the boat's motion is least noticeable. "He has opted to live out of the freezer rather than the wet well, which is a shame," said Tim. "But when people who love classic boats like Jim come along and put their money where their mouth is, you can't beat them up too much, otherwise you will either get the sack or they will be unhappy with it. You have got to gently take them on the journey."

Forward of the saloon and galley is a huge forecastle with about 8' headroom, which Jim describes as "multifunctional" and "determined by my time on STORM BAY." It includes a double berth forward (under which is the freezer) and four single berths aft of that, providing accommodation for "a couple with kids or four blokes going on a fishing trip."

Also in the forward accommodation is a head and shower compartment, while aft of the wheelhouse is a comfortable double cabin with en suite heads used by Jim and his wife, Sam. The key here, says Jim, is to "have a comfortable and private space for the skipper and his missus both to encourage ongoing use and justify the expenditure."

The engineroom is below the wheelhouse, with access from the aft cabin. MARGARET PEARL now has a new 350-hp Yanmar diesel engine, while outboard of the saloon is a pair of 1,000-liter (264-gallon) fuel tanks. Her systems also include air conditioning ("we haven't used it yet but we will when we go north"), and a desalinator feeding a 900-liter (238-gallon) freshwater tank. A hydraulic system runs the steering system and the anchor winch, which came with the boat and was refurbished "although it would probably have been cheaper to get a new one." The boat has no generator, but power requirements are adequately met by a 250-amp alternator; 6,000W inverter; 600aH, 24V, lithium batteries; and 900W solar panels on the wheelhouse roof. "She has the most complex conglomeration of



The space of the original vessel's large wet well amidships has been given over to a comfortable saloon and galley deep amidships, where motion is least noticeable. Forward of this space is a large forecastle with about 8' of headroom.



Although now laid out as a pleasure boat, MARGARET PEARL still goes crayfishing: here, her foredeck is lined with crayfish pots, and a custom-built hydraulic pot hauler is partially visible on the starboard side.

single mast. She is now ketchrigged. The rig was designed by Tim Phillips and the Wooden Boatshop's general

manager, Wayne Parr, and is based on JANE KERR's rig. The Wooden Boatshop also made the spars of Douglas-fir and the standing rigging of Dyneema. The rig was designed to be easily manageable, which is why it is small, has fully battened main and mizzen sails for ease of stowage in conjunction with lazy-jacks and stack pack bags, and a self-tacking jib. The main boom is short enough to allow been involved in," the wheelhouse roof to accommodate a RIB, which is

the wheelhouse roof to accommodate a RIB, which is launched and recovered by extending the boom with a stainless-steel tube and then using it as a derrick.

fter five long years of work, MARGARET PEARL was eventually relaunched in October 2020. Since then, Jim and his friends and family have cruised around the Bass Strait and the Tasmanian coast. He particularly likes adventure cruising, to get away to places that are hard to reach otherwise, and is greatly enjoying the fact that he can now do so "in reasonable comfort."

systems and machinery I have ever been involved in," Jim said. Much of the engineering work was installed by two Teds—Ted Banks and Ted Harold—in whom Jim had complete faith in terms of everything working, while also needing them to understand that "everything also needed to look nice."

Soon after the restoration began, Jim decided he wanted the boat to comply with Australia's Uniform Shipping Laws code for commercial craft. This "added another layer of serious complexity" to the project, mainly because the regulatory administration for the code was in transition from the state government to the

federal government. Furthermore, said Tim, "the knowledge of this sort of boat has greatly diminished over the years, as they haven't been built commercially for so long, so it is very hard to get a surveyor who has got an appreciation of them and how they are put together." One consequence of the code is that the boat now has three watertight compartments with watertight doors between them; one of these compartments can flood without the boat sinking. "The coding was a huge task," Jim said, "but in the end, the surveyors were pretty good."

MARGARET PEARL originally had a

Jim Woods held childhood memories of riding ferries with clearview screens—rotating discs that shed water—mounted in their wheelhouse windows. It was an easy decision to fit one in MARGARET PEARL's central wheelhouse window.



CHEW/SOUTHERN WO



MARGARET PEARL cruises in calm water at about 7.5 knots with the engine turning at 1,200 rpm. The rig is meant mostly for steadying, but in 20 knots of breeze she'll make up to 5 knots under sail alone.

Although Jim rejected the wet-well idea, MARGARET PEARL does retain the ability to indulge in some crayfishing. A recirculating tank under the bench across the front of the wheelhouse allows live crayfish to be stored, and they are brought aboard by means of a custom-made, hydraulically driven pot hauler amidships on the starboard side. "It works beautifully and looks the part," Jim said.

Under power, with the engine turning at 1,200 rpm, MARGARET PEARL makes about 7.5 knots; increasing the rpm to 1,300 yields about 8.1 knots. She spins a 40° , 4-bladed propeller and tops out at 10 knots; her range at 7.5 to 8 knots is 1,400 miles. Although the rig is primarily intended for steadying, in 20 knots of wind it can provide enough drive to sail the boat at 4 to 5 knots; under the big genoa alone it makes about 4 knots. "If we want to turn the engine off for an hour to enjoy a beer as the sun goes down, it's good to set the sails," Jim said. "It's very pleasant and makes us feel like we really are sailing." The wheelhouse, in particular, seems to have come into its own. "There are very few days in this part of the world when you can just stay outside all day," he said. "It is either rainy and cold or sunny and too hot. But we can just sit inside and have a beer, watching the spray hit the clearview and enjoying the views." Jim is also using MARGARET PEARL for occasional charter work in the Melbourne area—about 10 day trips per year.

As with his earlier boats, Jim enjoys meeting people with connections to MARGARET PEARL. For instance, Keith Ford visited the nearly complete boat just before he died in 2020 and "expressed delight" that MARGA-RET PEARL would have a second life; Dick Thompson's grandson Andrew came aboard in 2021 and had evidence that the steering wheel had been made by Dick himself; and when Jim took MARGARET PEARL to the Australian Wooden Boat Festival in Hobart in February 2023, "a large number with quite intimate connections to the boat came aboard." These included Jack Behrens's 80-year-old daughter, Kay Richardson; several descendants of Cyril "Dodger" Long, including his great nephew and a nephew who remembered fishing with Cyril as a teenager; and a number of crew who worked on MARGARET PEARL out of Stanley and other parts of Tasmania.

"There were also quite a lot of people with big reputations who came on board and said nice things about the restoration," Jim said. "It just brings home how connected people are with timber vessels, and I don't think that happens with boats built of other materials. It was worth the trip."

Nigel Sharp is a lifelong sailor who worked for 35 years in the British boatbuilding industry before leaving in 2010 to work as a free-lance marine writer and photographer; for more of his work, see www.nigel sharp.co.uk.



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Rig Inspection, Part II

Considerations for stainless steel

altwater covers close to 70 percent of the earth's surface. We love it, but we admit that it is vicious. Brine attacks all metal fastenings and fittings, including iron, steel, copper, brass, and even bronze. It is thus tempting to worship a relatively young alloy, stainless steel, that seemingly ever-bright, weatherproof, defense against rust and decay. Stainless steel, however, isn't stainless.

Not only can stainless steel be stained, but it definitely rusts. Moreover, it develops progressive stress cracks that are virtually invisible. Stainless-steel fittings can and will fail catastrophically, probably at the worst time. Stainless steel is not a forever solution. Now that you're aware of its jeopardies, your rig inspections should take on a new depth that could avoid serious trouble.

The crucial metal in the stainless amalgam is *chromium* in quantities high enough to generate a surface film of *chromium oxide* that discourages surface corrosion. This molecular protection layer is ongoing and depends on available oxygen in air and in water. Stagnant air in closed spaces belowdecks, taping or wrapping that excludes oxygen, or oxygen-poor water can overcome the chromium-oxide protection.

Two grades of stainless steel concern us. A2 stainless is also called 304; it normally has 18–20 percent chromium, 8–12 percent nickel, and carbon steel. Exposed, 304 stainless will show rust stains in a short time. If you can identify the specified metal alloy in fittings, 304 is suitable for hinges and hardware belowdecks. A4 stainless is called 316 and has 16–18 percent chromium, 10–14 percent nickel, and 2–3 percent molybdenum in addition to carbon steel. The added molybdenum makes 316 more corrosion-resistant than other types of stainless steel. 316 will show rust in time but is far more resistant to it than 304.

A 304/316 caveat: hefty cast stainless-steel exterior fittings are nearly always 316 stainless, but 304 is more ductile and better suited to the stamping of parts. Even exterior thin-walled stamped elements of a fitting (like the stamped cheeks of a jibsheet turning block) might be 304 alloy; stress and saltwater will attack this component toward failure.

How does stainless steel fail? A hairline stress crack in the surface of a fitting excludes oxygen and corrodes the metal just below it. The corrosion continues until



the fitting's strength is severely degraded. During a lurch or blow or sudden load, the fitting may fail completely and suddenly. Might you have noticed the crack? Perhaps, if you are suspicious of every stainless-steel fitting and examine each after buffing away any bloom of light rust with a synthetic abrasive pad (not with steel wool). A 30x or 40x magnifying loupe and some knee pads will help you.



Before you slip your mooring lines, be prudent and make a battle plan. Print out a checklist. Develop diagnostic vectors. We can suggest a few high points for this plan.

Before you descend to individual details, examine your rig's bilateral balance. Sight along your stays and mast: is your mast plumb or canted to port or starboard? Sight along your cap shroud: is it parallel to your mast fore and aft? Are your forward and after lower shrouds bisected by the mast or is the mast canting toward the bow or stern? Lie down on deck and sight up along your mast: is it "fair" or does it make unexpected bends?

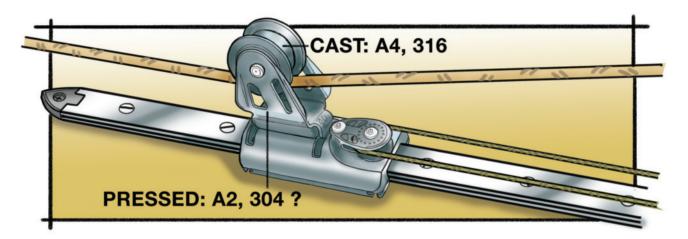
Give your shrouds and stays a shake. Do they feel equally tense? Is something unbalanced or unfamiliar in their tensions? If so, there must be a reason for this. Standing backstay tensions are simple settings for cruising sailors but matters of passionate concern for racers fine-tuning the rig: if you have a tension gauge, use it.

Start the inspection at—or even below—deck level.

Examine your critical stemhead fitting anchoring the forestay, and the pad eyes or chainplates securing running or standing backstays. The bolts, washers, and nuts fastening these essential terminals *can't be dissimilar metals*; saltwater would set up damaging electrolysis. Recall that the formation of protective *chromium* oxide requires oxygen from air or oxygenated water; stagnant water trapped between elements will compromise the fastening.

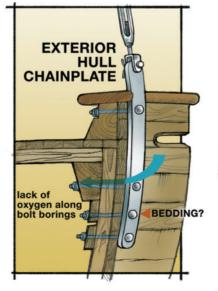
Raise your level of diagnosis to examine the little fittings—shackles, toggles, cotter pins, turnbuckles. Are shackles tight and moused (not taped to exclude oxygen)? Do toggles and pins have whole, healthy cotter pins bent to avoid slashing toes and ankles? Do turnbuckles make a quarter turn easily, or are they galled unmovably? (You may need to remove a bottle screw's cotter pins, check for tuning, then add new pins.)

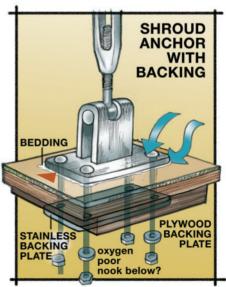
Likewise, jibsheet leads require careful examination for cracks. We'll discuss this further, below.



Chainplates

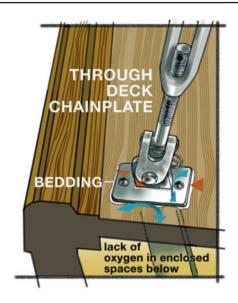
Chainplates are crucial decklevel elements transferring major tension from rig to hull. Many chainplates interrupt trim as exterior straps and are bolted through the hull to robust backing structure. Unbedded or poorly bedded chainplates will hold water by capillary attraction in a destructive oxygenfree micro-environment. Some chainplates pierce the deck inboard of the toerail. Is this through-fixture watertight and bedded properly? Is moisture salt or fresh-being led below to the chainplates' terminal





fastenings? Is the structural wood backing the plates compromised by mold? Are the chainplate fastenings dissimilar metals electrolytically degraded by leaked brine?

Inspecting tight spaces where chainplates are anchored, might require a contortionist's skill to crawl into inhospitable spaces with flashlights, an ice pick, and wrenches. But a thorough inspection requires this, to seek out blooms of rust (even on 316 marine stainless steel), water, or rotted plywood and timber. Burnish rust away with a *synthetic* scouring pad to find (perhaps with a loupe) hairline fatigue or stress cracks. Replace failing backing with fresh, bedded backing.

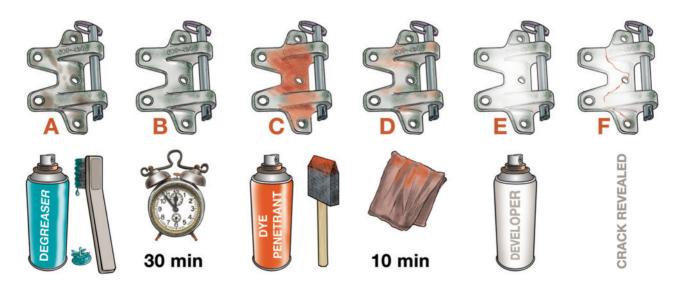


Non-destructive testing for stainless-steel failure cracks

This is a high-tech operation, like detecting invisible ink, but you hope the message isn't disappointing. It's messy, staining, so wear a shop apron and gloves and lay down a disposable surface to protect your bench and tools. There are several "kits" commercially available, generally supporting a three-part process. Begin (A) by using degreaser with shop rags and brush to get the stainless-steel fitting clean. Wait (B) 30 minutes for the degreaser to evaporate. Use the dye penetrant (C) sparingly, carefully; it's not spray paint. You may find it more practical to spray a disposable brush with some of the penetrant and paint it on; it is formulated to do the deep saturation chemically without "flooding" the surface. In a few minutes use a shop rag (D) to wipe the dye away from the fitting's surface;

you're not discovering the surface, only possible hairline cracks. Lightly spray on the developer (E) using a light mist, not a wet flood; let the chemistry work. The dye that has penetrated a possible hairline fault will be drawn to the surface (F) and shown in red, like magic.

What if you find a hazardous crack or a pattern of cracks? Can a fitting be repaired? That's doubtful. The overriding lessons in this Skills 101 are that stainless isn't stainless and that stainless isn't forever. It has a working life. The length of that life decreases with higher salinity and temperature, and with lower oxygen. The best conservative guess from various cautious experts is to change out high-tension crucial parts every 10 years.

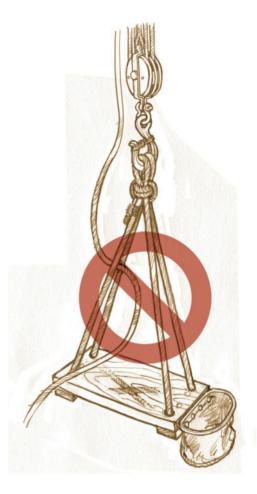






Lower terminations

Rig inspection includes the lower terminations of stays and shrouds, the fittings that connect stainless-steel standing-rig cable (or rod) to the tension-tuning turnbuckles. In small working vessels some standing rigging terminates in thimbles secured by malleable ferrules pressed around the cable and its bight return, using long-lever pressure crimpers. A skilled rigger may plait an eyesplice around a thimble in 7x19 cable; some skillful folks can also ride unicycles, but you may be unable to do either. There are swageless, cone-type cable terminators that tighten a brass collar around the cable end inside a threaded compression nut. The most familiar sailboat cable terminations are compression swages, hollow-cup stainless toggle ends fastened around the cable end with a powerful press equipped with a precision die. All cable terminations are deeply stressed and vulnerable components. One liability is flexing the fitting at a single point, which can induce metal fatigue. The physical nature of cable—a helix of many wires held in a three-dimensional form by opposing twists—insists that cable is porous, and the "cup" into which the bitter end of each shroud or stay is inserted will hold saltwater or freshwater and will to some extent exclude oxygen. This is an engineering danger. Embedding the bitter end in a water-excluding polymer may make a difference, but every type of termination should be inspected regularly to detect rust, corrosion, and cable wires sheared away by the swage compression or by movement fatigue. Stainless-steel cable seems ideal but, once again, it has a working life, and a decade seems optimistic.



Ye've outlined a standing rigging inspection you can and should make a part of your regular sailing program. We encourage you to work up an inspection checklist, to which you'll undoubtedly add your running rigging.

We're leaving a gaping hole in your inspection because we can't encourage you to climb aloft. A boat is an unstable base, rigging is a dangerous web of damaging cables, and you aren't a professional climber. Leave height to the professionals or inspect your rig when it's on the ground, using the principles we've presented here. When the boat is in commission, send a proper rigger up in their own bosun's chair to inspect your fittings and terminations above the deck. A rigger will know what to inspect at each spreader, at the *hounds* (the angled mast fittings that connect stays and shrouds to the upper mast), and at the complex, crucial masthead. Have the rigger check the lights, as well.



Want to Learn More?

WoodenBoat's membership site, Mastering Skills, is a treasury of videos, books, and articles dedicated to teaching—and inspiring—students of wooden boat building. To view the trailer for our videos on rig inspection, scan the QR code at left, or visit skills. woodenboat.com/videos/the-survey-and-maintenance-of-a-vessels-standing-rigging/.





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NIC COMPTON

Dan Lee

A cyber boatbuilder

an Lee has an astonishingly high profile for someone who only became a full-time boatbuilder two years ago. Regular readers of WoodenBoat have encountered him and his classic speedboat MISS ISLE since March 2023 on the back cover, as the poster boy and boat for Epifanes varnish. Elsewhere, the same boat has been used as the face of WEST System epoxy. And anyone with an interest in wooden speedboats can't have missed his YouTube series on building and restoring various boats, the most popular installment of which has had over one million views. All of this attention got me to wondering: Who is Dan Lee?

by Nic Compton

It so happens that Dan's workshop in Gloucestershire in southwest England is only a two-and-a-half-hour drive from where I live, so I set off early one morning to seek the answer to this burning question. I expected to find a busy workshop, with machinery whining, wood shavings flying, and dust everywhere; the usual sights and sounds of a bustling boatyard. Instead, what I found was a super-tidy space, big enough for at least half a dozen people to work in, with a couple of speedboats in mid-restoration, a CNC machine dominating one corner, a circular saw, and a huge old planer-thicknesser lying idle. Upstairs, there was a small stack of lumber, half a dozen boat frames made up, a large office and,

Dan Lee, boatbuilder, of Gloucestershire, England, brings a cutting-edge sensibility to wooden boat construction—and to teaching the trade. His YouTube channel has more than 35,000 subscribers, and his most popular video has more than one million views.

Right—Instruction for how to build the Rocket runabout appeared in a vintage issue of Science and Mechanics magazine. Dan digitized the boat's plans and created CNC cutting files for it. Below—Dan built his first Rocket before digitizing the plans. He calls the Boat MISS ISLE.

tucked to one side, a very professional-looking umbrella light. And silence.

For, despite the amount of equipment packed into this space, the workshop is used by just Dan and his wife, Sasha. With Dan busy being interviewed and Sasha busy on the computer fulfilling orders for another joint business, the workshop was eerily quiet. And that is just as it should be. This isn't a regular boatyard churning out dozens of new boats and restorations. This is a multimedia craft workshop, where building boats is only part of the picture and where the actual earning part of the business happens online. Welcome to the world of cyber boatbuilding.

"At heart, I see myself as hobbyist boatbuilder, because that's where I started," Dan says. "I design plans for other home-builders. I wouldn't want to design for commercial boatbuilders and forget the home-builder. YouTube works with that: sharing with other people at home who are doing the same thing. I don't ever want to be a big commercial entity building 10 boats a year. In an ideal world, I'd like the business to be me doing my hobby for a living. I'll choose a boat, build it at my own pace, exactly as I want to, and fund it through the video series. That's how I'd like to earn a living."

It turns out that Dan is much more than just a YouTube phenomenon. As well as filming his own boatbuilding projects, he sells CNC-ready boat plans for home-based builders, makes video product guides for Epifanes, and creates online courses for various boatbuilding skills. The latest string in his bow is teaching a kit-boatbuilding course at the highly respected Boatbuilding Academy in nearby Lyme Regis. It's an impressive output requiring



a very different range of skills than you'd expect from a typical boatbuilder, but then Dan hasn't come to this via the traditional boatbuilding routes.

Born and bred in Cirencester, which lies 39 miles northeast of Bristol on the River Churn, a tributary of the Thames, Dan attributes his interest both in boating and woodworking to his grandfather, who built several boats, including a James Wharram-designed catamaran. The senior Lee was a keen woodturner, too. His grandfather focused on sailing boats from an early age, but Dan was always drawn to powerboats. At age 18, in 2005 he and his brother-in-law built a 14' Cobra speedboat designed by William Jackson from free plans Dan found in an old copy of *Science and Mechanics* magazine. Built of plywood and fitted with a 30-hp outboard motor, it was every teenager's idea of a cool speedboat. GOOD ENOUGH FOR JAZZ (as the boat was named) was followed by a 13' rowing skiff.

Dan had caught the boatbuilding bug and, always one to do things properly, he decided to buy himself a 40' container, which he stuck in a nearby field to use

as a workshop. After GOOD ENOUGH FOR JAZZ, he built two more Jackson designs, a Jazz Baby named AURORA II in 2008 and a Playboy named LADY S in 2012.

Back in the real world, Dan had by this time trained in electronics and started working for a scientific instruments company, testing chips and playing around with circuit boards (a skill that would have a surprising application later in his boatbuilder career). Boatbuilding was still very much a hobby, but as his skills developed, so his ambitions grew. Whereas his first three speedboats all had outboard motors, for his next project he decided to go for a very cool-looking 1950s classic inboard speedboat, yet another Jackson design from Science and Mechanics: the 15' Rocket. "She was my childhood poster boat," he says. "The boat I wanted and was only ever going to have if I built it."



Dan's career, which blends the old and the new, is perfectly aligned with the interests of a tech-oriented 37-year-old millennial with close links to traditional crafts.

At around this time, however, he also started a small business making tree-shaped shelving. It was only intended as a sideline, initially to pay for his and Sasha's wedding in 2015, but soon took off and became a full-time job, quickly outgrowing its premises and eventually employing half a dozen people. As the business boomed, Dan's boatbuilding aspirations had to be pushed to one side and his half-finished boat was sidelined.

That all changed (along with so many other things) with the Covid-19 pandemic. Orders slumped and the

workshop lay empty for weeks at a time. With time on his hands, Dan returned to his old love of boatbuilding. By then, he had used CAD design and CNC cutting extensively for his shelving business and, being something of a computer nerd as well as a craftsman, had taken to it like a duck to water. Convinced there must be a way of combining digital technology and boatbuilding, he started adapting the old Science and Mechanics plans, which were by then out of copyright, for CNC construction. It was only intended as a side business, but soon he had a website selling boat plans.

Dan had always had an interest in posting videos on YouTube, just for fun. It started in 2013 when he posted $\frac{1}{2}$

photo montages of the three motorboats he had built up to that point. He started taking actual video footage when he embarked on the Rocket project, and a 2014 video shows him (speeded up) setting up the frames and stringers in the narrow confines of his original container workshop. That was followed by 20 or so videos, posted between 2014 and 2020, focusing on specific aspects of the build, from cutting chines to drilling the propeller shaft to making Kevlar fuel tanks. Some of these videos attained more than 100,000 views. But the real clincher came in 2021, toward the end of the project, when Dan posted a montage of the entire project, which eventually

garnered more than one million views. Suddenly, the idea of being able to earn a living from making videos seemed very real.

It didn't take him long to realize that the two sides of the burgeoning business could work together. Videos of the boatbuilding plans were followed by videos of CNC-cutting and assembling the backbone for what he called Rocket MKII—the CNC version of the original Rocket; this series, however, stopped short of building the whole boat.



Dan built LADY S in 2012 following plans
that William Jackson published in
Science and Mechanics.

Dan's varnishing skills—and his teaching of that process on video—drew the attention of the Dutch varnish manufacturer Epifanes, who were so impressed they commissioned Dan to create a series of video tutorials. They also placed his runabout MISS ISLE in their advertising.

He took an online course to improve his videos, followed by an online course on making online courses. The result was another piece of the Dan Lee jigsaw: instruction on varnishing, painting, and spray-painting, with another on CNC woodworking coming soon. It sounds easy enough, but the var-

nishing course alone contains $8\frac{1}{2}$ hours of video, broken down into 11 modules and about 50 lessons. It took Dan nearly a year to make the course and another year for it to gain an audience. It's now one of the most profitable parts of his business, with 433 subscribers paying £148 (about \$192) each for lifelong access. His painting course has 91 subscribers. You don't need to be a math genius to work out that those two courses alone have earned a sustaining salary over the past two years.

The Covid hiatus also provided Dan an opportunity to finish building his beloved boat. Unlike the original, which was entirely planked in plywood, Dan planked the topsides with a thin layer of plywood topped with a longitudinal layer of solid sapele, glued to the plywood



and screwed through to the frames. He then added extra bungs to the planking to give the appearance of a traditional carvel hull. The whole lot was then varnished to a high standard and fitted with custom-made hardware. The result was a little jewel of a boat called MISS ISLE, and she is photogenic from just about every angle. It was as good a calling card as an aspiring boatbuilder could wish for, and the calls soon came—first from Epifanes (who had enrolled in his varnishing course) and then WEST System epoxy (with whom he had collaborated on his epoxy video), who both used photos of the boat in their respective advertising campaigns.

So impressed was Epifanes with Dan's varnishing

course that they commissioned an ongoing series of videos, demonstrating each one of their products. The series was in its 15th episode as this issue went to press, and provides ample evidence of Dan's likable on-screen personality.

If you're wondering how good a boat-builder Dan really is, consider this: in July 2023 he won a rare double at the prestigious Thames Traditional Boat Festival. His first award was a first prize in the Piston category (for cruisers and launches) for MISS ISLE's engine installation; then came another first in the Chaplin category (for unpowered craft) for his restoration of a Tideway dinghy. It was all the proof required that his work could stand up to scrutiny in the real world just as much as in the virtual world.



Dan restored this circa 1964 Tideway-class dinghy and presented the process in a slideshow on his YouTube channel.





Beautiful as she is, however, MISS ISLE is, in truth, already out of date. An eight-year project, she encompassed Dan's transition from traditional boatbuilding methods such as setting up frames and keel by eye to an increasing use of computer-dependent methods, mainly CAD and CNC. Perversely, one of the boat's most traditional-looking features is also one of the most modern. The fancy rudder quadrant, which looks like an antique piece of hardware salvaged from the 1930s, is in fact brand new: it was designed by Michel Berryer (whose Berryer Design & Manufacturing is based in Lansing, Michigan) after a chance encounter on a boatbuilding forum. The fitting was cut out of aluminum on Dan's CNC cutter.

Dan likes to mix old and new: manual and mechanical; analog and digital; classical design and CNC production; and traditional skills, such as varnishing, with online demonstration. It's a blend of interests tailor-made for a

Above, left—The steering quadrant for MISS ISLE was designed by Michel Berryer of Berryer Design & Manufacturing in Lansing, Michigan—a connection Dan forged in an online boatbuilding forum. Dan cut the aluminum parts on his CNC cutter. Left—Dan's installation of MISS ISLE's engine won an award at the Thames Traditional Boat Rally in July 2023.

TEN OF THE BEST YOUTUBERS



@SampsonBoatCo

504K subscribers, 210 videos, 113m views, joined 2017

The king of boatbuilding YouTubers, Leo Sampson Goolden has developed a following through the restoration of his 47′6″ Albert Strange–designed gaff-cutter TALLY HO (see article, page 46). The British boatbuilder found the boat as a wreck in Oregon, bought her for \$1, and restored her first in Sequim, Washington, and then, from 2021, in nearby Port Townsend. The boat was relaunched in April 2024.



@AcornToArabella

176K subscribers, 370 videos, 51m views, joined 2016

Two likable young men, Steve and Alix, build a 38′ William Atkin ketch from scratch. The videos follow the build from felling the trees on Steve's family farm in western Massachusetts to launching the boat, ARABELLA, in June 2023, and learning to sail her. In between, there is a wealth of nitty-gritty details, from making copper rivets to casting a lead keel. It's inspirational stuff.



@TipsfromaShipwrightvideos

193K subscribers, 232 videos, 46m views, joined 2012

No-nonsense shipwright Louis Sauzedde has been on the YouTube scene for longer than most. It started in June 2012 with a video about cutting "progressive bevels" on hull planking and carried on with whatever he happened to be working on at the time. His most popular video is "How to sharpen a chainsaw by hand with a file," with 3.9 million views. He also has several series of videos following the construction of various skiffs and dories.



@Liaswardanibuatperahukayu

 $92.2 \mathrm{K}$ subscribers, 51 videos, $31 \mathrm{m}$ views, joined 2020

An unlikely YouTube star is Indonesian boatbuilder Lias Wardani. His video on how to build a traditional longtail fishing boat has clocked up 9.8 million views. It's worth it just for the sequence on joining the hull planks with home-made dowels and bark caulking. Another popular video is, "An easy to make a wooden kayak for fishing in lakes and rivers" (1.7 million views), using concealed nails instead of dowels to join the planks.



@SaltandTar

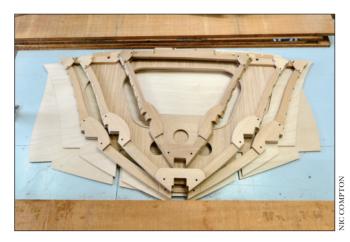
 $85\mathrm{K}$ subscribers, 328 videos, $24\mathrm{m}$ views, joined 2015

An attractive husband-and-wife team chasing a dream is usually a winning formula for a successful YouTube career, and Garrett and Ruth Jolly (aka Salt and Tar) show us why. The couple owned six boats before they started building the 35'George Buehler–designed gaff ketch REDIVIVA. They launched the boat seven years later.

37-year-old millennial with close links to traditional crafts. This forward-backward approach is evident in Dan's workshop, where sitting side by side with bow saws made by his grandfather is a brand-new laser cutter on loan for a test. Indeed, Dan has the best collection of high-quality hand tools—brass-backed saws, wood-handled chisels, and hand planes of every description—that I've seen in any workshop. There's nary a plastic handle in sight.

At the same time, he clearly loves his tech. "The accuracy you are able to obtain very early on using CAD and CNC is the massive difference," he says. "It follows on through with everything else, such as setting in the topside battens. A traditionally lofted frame might be 5–20mm wider on one side, and you might not know it. CAD and CNC will hugely reduce that. If things are accurately set up at the start, everything else will follow. You'll get fairer framework, fairer planking,

Above, right—The precision of CNC cutting, as seen here in the stack of frames for TEMPTRESS, brings an extreme accuracy that "follows on through with everything else, such as setting in the topside battens," Dan says. Right—Dan hastens to add that, with the boat set up (in this case ROCKET MKII), "there's no substitute for your eye looking down the boat and trimming things by hand."





DAN LEE BOATBUILDING



@SailingYaba

102K subscribers, 261 videos, 27m views, joined 2020

Ben and MP were complete novices when they bought the 65'schooner YABÁ in Brazil. The boat turned out to be a complete wreck and had to be rebuilt from the keel up. Thanks to some remarkable craftsmen in a fishing boat yard near their home in southern Brazil, they managed to rebuild the boat in two years. As MP puts it: "We are very glad we didn't know anything, because this has been the most thrilling journey of our lives."



@TheArtofBoatBuilding

76K subscribers, 149 videos, 8m views, joined 2011

Bob Emser of Eureka, California, was a successful sculptor before he turned his attention to boatbuilding. For the past six years he's been posting videos to "help demystify the boat building process" from his studioworkshop. Along the way, he's built a Haven 12½ and a couple of yacht tenders, all to a very high standard. This is boatbuilding as art—or perhaps vice versa.



@MadisonBoatworks

66.7K subscribers, 25 videos, 8m views, joined 2019

Jonathan and Whitney spent four years restoring their 37'William Atkin ketch, JULIA, in Seattle, then sailed south along the West Coast. The video of them leaving Mexico and setting off for the first time across the Pacific has notched up more than 3 million views. "We have long dreamed of sailing across an ocean," it begins. There are also interesting videos on retrofitting laminated wooden floors and generally strengthening an old boat for ocean sailing.



@Building_a_Boat_by_the_River

13.2K subscribers, 67 videos, 1.1m views, joined 2022

Matt and Lefke are a likable YouTube couple in Tasmania who are building a 40' pilot-cutter—inspired yacht designed by Paul Gartside. The couple work three days a week for money and four days a week on their dream. The strip-planked TARKINE is an exquisite boat that many people might aspire to build and sail around the world.



@FavouriteBoatworks

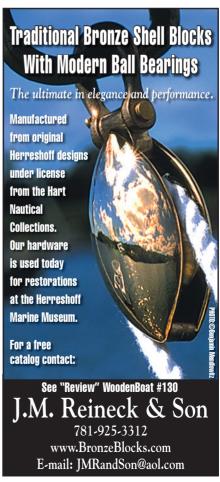
8.3K subscribers, 44 videos, 0.5m views, joined 2023

Based in the Pacific Northwest, Favourite Boatworks was founded by Lyle Franklin in 2020. The yard started posting videos in December 2023 as they embarked on the restoration of the 1935 NORTH STAR OF HERSCHEL ISLAND, the last surviving Inuvialuit Arctic fur-trading vessel. It's an impressive project, with beautifully filmed and edited videos featuring three dogs.



Dan spent 400 hours building a scale model of Michel Berryer's Temptress design, a particularly stunning runabout reminiscent of vintage Chris-Crafts and Rivas.





fairer finish. But CNC only gets you so far. When it comes to setting in the topside battens and planking up, there's no substitute for your eye looking down the boat and trimming things by hand."

By way of demonstration, Dan takes a length of planking stock for a cold-molded, quarter-size model he is building of his Temptress design and shows me how easy it is to mark it off, cut it, and trim to fit, using just a tenon saw and a block plane. By contrast, to cut them on the CNC cutter, he would have to draw each plank in CAD—probably around 100 for each of the four layers, so approximately 400 planks in all—and even then they would still need to be trimmed to fit, because the actual boat is unlikely to exactly match the CAD model. And that's not to mention the wastage of time and material involved in nesting the planks in dozens of sheets of plywood.

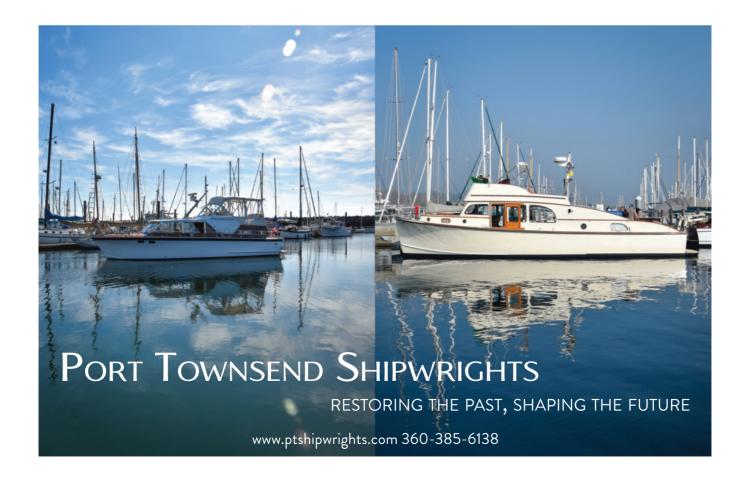
"There will never be a better method than spiling by hand and cutting the planks with a tenon saw and block plane," he says. "I'm all for keeping trad skills alive and still breaking out the hand plane, still doing traditional woodworking alongside the modern tech. CAD just helps you get set up more accurately and a bit more quickly."

Dan was invited by the Boatbuilding Academy to give a talk on the uses of modern technology such as CAD, CNC, and 3D printing in boatbuilding—not, he emphasizes, to replace traditional skills but as "bolt-ons" to use alongside them to save time and make a business more viable. The difference for an aspiring boatbuilder, he believes, might be staying in business or going bust.

Meanwhile, Dan has continued to expand his range of boat plans. The chance encounter with Berryer, who is a former designer at Van Dam Custom Wooden Boat & Yachts in Boyne City, Michigan, has borne fruit. Berryer has provided a range of new designs that Dan then developed for CNC production. At least six boats from their designs are currently in-build, including a 24' runabout, of the Temptress design, being built in the United States, and a Marilyn, a 25' slipper launch, under construction in The Netherlands.

The Temptress design is particularly stunning: it's reminiscent of a Chris-Craft or Riva runabout with considerable tumblehome at the shapely stern. Dan is clearly besotted with this ultimate poster boat and started building a quarter-sized model of it—partly, he says, as a guide to using the plans and partly to test the waters for a video series. After investing 400 hours building the model, which is still only partly planked, he decided to take the plunge and build the full-sized boat.

"Ten years ago, I would have needed a customer or a chunk of money behind me to build this boat," he says. "Now I can either take an order or just build it, make videos of me making it, and potentially fund it through those videos. At the end, I can sell it if I want to or keep it





Dan is currently building the full-sized Temptress, a rendering of which is shown here, and funding it through videos.

if I want to. The fact that's an option is pretty incredible."

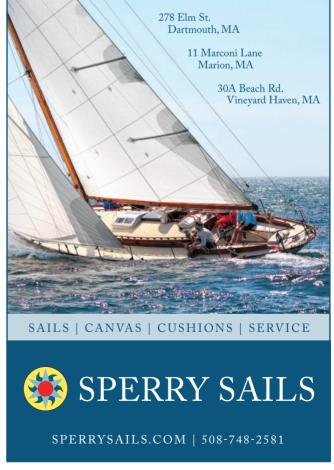
Thanks to his high online profile, he's had no trouble getting sponsorship from various companies for the materials he needs, including wood from Sykes Timber and Robbins Timber, epoxy from WEST System, and varnish from Epifanes. However, he'll be relying on donations and video revenue for the costs of such an ambitious project.

Another important and steady income stream is

from his Patreon account, which allows supporters to sponsor him by choosing one of four levels of membership: Hull Plank (£3 per month, or \$3.81), Frame (£9, or \$11.68), Transom (£25, or \$32.45), and keel (£100, or \$129.82). And for the casual viewer, there's "buy me a beer," which gives the option of buying him up to five pints of beer, at \$5 per pint, as a thank-you.

An important by-product of this approach to boatbuilding is that it allows, and even encourages, a more





experimental approach than client-driven boatbuilding. With no owner breathing down his neck, Dan can play with all that CAD and CNC power that he is able to harness and come up with new ideas that not only make good subject matter for his next video but also work in real life.

When I visited him at his workshop, Dan had half a dozen frames built for the Temptress. He showed me the ingenious pegboard system he's developed to locate the various sections of the CNC-cut frames during assembly. The idea came from his first job in the electronics factory when he made electrical circuit boards in which the numbered holes correspond to specific wires. For the current project, the holes correspond to the board's 13 frames, which are lined up and glued on the board. Once cleaned up, the frames are put back on the board and the waterlines and other information are transferred so they can be accurately lined up on the strongback.

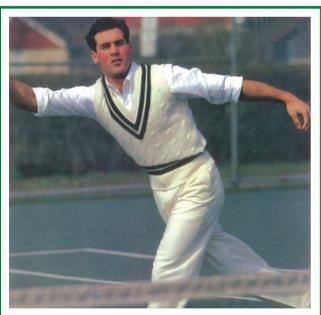
Dan tested this idea successfully with the quartersized Temptress model and then scaled it up for the full-sized boat. The builder in the United States then had the idea of putting the board on legs to turn it into a workbench, and Dan then added a grid of holes to create a multifunctional table, which has the shape of the frames embedded within it and which can also be used with special clamps and stops for general woodwork. Clever stuff. Dan is also experimenting with using the CNC cutter to cut the bevels on the frames and even, in a recent video, the stem. So far, the method is working well, though he realizes it's of limited interest to most amateur builders, who don't necessarily have easy access to a CNC cutter.

It's certainly not boatbuilding as we know it. In fact, Dan estimates only 10 to 20 percent of his time is spent actually woodworking; the rest is spent on the computer. But it's certainly a boon to other fellow boatbuilding hobbyists—which is exactly what Dan intended.

"The business is a blend of all my interests: boats, woodworking, tech stuff like CAD and CNC, and also filming and editing, using my creative side," he says. "I like all the elements; there's not one bit I don't like. But I probably enjoy the woodworking most—being down in the workshop making stuff. It's how I started with all this, and it's what I like best."

More information at www.danleeboatbuilding.co.uk. You can see Dan's videos at youtube.com/danleeboatbuilding. His supporter's page is at patreon.com/danleeboatbuilding.

Nic Compton is a freelance writer and photographer based in Devon, England. He lived on boats in the Mediterranean until the age of 15 and worked as a boatbuilder for many years before swapping his chisel for a pen and his router for a computer. He sails a Rhode Island-built Freedom 33, currently based in Greece.



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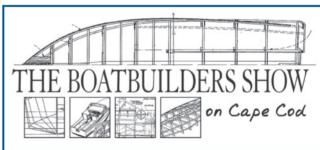
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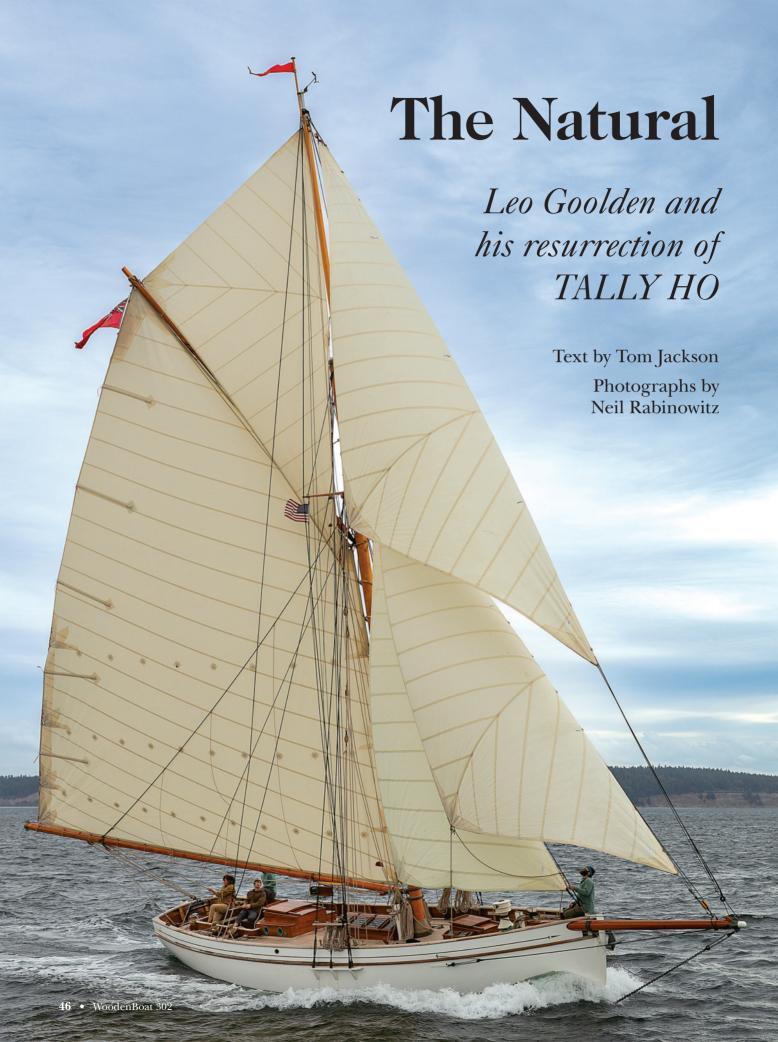
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had Danielson, a Massachusetts boatbuilder, knows exactly how close to oblivion the 1910 British yacht TALLY HO was in 2017, just before the English boatbuilder and sailor Leo Goolden bought her for \$1.

A shadow of her former self, the yacht had lived through numerous changes, including an ignoble conversion to a commercial fish boat operating out of Brookings, Oregon, far from any yachting center. By the early 2010s, she had been all but abandoned after a man who bought her, and formed a nonprofit organization for her restoration, died before his dream could even get started.

She limped along, but in time the marina boatyard seized her for unpaid bills and hauled her out for auction or destruction. Hurriedly, an association based in England that is devoted to TALLY HO's designer, Albert Strange (1855–1917), founded a limited liability company-with Danielson among its principals—to acquire the 47'6" × $12'10'' \times 7'$ hull. The idea was to hold her for the arrival of a hoped-for messiah. A good-hearted volunteer got a rain cover on her and even put up a small sign about her illustrious yachting history: she was launched as BETTY in 1910 but she won the 1927 Fastnet Race after being given the name she still carries today. Nevertheless, the boatyard's patience, already thin, was running out. If she wasn't gone by June 2017, the yard was prepared to break her up and be done with it.

"The obvious expectation, or hope," Danielson said, "was that some multimillionaire would want to bring it up to some big yard in England," with a vision of a full-blown restoration, followed by sunny Mediterranean classic-yacht regattas and, the dream was, maybe even another run at the Fastnet Race.

"But nobody of that sort showed up."

Instead, a skinny English 27-year-old, who was decidedly not a millionaire, stepped up. Goolden made an overture to the Albert Strange Association (ASA; www.albertstrange.org) to say his interest in the boat was serious and that he wanted to have a look at her. He didn't come from wealth, but he was as convincing as he was frugal, having squirreled away enough savings to at least get started on a major project of the kind he was looking for. He had traveled extensively before going to work alongside such noted traditional boatbuilders as Luke Powell and Ashley Butler in southwest England while living on the cheap. He restored a Nordic Folkboat and sailed her across the Atlantic, then gained extensive sea experience as a paid professional

Facing page—TALLY HO, the 1927 Fastnet Race winner, was relaunched in April 2024 in Port Townsend, Washington. Top right—Leo Goolden's first YouTube video, from which this still photo was taken, documented his first encounter with the yacht in 2017. Right—Goolden spent seven years leading a thorough reconstruction of the boat, documented in more than 200 videos.





Right—Goolden knew at the time of his first visit that the boat would require a great deal of work, but it turned out to be even more extensive than he had thought. Below right—The area shown in the photo above "as found" is now a thoroughly modern engineroom with a modified Beta Marine 85-hp diesel as a key component of a parallel hybrid system allowing electric or diesel propulsion.

crew, including time as skipper, on large sailing yachts. The ASA leadership remained skeptical of him, "but he was persistent," Danielson said.

Danielson at the time owned SEA HARMONY, a 33' Strange-designed yawl of 1936, and was the most active U.S. member of ASA. He was also the closest member to TALLY HO, so the association flew him out to Seattle, Washington, to show the boat. He met up with a family friend of Goolden's who happened to live in Sequim on the state's Olympic Peninsula, not far from Port Townsend, and when the two of them went to the airport to pick up Goolden for the long drive to the southern Oregon coast, Danielson was surprised to see him emerge in company with another guy. His companion was a photographer who had left some camera equipment aboard the three-masted schooner ADIX during the Antigua Classic Yacht Regatta, and Goolden, then ADIX's bosun, had arranged to meet him at the airport en route to return the gear. They had gotten into a conversation about the famous but decrepit yacht that Goolden had come to inspect and perhaps save.

The conversation continued when all four went out for breakfast. As the photographer was about to leave, Danielson recalls, he went to his car, pulled a couple of video cameras out of the trunk, and gave them to Goolden with encouragement to document whatever he decided to do.

The photographer was probably not the first, and certainly not the last, to be captivated by Goolden's considerable charm. The boatbuilder soon tried his hand at videography, and his relentless confidence and positivity came through in his very first footage, which documented his initial encounter with TALLY HO in June 2017. He proved to be remarkably photogenic, with an ease in front of the camera and behind it, an LED-bright smile, a tussled ruff of unruly hair, and a wry sense of humor. "Oh, my God—overwhelming to see the amount of work to do here," he said on camera in that first footage, "but what

a beautiful boat." He poked and prodded, and by the end he was pulling pieces of rotten teak planking out of the deck by hand. The hull planking wasn't much better.

As Danielson recalls it, they looked the boat over carefully for quite a while that day. "At the end, we were all kind of done," he said. "We got the cover more or less back on. We were just about ready to leave, and Leo said, 'I'm not ready yet. I want to go back just by myself, just go and sit in there





and think about it.' Which is what he did. And about 20 minutes later, he came out and said, 'Well, I think I'm going to do it.'"

Danielson said that TALLY HO's long story would certainly have ended in Brookings if Goolden hadn't come along. "He knew what he was looking at," he said. "He's an impressive person, just really by how nice and natural and confident he is. He was wonderful. He was a lovely person."







On that day, several foundational pieces of what became an intricately complex puzzle came together: a boatbuilder with bona fide skills; a supportive friend with a large and freely available workshop in Sequim, a town that is not only not halfway around the world from Brookings but also within reach of Port Townsend's wooden-boatbuilding professionals and suppliers; and a right-place-at-the-right-time foray into the quickly opening brave new world of social media.

Left—Goolden's exterior restoration respected the yacht's original appearance and aesthetics. New teak deck structures replicated the original ones. The deck is traditionally laid, using Alaska yellow cedar, with teak kingplanks and covering boards. Below far left—The bowsprit retracts through custom bronze fittings. Below left—Sway hooks built into bulwark stanchion braces are among the rig-handling fittings matching TALLY HO's era.

A Staggering Success

Remarkably, seven years later, in April 2024 and it should be said only seven years later, since the restoration proved to be an enormous undertaking-TALLY HO was gleaming during her relaunching in Port Townsend. She was essentially a new boat, looking every inch the yacht she had been born as. True, only a few pieces of her original material remained: bits of original teak recycled as a saloon table and interior trim, a few teak transom planks reused in making a new transom, a thoroughly reconditioned original cast-iron foredeck windlass, a little hardware, and not much else. Goolden studied photographs from 1926 and 1927 to restore her gaffcutter rig, which sometime in that period had been enlarged for better light-air performance by adding a fidded topmast to receive a jackyard topsail and a larger outer jib in her three-headsail configuration.

After relaunching, her first sailing sea trials later that spring were off Port Townsend. Goolden's first real adventure with her was a summer voyage from Puget Sound to the remote islands of Haida Gwaii off British Columbia, Canada, during which she proved to be well appointed and adept for the kind of world cruising, and also classic yacht racing, that he had envisioned.

He had respected her pedigree in the exterior restoration. Belowdeck, however, nothing original remained; it was a blank slate, and he took advantage of that opportunity to make a modern yacht out of her, with a fully appointed galley, a comfortable saloon with a woodstove in a tiled surround, and the latest in equipment. She had remarkably few bugs to shake out, either in her rigging or in her elaborate systems, and she returned to Puget Sound in time for the annual Port Townsend Wooden Boat Festival.

Throughout the years of restoration, Goolden produced videos with amazing regularity for his

YouTube channel, with the promise of more to come during his voyages. In No. 203, released just after the 2024 festival, he announced a new goal: he would take TALLY HO back home to England, hoping to arrive by 2027 in time to sail the Fastnet Race on the centennial of the one in which she made yachting history by being the first of only two finishers in notoriously rough conditions. The homecoming would no doubt be a thunderous one.

Right—Bronze hanging and lodging knees, plus floors, were fabricated by Port Townsend Foundry to replace iron original fittings. Below right—Live-oak double-sawn frames replaced the yacht's English elm original ones. The deckbeams are of white oak. A double-berth enclosed bunk (also visible at right) is to starboard, with a pipe berth over the workbench to port.

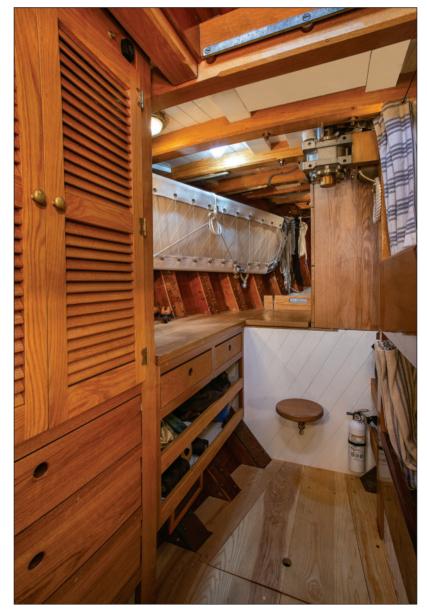
In the first year or so of his work on the boat and his videos, Goolden was a remarkably solitary figure. He worked largely alone, talking into a camera as he built a shed over the boat, organized his friend's crowded workshop for its new purpose, built a loft where he could live, and started the hard and dirty work of tearing out rotten wood, removing keelbolts and bilge concrete, and learning that less than he expected—and far less than he hoped—could be saved.

Right away, he demonstrated a knack for video editing-his unusual soundtracks started with No. 1's sort of Greek bouzouki string numberand for explaining technical material in accurate but easy-to-understand terms. All of his charm and humor showed up from the beginning. Donations started to roll in early. His YouTube videos started to take off, especially after the Covid-19 pandemic left isolated people searching for good online content; today, he has more than 500,000 subscriptions. Advertising revenue followed, plus donations via the monetization platform Patreon. Also, volunteer workers showed up fairly early. One guy (almost everyone in the videos is, frustratingly, on a first-name-only basis) came in from Australia because of the videos and helped install a massive shipsaw that Goolden had acquired. A nearby farm gave him a forklift on long-term loan. Later, a very game firefighter from Maryland volunteered to drive across the continent to deliver a load of white oak.

As important as Goolden's boatbuilding skills and any amount of charm were, the sophistication of the videos played a crucial role throughout TALLY HO's successful restoration.

"I imagined it would be a much lower-budget rough-and-ready, quick-and-dirty project," Goolden told me around the time of the launching. "And I also didn't think we'd have to go so deep in the actual rebuild. I thought we were going to be able to save the centerline." But the original English elm backbone timbers were too far gone, and he replaced them all using purpleheart (and wrote about replacing his keel in WB No. 267). He thought the bulk of the hull work would be in replacing all the double-sawn and single-sawn English oak frames. He ended up having to reloft the hull first to restore its symmetry. Using live oak, which had less curvature than the elm of a century ago that is impossible to find today, he made them all double-sawn frames for strength.









Left—The owner's stateroom is partly below the main companionway to port. Below left—A castiron woodstove provides comfortable heat in the saloon; the boat also has a hydronic heating system, using hot water to heat copper pipes throughout the boat. The stained-glass locker front was made by a Port Townsend artisan.

He replanked the entire hull, using wana for all but the sheerstrakes, which are of angelique. The deck and deck frame, too, were clearly in need of replacement; he chose white oak for the beams and carlins, angelique for the beam shelves, and 2"-square Alaska yellow cedar for the traditionally laid and caulked semi-sprung deck planks, which are nibbed into both the teak covering boards and kingplanks.

"There's a sense that it could have happened anywhere in the world where there's the skills and the resources to build a boat like this," he said. "But, I mean, first off, that doesn't leave that many places, really. There's a handful in the States and a handful in the U.K. Being British and doing this project in America, I found that in my experience American people are incredibly generous on the whole and very welcoming and giving. They see a youngish guy from a different country here taking on an ambitious project, and I think that welcoming, giving spirit comes through even online."

Video viewers gave donations not only of funding but also of labor. When I visited him in Sequim after the 2018 wooden boat festival (see my interview with him at www.woodenboat.com/online-exclusives/leo-goolden-and-tally-horestoration), the cars out front had license plates from as far away as Michigan. And the public fascination with his YouTube channel started to pay off better than he ever imagined.

"As the community grew around the project, and was supporting it, I just found I was able to get better materials and then later on hire people to help," he said. For the final two or three years, he relied on a core group of independent contractors. "At every stage, whatever resources I had, it seemed like I should do the best job I could with those resources. So, we ended up doing a much higher-caliber rebuild than I had ever imagined, which has been amazing. It's also meant that it's taken a lot longer, which has been a challenge in itself. I wasn't expecting to be away from the U.K. for this long, or living in one spot for this long, or not sailing for this long. It's been a huge challenge."

As the intensity of the project grew, he ran afoul of county zoning rules and neighbors in Sequim who were none too pleased to have an active shipyard next door. "It was really incredibly stressful for a while, and it made the project a lot harder for a time," Goolden said. But with increasing support via the YouTube channel, a

Right—Teak caprails reflect the original configuration of the boat. Teak was used extensively in the original hull, some of which was repurposed for such things as cabin trim. Middle right—The original foredeck capstan's challenging restoration was undertaken by Keith Rucker in Georgia, who made 25 videos of the project for his own YouTube channel. Bottom right—Part of the capstan project involved the complicated addition of belowdeck electric power as an alternative to using the original hand-crank system visible in the photograph above.

move to Port Townsend became a real possibility. "Suddenly everything fell into place," he said. "It became clear that that was absolutely the right thing to do for the project. The resources are a lot closer and it's just a more professional environment."

The Team

Legions of people have come and gone during the seven years of the reconstruction, some of whom started off as volunteer apprentices and later were paid. Many of them were young, both men and women. In the final two years, they were all independent contractors.

For example, one volunteer who became a contractor was George Saris, who was in college for media studies in Wisconsin and found Goolden's videos online during the isolation of the Covid-19 shutdowns. He was also a woodworker, so after graduating he reached out to the project. "I was just thinking I was going to do probably a couple of months, but I meshed well with the crew. I really enjoyed the work." He stayed for years.

Saris had training in drone photography and video editing, too. "I had a lot of classes in basic film production stuff, editing, sound, all that kind of thing. I was decently good at it, but when I first came into Leo's office and saw him using Adobe Premiere, it was like watching a master playing piano. It was incredible. The way he edits is almost like he's typing a letter. This project is an amazing example of the way the internet, as a new technology, can be used to preserve the disappearing arts of things like wooden boat building."

The online presence also found surprising connections, especially those of like-minded people. When Goolden sent TALLY HO's castiron foredeck capstan to Florida to be refurbished, the company there eventually suggested a better choice might be Keith Rucker at Vintage Machinery in Georgia, which has a widespread online reputation. Rucker not only took on that daunting project but also made the capstan's restoration the subject of 25 videos for his own compelling YouTube channel (which can be found by searching www.YouTube.com for "Keith Rucker TALLY HO capstan"). "This was challenging," he said. "This was probably the most difficult part that I've ever had to take apart in my life. It fought









TALLY HO's fully appointed galley runs the length of the starboard side of the main cabin forward of the navigation station and opposite the settee.

one of the most incredible learning experiences that I can remember," Saris said. "It was an incredibly tight-knit group of people, and the knowledge there and the willingness to share that knowledge was incredible. And Leo, of course, is a great mentor." He is planning to stay in the Pacific Northwest and hoping to combine his media work with woodworking in some way. "I do love woodworking," he said, "and because I love it, I'm not sure that it's what I want to do for a job."

Another young volunteer was Patrick Kingshill, who had finished graduate school in sculpture in Santa Fe, New Mexico, long before he started with TALLY HO as a volunteer in his early 30s. "I had just started to get some representation in galleries and in design firms, but then the Covid-19 pandemic kind of shut all that down," he said. He sent Goolden a portfolio of his mixedmedia ceramic and wood pieces, and he was shocked to get a reply. For the final few years, he became a paid independent contractor.

"It was very, very foreign to me, but really what drew me to the project was the woodworking, and it was the highest caliber of woodworking," Kingshill said. He especially recalls helping a team install the heavy angelique bilge stringers and the day Goolden asked him to make the maststep. "TALLY HO is a huge part of my life," he said. "It's given me so much purpose and drive. I'm

constantly really grateful toward Leo for sharing this insanely rare opportunity with a guy like me. A boat of this pedigree, with its history and all of the fans watching—there's a lot of pressure on us to do really, really excellent work. Leo is somebody that is really good at guiding that standard of excellence. We have so much fun at work—it's like, how is it that we can do such a freaking cool project and have so much support? I mean, it's pretty amazing.

"It's like, I just kind of emailed my favorite YouTuber a handful of years ago, and it was the most positive life derailment that I've had," Kingshill said. "What I've got for myself now is a very full life as a boatbuilder and hopefully a professional sailor." He, and several others of the team, joined Goolden's sojourn to Haida Gwaii, and Kingshill has visions of crewing on ocean passages.

me the whole way." And that's saying something for a guy who deals with massive machines and who, judging by the videos, has an astounding metalworking shop and expertise to match it. Rucker machined the shaft and some other replacement parts, and he had a friend cast a new iron capping piece to replace one that was already broken and then shattered during its difficult removal. He refurbished everything that he could. With Dave Webster of Webster Boat Machinery in Cornwall, England, he refitted the capstan for Goolden's specified optional electric power in addition to restoring the original twin-hand-crank gearing. Of all the infinite internet rabbit holes you could stumble into, Goolden's and Rucker's are exemplary, and rare—they make you want to go there.

Many did go there. For some of the young volunteers, the TALLY HO experience proved to be life-changing. "It was



A long butterfly-hatch skylight makes the main cabin's galley and saloon an inviting space. None of the original boat's interior survived, leaving a blank slate for a modern-yacht accommodation plan for the world cruising Goolden has in mind.

Symbiosis

Goolden also drew extensively on the resources of veterans of the Port Townsend marine trades. Early on, Pete Langley's Port Townsend Foundry made numerous cast-bronze fittings, including floors, hanging knees, and lodging knees, and later deck and rigging fittings, including a bronze tiller. TALLY HO's Sitka-spruce spars were made by Robert d'Arcy and Douglas Jones, who are longtime boatbuilders in Port Townsend. Her systems were installed by Joe Smith's Ocean Systems company, working with a young independent contractor, Erika Ensminger, a recent graduate of the Northwest School of Wooden Boat Building's fairly new marine systems program. Among Goolden's other independent contractors was Patrick Mahon, who built the yacht's teak deck structures and wrote about them in WB No. 298.

"I was really impressed with the crew he put together," Mahon said. "His management skills were very good. The jobs and tasks he gave to people fit their skills set. When I started, I was the new kid on the block, but I was also the oldest person there by far." From his perspective, constructing two companionways and a large butterfly hatch as close as possible to original specifications was a rare job and one to savor: "In 50 years of shipwrighting and boatbuilding, that doesn't come along all the time."

Mahon had visited Goolden in Sequim early on and declined to participate in the long, hard project of replanking, but he agreed to build the deck structures, which he could do comfortably in his own shop. Nevertheless, he had an inkling that Goolden eventually would have to move TALLY HO to Port Townsend: "There was no way he was going to be able to finish it and launch it from there," he said. When Goolden did make the move, people noticed. "People who don't know Port Townsend were always saying, 'Oh, he's going to put Port Townsend on the map.' But Port Townsend was already on the map—he came here because of the skills that were here." In some ways, even TALLY HO's launching was "just another day in the shipyard," he said. The thorough restoration of WESTERN FLYER (see WB No. 300) had been completed after Goolden got there, and after TALLY HO was launched the William Fife III-designed schooner LATIFA (see WB No. 286) moved into her former shed for a refit (see "Around the yards," page 14). Hundred-year-old halibut schooners are routinely hauled for work after their Alaska seasons. It's a busy place for a wide variety of boats, a great many of them of wooden construction.

Smith, who has been in the Port Townsend area for nearly 40 years working on boats, including his own fish boat, saw an emerging opportunity in systems work and went to The Landing School in Maine to complete its program in the subject. "I've always worked on boats, and I ran fishing boats in Alaska, and owned my own 50'wood troller-longliner," he said. Going to the school earned him American Boat & Yacht Council certification in electrical, diesel, air conditioning, and refrigeration systems, plus a National Marine Electronics Association certification for marine electronic installations. In 2007, he started Ocean Systems, which he eventually





Left—The navigation station, which is to starboard at the foot of the main companionway, is a comfortable workstation. Goolden will use the large display not only for supplementing the traditional celestial navigation he prefers but also for video editing. Below left—Having a hybrid diesel-electric power system and extensive lithium-iron-phosphate battery banks opened the way for sophisticated electronics aboard the boat, supporting video production and internet uploads.

moved into a shop right next door to where TALLY HO ended up, and Goolden hired him.

"I oversaw all the installations on TALLY HO," he said, working with Erika Ensminger. Goolden had chosen and purchased the engine components and had bolted the engine in place, but Smith took it from there.

"I'd call it a fairly complex installation, because it has a parallel hybrid propulsion system," Smith said. The spacious engineroom accommodates a Beta Marine four-cylinder, 85-hp diesel engine modified by Graeme Hawksley of Hybrid Marine International, based in England, which gives the yacht a 7.5-knot top speed. The engine carries two 10kW Vectra electric motors mounted aft, and they double as generators. When the diesel engine is running and the electric motors are clutched in, they charge the eight Victron Energy Smart lithium-iron-phosphate, 25.6V, 200Ah batteries arranged behind the companionway ladder, totaling 40kW capacity, plus two 12V batteries, one for house power and one for the engine's starter. A shaft clutch allows the diesel engine to be taken offline, enabling the electric motors to be used as the sole propulsion source, providing 27 hp for a top speed of 5 knots, for use when power is needed for a relatively short time, as when coming into a marina. The electric motors can also be powered by the diesel engine without turning the propeller shaft, enabling them to serve as a stand-alone 20kW generator. In addition, while sailing with no power running, the propeller shaft can rotate freely, with the 22" variable-pitch propeller acting as a turbine to supply electricity to the batteries via the hybrid motors. If the electric system fails for some reason, the diesel can still run. If the diesel fails, a full charge on the batteries would allow electric power for propulsion. The electrical system can be connected to shore power anywhere in the world. Even though Goolden vows to use traditional celestial navigation, the boat's sophisticated electronics include radar, AIS, and GPS systems, with a large multifunction display that can also be used as a video editing terminal.

The entire boat is heated by a diesel-powered Hurricane Zephyr 33,000-btu hydronic heating system by International Thermal Research, using copper piping to distribute hot-water heat throughout the boat—even the hanging locker. It also supplies on-demand hot water to the galley and head taps. The engineroom also houses a Spectra watermaker.

"People don't really understand how much work went into those systems," Smith said. It was nearly a full-time job for him for two years. "I bought a copper tubing bending machine to make bent copper drains in the sink in the aft cabin because it was going to be exposed, and it had to



Goolden has set his cap on entering TALLY HO in the 2027 Fastnet Race in England, marking the centennial of her first-place finish. He reconstructed her rig as it was in 1927.

look just right. I made handmade, bent, heated towel racks. All the little P-clamps to hold the wires in—I bought copper banding and a punch tool and made all my own.

"Leo really had a clear idea about the quality of workmanship he wanted," Smith said. "There was just never any pressure to cut corners or rush to meet a deadline. Leo just wanted me to do my best work. I work on a lot of different boats for a lot of different types of clients, but it's very seldom that you get that leeway to do your best job, and be creative, and really come up with good solutions, not just good-enough solutions. It was a great project. I loved it."

Zeal Chimenti, who grew up in the Port Townsend area and had his first boatbuilding experience at the age of 17 while helping to rebuild the hull of the B.B. Crowninshield-designed schooner MARTHA, was one of the core group of boatbuilders in the project's final couple of years. Among his jobs were installing the kingplanks, covering boards, the laid deck, the rudder, and the fife rail at the mast. "I was really delighted to be asked if I was interested in being part of the crew," he said. "A lot of people ask, is there a specific part of the project that was particularly interesting. But for me, I guess it's just the general idea of being a part of a project where there are so many skilled tradesmen working on it.

"One of the things that I appreciated," Chimenti said, "was the nature of the project and how it was funded. With most projects, working in the industry, you're working with time and a budget, and there's 'the best,' then there's 'adequate,' and there's somewhere in between, and then below that there's 'good enough,' which is, it's strong and safe, and that's all it needs to be. With TALLY HO, it was really awe-some to be part of a project where you could go far beyond good enough. You can go to something that's going to last another hundred years. One of the biggest things that I took away from getting to work on TALLY was being able to do things to such a high standard of work where you can really bring the art back into it."

Bob Downes, too, had long experience already in Port Townsend. Originally from Florida, he had kicked around on various projects in Alaska and elsewhere before going to work on the schooner ADVENTURESS refits in 2013 (see WB No. 232), as Chimenti did as an employee at Haven Boat Works. Downes was a volunteer then, and he next went to work for Brion Toss Yacht Riggers for five years. He left to work as a rigger on the MARYLAND DOVE project at the Chesapeake Bay Maritime Museum for two years, always with the intention of returning to Port Townsend. He worked with Goolden as an independent contractor in collaboration with Ian Weedman, Brion Toss's successor as the rigging company's proprietor, to construct TALLY HO's rig from the bottom up.

Goolden and his crew returned to Puget Sound from their Haida Gwaii voyage in time for the September 2024 Port Townsend Wooden Boat Festival. The boat's systems and rig had very few problem to work out after a wide variety of conditions.

"I had just come off this scratchbuild on a traditional rig that really dialed in to the perspective of how different it is building a traditional rig for a new boat, versus refreshing or rebuilding," Downes said. "It's several orders of magnitude more work in the planning and decisionmaking. It's like every single, minute decision has to be made starting at first principles." He, too, was on the Haida Gwaii voyage, and he

reported that very few problems came up with the boat's rig or systems. He's eager to sail more with Goolden and hoping for a Fastnet Race berth.

It's not unusual for marine trades workers to participate in sea trials, but it is almost unheard of for them to go for extensive cruises with the owners; almost all of the core group at launching were able to sail at least to the San Juan Islands, and Downes and Kingshill were aboard for the entire Haida Gwaii trek. Some went on to the next job, including one contractor, Nic Taylor, who went to work for Haven Boat Works full-time. Joe Smith went back to his company's pressing systems work. Zeal Chimenti took some time to work on the house he's building. Even as the launching approached, some of the team's conversation turned to what was next.

One adjustment that Downes had to make was in taking time for the constant video presence. Having to set up cameras for important tasks—which Goolden couldn't always get to himself—and standing for interviews meant taking time away from the skilled work he was being paid for. "So a big part of it," he said, "was just kind of convincing my inner brain that this is a valuable thing to do. This is how the bills are getting paid. And it's really worth the time."

Goolden said he, too, had learned from working alongside the team. "I've learned a lot, a huge amount from doing this project, and a lot from the people I've been working with here," he said, "but a lot of the things I've learned, I'd say, are adjacent to boatbuilding. I think project management is the big one. In the late stages of the project, I was really a project manager much more than a boatbuilder. But also video editing, obviously fundraising, social media work—but, yeah, project management's probably the biggest one. I'm sure that experience is going to be useful just in life in general. I think this project will probably lead to some interesting opportunities, potentially, in the future."

"It's kind of a unique situation," Downes said, "because he is like a project manager and yard manager and owner. That said, I think he's well suited for it. Those parts, they informed each other in a certain way, but you could also see the struggle between those different sides. How you're thinking about which way to go in any particular part of the



design is so different with this project than a normal one, where you have a wealthy owner with certain demands on the owner of a yard, and you're deciding between the economics versus quality and time factors of making decisions." The imperative for video also exerted an influence. As Downes put it, "At this project, it's like, 'Well, the higher the standard of work, the more engaging content it makes.' It's like it's an upward spiral of demands on the project."

Those videos were a new wrinkle for Mahon. "That's such a new concept to old folks like me, that you would do something like that. He did it really well. They're just amazing; I think I'm as impressed with his videography and his storytelling skills as with the shipwrighting part of it."

Coda

After writing about Goolden's project five years ago and visiting from time to time, I find myself wondering, even now, whether Goolden ever goes below alone on TALLY HO, as he did when he first saw her, just to sit there for 20 minutes and contemplate all that has been achieved and what comes next. Goolden—like a skier thinking three turns ahead, a surfer waiting for the right wave, a musician breaking into improvisation, a sail racing tactician adapting to shifting conditions—shares a reluctance to overplan, relying instead on honing natural instincts. As Downes put it, "Leo's mantra is, 'I've got no plan and I'm sticking to it.'" The wise never overpromise and therefore never underdeliver.

But, just as when he sat in TALLY HO's decaying interior in Brookings, the foundational pieces are there. A high respect for skill and craftsmanship in wooden boats is sure to be an element. A traditional rig demands a certain kind of sail handling; he'll again need to build a team. Videos are almost certain to be part of it. But he has a caveat: "I will say that, for me, videography comes second to storytelling. Storytelling is the more important skill, the thing which draws people to a project."

Storytelling, when it comes naturally in whatever medium, is as young as the teller but as old as the seas.

Tom Jackson is WoodenBoat's senior editor.



Boats, People, **ACTION**

The yachting photography of John S. Johnston

by Stan Grayson

n 1845, at the United States Military Academy at West Point, New York, a memorial was unveiled commemorating the loss, a decade earlier in Florida, of Major Francis Dade and some 100 soldiers during the second Seminole War. Although the memorial was later moved, it originally overlooked the Hudson River. That is where the photographer John S. Johnston found it sometime around 1890.

After positioning his 8" × 10" view camera on its tripod, Johnston framed the monument with trees and

MARY

Johnston captured several amazing photographs of the big catboat MARY in heavy weather. The yacht's sail is both reefed and scandalized, her heavy boom supported by the topping lift, a vital piece of rigging on a catboat. Enlarging the photo shows MARY's sail attaches to the mast using a track rather than mast hoops (see page 80), and she has elegant laid decks. The boat, which looks to be about 28'long, was designed by Philip R. "Phip" Elsworth of Bayonne, New Jersey, and built in 1893 at Mariner's Harbor, Staten Island, by L.N. Tonn.

the far-shore hills. Then he waited until just the right moment and, when a Hudson River schooner sailed into what he judged to be the perfect spot, he clicked the shutter. The result was typical of Johnston's work: a beautifully composed image with an object in motion but rendered clearly.

Photographs of monuments, buildings, bridges, and scenery in New York, Boston, Québec, and Puerto Rico were among Johnston's best-known subjects. However, during a comparatively brief, roughly 14-year career, he

also found a market for images of ocean liners, naval vessels, and boating subjects ranging from yacht clubs to dories and catboats, from steam yachts and racing yachts of many classes to AMERICA's Cup contestants.

While Nathaniel L. Stebbins, Henry G. Peabody, and Willard B. Jackson were photographing the New England yachting scene, Johnston's home waters were Long Island Sound and New York Harbor. He captured a fascinating variety of yachts and small craft not necessarily familiar to his celebrated Massachusetts contemporaries. Johnston also had a knack for both people-oriented pictures and, most impressively, "action shots" that were comparatively unusual in the 19th century.

LOYAL

On July 29, 1893, Johnston found the new topsail schooner LOYAL ashore near the Indian Harbor Yacht Club at Greenwich, Connecticut. Designed by Henry J. Gielow of New York City, the schooner was built in Brooklyn by C. & R. Poillon for Commodore Benjamin F. Sutton of the Atlantic and Brooklyn yacht clubs. Little damage was done by LOYAL's grounding. LOYAL won several trophies before Sutton sold her in 1895 to banker Nathaniel C. Nash of Boston, who was then commodore of the Corinthian Yacht Club in Marblehead.

Any photographer who's used an 8" × 10" view camera can only wonder how Johnston got some of his images. Focusing on a view camera's ground-glass lens while shrouded beneath a dark cloth is a quite deliberate process. The lens was fixed, not zoom, and the dry-glass-plate emulsions of Johnston's day were a fraction of the speed of modern sheet film. Yet Johnston captured such images as a woman diving off a pier; crowded street and beach scenes with people in motion but not blurred; and, sometimes, yachts in rough weather.

Johnston found both commercial and editorial markets for his work. Some of his yacht photos appeared in *Forest and Stream*, which was publishing photographs using the half-tone process by 1897, several years before most newspapers. Johnston's *Forest and Stream* pictures carried his byline. He also was careful to copyright his work. More important, Johnston had an apparently productive working relationship with the Detroit Publishing Co., which was founded in 1895. Detroit published popular colorized scenic postcards (including Johnston's image of the Dade monument), and prints.

There is little biographical information about Johnston, a situation created by the man himself. His necessarily brief obituary in *The New York Times* carried the headline: "Dies Trying to Hide Identity." He was born, perhaps around 1850, in England. A few weeks after Johnston's death, the January 6, 1900, issue of *Forest and*



Stream reported that "the yacht photographer was one of the old-time disciples of MacGregor [John MacGregor, famous for his Rob Roy canoe/kayak adventures and a book published in 1866]; taking up canoeing as a boy in England when the sport was still a novelty."

How Johnston learned photography is currently unknown, as is the year he arrived in the United States. However, he was taking pictures here by 1885–86. He appeared in the *New York City Directory* as a photographer by 1887–88, his address changing several times over the next decade. He lived and worked primarily on the West Side but later had a studio on Broadway.

At some point, Johnston married; however, the *Times*'s obituary reported that the photographer "lived alone [and] had a grown daughter, but had been separated from his family." He became ill while photographing the 1899 AMERICA's Cup. Perhaps recalling the time when he'd photographed Niagara Falls, he went there to recover. Instead, he succumbed to heart failure, refusing to tell his caregivers his home address or the names of friends. Johnston died among strangers on December 17, 1899.

He is proof, perhaps, that an artist in any discipline is defined not by details of his or her life but by their work.

Johnston left behind instructive photographs that speak to us of his now-distant era, his great talent, and his desire to beautifully portray subjects he clearly loved.

After the closure of the Detroit Publishing Co. in 1924, Johnston's glass-plate negatives were among the 25,000 that survived several subsequent ownership changes. Today, some of the photographs may be viewed online at the Library of Congress, New York University, the New York Historical Society, and other sites. Search "John S. Johnston photographs."

ETHELWYNN

This extraordinary action shot shows electrical engineer Cornelius J. Field and his attorney brother Fred aboard ETHELWYNN. Designed by yachting writer William Piccard Stephens, ETHELWYNN was a "Half-Rater," a British class corresponding to the 15' waterline Seawanhaka Rule in the United States. Many, including Thomas Fleming Day of *The Rudder*, were dubious of ETHELWYNN's then-revolutionary marconi rig, but she became the first yacht so rigged to win an international trophy. She defeated the gaff-rigged British SPRUCE to capture the Seawanhaka International Challenge Cup for Small Yachts in 1895. ETHELWYNN was built in Ogdensburg, New York, by the Spalding St. Lawrence Boat Co.—"Builders of High-Grade Pleasure and Paging Boats"



DEFENDER

Johnston photographed Nathanael Herreshoff at the moment he clambered aboard DEFENDER, victorious in the 1895 AMERICA's Cup. Plated with Tobin bronze below the waterline and aluminum above, the yacht lived up to Herreshoff's expectations for electrolysis. She was scrapped in 1899. DEFENDER's revolutionary, cross-cut sails proved superior on the world's biggest stage. In a 1935 letter to his son L. Francis, Herreshoff wrote: "This I consider to be one of the most important [achievements] and revolutionized sail making the world over."



EL CHICO

The first of Nathanael Herreshoff's fin-keel designs, EL CHICO $(38' LOA \times 25' LWL \times$ 7' beam \times 6' draft), created a sensation upon her appearance in 1893. "She has sailed passages of 60-70 miles single-handed and is altogether the most perfect little boat imaginable," said her owner, H. Maitland Kersey. A wealthy Englishman, Kersey was the general agent in New York for the White Star Steamship Line. EL CHICO was comfortable enough for Kersey's "man" to live aboard "although he had the choice of a bed ashore."



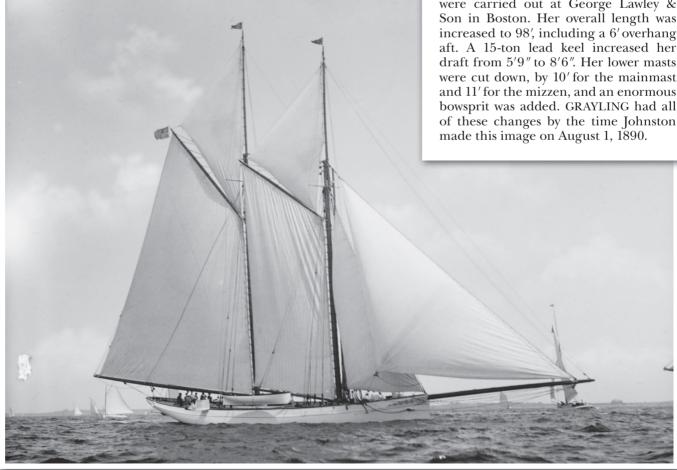


START OF DORIES

On September 25, 1897, *The Greenwich Graphic* reported that the Indian Harbor Yacht Club would follow the Riverside Yacht Club and adopt a one-design dory class. The centerboard boats were 17' overall, 13' on the bottom, and rigged with a leg-o'-mutton mainsail and a small jib. These dories—built in Swampscott, Massachusetts, by E. Gerry Emmons—were very popular (the flag officers of the Indian Harbor Yacht Club each bought one) and other local clubs adopted them, too. Johnston captured the start of this race at the IHYC during the 1898 season.

GRAYLING

On May 15, 1883, the banker and New York Yacht Club member Latham Avery Fish took his brand-new centerboard schooner for a tryout in New York Harbor. The 91' GRAYLING seemed to justify all of Fish's hopes until a fierce squall struck. Before sail could be reduced, GRAYLING capsized and sank, though with no loss of life. Yachting writer Charles Kunhardt, an outspoken critic of shallow-draft centerboarders, had called GRAYLING a "death trap" even as she was being built. Fish, however, promptly had his schooner raised and went on to win numerous races, including the important Golet Cup in 1884 and 1886. In 1887, however, Fish consulted with the yacht designer Edward Burgess on modifications to GRAYLING, which were carried out at George Lawley & Son in Boston. Her overall length was increased to 98', including a 6' overhang aft. A 15-ton lead keel increased her draft from 5'9" to 8'6". Her lower masts were cut down, by 10' for the mainmast and 11' for the mizzen, and an enormous bowsprit was added. GRAYLING had all of these changes by the time Johnston made this image on August 1, 1890.

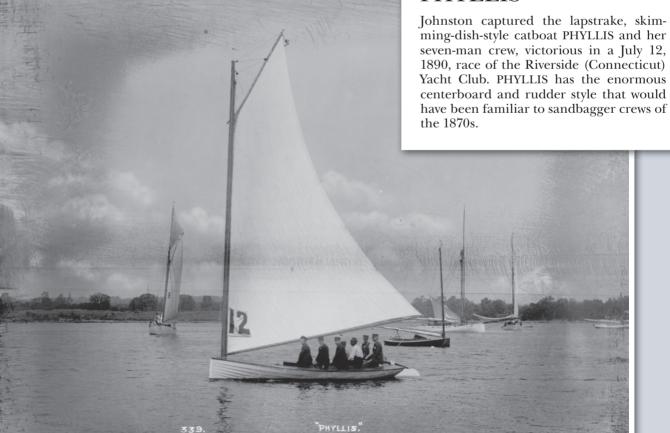


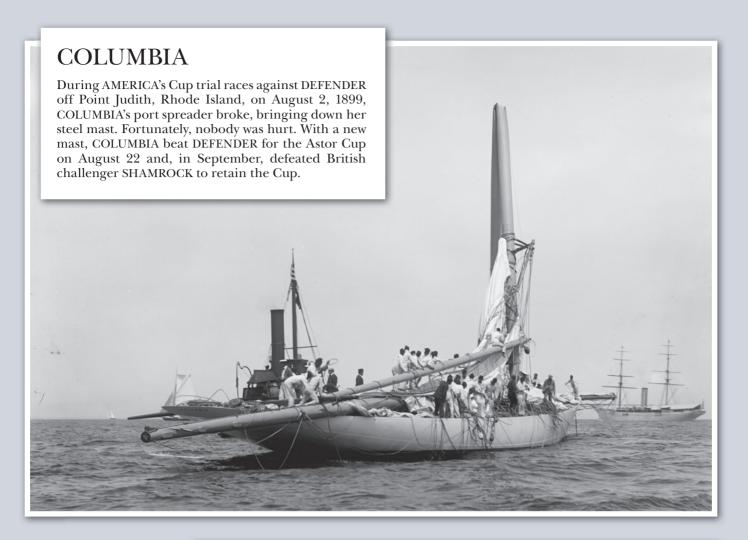


PRESTO

PRESTO was one of several racing catboats commissioned by yachtsman Frank M. Randall, a Crosby catboat enthusiast and patron of the short-lived (1896–99) Crosby Catboat and Yacht Building Co. of Bay Ridge in Brooklyn. With overhangs at bow and stern that made them much longer than their waterlines (22' in PRESTO's case) these race-oriented boats were considered "freaks." PRESTO's tall mast is supported by shrouds and has height enough for a sail of perhaps 900 sq ft. PRESTO was launched in 1896. She suffered a broken tiller in a windy Larchmont Race Week, but also won her share of races; on June 6, 1896, in an Atlantic Yacht Club regatta, she received the equivalent of over \$1,100 for her Class 2 victory. Johnston captured her reefed, cresting a swell, and showing her forward overhang on July 4, 1896.







MAYFLOWER

Dubbed "the Boston bean boat" by rivals and detractors at the New York Yacht Club, the Edward Burgessdesigned MAYFLOWER of the Eastern Yacht Club defeated all her rivals to emerge victorious in the 1886 defense of the AMERICA's Cup. Here, Johnston has called for MAYFLOWER's crew to pose before her launching in 1886 at George Lawley & Son in South Boston.



Stan Grayson is a regular contributor to WoodenBoat. He sends thanks to Nancy Lundy, Christopher Hofman, and Robert Solomon of the Indian Harbor Yacht Club.



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by Greg Hatten

hen the barn door swung open, I saw the vintage, dark-green canoe suspended upside down from the joists in block-andtackle slings. The only thing missing was a blinding light and a church choir singing the "Hallelujah Chorus." My visit to the barn in St. Joseph, Missouri, was intended to be a boatbuilder's "house

call," in response to the request of a friend to have a look at an old wooden boat and render an opinion before a fastapproaching estate sale. This was easy—my opinion, upon first glance, was, "I must own this canoe."

Alone in my truck on the drive to the barn, I had reminded myself (in case I had a Hallelujah moment) of all the reasons that I didn't need another boat. On the drive away from the barn, I made a list of reasons to justify the acquisition of another boat I did not need and had no room to store. As usual, when it comes to wooden boats, "want" trumps "need" and "heart" rules over "head."

It was a 16' canoe built by one of the oldest manufacturers in the United States, Old Town Canoe Co., which was named for the town in Maine where it was founded. I could tell from the holes in the bottom, the cracked ribs, and the rotten leather straps in the paddlers' seats that it hadn't been used in many years. I could also tell that at one time it had been a showpiece, with red-tinted cedar strips, a white-oak stem, and mahogany gunwales, all of them weathered, worn,



and slightly warped with age and neglect. What I could not tell, and no one in the family seemed to know, was how in the world a boat that was built in an East Coast boatshop 1,600 miles away ended up hanging from the joists of a barn in St. Joseph, my home town.

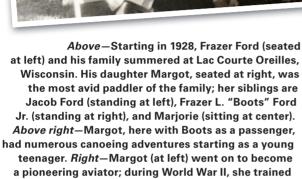
I bought the canoe, hauled it home, and launched a scavenger hunt to uncover its history and learn about the adventures this canoe had had along the way before being retired to the barn.

A Town in Missouri

St. Joseph is a historic little river town on the banks of the Missouri River with important ties to the past, most notably as a rendezvous for the 1804–06 Lewis & Clark Expedition, a primary launching pad for the Oregon Trail covered-wagon route to the west, the home of the Pony Express, the site of Jesse James's death, and the birthplace of Walter Cronkite. In the 1800s, steamboats and ferries were the predominant boats of the "Muddy Mo," shuttling pioneers, gold miners,

Above—The author paddles the Old Town canoe on the Platte River at Rochester Falls, Missouri, in October 2024, just after completing his restoration. *Inset*—The 1929 canoe as the author first saw it inside a barn in his hometown of St. Joseph.





fighter pilots with the Women's Airforce Service Pilots in North American Aviation AT-6 Texan aircraft.

and soldiers on the Missouri as part of their journeys west. Canoes, early in that era, were mostly dugouts of Osage orange wood, built and used by Native American tribes, trappers, and traders for transportation, hunting, and fishing.

The Missouri River is the longest river in North America and the primary body of water in northwest Missouri. By the time the river reaches St. Joseph from its headwaters in Montana, it has already wound its way through almost 2,000 miles of the high plains and sand hills of the Dakotas and through the prairie grass and loess bluffs of Iowa and Nebraska. Its pace is burdened by the weight of the silt, sand, and soil it picks up along the way as it enters the fertile valley between Kansas and Missouri. The dangers on the lower Missouri are the spring floods when the river jumps its banks, the shifting channels and nomadic sand bars, the numerous hardwood root wads and floating tree trunks just below the surface, and the powerful pull of countless eddies and whirlpools. It's treacherous water and not at all conducive to recreation in tippy watercraft, making it all the more unlikely to find such a premium canoe in a region of the country populated these days mainly by flat-bottomed jonboats, powerful freight barges, big-bodied speedboats, and pontoon boats.

My sleuthing was off to a slow start, and my goal of solving the canoe mystery seemed unattainable. Not even the remaining family members knew where it had come from or exactly how it had ended up in the barn of the late Mary Helen Stuber. The trail was cold.

A Town in Maine

Old Town, with a current population of less than 10,000, was once a thriving hub for lumbermen. Huge quantities of logs





were milled there to supply the massive construction needs of the East Coast in the 1800s. On the banks of the Penobscot River, the town's location was ideally suited for sawmills, and it was thriving. Of the many lumber-related side businesses that sprang up, the Old Town Canoe Co. is one of the few that has survived to the present day..

In the 1890s, Herbert and George Gray began building and selling canoes under the Old Town name out of their family's hardware business. In 1900, records show that Old Town manufactured 400 canoes. Sales increased every year as hunting and fishing in Maine attracted rusticators. In the days before motorcars, canoeing also became a popular way of courting. Almost every major city in America had a waterway of some sort—rivers, lakes, bays, canals, and water parks—and in the early 1900s, thousands of people of all ages would pursue romance in a canoe built for two. In 1904, the city of Boston, Massachusetts, imposed a \$20 fine for kissing in a canoe, and city policemen even patrolled the Charles River by canoe for "morality enforcement." In that era, the term "canoodling" took on a whole new meaning. Canoe sales soared.

Because of its dedication to quality and innovation, Old Town became the world's largest, and what many consider the best, manufacturer of canoes and kayaks in history. Through the years, despite twists and turns of consumer demand, innovation in materials, foreign and domestic competition, mergers and acquisitions, the Old Town Canoe Co. remained true to the tradition and heritage of the original builders.

First Traces

When I reached out to the Old Town company with the serial number of the canoe, I heard back from them within 24 hours. They sent me a photocopy of the original work order, which showed that work on the hull of this canoe started in November 1929, and it was completed and shipped to Stone Lake, Wisconsin, in July 1930. It was an OTCA model, which is an acronym for Old Town Canoe. The type, first introduced in 1908, incorporated the best features of the wood-andcanvas canoes then available. With open gunwales, graceful 1'8"-long decks forward and aft, full and curvaceous stems at the bow and stern, slightly more beam than most canoes of the times, and a flat floor, it set a new standard for canoe design. It was advertised in the catalog as the "steadiest, safest, and most capacious canoe that we build...the sort of canoe one always takes pride in owning because of its true lines and details of fine craftsmanship." With an upgrade to mahogany trim, the price was \$84.

Stone Lake, Wisconsin

I followed the first clue to the tiny town of Stone Lake, which is nestled deep in the Northwoods region of Wisconsin. The town is surrounded by a collection of tranquil small lakes and streams, and starting in the late 1800s it became a popular destination for fishermen and families from all over the Midwest. Not only was it a great place to fish but also, in a time before household air conditioning, it was a great way to escape the heat and humidity of summer. At the various lodges and cabins that sprung up, days and nights were cooled by the clear water and the north wind off the lakes. Some would stay for a week; some would stay all summer, until the first frost of fall turned the Northwoods into an eventual snowy wonderland for cross-country skiers, ice skaters, hunters, and ice fishermen.

As a follow-up to the first clue, I reached out to the Stone Lake Area Historical Society to see whether any families or lodges were linked to Frazer L. Ford or Harry Glaze, who were both listed on the work order. I was referred to Carol McDonnell, a local historian with Northwoods charm who

published a book on the history of Stone Lake and sent me a copy pointing my attention to a chapter that "might" connect the dots between Stone Lake and St. Joseph.

I learned that in 1906, a dentist from St. Joseph came to the Stone Lake area on a fishing trip and found a summer paradise on one of the larger area lakes, Lac Courte Oreilles (pronounced "la-KOO-doe-ray" and meaning "lake short ears"). The dentist returned to St. Joseph with a plan to buy a lodge on one of the lake's peninsulas, a place that would be a summer getaway for his family. He also bought enough land to accommodate additional cottages, then got some of his friends interested as well. Together, they formed the WisMo Club (combining the abbreviation for Wisconsin and Missouri) to give their summer paradise a name. The dentist was Dr. F.P. Cronkite, the grandfather of the famous CBS news anchorman Walter Cronkite (1916–2009), a famous son of St. Joseph and one of the most respected news journalists in history. His best pals included many of the "first families" of St. Joseph, who, in many cases, made their fortunes by the commerce that fueled the Oregon Trail migration, which starting in the 1840s was the largest human migration in the history of North America.

A Second Clue

One of the names on the Old Town Canoe work order's "ship to" address was Harry Glaze of Stone Lake. Harry and his wife, Mattie, became full-time caretakers of the main lodge at the WisMo Club on Lac Courte Oreilles in 1915 at a starting salary of \$30 a month, and they remained the caretakers until 1940. The canoe was shipped to the lodge care of Glaze. The other name on the order, Frazer Ford, first appeared in the WisMo Club's annual meeting minutes in 1928, when he and a few others were elected as members. Apparently, one of Ford's first tasks was to order a top-of-the-line canoe from Old Town Canoe Co., which was slightly unusual; such boats were usually acquired from local boatbuilders.

In fall 1929, Ford ordered the 16'OTCA and paid to have it shipped by rail to Stone Lake. The canoe's construction began two weeks after the stock market crash of October 29,

Before and after



Seats

The original seats were in rough shape. Somewhere along the way, leather laces replaced the traditional reed caning that was a signature of Old Town Canoe seats. When I removed both seats from the canoe, the leather laces disintegrated in my hands. I took the seats apart, stripped off stain and lacquer with a light sanding, and applied several coats of marine varnish. The mahogany came to life and a beautiful rich, red tint shone through the high gloss of the new finish. I sent the refinished seats to Dennis King, who lives in Old Town, and he did a fantastic job replicating the caning pattern from 1930. He shipped them back in less than two weeks.



which precipitated the Great Depression and its widespread unemployment and more than 9,000 bank failures in an era when depositors' insurance did not exist.

Midwest farmers were hit hard. Crop prices were low, and a prolonged drought compounded problems for the farm families. One in 10 farms changed ownership, mostly by foreclosure. As the Depression deepened, spending on goods and services fell dramatically, which caused manufacturing firms to cut output and lay off workers. Demand for canoes dropped; at Old Town, sales that reached a peak of over 7,000 annually in the 1920s crashed to fewer than 1,500 in 1932 and 1933.

Ford was born in 1884 in the small town of Forest City in northwest Missouri. He grew up in St. Joseph and returned there after graduating from Yale University. An ambitious young man, he formed an investment banking partnership in 1913 with George Porter, another WisMo Club member. He joined First National Bank as vice president in 1917, and by 1920 he was elected president. At the same time, he became president of First Trust Company; by 1934, he was named president of First St. Joseph Stock Yards Bank. In the most treacherous time in American history for the banking industry, Ford was president of three banks and an investment company in the midland empire of agriculture. It had to be incredibly stressful both professionally and personally.

He built a home on Lovers Lane, and his wife, his family, and his community service kept him grounded. In 1929, his three children were Frazer Jr., 9; Margot, 13; and Jacob, 14. Ford was involved in civic affairs and was instrumental in shaping the parks and the parkway system for the city of St. Joseph. The WisMo Club was more about family recreation than a personal fishing retreat, and the Ford family spent several summer weeks per year at their cabin on Lac Courte Oreilles.

Of the three children, his middle one, Margot, showed the most enthusiasm for outdoor adventure. She took to paddling, fishing, and exploring as soon as the new dark-green Old Town canoe arrived from Maine. The canoe was her passport to outdoor adventures on the blue open waters in the Stone Lake area and would fuel a lifelong passion for the great outdoors and physically challenging endeavors.

On the lake, Margot probably spent more time paddling than anyone else in her family, or in the entire WisMo Club, for that matter. Just a few years before her outdoor adventures began, a young woman named Amelia Earhart made headlines for being the first woman to complete a transcontinental flight, and more "female firsts" would follow. Perhaps no headlines were bigger than those printed in the city of St. Joseph, less than 30 miles away from Earhart's home in Atchison, Kansas, and she must have been a role model and inspiration for young Margot, who graduated from Smith College in 1939 and was sporty and skilled at many things, particularly golf (she won St. Joseph Country Club, city, and state competitions) and aviation. Following in Earhart's footsteps, Margot began her flying career with the Civil Air Patrol in St. Joseph and went on to become one of only 800 women to fly during World War II as part of the Women's Airforce Service Pilots unit (WASPs).

When she married Thomas Reck and started a family of her own in St. Joseph, she brought her family's green canoe from Stone Lake to her home in the St. Joseph countryside so she could share canoe adventures with her two daughters on the rivers and lakes of northwest Missouri.

A Treasure to Be Restored

In her twilight years, Margot had held on to the canoe and often told stories of her outdoor adventures to her best friend, Mary Helen Stuber. The canoe was more than an heirloom—it was a symbol of adventure that kept Margot connected to her past and the stories of her youth. The canoe represented freedom to explore the unknown, to blaze a trail, and to be independent, self-reliant, and have the courage to be curious. Before Margot's death in 2003, she gave her prized canoe to Mary Helen for safekeeping. Mary Helen carefully hung the canoe in her barn, where it remained relatively untouched for 20 years before the estate sale in spring 2024. Honoring Margot by restoring the "WisMo" canoe was a privilege.

Holes in the bottom

Somewhere in its river-running history, the canoe suffered a couple of puncture wounds from pointed rocks, best described as "gouges," that penetrated the outer canvas membrane of the canoe and caused some "pushups" that cracked the cedar ribs on the interior. Because the canvas was otherwise in good condition, I chose to repair the fabric, using a filler and sealing it with a few coats of epoxy. For the interior floor push-ups and cracked cedar strips, I used epoxy and, in some of the worst cases, fiberglass cloth strips to repair the damage. After several coats of varnish, it was sealed and waterproof.



EG HATTEN (BOTH)

GREC HATTEN (THIS PACE)



Rot

A common problem to solve with wooden canoes is damage to the bow of the boat where the gunwales and stem come together. The tip of a canoe often gets battered by rocks, docks, and trailers, and it is the first line of defense when meeting an immovable object. Cracks and dry rot are typically the result, and this old canoe had it at both ends. Like a dentist removing decay from a tooth cavity, I dug out the rotten wood before custom-fitting graving pieces of mahogany and gluing them into place with epoxy.

Tarnished brass

I love a good brass patina, but in the case of a canoe with almost 100 years of history under its belt, the patina was more like grunge. So, I scrubbed the brass with Brasso and steel wool. The seat bolts and brass screw heads became bright gold again, but a coat of varnish toned down the glare. In the coming years, a natural patina will give the fastenings a nice seasoned and weather-worn look.





Repairing the gunwales

Why anyone would cover mahogany trim with green paint is a mystery to me, but somewhere along the years, the entire boat was painted dark green. With a lot of scraping and sanding, the gunwales and their natural wood finish reemerged to perfectly frame the elegant sheerline that is a signature of Old Town canoes. The dark mahogany accentuates the curvaceous arc of the sheer in contrast to the green-painted trim, which disguised one of the best features of this old canoe. One section of the gunwale was mangled; it needed to be removed and a new section scarfed into place, which was a relatively easy repair.









My two favorite scents in the process of building and restoring handcrafted wooden boats are the earthy outdoor smell of fresh-sanded wood and the intoxicating smell of varnish. The scents are bittersweet because they signal that the project is almost over, and with it the enjoyment of problems to solve, solutions to work out, the art of shaping wood to a vision, and the anticipation of results that combine creativity, wood, screws, epoxy, glue, clamps, hopes, and hunches.

Revarnishing

Before varnishing, the accumulated dust, gunk, and grime of a hundred years had to be scraped, sanded, and stripped, a process that is tedious, time-consuming, and not a lot of fun. When the repairs were completed and the stripping was done, it was finally time to varnish.

The wood on this boat was dry from age, and the first few coats of varnish were barely noticeable. In all, it took about 10 coats to achieve the desired finish.

Repainting

Painting the hull was the final job in restoring the WisMo canoe. I sampled several shades of green before choosing Kirby's Blind Green as the closest match for the original finish. Several coats later, the canoe was ready for a test run on familiar water.

Soul of the boat

Each handcrafted wooden boat has a personality and characteristics that are uniquely its own. Wooden boat builders call it the "soul" of the boat, forged by the builder and shaped by the owner. Uncovering the history of a wooden boat is the first step in discovering such a soul. A big part of the pleasure in restoring this particular canoe for me was learning its history and uncovering its stories. The essence of Margot's dark green Old Town canoe is an extension of her personality, her passion for life, her sense of adventure, and her trailblazing accomplishments. I discovered the soul of the boat by learning about the history of the Old Town Canoe Co., the Ford family, the WisMo Club, and its primary paddler.



Greg Hatten is a boatbuilder and writer who lives in St. Joseph, Missouri. He wishes to extend thanks to his sleuthing partners: Suzanne Lehr, Chris Reck Everett, David Ford, Robb Ensign, Carol McDonnell, Bob Fitzpatrick, Carrie Flanagan, Old Town Canoe Co., Megan Wyeth, Bob Ford, and the team at Coin In a Log Creative.

Chesapeake Treasures

John Swain and his classic creations

by Randall Peffer

t 7:30 on a September morning, boatbuilder John Swain takes a break from projects at his boatshop to show me his world. He often starts such visits on the wharf at the foot of Cannon Street in the historic colonial port of Chestertown, Maryland, on the Eastern Shore of Chesapeake Bay. On this day, a sultry wind is blowing down the Chester River when Swain and I arrive at the Chestertown waterfront. Sometimes Swain is a bit paternalistic about the classic watercraft tied up at the wharf here. To be sure. This is not his job; there's a crew of professional sailors and custodians to tend to the boats. But Swain has built or rebuilt them all. They are a bit like his children—never fully out of mind.

At the inner pier, there's the replica of an 18th-century ship's cutter and a pair of traditional Chesapeake deadrise work skiffs. Farther out on the wharf lie the 123-year-old skipjack oyster dredge ELSWORTH and the buyboat ANNIE D., built in 1957.

After assuring himself that all is well with these boats, Swain's eyes turn to the vessel tied at the end of the wharf, looking like a ghost ship from Master and Commander. SUL-TANA is the 53' LOD reproduction of an 18th-century square-topsail schooner. She's the flagship for the SULTANA Education Foundation, and she is Swain's masterwork.

SULTANA's builder is fit and able-looking at age 79. He has a ruddy, welcoming face framed by a silver beard, wirerimmed glasses, and a red ball cap. Both his shirt and pants are denim. This morning, they have not yet gained a patina of sawdust. It will come later today in the shipyard up Cannon Street where he and his helpers constructed SULTANA 25 years ago, or at his own shop next to the house he and his wife, Melinda Bookwalter, built in the woods.

A Stout and Storied Ship

SULTANA is a teaching ship, and she is scheduled to sail in a few hours with her professional crew, visiting fourth graders, and their teachers. When Swain climbs aboard the schooner, one of the crew is already here. She greets him with a smile that says she is pleased that SULTANA's godfather has come to check on their girl this morning. Then she heads below to make up gunpowder charges for the ship's signal



cannons. The student crews love hearing the pop of the halfpounders almost as much as they relish hoisting sails and sorting through the crabs and fish they pull up after towing an otter trawl.

As the captain and the rest of his crew arrive, they share warm and familiar greetings with Swain. To them he is not a visitor. He is honorary crew.

"John is the gentlest human being I have ever met," says Drew McMullen, president of the SULTANA Education Foundation, which operates the classic colonial schooner (see sidebar, page 73).

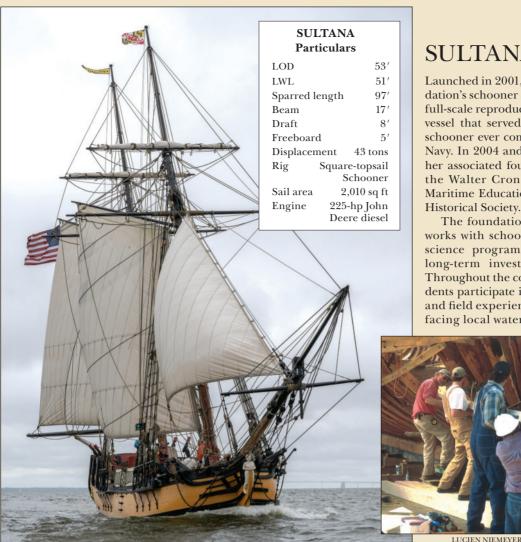
Clearly, the ship's crew agree. They are unperturbed by Swain as he moves from bow to stern, casually lifting hatches and floorboards, showing the bilges to his visitor.

"Dry and tight," he smiles after his survey.

"She's an absolute tank," McMullen says.

The idea of building SULTANA germinated over years in the 1990s. During a gig associated with the construction of the state of Delaware's official tall ship, KALMAR NYCKEL, launched in 1997, where he was teaching disadvantaged youth to build Six-Hour Canoes, Swain discovered the joy, validation, and life-lessons that emerged from shared boatbuilding projects. While visiting The Netherlands on holiday, he had come across a community effort, involving young people, to construct a replica of the three-masted, square-rigged ship BATAVIA, started in 1985 and launched in 1995.

Above - In the mid-1960s, John Swain apprenticed at Applegarth's Boatyard in Oxford on Maryland's Eastern Shore and has specialized in Chesapeake Bay watercraft ever since. Today, he has his own shop near Chestertown.



SULTANA at 25

Launched in 2001, the SULTANA Education Foundation's schooner SULTANA (see WB No. 165) is a full-scale reproduction of a Boston-built merchant vessel that served for four years as the smallest schooner ever commissioned in the British Royal Navy. In 2004 and again in 2007, the replica and her associated foundation were the recipients of the Walter Cronkite Award for Excellence in Maritime Education from the National Maritime

The foundation (www.sultanaeducation.org) works with schools to develop in-depth citizenscience programs in which students conduct long-term investigations of local waterways. Throughout the course of their investigations, students participate in a variety of classroom lessons and field experiences that address current issues facing local waterways, produce tangible water-

> quality data, and culminate in the implementation of student-led projects.

> Since her launching, SUL-TANA has carried more than 4,500 students on Chesapeake Bay each year for the foundation's hands-on programs. Current surveys of the ship show she remains in virtually like-new condition due to the care of the people who built her and the crews who maintain and sail her.

> > -RP

Above - SULTANA, launched in 2001 as a replica of a merchant schooner built in Boston, Massachusetts, in 1767, is arguably Swain's greatest achievement. Above right-Swain led a crew of four professionals and a hundred volunteers in the ship's three-year construction.

JAY FLEMING

"I thought that was pretty neat," Swain said.

"If John isn't working on boats, he's thinking about boats or reading about boats," Bookwalter says.

Inevitably, his reading took him to Howard I. Chapelle's The History of American Sailing Ships, and in it he discovered drawings of the original SULTANA. She was Boston-built in 1767, one of several American schooners purchased by the British Navy to enforce the tea taxes on the American colonies in the years preceding the American Revolution.

"I knew it when I saw her. She was the one," Swain says.

She has a sparred length of 97', but with an LOD of only 53', a beam of 17', and a draft of 8', SULTANA is a manageable size to build, operate, maintain, and fund, despite embodying all the historical trappings and romance of a squaretopsail, colonial schooner. Swain dreamed of her being an American version of BATAVIA, built largely by a community and volunteers.

At the time he was rebuilding the Echo Hill Outdoor School's historic skipjack ELSWORTH, and in 1997 he shared his dream of building a reproduction of SULTANA as a school ship with McMullen, who was working for Echo Hill at the time.

"I loved the idea from the very moment John shared his dream," McMullen says.

He and Swain are deliberate men, history enthusiasts, and lovers of traditional boats, so they took their time poring over their research into the original ship's construction and history, current U.S. Coast Guard regulations for passenger-carrying vessels, and the practices of successful community organizations that operated tall ships. What emerged was the nonprofit SULTANA Education Foundation, with a mission to "provide transformative educational experiences." By 1998, the foundation had enthusiastic community support, funding, and donated space from Chestertown to build a shipyard. Then Swain, four professional shipwrights, and a legion of volunteers laid the keel for the new SULTANA. They launched her two years and five months later.

"We had a few hoops to jump through with Coast Guard inspectors who were skeptical of the trunnel fastenings we were using just like the original builders," Swain recalls. "But we made up some sample trunnel-fastened planks, gave the inspectors sledgehammers, and asked them to see if they could break the planks apart. Not a chance."

The Coast Guard approved. Since her launching in 2001, SULTANA has carried more than 100,000 students to investigate the natural and human history of Chesapeake Bay while exploring matters of ecological sustainability.





After his visit to SULTANA, Swain leads me a few blocks up Cannon Street to what has become the SULTANA Educational Foundation's campus, which includes the shipyard where Swain and helpers built SULTANA and the Holt Education Center, which the U.S. Green Building Council has certified as "LEED Platinum," its highest rating for sustainability. It is a repurposed, 11,000-sq-ft, historic building with a geography classroom, a wet lab, a project shop, and a student-focused Native American exhibit.

At the center, Swain checks in with McMullen, who has been helping to guide the foundation since its inception. This morning, McMullen is at his desk preparing for one of the many events sponsored by the foundation. The upcoming SULTANA Downrigging Festival draws about a score of tall ships and as many as 10,000 guests to the Chestertown wharves at the beginning of each November for a community party. It not only includes tours and sails aboard the historic vessels but also traditional watercraft exhibits, small-boat racing, a long lineup of bluegrass and traditional musicians, and an array of food vendors.

Restoration has been an important element of Swain's career. The 1957 buyboat ANNIE D. (below) and the 123-year-old skipjack ELSWORTH (right) have been among his projects.





With a thorough foundation in traditional Chesapeake Bay boat types, Swain early in his career designed and built small boats inspired by them, including this daysailer based on crab skiffs.

Passing through the Holt center's classroom and labs for youth programs reminds Swain how different schools were for him when he was growing up in Clayton, Delaware, and later Buffalo, New York. Traditional elementary school was, to say the least, challenging for a student like Swain, who says he had a hyperactive imagination. He was always yearning to build things, especially boats, rather than log long hours glued to a desk. One of his classroom daydreams was to build a boat out of a wooden barrel. "I learned the hard way that a barrel will not hold together, or float, once you remove the metal rings," he laughs.

For Swain, the best part of his schooling was an architecture class in which the instructor let him deviate from the usual curriculum involving buildings and instead design and construct a model sailboat. "I made it out of fiberglass," Swain remembers. "What was I thinking?"

After a brief interlude in community college, he decided it was a waste of his time and his father's money. He was 20 years old, and he wanted to learn how to build boats, so he found a job at Applegarth's Boatyard in Oxford, Maryland, about 50 miles from Chestertown. For a year-and-a-half he







In 2007, Swain led the construction of a shallop commemorating Capt. John Smith's 1607 founding of Jamestown (above). The original boat was quickly assembled, leading to a theory that it was built in halves (above right). The replica retraced Smith's explorations of the bay.

apprenticed with master skipjack builder Curtis Applegarth, a fourth-generation builder.

Swain soon moved on to Dickerson Boatbuilders in nearby Trappe, where he not only learned complex joinery but also was tasked with building detailed scale models of Bill Dickerson's boats. The modeling refined his attention to detail, and it unleashed his artistic and design impulses. There was something in Swain that loved tried-and-true designs and construction traditions. But he simultaneously sought ways to improve on them.

After just three years of working at the Dickerson yard, he opened his own boatshop in an old canning factory in Drawbridge, Maryland. His first commission was a classic Chesapeake deadrise powerboat. It would be the first of more than 65 Swain-built boats. Applegarth, who died in 1986, had imprinted upon Swain the love for traditional bay craft such as deadrise workboats, skipjacks, bugeyes, and log canoes. It wasn't long before he designed his own Swain Song Skipjack daysailers. They were his take on the small skipjacks once used by Bay watermen as crab scrapes.

Swain has brought to life a string of recreational skipjacks, three-sail bateaux, and plywood bugeyes based on Chapelle's research. He has rebuilt oyster buyboats and made spars for working skipjacks as well as several of the Chesapeake's famous log-canoe racing ketches. Then there are Swain's variations on traditional Chesapeake open boats. He built the reproduction of the shallop that Capt. John Smith used to explore Chesapeake Bay in 1608. In 2008, her modern crew spent 120 days rowing and sailing the shallop around the bay, stopping at towns along the way, to re-create Smith's voyage of discovery and to celebrate the 400th anniversary of the voyage.

"You might say I have traditional boats on the brain. That's what I have been attracted to," he says.

But Swain has taken work where he could find it, and not all of it has involved bay watercraft. His résumé includes motoryachts, tug-trawlers, a yard tug, and the restoration of a Q-class racing sloop. Just for fun, he guided a friend's nine-year-old children in constructing two skiffs, which then inspired them to build miniature hydroplanes for Cocktail Class racing (see WB No. 213).

The Shipyard

It's midmorning when Swain takes me farther up Cannon Street beyond the Holt center. There is a wood-framed building, painted red, with a sign reading SWAIN & McMULLEN SHIPYARD. This place is full of memories for Swain. He and his fellow shipwrights lofted, patterned, and built SULTANA here. A shed roof covers huge tools, among them a shipsaw. Nearby there's a well-used forklift tractor, which he calls "Lurch," used for dragging timber around, and a wooden staging pad where Swain and his minions learned the tricks of 18th-century shipbuilding as they framed, planked, and decked SULTANA.

"It wasn't like building a skipjack," he says.

An inveterate collector of books on boats and seafaring, he turned to his library, which includes a complete collection of *WoodenBoat*, for insights. He read books about 18th-century ships and their construction, including Karl Marquardt's story of HMS ENDEAVOUR and books about traditional wooden ship building in New England such as

HRIS CER





Swain has had long-term commitments to many boats, among them the Echo Hill Outdoor School's 1901 skipjack ELSWORTH, which he restored in 1996 (above) and which he still works on today (left).

The American-Built Clipper Ship, 1850-1856, by William Crowthers. Little by little, he and his crew figured out how and why those Boston craftsmen 250 years ago built ships, the original SULTANA among them, using trunnels and side-by-side double-sawn frames, with futtocks measuring 8" in breadth and with only 8" bays between frame pairs.

He shakes his head and laughs quietly to himself as he remembers how he learned to steam and bend 21/2"-thick white-oak planks like noodles to form SULTANA's bow. Planking SULTANA's bow reminds him of the tight curves of three cutters he built for customers, following Thomas Gilmer's Blue Moon design. "I paid Tom for the plans each time, even









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though I already had a set of plans from the first boat," Swain says. "It just seemed like the right thing to do." No doubt, but Swain's sense of fair play got him into a financial mess.

"I was bankrupt and getting divorced in 1978," he says. But then two angels came to his rescue. An admirer of his work asked Swain to build him a 38', Al Mason-designed sailing yacht, which allowed him to pay off his debts and set up a new shop. Shortly after finishing the Mason, Swain met Melinda Bookwalter, a spunky social worker with a practical eye for life and finance. She had previously bought property in the forest near the head of the Chester River. It was there that they would design and build their house (and Swain's boatshop) out of wood that had been intended for the planking of a scow schooner. Bookwalter became both his wife and the chief financial officer of Swain Boat Builders LLC.

Timber, Driving, and Dreaming

After brunch at his favorite cafe, Swain decides it's time to take a drive, and I join him. He likes to venture out of town in his 14-year-old Subaru to see how the trees are doing. When he thinks of trees, he pictures the stands of Osage orange trees (*Maclura pomifera*) on the edges of corn and soybean fields.

Intent on constructing SULTANA as authentically as possible, but with locally sourced timber, Swain initially found himself daunted by the lack of local white oak big enough for the ship's heavy structural timbers—until he realized that Osage orange, abundantly available on the Eastern Shore, had strength and rot-resistance properties similar to those of white oak.

"Many of the trees had been planted as living fences," Swain says.

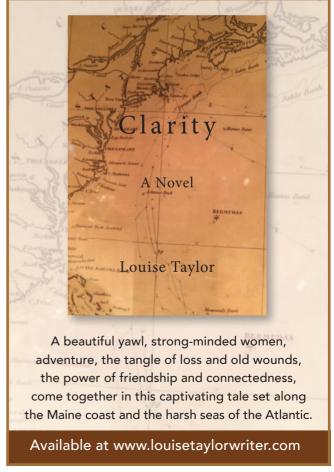
Over the years, they had outgrown their usefulness, and the farmers were glad to have them culled. When Swain went to select trees, he carried three 6'- to 8'-long patterns of the primary curves he needed for frame futtocks. Eventually, he and his crew harvested 250 trees for SULTANA. They milled the logs into 4"-thick flitches and dried them at the shipyard. Because Osage orange trees are full of twists and turns, SULTANA's builders could use the natural crooks to make the futtocks, floors, and knees in the ship, giving them added strength.

Driving around these back roads on the Eastern Shore surveying the trees, Swain often daydreams. "It's a habit of mine," he admits. "I have built a lot of boats in my head while driving these country roads."

Today, he is daydreaming about big schooners. At one point, he turns down a lane that leads to a boatyard. He wants to check on how a friend, Capt. Ed Farley, is coming along with his restoration of the 122-year-old Delaware Bay oyster schooner KATHRYN M. LEE. At the boatyard, Swain finds the 85' schooner on jackstands, fully reframed and replanked with her bulkheads and deckbeams in place. A shrink-wrapped cover protects her from foul weather, but it looks as if no one has been working here for some time. "She's an amazing and historic boat. I sure hope Ed gets her done," Swain says, ever hopeful.

Then we head back to the Subaru to continue the drive, and he entertains dreams of other schooners. One of them





is a 45′ three-master that he constructed and sold to a minister on Martha's Vineyard, Massachusetts. Another is the E.E. MOORE, which Swain built for his own use and named after his grandfather. He built her in his mind while on back roads searching for timber for SULTANA. Then, slowly, he got some extra money and built her in wood.

The MOORE is a 36' Strait of Juan de Fuca sharpie schooner based on drawings of a boat that Chapelle documented. But in typical Swain fashion, he imagined improvements on the traditional design and wedded a Chesapeake-style "patent stern" and masts on tabernacles to his version of the West Coast workboat. He and fellow carpenters Nick Biles and Dominic Dragotta took nine years building the MOORE between their other projects, finally launching the schooner in 2012. Over the past decade, Swain and his wife went adventuring in their schooner to Tangier Island, Virginia, on the lower Chesapeake, where the Swain Memorial Church is named after his great-grandfather. At one point, he and Dragotta circumnavigated the Delmarva Peninsula in the MOORE. On another voyage, they spent five weeks traveling up the East Coast, Hudson River, and Erie Canal, sometimes accompanied by Bookwalter. It was the longest vacation of Swain's life.

In spring 2024, Swain and Bookwalter sold the MOORE, feeling that it was time to pass her on to a younger sailor with the energy to enjoy all those strings a schooner has to pull.

"We're not without boats," Swain says. "Somebody gave us the hull for an unfinished fantail trawler. I'm going to make her a cruising boat."

House and Shop

It's late afternoon when Swain and I get back to his home and shop. The house is loaded with whimsical peaks and angles and large windows opening into the forest. The interior walls are lined with shelves of nautical books and decorated with lines drawings and paintings of traditional watercraft. Boat models are everywhere. The shop is a barn surrounded by a half-dozen boat projects in various stages of completion.

It's almost suppertime, and Bookwalter is preparing pork tenderloin with local sweet potatoes and green beans. But Swain and I have time to head out into his shop and contemplate the projects he has underway. He goes to a shelf over a workbench and pulls out three very large slicks. His favorite has a blade fashioned from a leaf spring that belonged to a military half-track vehicle and a handle made by one of his idols, the legendary Chesapeake boatbuilder "Mister Jim" Richardson of Cambridge, Maryland. The Chesapeake Bay Maritime Museum has a buyboat in its collection named the MISTER JIM in honor of Richardson. Not surprisingly, there is currently a 46′ buyboat being built by Jim Drake and his wife, Brooke, in Mount Airy, Maryland, named the JOHN SWAIN.

If someone told Swain that at this point in his career he has completed a body of work that is every bit as impressive and historically significant as Richardson's, he would shrug it off and simply say, "I try to build stuff that lasts."

"John's so modest," McMullen says. "But I sincerely doubt there is another traditional boatbuilder in America with his patience, craftsmanship, intuition, and people skills."



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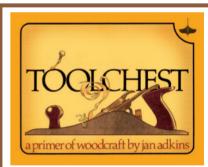
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Right-Swain launched the sharpie schooner E.E. MOORE in 2012 for his own use, and cruised often with his wife, Melinda Bookwalter. Above - The boat was sold in 2024 and today lies in Annapolis, Maryland.

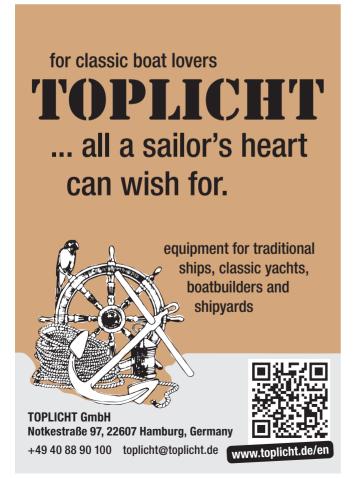
McMullen says Swain was a master at matching the right person with the right job during the SULTANA project. "We had a happy yard," Swain says. That's how he likes to remember building SULTANA.

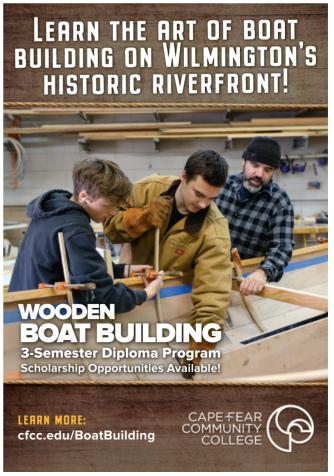
But his mind doesn't linger too long on the past. He's looking forward, eager to spend tomorrow back in his shop and to find some neat way to use Richardson's slick. There is always another boat to finish. Maybe he will start on the deck of a little skipjack stored under a tarp in the yard, or work on the interior of the 28' Ralph Winslow-designed sloop in the main bay of the shop. Then again, he really wants to finish off that fantail trawler hull on the trailer next to the house so that he and Bookwalter can go cruising again. They have yet to cruise the Low Country of the Carolinas.

Randall Peffer is a regular contributor to WoodenBoat.



JAY FLEMING





SHOP-MADE



Illustrations by Isaac Robbins

ast hoops are commonly used on gaff-rigged boats to allow the sail to slide up and down the mast. Hoops are worth extra inspection and care, because replacements are hard to find and expensive to purchase when you do find them. Although they are small, they might seem intimidating to fashion. Bending frames into a small round-bottomed hull is daunting enough, but that tight bend of the circular hoop is enough to make the best builder blanch. How does one make these fittings?

There are, actually, similarities between bending hoops and bending frames. The first consideration for both is stock selection. White oak is a top choice, as are elm, ash, and hickory. Look for straight grain with no imperfections—that is, no sapwood, pin knots, or worm holes. The wood should be air-dried, and moisture content is critical; the greener the stock, the better. It should be as smooth as possible, with the corners relieved so they are not

Then, there is the device to heat the wood to soften it enough for bending. While this can be accomplished by boiling the pieces in a tank, the most convenient and efficient device used

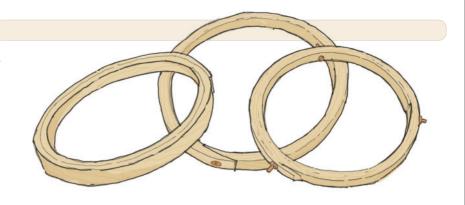
to plasticize wood is a simple steambox. The wood must be steamed for roughly an hour for each inch of thickness.

How do we get that fiendishly tight curve of the hoop? The secret to success is to use a flexible strap on the outside of the curve while bending the stock around a circular jig. The wood on the inside of a curve compresses, while the wood on the outside stretches; steamed wood can be compressed a considerable amount, but it will stretch less than 0.5 percent without failing. The strap keeps the wood on the outside of a bend from failing.

Above – Mast Hoops are commonly used on gaff-rigged boats such as the Haven 12½ seen here. There are a few companies offering replacements, though owners with modest skill and equipment can make their own.

1. Types of Mast Hoops

There are three different types of mast hoops: solid wood joined with a scarf fastened with copper rivets and maybe adhesive; laminated, using two or more wraps and fastened with rivets or glue along the perimeter of the hoop; and bolted, which can be handy for large hoops. Bolted hoops have one advantage: they may be unbolted, installed on the mast, and re-bolted without removing any rigging.



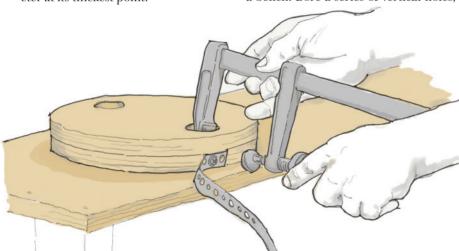
2. Building the Bending Jig

Begin by determining the inside and outside diameters of the mast hoop. It's ideal to have an original to use as a pattern, but if one isn't available you can use this general rule: the inside diameter (ID) of a mast hoop should be 25 percent greater than the mast's diameter at its thickest point.

One easy approach is to trace the ID onto a couple of pieces of ¾" plywood, cut them out with a bandsaw, then stack these discs together and fasten them with glue or screws. Mount the stacked discs on a board large enough to allow you to clamp or screw the assembly onto a bench. Bore a series of vertical holes,

making them large enough to accept the gripping end of a sliding bar clamp, around the perimeter of this stubby plywood cylinder.

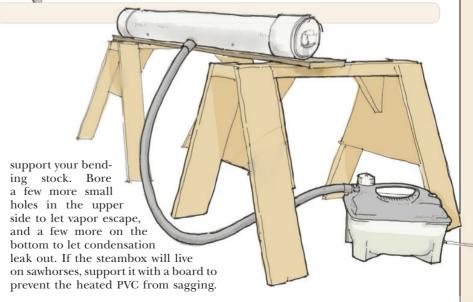
Next comes the bending strap. While straps are available commercially, they are perhaps overkill for our purpose. A good alternative, available at any hardware store, is the ubiquitous perforated steel hanger strap (aka plumber's tape), measuring 3/4" wide (1" is also available). It's cheap, already drilled with holes, flexible, and malleable. And it is galvanized. Steamed woods high in tannic acid, such as red oak or white oak, will develop a purplish or black stain when exposed to a black-iron strap. The zinc coating prevents this nuisance. Plumber's tape is easily cut to length with tin snips. Screw one end to the plywood cylinder, and fasten a dowel pull handle (like on a lawnmower pull cord) to the other end.



3. A Simple Steaming Unit

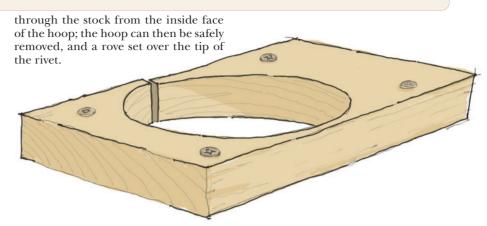
Now it's time to set up our steaming device. When I work indoors, I use the Earlex electric steam generator (see a review in WB No. 228). It's as safe as using an electric kettle; cranks out plenty of steam; and comes with a long, flexible hose and a fitting that screws into the steambox.

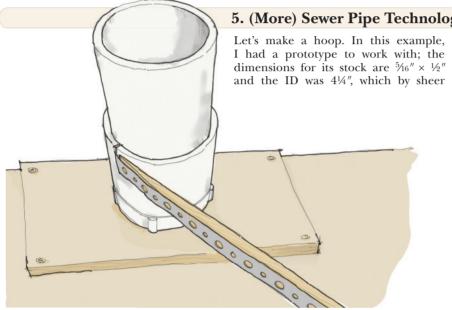
The "box" portion of the setup requires a trip to the plumbing section of the hardware store. A short length of schedule 40 PVC sewer pipe is tops for the job. A length of 4' will be plenty. Also, get the threaded sewer pipe cleanout adapter (with the screw-in "nut," which will serve as the door), and a cap for the end. Bore a hole in the pipe and thread it for the steam generator's hose fitting. Bore matching horizontal holes to install transverse dowels to



4. Hoop Keepers

When the clamps are released from steam-bent stock, the stock will spring back somewhat. To maintain the desired shape and allow for production work, cut out a series of circular holes the size of the exterior of the hoop into pieces of wood. You can safely park your bent stock in these until you finish bending the rest of the hoops; then they can all be fastened at the same time. I like to cut a slit into the sides of the circular holes that allows me to bore a rivet hole through the two mating pieces of the hoop. A rivet can then be inserted





5. (More) Sewer Pipe Technology—A Bending Jig

coincidence is the outside diameter of a 3" PVC threaded sewer pipe clean-out adapter. The accompanying screw-in cleanout plug, with its square thickening nut on the end, was just the ticket for securely mounting the adapter into a square hole mortised into a board. The plumber's-tape bending strap described above is attached to the jig. To prepare for the bend, the jig must be securely clamped to the bench and a couple of deep-throated sliding bar clamps, used to hold the bent wood to the jig, must be rounded up.

6. Fabricating the Stock, and a Piece of Pi

Let's start with making the scarf-joint version. This is perhaps the more persnickety version, because the length of the stock has to be exact for the 10:1 scarfs to match up. One way is to take the diameter of the outside of our sample—4\%"—and crank it through the formula for the circumference of a circle, $C = \pi d$, where C is the circumference and d is the diameter. The result of that math is 15.236724". Add 11/2" for the scarf, and we end up with 163/4" of length.

If applied geometry does not appeal, there is the graphic method: loft out the hoop full size using a pencil compass. First draw the inner face, then expand the compass by 1/4" and draw the outer face. Draw in the scarf joint. Then "walk" around the outer perimeter with dividers to get the distance. Add the 11/2" for the scarf, and you are in business. Probably. Don't cut all your stock

until you have bent one or two pieces to make sure you have indeed arrived at the correct length.

Your bending stock will tend to dry out quickly after it has been milled. To slow this process, place the stock in a plastic bag or, better yet, keep it submerged in a tank of water.

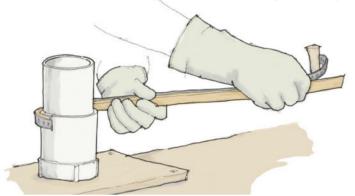
7. Bending the Hoop

This operation requires speed, so before firing up the steambox, be sure you have all your tools at hand. The jig should be tightly fastened to the bench, clamps should be at the ready, and the drill set to bore holes for the rivets (No. 14 rivets and burrs, in this case). Have a pair of welder's mitts ready to go for handling hot wood. Make sure that steam is roiling out of the box, and only insert a couple of pieces of the stock at a time; the steaming time mentioned earlier (one hour per inch) means that 15 minutes will likely be enough for these 1/4" pieces; much more than that will overcook the pieces.

A dry run is a good idea. Insert a piece of unheated stock in between the jig and the bending strap with the flat back side of the tapered scarf against the round of the jig. Bring the strap and stock together and grasp both tightly so the wood cannot slip. (The wood must be kept under compression during bending.) Look around and check that you will be able to swing the stock and strap around the jig without running into anything. Also, confirm that your sliding bar clamp has enough depth to grab the bent hoop to hold it in place until it cools. With that done, you're ready to go.

Remove your hot stock from the box and swiftly wrap it around the jig and clamp it. If you're lucky, the scarf will overlap exactly. If not, you can modify the next pieces of stock to be either longer or shorter. After cooling, the bent stock can be inserted in one of the hoop keepers with the overlapping scarf aligning with the rivet-boring slot. If the hoop is a little out of round, you can use small clamps to pull it to the side of the round keeper.

Bend the rest of your hoops and park them in the keepers.



8. Fastening

You can now bore for the indexing rivets and insert the copper nails from the inside. Thus fastened, the hoop can be removed and the rove appliedand a second hole can be bored in the scarf and another rivet installed. For a deluxe, belt-and-suspenders version, you can rivet and glue the scarf with an oakfriendly epoxy, such as G-Flex, or a polyurethane glue. After boring your index hole, remove the hoop, insert the adhesive in the joint, and reinsert the hoop into the keeper-after you have lined the interior with a protective plastic film that won't stick to the cured glue. After the glue has cured, install the other rivet.

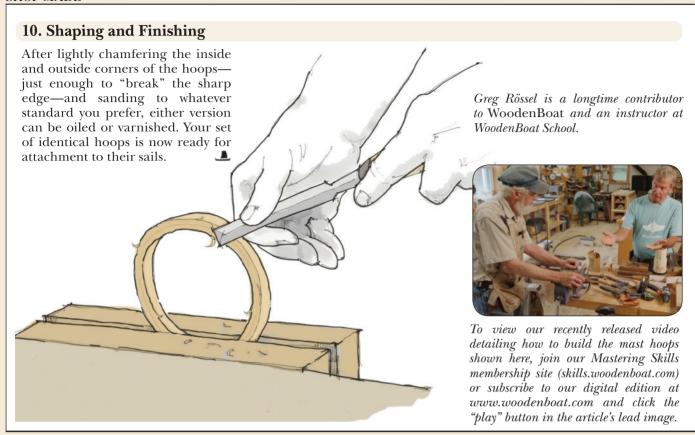






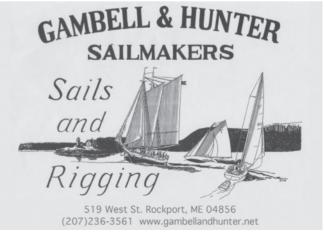
There's much to be said for a laminated hoop (in this case, two layers, each 1/4" thick). The stock is roughly twice the length of the single-thickness version. The tapered ends are less dependent on fitting the mating scarf exactly. One difference between this version and the riveted one is that instead of mating scarfs on opposite sides of the hoop stock, the tapers are planed to feathers on the same side of the wood. The bending technology is the same. When using the bending strap, you'll be wrapping around and around, and as with the scarfed version, the bent wood on the jig is clamped until cooled and

placed in the hoop keeper. Use small clamps to pull the laminations together and tighten them to the inside face of the keeper. The rivet index hole is also drilled the same way. On a small hoop such as this, four or five rivets spaced around the circumference should do it. These hoops are also good candidates for gluing. While the hoop is in the keeper, mark in pencil where you do not want the glue to be. Take the hoop out of the keeper and anoint the rest of the surfaces with adhesive, then reinsert it into the plastic-lined keeper and tighten and clamp the laminations to the keeper's inside face.









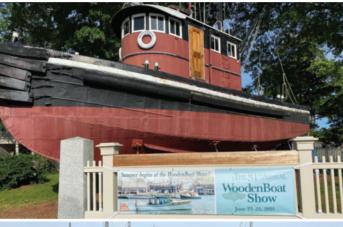


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WOOD TECHNOLOGY



Driftwood Scavenging

Reclaiming timbers from ocean wreckage is a centuries-old enterprise practiced by many cultures, especially those who lack land-based timber resources. Inuit of the Arctic regions, South Sea islanders, and even Newfoundlanders who lack diversified forests have sourced wood from beach flotsam. Finds can range from shipwrecks to logs accidentally freed from water-transport rafts.

While still an important source of timber in a few places, the diminishing supply of large wooden ships and the declining practice of rafting logs to sawmills have combined to reduce the supply of wood flotsam at the same time that plastic and other manufactured ocean debris has been on the rise.

Yet one can still find occasional logs or other timbers washed up on coastal shores, as an email from reader Mike Parent affirms. He wrote, "I live in Puget Sound, 6 miles southeast of Port Townsend, Washington. In 2005, I came across an Alaska yellow cedar log 28'long with a 28" butt. It has been sitting on our beach for years, out of the water most of the time. Would the lumber from this log still be usable for boat planking after 25 to 30 years? If the lumber is still usable, would there be any special precautions I would need to take when planking?"

Salt Seasoning

Logs or other timbers that have spent many months or years floating in a marine environment before reaching a shore will have exchanged the living tree sap with seawater, thus absorbing marine salts that include not only sodium chloride but also other anions and cations, including relatively large quantities of arsenic. These salts provide a good measure of decay resistance, especially for the sapwood, which is rot-prone even in decay-resistant species such as Alaska yellow cedar (*Cupressus nootkatensis*).

After the log has been deposited on a shore some of

After the log has been deposited on a shore, some of those salts may be leached out when exposed to rainstorms. But if the wood is bathed in seawater at high tides, salt extraction may be minimal. If the log is high and dry, the sapwood may, over time, be subject to decay, but the heartwood should be unaffected.

Long immersion in saltwater has another favorable effect: it improves dimensional stability, reducing shrinkage or swelling with environmental changes. For this reason, logs washed ashore often do not develop the kind of severe checking and splitting that would occur in a log that is drying on land. This is why logs waiting to be processed at sawmills are often kept under continuous water spray.

Beached logs will have originated from trees with moderate to low wood density. Generally, wood species with specific gravities above 0.80 will sink quite soon after immersion—and more rapidly in fresh water than seawater. When logging operations depended on floating logs downriver to sawmill destinations, high-density woods were avoided. In tropical America, this meant moderate-density woods such as mahogany (Swietenia spp.) and Spanish cedar (Cedrela odorata) became well-known commercial species while higher-density tropical species had to wait until truck and rail transport permitted exploitation. The relatively recent trend toward the use of high-density porch and deck woods such as ipe (Handroanthus spp.) and tigerwood, also known as goncalo alves (Astronium spp.), is one consequence of over-

land log transport. Tigerwood has a specific gravity of 0.8 to 0.91, while ipe ranges from 0.91 to 1.10, the latter higher than water's 1.0.

I am reminded of an incident that happened on a tiny, offshore island on the coast of Maine about 35 years ago, when the manned lighthouse there was to be converted to an automated light. This necessitated the construction of a helicopter pad for routine servicing of the light. Borneo ironwood (*Eusideroxylon zwageri*) was

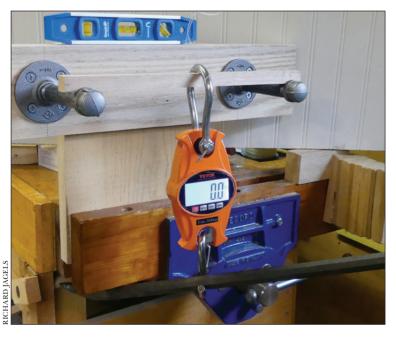


Photo 1—A simple device for measuring comparative wood-bending strength characteristics uses a pair of ½"×5" black-iron pipe nipples capped and screwed into pipe flanges mounted 12" apart on a 5/4-thick oak plank. When this assembly is clamped into a bench vise and leveled, a hanging-crane scale with 300kg (660 lbs) capacity measures the bending force to the point of fracture.



chosen as the pad construction material. A U.S. Coast Guard vessel ferried the wood to the island, but with no safe landing place, the wood was dumped overboard to be floated to the island. With a specific gravity of 0.86 to 0.92, the logs promptly sank to the ocean floor.

Sinker Logs

While logs beached on ocean shores may be protected from rot by seawater immersion, logs that litter rivers or freshwater lake shores will rot within a short time unless the heartwood is naturally decay-resistant. In that case, the sapwood will likely deteriorate and may surround a sound heartwood.

If, instead of floating, the logs have a specific gravity high enough to sink within a short time, the wood will be protected from decay fungi due to lack of sufficient oxygen. If water depth is not too great, these logs can be retrieved decades later and produce usable boatbuilding wood. Articles in *WoodenBoat*, and Wood Technology in WB No. 175, have addressed uses of sinker logs.

Inspect and Test

Inspection of the log by prodding with an ice pick and, if possible, an increment corer, should be the first step in assessing whether a log is sound. If these steps don't reveal wood decay, a cost analysis is a useful next step. What will it cost to get the log or log segment to a saw-mill, and will those costs combined with milling costs be substantially less than purchasing green, rough-sawn lumber of equal quality? If you go forward, you need to recognize that you will be accepting some level of risk. And before you invest any dollars, you will likely need to check with local authorities to determine whether you can legally take possession of a beached log, which may depend on whether you own the beach.

Finally, if you decide to turn the log into lumber, you might want to do some further testing of the wood

Photo 2—Using small-dimension beams cut to identical dimensions, comparative breaking strengths can be tested. The top example shows an example of a brash break, a characteristic of weak wood. The long-splinter break in the bottom example demonstrates strong wood.

before final milling for use as boat planking. A simple test involves sinking a knife blade into a wood sample at about 45 degrees to the long axis of the wood fibers and lifting sharply to pop out a sliver of wood. If the sliver is relatively long and pointed at the end, this is evidence that the wood is not "brash," a term used to describe brittleness, an indicator of possible incipient decay. A short sliver with a blunt end may be a sign of some wood deterioration. A comparison with a known sample of sound wood of the same species will confirm these results.

A more quantitative test involves performing a bending test on a small beam. The American Society for Testing Materials (ASTM) establishes standards for testing wood-strength properties, but this involves expensive testing equipment beyond boatbuilders' pocketbooks. I have made a simple apparatus that uses smaller beam sizes than that used in formulating the ASTM standards to get a rough idea of wood bending strength (photo 1). Two ½" × 5" black-iron pipe nipples are capped and screwed into pipe flanges that are spaced 12" apart and screwed onto a 5/4 oak plank. My apparatus is clamped into my workbench vise and leveled. I use a digital-readout, hanging-crane scale with 300kg (660 lbs) capacity, and I recommend at least 150kg capacity. This is not a spring scale, so scale movement is basically eliminated as load is applied. With a heavy pry bar, I very slowly apply leverage on the hanging hook until the beam fails. A 150-lb-test monofilament safety cord hung from the ceiling prevents the scale from crashing to the floor as the beam fails. You will not likely catch the final scale reading before failure, but, more important, in addition to rough load capacity you will be able to examine the type of failure. In photo 2, the top example shows a brash break of weak wood compared to the long-splinter break of strong wood shown at the bottom of the photograph.

I use square beams, $13\frac{1}{2}" \times \frac{1}{2}" \times \frac{1}{2}"$ for most woods. For very strong woods, I reduce beam size to $\frac{3}{8}"$, and for exceptionally weak woods, I may increase to $\frac{5}{8}"$. These beam sizes are smaller than ASTM standards and only provide very rough results, useful for comparative assessments.

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.

LAUNCHINGS

Edited by Christopher Cunningham

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. Send no more than five photographs (jpg images at 300 dpi) and enclose a SASE if you want anything returned.







The 56′ VALKYRIE, built by F. Jay Smith of Anacortes, Washington, was launched in March 2024. Commissioned by David Knudson to fulfill a promise to his Danish-born father to build a Viking ship, the project spanned 16 years. The hull is planked with Alaska yellow cedar and the keel, carved stems, and frames are of Oregon white oak, with many of the curved pieces harvested from the crooks of standing trees. The construction was done with traditional methods right down to using hand-forged iron rivets. VALKYRIE, the culmination of Smith's four decades of research of Viking ships, sails the Pacific Northwest's Salish Sea.



After his 40th birthday, when Derick Davis of Charlottesville, Virginia, was given tuition to attend WoodenBoat School in Brooklin, Maine, he and his best friend, Seth Noble, enrolled in John Karbott's Introduction to Boatbuilding class. During the weeklong class, the two, along with classmate Tony Turmel, did much of the work on a Karbott-designed 12′ semi-dory. The construction was completed by the end of the week, and Derick brought the boat home. His plan to finish the boat with paint and varnish was delayed by two years until he and Seth reunited to get the semi-dory ready for the water. In May 2024, Derick launched RUTHIE at Piper Pond in Abbott, Maine, where he has a camp and is introducing his two sons to the pleasures of a wooden boat.



Jim Cox of East Aurora, New York, built two 11' Solo canoes designed by Hillary Russell, and enjoyed them so much that he decided to build a smaller version for his young family members. He scaled the plans down for an 8' version with a beam of 22". The weight of the finished kids' canoe was just 15 lbs, easily managed by even the youngest. MUNCHKIN was launched in summer 2024 at a pond at Jim's brother's home in nearby Colden, where his grandchildren were waiting to take the first outings. Later that summer, Jim took the canoe to Chandos Lake, Ontario, for more kid testing. While the youngsters in the family have taken well to MUNCHKIN after getting used to its nimble feel, they'll soon grow out of her and Jim plans to design and build the next size up.

I COX

JAY SMITH (TOP LEFT); PENELOPE

LAUNCHINGS





Students at the Santa Barbara (California) Middle School built a François Vivier–designed Kernic from a kit supplied by Chase Small Craft of Maine. The project was a weekly yearlong drop-in elective class for the sixth to ninth graders, who worked under the direction of Eric Bridgford of Carpinteria Boat Works. The 18'8" boat was launched in late September 2024 and will become part of the school's outdoor program. Plans are afoot for an exploratory trek to San Francisco Bay. The boat awaits a name, likely to be bestowed by student cruisers.



The Brickyard Collaborative is a well-equipped "makerspace" serving the community in and around Lynn, Massachusetts. Among the opportunities offered in 2024 was a boatbuilding program for students at Lynn English High School. The five participants built a Periwinkle Junior, designer Nat Benjamin's 10' interpretation of the classic New England flat-bottomed skiff. The boat, built with a $\frac{3}{8}$ " plywood bottom and two topside strakes of $\frac{1}{2}$ " pine, was launched in June 2024 and christened THE ENGLISH BULLY, a reference to the school's bulldog mascot. She was donated to a nonprofit organization, Kayak and Sail Lynn, for use by students and military veterans.





After Ioanna Moutousidi and Giannis Bormpantonakis both completed boatbuilding apprenticeships, they set up shop on Syros, a Greek island in the Aegean Sea halfway between

Greece and Turkey. In April 2024, they finished work on a Spitfire, Paul Gartside's design No. 177. Their 10' lapstrake pram for oar and sail is traditionally built of pine, spruce, oak, and elm, with planks copper-riveted to steam-bent oak frames. The couple christened the pram FAFAFINA, and while they enjoy rowing and sailing her, she'll be a fixture at their shop as an example of the fine work they do.



FANI SKOULIKIDI BOUKOUVALA

LAUNCHINGS



In June 2024, boatbuilder Elijah Davis of Portland, Maine, launched a Point Comfort 18. The 18'3"×5'5" outboardpowered skiff was designed by Doug Hylan, who drew inspiration from Chesapeake deadrise workboats whose bottoms were cross-planked to take the twist between the keel and chines at the forward end. The forward portion of the Point Comfort's bottom is cold-molded and the rest of the hull is planked with okoume plywood. To better accommodate passengers and clear a path amidships, Elijah eliminated the design's central thwart and instead installed side benches that run the length of the cockpit. He had intended to sell the Point Comfort upon finishing it but took such a liking to the boat that he decided to keep it. He christened her MARLEY and cruises her in his home waters of Casco Bay as well as farther east on Penobscot Bay.



A western red cedar had been leaning over Klaus Brauer's driveway on San Juan Island, Washington. When the time came for it to be taken down, he decided to take the log cut from its trunk and put it to good use. He carved it into the 18' main hull—hiwi—of a Micronesian proa. For the

outrigger, he shaped a driftwood log, split it in half, hollowed it out, reassembled it, and filled it with expanding foam to assure its buoyancy. While the spars for the Oceanic spritsail are traditional bamboo, the beamskiato-connecting the hulls are, for safety's sake, foamfilled aluminum tubes. Klaus launched WHITUPAU in August 2024 and now day sails the waters of the San Juan Islands with an eye to cruising north into Canada's Gulf Islands.







It took Gitijang "Stormy" Hamar of Kasaan, on Prince of Wales Island, Alaska, two years to carve a western red cedar log into a Haida-style canoe. As a child, Hamar paddled a dugout canoe to school, and he later served as an apprentice to the late Stan Marsden, a Tsimshian master carver and fellow islander. Hamar is a founder of the Haida Canoe Revitalization Group, and his newly launched canoe is the fourth he has carved. With a length of 30' and a beam of 4'1"—achieved by heating water in the canoe to allow the sides to be bent outward—it carries a crew of 10 paddlers with a helmsman. XAADAS TLUUWÁAY, meaning "the people's canoe," was launched in May 2024 and has her home waters in Kasaan Bay, 30 miles northwest of Ketchikan.



... AND RELAUNCHINGS







BARBARA SUE is a 1955, 15' Tollycraft Roustabout that had been stored on a trailer in an Idaho barn for more than 30 years. Barbara Sue Adams of Moscow, Idaho, bought her for her husband, David, to restore. David stripped everything back to bare wood, replaced damaged planks, patched leaks, and filled seams with epoxy resin. He also rewired the lights and refinished all the wood. BARBARA SUE was relaunched in 2020.

Almost immediately, it became obvious that more work was needed. Over the decades of sitting on the trailer, the hull had distorted and developed tiny leaks that David didn't identify until BARBARA SUE went back in the water. The second stage of the restoration included refairing the hull and addressing the leaks. BARBARA SUE, powered by her original Evinrude 30-hp outboard motor, was relaunched in June 2024 in Lucky Peak Reservoir, Ada County, Idaho.





PARNASSIUS is an 18' sailing dory based on the 1936 Sam Crocker-designed Compass class. She was built as ALICE in 2007 by Ray Heus in the Cape Cod town of Orleans, Massachusetts. In 2023, she was bought by Thierry Copie, also of Orleans. She had been out of the water for about five years, stored on blocks in Ray's barn. Thierry says she was in good shape but in need of some attention. Penn Colbert of East Orleans recaulked, reprimed, and repainted the hull—in a custom color Thierry calls "Cape Cod Sunset Red"-and refinished her canvas deck and all of her brightwork. Penn also fitted an auomatic bilge pump and an electric motor. PARNASSIUS was relaunched in June 2024; her homeport is Kescayogansett Pond, Orleans. At the 2024 Arey's Pond Boat Yard Cat Gathering on Pleasant Bay, PARNASSIUS received the Special Restored Boat award and Thierry and Penn sailed her to a fourth-place finish in the Traditional Class.



The origins of the currach that Cian Mac Donnacha restored aren't clear, but it's likely it was built in the early 1900s by Paddy and Joe Casey, two brothers who built boats on Mweenish Island just off the central west coast of Ireland. While canvas-covered currachs are more common, this boat—in Irish called a *currach adhmaid*, or wooden currach—is carvel-planked. With a length of 18' and a generous beam of 5', it would have been built as a workboat for fishing and seaweed harvesting on the Atlantic coastal waters surrounding the island. Cian rebuilt the boat during winter 2023, replacing all the sawn-oak frames and refastening the larch planking with galvanized boat nails. The currach was relaunched in summer 2024.

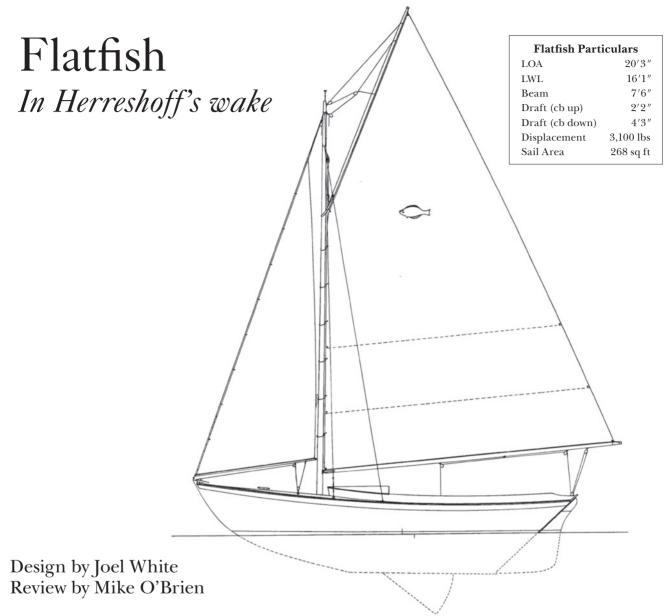
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- 2. Stow fenders and extraneous gear out of the camera's view. Ensure the deck is clean and uncluttered.
- Take your photographs in mid-angle sunlight for best results. Mid-morning or mid-afternoon usually work well.
- 4. Keep the horizon level and the background simple and scenic so your boat stands out from its surroundings.
- Take some pictures of the boat underway and some at rest. Often a vertical format works well for sailboats. Shoot a lot of images, then 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.



DESIGNS: REVIEW



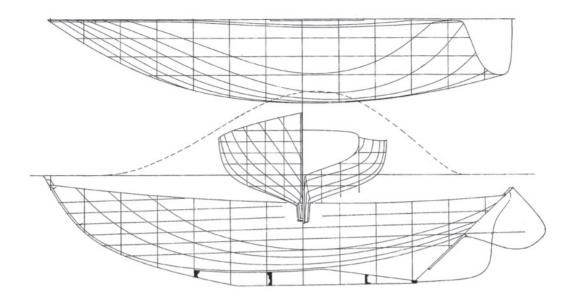
he 20'3" Flatfish sloop, created by Joel White, is a larger cousin to the boat that many folks consider the finest daysailer at the WoodenBoat School waterfront: the Herreshoff 12½ (see WB No. 300)—the timeless Nathanael Herreshoff design known in various iterations as the Buzzards Bay 12½-footer, Buzzards Bay Boys Boat, Doughdish, or Bullseye.

In *WoodenBoat* No. 57, Maynard Bray explains the genealogy that might have led to such admired char-

acteristics. Herreshoff spent the winter of 1911–12 in Bermuda. While there, he would have observed the local fitted dinghies racing under clouds of unrestricted sail area. These dinghies were called "fitted" because the original boats were working craft fitted with racing gear for weekend sport. CONTEST, a dinghy designed and owned by Henry Masters, was a frequent winner.

The following winter, Herreshoff returned to Bermuda, bringing with him a new boat that seemed to show CONTEST's influence: a striking bow with some hollow to the waterlines, well-proportioned sections, and a raked transom stern. ALERION, as the new boat was called, now rests at Mystic Seaport Museum in Connecticut. If you are fascinated by boat design, you might want to spend a rainy afternoon studying her hull from various angles. I did just that a long time ago, and the old boat taught me more about shape and flow than any textbook could. Go and stare. Never mind the curious gaze of casual visitors.

Joel White's Flatfish design is a centerboard modification of the N.G. Herreshoff–designed Fish class, which is an enlargement of the legendary Herreshoff 12½.



The Flatfish's draft is shallower than that of the original Fish class, and the boat has more beam to offset this stability factor. White went to great lengths, however, to retain the character of the original boat.

In addition to the Herreshoff 12½ (15′10″ LOA, 12½′ LWL), other shape-related boats followed ALERION: the Buzzards Bay 25 (32'6" LOA), and the Newport 29 (35'6" LOA) appeared in 1914. Then, in 1916, working to the model he'd used for the 121/2, Herreshoff developed offsets and construction drawings for the 20'9" LOA Fishclass sloops. By all reports, the new boat did just about everything as well as the highly regarded 12½. Of course the Fish class, with its longer waterline, often sailed faster and its small cabin offered real pocketcruising potential.

Almost 80 years after the first Fishclass sloop hit the water, designerbuilder Joel White decided to draw a shoal-draft keel-centerboard variant of that fine old boat. However, hulllines drawings for the Herreshoff design were unavailable. Fortunately, an unrestored Fish named MERRY HELL was at Mystic Seaport, and so was Maynard Bray. He measured that boat and passed the results to White, who then drew a lines plan.

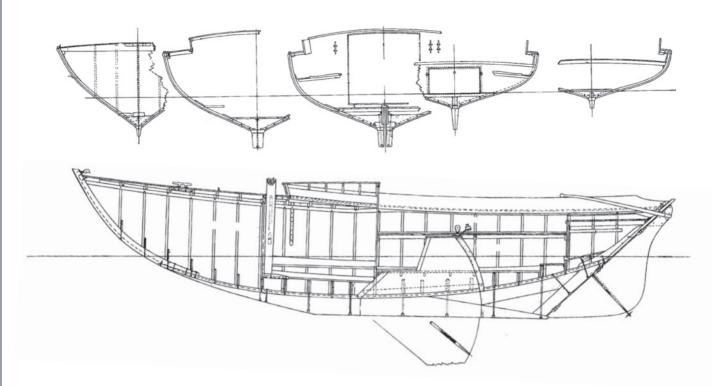
Beginning with this representation of the Herreshoff Fish-class hull, White created his Flatfish. He was determined to keep the following items unchanged: the profile above the waterline, the sail plan, stability, and displacement. To help achieve this in a hull of less draft, he increased the beam. Flatfish's higher keel-rabbet line demanded less deadrise, but he made every effort to retain the "character" of the original sections.

The Flatfish drawings, printed on six large paper sheets, also retain the general character of the sloop's predecessors, including the scantlings. Thus, we're instructed to build the hull plank-on-frame, with $\frac{5}{8}$ " cedar strakes over $\frac{7}{8}$ " × $\frac{7}{8}$ " steam-bent oak frames. White does stray from tradition slightly where updates make good sense. For example, the deck

and cabintop will be of \%" mahogany plywood sheathed with Dynel set in epoxy instead of canvascovered cedar.



A builder may choose the gaff sail plan (opposite page), or Bermudan (above).



The boat is planked in 5/8" cedar on 7/8"-square steam-bent oak frames. Cold molding is an option.

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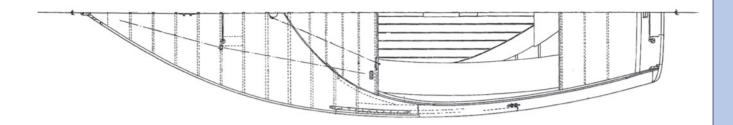
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With it's wider beam, the Flatfish's cockpit is roomier than that of the Fish class.

Some years ago, White performed similar design surgery on the much-loved Herreshoff 12½ to create the keel-centerboard Haven 12½ class. Several examples of both types spend their summers at the WoodenBoat waterfront. They often sail in company, and they race in the same fleet. The difference in performance, if any, is so fine as to be masked by variations in the quality

of sails and crews. Both classes sail so well and feel so good. To many of us they look equally beautiful.

The Haven's cockpit is slightly roomier, and firmer bilges give it more initial stability than its older near-sister. For a detailed description and comparison of the Herreshoff and Haven 12½-footers, see "The Commencement Boats" in *WoodenBoat* No. 300.

Joel White's 20' Flatfish combines the happy traits of its smaller cousins with more speed, more space, and the chance for weekend cruising.

Mike O'Brien is boat design editor for WoodenBoat.

Flatfish plans are available from The Wooden-Boat Store, P.O. Box 78, Brooklin, ME 04616; 800–273–7447; www.woodenboatstore.com.



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Pacific Voyages

Reviewed by Bruce Kemp

Pacific Voyages: The Story of Sail in the Great Ocean, by Gordon Miller. Douglas & McIntyre, www.douglas-mcintyre. com, 2023. Hardcover, 264 pp. \$49.95 (CDN \$59.95).

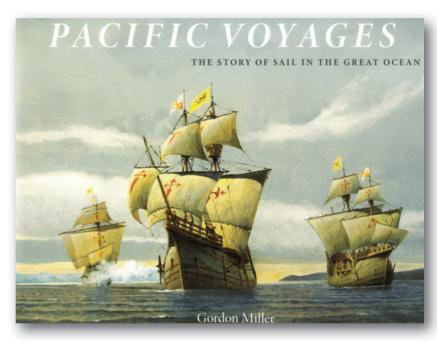
Too often, North Americans look east, to the Atlantic Ocean, as the body of water that saw history's most important maritime discoveries. The outward sprawl from the Mediterranean by the Phoenicians, the Vikings

in Newfoundland, Columbus arriving in the Caribbean Islands, and others are well studied and understood. The Atlantic, the geo-center of western commerce for nearly a millennium, is the cultural shore westerners stand on.

The Pacific receives far less attention, even though it is the biggest geographical feature on the planet and the history of its exploration is no less fascinating than that of the Atlantic. Gordon Miller, a Canadian writer, goes a long way to redress the situation with his new book *Pacific Voyages: The Story of Sail in the Great Ocean. Pacific Voyages* ticks all the boxes for readers who want to understand the Pacific and humanity's expansion in the region.

Beyond the mercantile class and empire-building governments, if people thought anything about the Pacific, it was as an intimidating body of water that needed to be avoided at all costs. They didn't give much consideration to the Pacific's initial cultural and trade development until the mid-19th century.

We now know, as Miller points out, that the earliest Pacific explorers traversed the ocean's expanses.



"When Europeans had as yet barely sailed beyond the sight of land, these oceanic wanderers had discovered and colonized an area of the ocean greater than North and South America combined." It wasn't until the copra trade and agricultural industry (think Hawaii and pineapples) that the vast number of islands in the Pacific basin received any recognition, and only the threat of loss to Japan in World War II drove us to study the region in greater depth.

Studying the Pacific's precolonial period was hindered by the lack of written records until 400 years ago. The information existed, but western academics' distrust of the oral tradition discounted it. Western anthropologists preferred to trust archaeology and awkwardly unprovable theories to account for the spread of Polynesians across the Pacific Basin.

In the first chapter, Miller acknowledges the common belief that the pre-eminent navigators in the Pacific were the Polynesians, and he points out that many current histories discount the Chinese, who were known to have made voyages to India and Africa and who have been purported—with much dispute—to



Departure From Avacha Bay. The Russian vessels ST. PETER and ST. PAUL depart for North America on June 4, 1741.

have reached North America sometime around 1421. The book, however, ignores the coastal voyaging and trade accomplishments of First Nations peoples such as the Haida and Tlingit.

Miller deals with the early settlement by various indigenous groups as best as he can through oral tradition, but *Pacific Voyages* really takes off when he has paper documentation to work with. That documentation begins with Ferdinand Magellan's circumnavigation in 1521. Of the five ships that left Spain in 1519, only one returned, under the command of Sebastian Elcano, the last of five fleet captains. But it wasn't Elcano who reported on the journey. Elcano took over command of the expedition after Magellan was killed in the Philippines. But it was a young Italian nobleman who took part in the voyage, Antonio Pigafetta, who wrote a book upon the fleet's return, giving us the first maritime adventure book.

The subsequent 20 chapters of *Pacific Voyages* cover all aspects and motives of Pacific exploration and include characters and nations such as Indigenous Peoples, Malay/Indonesians, Russians, and Chinese—people who don't typically appear in western school texts. These chapters also cover the first western shipbuilding on the Pacific coasts.

Miller was born in Winnipeg, Manitoba, about as far away from the ocean as you can get in North America, and grew up sailing prams on the Red River. "When I graduated from high school at 16," he writes, "I was sure of only two things: I wanted to be an artist, and I wanted to live where I could sail on the ocean." He did both. He recounts having owned three boats—a wooden Bristol Bay gill-netter, a 12-ton foamcored Stan Huntingford–designed ketch, and

a 27' Ted Brewer-designed sloop. For 60 years, he cruised the waters between Puget Sound and Haida Gwaii (formerly the Queen Charlotte Islands) and "at 85, I realized I was no longer strong enough to handle the boat in a blow, and reluctantly swallowed the anchor."

Miller admits to having no interest in history in school. "It seemed to consist mainly of memorizing dates of kings and battles. In 1965 I joined a firm of professional designers contracted to create the first four galleries in the new Vancouver Museum being built for Canada's cen-

tennial. I later became the museum's chief designer, a position that included design responsibilities for the Vancouver Maritime Museum.... It was during these ten years, working with historians, anthropologists and archaeologists, that my interest in history was kindled. It also made me aware of how deficient my knowledge was of maritime history."

His response was simple and creative. "When I couldn't find a single, easy to understand, lineal narrative of ship development and world exploration, I wrote *Voyages, to the New World and Beyond,* and to fill the same gap in Pacific maritime history, I wrote *Pacific Voyages, The Story of Sail in the Great Ocean.*" His historical work was so good, he was named chair of Maritime History by the San Diego Maritime Museum in 2020.

Miller trained as a fine artist when he was a young man, and *Pacific Voyages* is more than just a regurgitation of familiar names and dates; it is a collector's folio of his fine marine paintings. His training, sea experience, and observant eye give him an ability to render sea states and island landings sensitively and accurately. "My paintings," he writes, "are all created to illustrate some event in history, and visual accuracy is my most important objective."



UNION Among the Nuu-Chah-Nulth. UNION was a small New England sloop of about 90 tons. Upon returning to Boston, Massachusetts, on July 8, 1796, she became the first American sloop to sail around the world.

Slocum Alone and Westward Bound. Joshua Slocum sailed from Westport, Nova Scotia, in July 1895 in SPRAY, a once-derelict Delaware oysterboat he had rebuilt, to become the first westward-around-the-world solo circumnavigator.

Many *WoodenBoat* readers will fall in love with *Pacific Voyages* for its elegant production values. It's a substantial, cloth-bound book printed on high-quality coated paper; the type is crisp and the illustrations "pop."

The work of research was time-consuming, "but enough reference is available for most places to create a reasonable representation. And I recruited friends around the world to take photos of places I was never going to

get to [such as the Cape of Good Hope]." He visited many of the sites on the North American west coast, giving him excellent firsthand background reference. "Best of all were places like Drake's Bay [San Francisco]. Ray Aker, who was an expert on 16th-century sail, and Drake in particular, spent a day with us on the California coast, pointing out the careening site" believed to be where Sir Francis Drake paused during his 1577–80



circumnavigation, "and the beach where the Spanish galleon was wrecked."

In the age of tablet computers, tiny phone screens, and the Internet, *Pacific Voyages: The Story of Sail in the Great Ocean*, is a real physical pleasure. It is a joy to hold and a "keeper" for any sailor's bookshelf.

Bruce Kemp is a regular contributor to WoodenBoat.

The Barefoot Navigator

Reviewed by Elliot Rappaport

The Barefoot Navigator, by Jack Lagan. Sheridan House, New York, www.rowman.com. 160 pp., softcover \$19.95. Available from The WoodenBoat Store (www.woodenboatstore.com)

t first glance, the Pacific appears as an unbroken expanse of water—a clear swath of blue across your wall map of the world. A more careful look reveals that this ocean is instead the firmament for a far-flung galaxy of islands, remote dots of dry ground that were all nonetheless fully settled when Europeans first found them five centuries ago. They include Tahiti, Rangiroa, Vava'u, Niue, Raitea, and Rapa Nui, all a thousand miles from anywhere. This miraculous feat of migration was accomplished mostly in canoes, semi-open sailing craft built from logs and plant fibers, steered using a set of navigational skills nearly lost to time.

It's easy to dismiss the wayfinding achievement as a series of lucky chances—a few fortunate souls who got

somewhere amid many others who drowned trying—but the facts tell a different story. The trail of things that the islanders left along their way—tools, words, crop species, and DNA—proves not happenstance but a repeated pattern of travel across these reaches of ocean. A Tahitian plant growing in New Zealand. A stone adze from Hawai'i found in Nuku Hiva. An entire society, spread across every scrap of land in a sea 6,000 miles across.

Can we navigate as the Polynesians did? This is the foundational theme of Jack Lagan's aspirationally titled *The Barefoot Navigator*. The answer: Sort of.

Lagan's first chapters show us that the Polynesians while likely without equal as true passage makers—were just one among many ancient cultures accomplished at marine navigation. A partial list of their contemporaries would include the Arabs, the Phoenicians, and the Vikings, the latter of whom had year-round settlements in North America at around the time that England was first emerging as a single kingdom. The Chinese are also on this list. They are claimed by some to have circumnavigated the globe three centuries before Magellan; this probably didn't happen, but to Lagan it is a question intriguing enough to at least mention, and in any event their long ocean passages are documented. The Chinese had capable sailing craft, skilled navigators, and a set of tools including what was likely the first magnetic compass. All of this came well before the seeds of modern Western navigation had even begun to sprout, in a time nearly unimaginable to the screenbound modern yachtie, swaddled in Gore-Tex and marking off data to the third decimal place.

After his encyclopedic review of pioneering marine societies, Lagan moves on to the key principles of science that any navigator must somehow grasp before setting out: The cardinal directions and the notional framework of latitude and longitude, themselves Western constructs, though anchored by the basic fact that every planned route must entail some measured under-

standing of up-down and backand-forth; sunrise and sunset; and noon, when objects reach their highest point in the sky. Beneath the heavens are the winds—steady in some places, fickle in others—and the waves, giving lie to distant energies and perhaps the presence of nearby land. There is some excellent basic astronomy discussed here, offered up in clear descriptions of what methods past navigators may have used in their work: star compasses, where sectors of the horizon are located by the rising and setting of celestial objects; zenith stars, matched to a certain specific point on earth; and polar bodies, fixed pivots for a rotating celestial sphere. Most of these explanations are admittedly conjectural, since little written record remains of how the ancients actually got things done. What

has survived is a recognition that their methods relied heavily on repetition—much like the fishermen of later epochs who could find their gear offshore without the aid of electronics, fog notwithstanding.

Nainoa Thompson, of Hawai'i's Polynesian Voyaging Society, was a lead figure in a renaissance of traditional Pacific navigation that began in the 1970s. He describes a star compass with as many as 220 objects, a tool built through thousands of hours at sea spent simply staring at the sky. His vessel, HŌKŪLE'A, is a Polynesian double-hulled voyaging canoe launched in 1975 and named for the zenith star of Hawai'i—a bright object in the constellation Boötes that Western navigators know by its Latin name, *Arcturus*. Thompson and the crews of HŌKŪLE'A sailed thousands of miles over the next several decades, guided to remote destinations by the methods he had helped to re-create and returning each time to Hawai'i, their namesake star hanging directly above them in the sky.

While a fully developed Polynesian star compass may exceed the reach of the average enthusiast, many other traditional wayfinding devices can be built at home in an afternoon, and Lagan shares a series of them: A razor-blade compass, the polar stick, the backstaff, the quadrant, and the astrolabe, all contraptions for measuring the angle between celestial bodies and the horizon. These latter tools are all forerunners of the sextant, itself something of an antique to mariners

starting their careers in the current century. Whichever device you favor, Lagan reminds the reader, do not in your enthusiasm look directly at the sun—perhaps an amendment suggested by his lawyer since the original publication of this book in 2006. Also featured among the simple instruments is the humble leadline—which still works as effectively as it always has—and an excel-

lent brief treatment of Western celestial navigation, where concepts such as time and hour angle are explained correctly but at a level less daunting than in the denser treatments of Nathaniel Bowditch or Benjamin Dutton.

It is easy to see that the author is a lifelong sailor and as such infused with a strong thread of the practical. The ancient sailors were certainly the same, and in their moment employed whatever available methods would work: an arduously learned mastery of stars and winds to get close to their destinations, followed by a careful observation of nearshore phenomena—things such as cloud formations, wave patterns, and helpful seabirds to lead them toward land at the right time of day. Lagan, who is no purist, assures us that homeward bound fishing boats and even passing airplanes could be

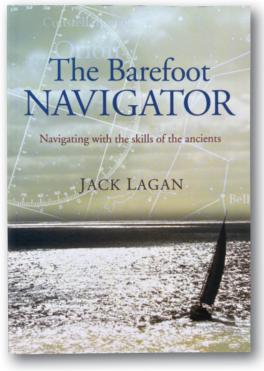
similarly useful in a pinch. I will myself admit to finding Pulpit Harbor, in Penobscot Bay, Maine, one thick August day by the sound of an excavator working on a septic system ashore. I'm sure the Polynesians would have done no differently.

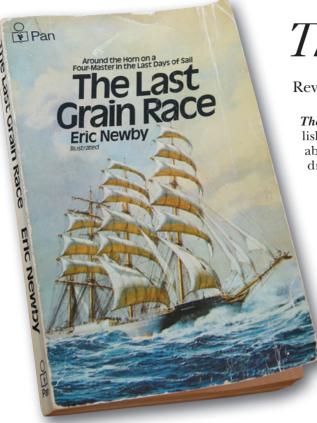
Accomplishments aside, it should be understood that traditional seafaring was practiced with a far higher acceptance of shipwreck as a possible outcome than one would find today. There are no data to tell us how many Pacific sailing canoes or Norse longships failed to complete their voyages, but the number is no doubt substantial. Lagan seems acutely aware of this, and in a brief final section he does his best to be clear that he is not encouraging the reader to cast aside their electronic charts and set out instead with just a leadline and backstaff.

"I hope that this book brings you pleasure and makes you a better navigator," he says. "But go to sea wellprepared and sail safe."

Last comes an appendix of references, starting with a list of survival items that every seagoing vessel should have aboard before casting off. Item one? A portable GPS.

Elliot Rappaport is a faculty member at Maine Maritime Academy and has sailed as a captain since 1992 in sail-training ships and oceanographic research vessels. His first book, Reading the Glass: A Captain's View of Weather, Water, and Life on Ships, was published in 2023.





The Last Grain Race

Reviewed by Stan Grayson

The Last Grain Race, by Eric Newby. HarperCollins UK Publishers Ltd., 2014, 352 pp., softcover. \$24.98. (Kindle available.) Reviewed edition: Pan Books, London, 1976, softcover, drawings, photos, appendix. *Available from used-book sellers*.

n the day we lost the cereal account I finally decided to go to sea." So begins Eric Newby's *The Last Grain Race*, an extraordinary, firsthand account of life aboard a great sailing ship on the eve of World War II. Newby was an 18-year-old at a London advertising agency when his job evaporated in 1938, and he decided to scratch the itch he'd developed reading Joshua Slocum's *Sailing Alone Around the World* and other sea stories.

The most obvious way to find employment aboard a sailing ship then was to write to Capt. Gustav Erikson, proprietor in Mariehamn, Finland, of the world's largest fleet of square-rigged, deep-water sailing vessels. Newby received what he called a









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"suspiciously" prompt response offering him an apprentice berth aboard the 359' four-masted, steel-hulled bark MOSHULU.

Two physical exams and a clergyman's letter testifying to good moral character were required. Newby's father then paid a £50 indenture fee, refundable should young Eric not survive the voyage from Belfast, Northern Ireland, to Port Victoria, Australia, and back. The elder Newby never knew how close he came to getting his money back.

The dangerous nature of work aboard MOSHULU became evident before the ship left the dock. A young American apprentice fell backwards down a hatch, landing 20' below and suffering multiple serious injuries. The next day, one of the ship's "doonkeymen," responsible for MOSHULU's two donkey engines and its winches, fell off the donkey house and broke an arm. Newby's introduction to MOSHULU by her sailmaker was not encouraging.

"It's a funny thing that most of the people who get killed in these ships are Englishmen," John Sommarstrom told Newby. "You hang on tight."

Newby had already experienced hanging on tight. The second mate had ordered him "op the rigging" to the top of the 198′ mainmast. It was a terrifying climb made worse when a rotten ratline broke under his foot.

Newby's first chores provided a sobering introduction to his new life. He was ordered to clean the filthy toilets in the *skit hus*. Next was the order to *knacka rost* (scrape rust) while standing precariously on a platform slung 20' under the bow. When Newby discovered he lacked the strength to climb the rope to the deck, the crew of young Finns and Swedes taunted him for being "noh strong." Proving he could eventually become a "strongbody" was the only way to gain full respect.

As a greenhand, Newby had to learn MOSHULU's 41 sails (in total 45,000 sq ft) and the maze of running and standing rigging that included nine backstays for each of the three square-rigged masts. A couple hundred belaying pins along the shoulder-high bulwarks secured some 300 lines, each with a specific function. Adding to Newby's challenge was that the ship's language was Swedish. So, the lonely English lad learned babord (port) from styrbord (starboard), that the overmärs was the lower topsail, that lat ga babords ankaret meant lower the port anchor. Stagvända was the command to tack, a process that took an hour. Once, when on uit-kik (lookout) in the South Atlantic, Newby spots dead ahead through the mist three enormous rocks rising from the deep sea below. "Hart babord," he screams.

Swedish terms and Swedish pidgin English are integrated into this narrative in a natural way that adds





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to the reading experience of a book that is alternately painfully frank, incredibly informative in technical respects, and laugh-out-loud-funny. "Make horry up," one of the mates urges. "Orlright."

During the nine-month voyage, Newby learned the challenge of helming a square-rigger. A mate, standing beside him, would lean to one side or the other, indicating how the wheel should be turned "joost a liddle." Still, early on, he makes a nearly disastrous mistake. He also describes helming MOSHULU, under topsails only, in a Force 7 gale. "She was," he wrote, "a terrible, wild stranger to us." Yet, when the wind is right and MOSHULU's sails are trimmed just so, she is "like a bird skimming the water." Running at up to 16 knots, the ship sometimes covered nearly 300 miles in 24 hours.

The crew's sufferings are an ongoing theme. Eating mainly salt beef, salt pork, and potatoes, the young men seldom get enough calories. In the tropics, they are plagued by an infestation of *bogs* that emerge from the wooden bunks and straw mattresses. As the doon-keymen winch up some 59,000 sacks of grain in Port Victoria, MOSHULU is swarmed by enormous horseflies in 114-degree heat.

Of the 13 ships that left Australia loaded with grain bound for the British Isles in March 1939, MOSHULU made the best time, arriving after 97 days on June 27

in Queenstown, Ireland. Newby was discharged having earned his papers as an ordinary seaman. More important perhaps, midway through the voyage, he had defeated the strongest man in the crew in a bloody fight. "Now you strongbody," says his opponent after the captain orders them to stop and shake hands.

Inevitably, readers will ask themselves if they could have done as well as the author.

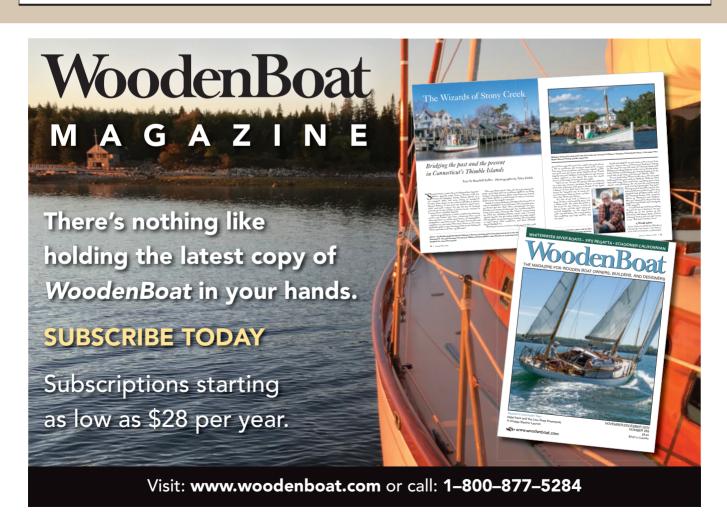
During World War II, Newby served in Britain's Special Boat Service and endured captivity as a prisoner of war. After *The Last Grain Race* was published in 1956, he became a successful travel writer. MOSHULU had many ups and downs but ultimately proved more fortunate than other vessels. Restored, she survives today as a waterfront restaurant on the Delaware River in Philadelphia (www.moshulu.com).

I once spent an unusual afternoon sailing back and forth there aboard a 22′ catboat whose owner had turned his sail into a novel billboard emblazoned with the name of another popular Philadelphia restaurant. But that's another story.

If you aren't fascinated by this book, I'll eat my hutt .

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Stan Grayson is a regular contributor to WoodenBoat. His latest book, Boat Crazy, is available from The WoodenBoat Store.



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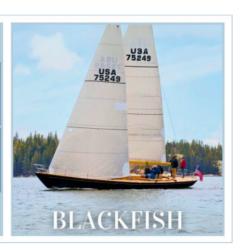


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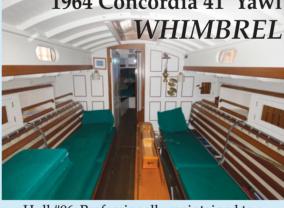
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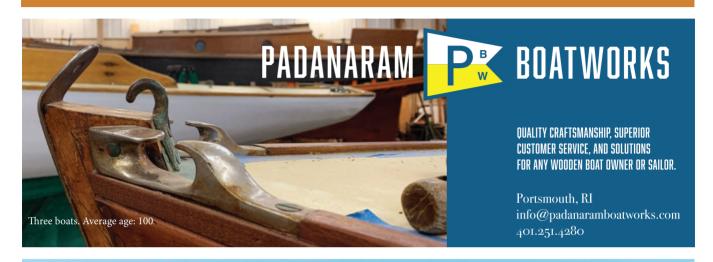
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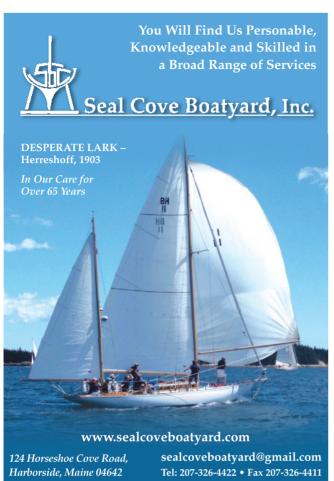


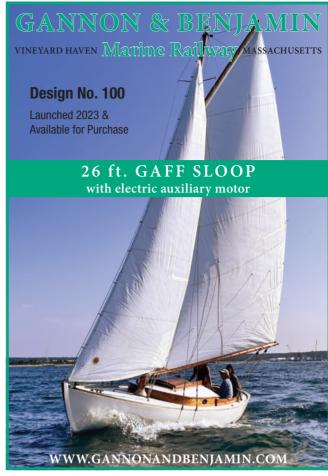


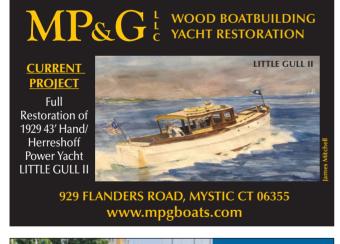






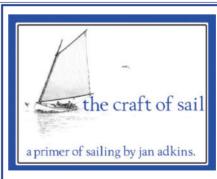












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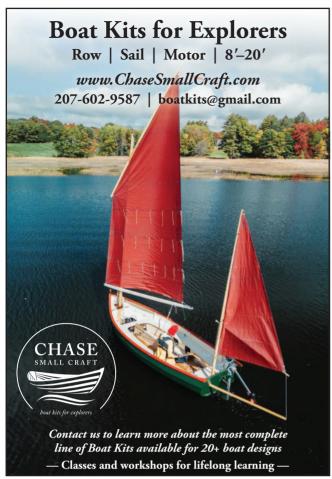
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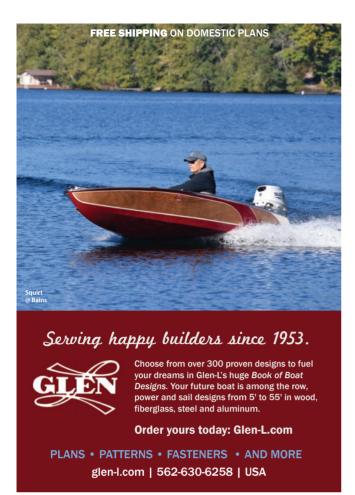


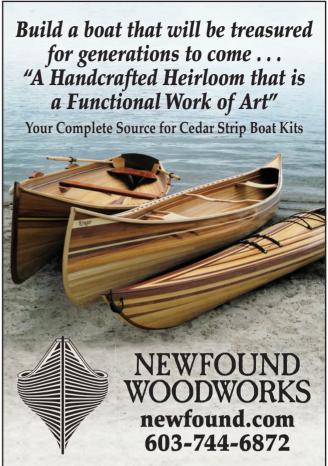
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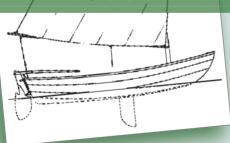
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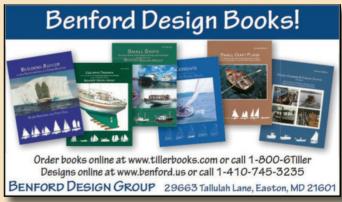
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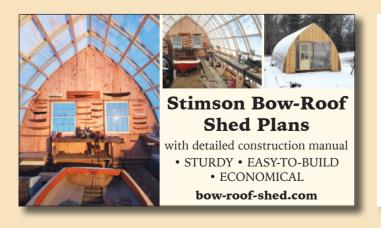


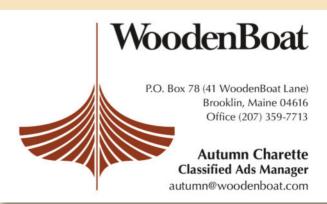












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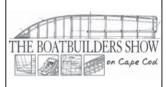
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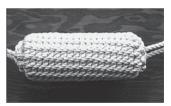
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Boats For Sale



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FRIENDSHIP SLOOP. 1965, Rockland, ME. Cedar on oak, spruce spars. Cuddy with two bunks. New sails, covers, two outboards: One Torqeedo with battery. FSS #54. Lying Wickford, RI. Email: ghagerty646@gmail.com.



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WOODEN HULL AND DECK of a Herreshoff Bounty (57' on deck) built in Quincy, MA by Don Curry on his place on Buzzards Bay. She's iroko on white oak frames launched in 1992. This documented vessel currently lies on a "Low-boy" type trailer (Witzco Challenger 30) in LaCrosse, Florida. If you're seriously interested you best see it in person-I can provide pictures. Best offer. David 352–213–8161.

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"TIP TOES," A 34' BENFORD DORY JUNK RIG SCHOONER (Badger). Built in 2004, outfitted and meticulously upgraded since 2021, including new sails and lithium batteries. In excellent all ocean ready to go condition. Asking \$39,000 USD. Contact Brian for more photos and information. brian@byivachtsales.com.



YANKEE ONE DESIGN SLOOP Sailboat 30'. Award winning, designed by William Starling Burgess/Stone built. "Flame" totally restored in 2015. Complete survey in 2023. "A Sailor's Sailboat." Richmond, CA. Contact Bob stefroche916@gmail.com.

7'NUTSHELL. Sailing Nutshell pram complete with sail and oars. Needs some scrath repair and possible repaint. Located in Rimouski PQ. Willing to deliver in NB. Photos available. Asking \$800 CAN. Email micheldesjardins1954@gmail.com.



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"DOVETAIL," John Trumpy & Sons contract #446 built in 1972 in Annapolis, Maryland as one of the last of the popular "Houseboat" models built & served as Committee Boat for the 1974 America's Cup races in Newport, RI. "DOVETAIL" has an enclosed pilothouse and a large full-width galley on the main deck. Her overall length is 72'/ 21.95m, with a beam of 18' / 5.49m, draft of 4'5'' / 1.35m, 69 gross tons / 55 net tons. Her hull is artfully built of steam-bent oak framing, with double planked mahogany --3/8" inner mahogany planks & 3/4" outer mahogany planks and marine grade 5200. Impeccably well-maintained, "DOVETAIL" is a classic yacht with fully modernized systems. "DOVETAIL" was fully restored and refit in RI from 2017 to 2020 and has had continuous loving care and upgrades. She is a true gem of American Maritime History. For further information or to schedule a showing, please contact seller's agent: Karen Kelly Shea 401-338-4789, KShea@LukeBrown.com, karen@nicholsonvachts.com Asking price—\$1.5 mil.



"CHEERIO II," 1931 46' YAWL, formerly owned by actor Errol Flynn. Three-time winner of her class in the Newport to Ensenada Race. First to finish, this July, in the McNish Classic Yacht Race. Google "CHEERIO II" to see photos, videos, and articles. Recent survey available. A SoCal classic! Asking \$100,000. Text or call 510–846–4178 or jmcnish@earthlink.net.



1937 CHRIS-CRAFT 17' DELUXE Runabout, hull no. 71091, boat model 721, Engine Model K, No. 5982, records of ownership, restoration photos, past show winner, dock fenders, spare transmission, no-soak hull, life jackets, trailer with spare tire, new boat cover. \$45,000 Call Myles 502–472–3038. Total restoration over \$75,000.



BALD MOUNTAIN BOAT WORKS, 45' trawler. Built by and for James S Rockefeller Jr. Designed by Navel Architect Geerd Hendel, original name Kyloe. 1970. Current name, ARCHIMEDES. Extensive interior refurbishing. All new refrigerators (2), 3 burner stove/range, Garmin Instrumentation, new lifelines, all brass stanchions and rub rail/ trim polished. Recovered cushions and air conditioning. More photos on request. Asking \$210,000, negotiable. Richard Rideout. Toledo, Ohio. Riconyl@yahoo.com. 419-290-0074.

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Boats For Sale continued



2005, 30' "ILONA." This beautiful. seaworthy head turner of a cruising boat was designed and built by the renowned wooden boat builder Gannon & Benjamin. Equipped with a BMW, Yanmar marine 260-hp engine she cruises at 16 knots with a range of over 200 miles. Below deck are sleeping accommodations for two, with sink, stove, refrigerator, water heater, and head. She is the perfect cruising boat for an adventurous couple who want comfort, safety, and style. Her spacious cockpit is ideal for spending a day on the water with friends and family. She is the winner of The 2024 WoodenBoat Show's Best in Show "Owner Maintained Power Boat." "ILONA" comes with her 8' lapstrake, rowing/sailing tender, cradled on the stern. \$189,000. 203-216-1771, Norwalk, CT. edsegen@optonline.net. More photos: www.woodenboat.com/ boats-for-sale/2005-30-ilona.



BUILT BY THE BURR BROS in 1960, this 36' beauty with a 10'9" beam was restored over seven years and includes (from 2014) completely new interior, new wiring, new mast, new Beta Marine 25, new sails and refastened below the waterline in 2022. Featured in WoodenBoat Sept/Oct 2015 Relaunchings. An absolute joy to sail. Full inventory. Located Finger Lakes region NY state. Contact: William Benson wmbenson68@gmail.com or 607-227-3837. \$32,500. More photos online https://woodenboat. com/boats-for-sale/great-lakesclass-sloop.



'66 CENTURY RESORTER 17. Mahogany inboard. New varnish & bottom paint. Newish 383 (500-hp). 50 mph. New upholstery. New cockpit sole. New fuel tank. New gauges. New: starter, alternator. New: injectors, plugs, wires, rotor, cap, coil, temp sensor. Rebuilt transom. New king Trailer. Ski tow-post. Nearly new custom cover, 5200 bottom w/glassepoxy over. Custom teak swim step. Serious inquiries only. \$15,000. Jim Llewellyn, 206-842-4552, jim. llewellyn47@gmail.com, cell/text 206-450-0101. Bainbridge Island, 26' BOWLER BUILD. Fir frame,



AIN AND JIB ONLY broad reach > 11.5 knots. Located Santa Barbara Harbor. 2010 build. NO_1228489. www.schoonercreek.com/post/ enchantress-41-pilothouse-sloopdesigned-by-frank-stapelmann. Professionally maintained, Volvo D2 75-hp 729 engine hours, fully equipped, Skiff Deck/Ocean Access. Port Townsend Foundry bronze deck hardware. Specifications and equipment list upon request. \$700,000 USD. SB slip available. Contact fstapelmann@outlook.com.



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transom, stem, keel, bulkhead over CAC molds and strongback complete. Ready for side strip planking (Cedar strip planking inventory included). Could be disassembled for ease of transport. Life circumstances changed. Contact rd8rossiter@gmail.com, Watkins Glen, NY.

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35' HERRESHOFF MEADOW-LARK SHARPIE. 8'beam. 2.5'draft. Winterized engine. On dry land. Masts stored at same location. E-mail: meadowlark895@gmail.com. Please request PDF of survey before asking specific questions. Mantaloking, NJ.



ALBURY SLOOP "LITTLE M" built in Abaco Bahamas 23' replanked with cypress four years ago cast iron keel. Have mast and booms. Ran out of wind needs deck and cockpit rebuild. Email captnpete50@gmail.com or call 772-359-6920. Ft. Pierce, FL.

"BEAUTY," a 1941 Stephens 36' motor yacht in San Francisco, needs a caretaker. Reportedly the last recreational boat made by Stephens before changing to war production and likely only one of about 8 of this model produced. Comfortable layout with nice blend of protected pilot house, enclosed cabin, and al-fresco stern lounge. After removing seized engines and leaking tanks, boat frame was discovered to need a substantial rebuild, a project too large and time consuming for a Florida owner who desires to not skip a season in his later-boater years. 'BEAUTY" (Google for more info) is out of the water at a premier San Francisco boatyard, awaiting action. There are other nearby boatvards also available for the work, perhaps at lower cost. Needs frame work, engines, tanks, topside paint, interior refit. Full canvas included. Truly a "BEAUTY." New passion urgently needed. View more details and photos on the Boats for Sale section of the WoodenBoat website (www. WoodenBoat.com). Contact: Sam Wilson, samuelhwilson@vahoo.com.

FREE 1960 42' STEVENS. NEEDS A NEW GOOD HOME! It's a great opportunity for the right person. Currently dry docked in a DIY yard ready to be restored. Interior is in beautiful original condition. Most planking and framing appear to be in ok condition. Cockpit deck needs to be rebuilt. Status of crusader gas engines is unkown. Exterior needs work, all hardware is intact. Located at Sunset Aquatic Shipyard in Huntington Beach, CA. 562-592-2841. ron@sunsetaquatic.com.

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SAVE A CLASSIC

Concordia Yawls

aldo Howland broke records when, between 1950 and 1966, he imported and sold almost 100 brandnew, German-built yachts designed for the Concordia Company in Massachusetts. These Concordia yawls, as they were called, were bargain-priced and of superior construction, and they not only won races but also proved to be perfect for family cruising. The majority are still dearly loved and sailed by owners who value simplicity and aesthetics over shine, systems, and technology. Yet as they approach their seventh or eighth decade, major work lies ahead for those Concordias not already upgraded. Repairing and maintaining such perfectly put-together boats is costly—and passion, not economics, drives that bus.

There's lots to be passionate about. Their beauty alone will stop you in your tracks. Elegant functionality shows inside and out. Belowdecks, you're surrounded by carefully selected pieces of knotty pine and locust, showing off their grain through layers of satin varnish. Real wood—no veneer, plastic, or plywood—entertains your eye. Interiors are cozy and soothing, the perfect place to be in any weather.

Here's what my friend Queene Hooper Foster, a Concordia owner, says in tribute to these wonderful yawls:

Particulars LOA 39'10" and 41' Beam 10'6" Draft 5'8"

Queene Hooper Foster has used her Concordia yawl, MISTY, to teach sailing and cruising classes at WoodenBoat School for 15 years.

Why I Love the Concordia Yawl

I know from nearly 30 seasons of Concordia-yawl ownership that it is not only the up-close gleam of brightwork that brings the joy of ownership, or even the harmonious hull lines. Fine varnish may be a marker of a classic yacht, but it is also the definition of superficial and is no comfort in a Gulf Stream squall.

I learned how to be a skipper on a Concordia and how to navigate as if my life depended on it. I learned to race, competing in Newport-to-Bermuda races and around the buoys in classic-yacht regattas. My Concordia yawls also taught family and friends how to read the wind, calculate the tides, and be at home on the watery world.

My current Concordia, MISTY, No. 66 of 1959, has proved to be the very finest of sailing instructors, and the students from my 15 years of teaching at WoodenBoat School in Brooklin, Maine, might agree. For example: how do you set a mizzen staysail? Try it, and the boat will show you just how it works. Concordia yawls do this and much, much more, because they are the product of decades of deep knowledge and experience, developed by a collection of some of the finest American sailors. Waldo Howland's heritage stretches back to 19th-century whaling—the Howland family whaleship was named CONCORDIA, which gave the famous yawls their name. He worked with Ray Hunt to develop a well rounded racer-cruiser yawl, a rig he favored by experience. Hardcore skippers have added to their legacy, for example by winning numerous Bermuda Race trophies. More important, however, are the families who continue to make new sailors out of young kids by spending days and weeks together out on the water.

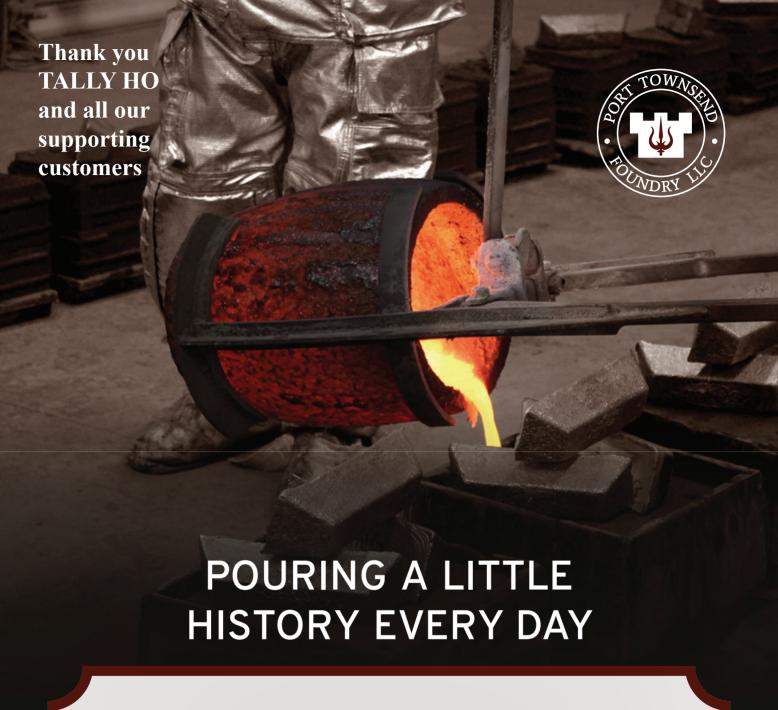
Although I've put an oversized portion of my life's savings into the ownership of Concordias and other classic boats over the years, those numbers are now forgotten when weighed against the adventures shared with family and friends. Years of ownership of classic sailboats have repaid me many times over!

MATINICUS, built in 1960, will go for free to a new owner with the wherewithal to complete a timely restoration. She lies at Rockport Marine in Maine.



I urge you to learn about Concordia yawls and to consider acquiring one. There are loads of good books about them, especially Howland's A Life in Boats: The Concordia Years (Mystic Seaport Museum, 1988). Concordias have been written up in many articles, including mine in WB No. 80. There are numerous museum resources, among them a glorious 15' model at the New Bedford (Massachusetts) Whaling Museum. In addition, all 76 issues of the owners' association magazine, The Concordian, can be viewed on the Concordia Company website, www.concordiaboats.com. The website presents a rundown on each and every yawl and shows 16 currently for sale by a variety of brokers and for a range of prices, including four "restoration candidates" requiring complete rebuilds. And also consider the Concordia yawl MATINICUS, which Rockport Marine in Maine (info@rockportmarine.com) is offering, free, to a person willing to complete the needed work in a timely fashion. ٩

Maynard Bray is WoodenBoat's technical editor.



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