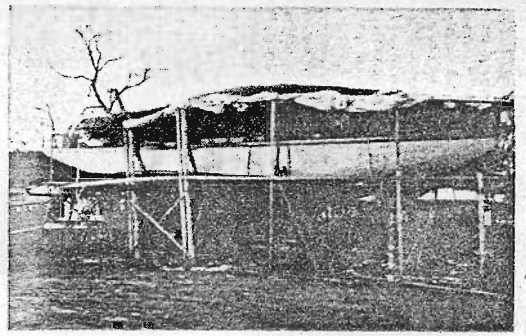
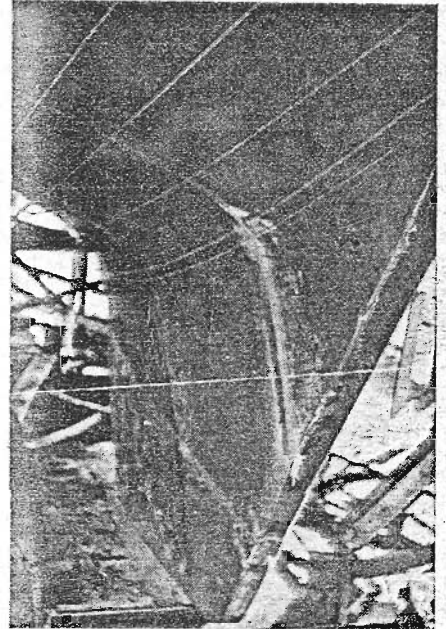




In 1956, the boat was 51 years, gaff-rigged, but still handsome. To see how she's changed, see far right.



Great experiment of 1963 was the covering of *Cockatoo's* hull with Dynel. Bulwark was also added at the same time.



Seams permanently closed with wooden wedges, Dynel was applied in two layers.

Dowager's Return

A log of an eight-year metamorphosis of a New York 30 from her original gaff-rigged sloop design to a modern jib-headed yawl. Her owner says she "is as sound as a pre-Roosevelt dollar"; her mint condition belies her advanced age—fifty-nine years old!

Popular Boatng
May 1964



Rotting floors caused *Cockatoo II's* keel to rock slightly. Solution was installation of eight bronze sister floors, Monel fastened.

Dowager's Return

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Henry, is coming along very nicely.

The following, then, is a log of eight years of dreaming, plotting, planning and plain hard work. The dollar investment is a relative thing and depended on my economic perspective, the season of the year, and how I did in the last race. Others may be encouraged to do the same. Go to it, but don't say I didn't warn you as to what was involved.

During the 1956 season we sailed *Cockatoo II* in a number of races in which she placed very well. However, I found that I was not the man I had been some years earlier when I could cruise my other 30 single-handed. Hoisting the big gaff mainsail was now a real chore and getting sail off her in a hard blow was not much fun—especially with children on board. I reasoned that the addition of a mizzen might ease my physical sail handling problems as well as improve my Off Soundings rating a bit.

After some experiments, one of which involved chopping off a length of *Cockatoo's* overhanging boom, I approached the late George Owen with my plan. Then 86, retired professor of Naval Architecture at M.I.T. and a pioneer in scientific yacht design, he visibly shuddered, but contained himself in manly fashion. "Lloyd," he said, "I worked for Nat Herreshoff when the 30s were built. They are wonderful boats. Their hulls have scarcely been improved since that time. But it always seemed to me that they were over-canvased. You need a modern rig in her, laid out so you and your wife can handle her easily with the kids aboard. While I have never accepted a design commission to alter a yacht built to other than my own design, I'll design you a rig as a personal favor. I'll lay it out, design the spars, chainplates and size the rigging. You are competent to design the mast tangs and other fittings. The plans will be in the mail to you in two weeks."

Of course I accepted the offer immediately. We started with a sloop rig but then switched to a yawl in order to retain the existing mainmast location. "And not one of those silly pocket handkerchiefs for a mizzen," said George. "You want a mizzen large enough to really hold her head to wind when you're working up forward and large enough so she'll sail well under jib and mizzen alone." So, 16 percent of the working area went

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Dowager's Return

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into the mizzen. The total area of the working sails was reduced by 20 percent.

In the meantime, I had decided that the Gray Lugger of about 26 hp was too much weight aft and had to go. It was replaced by a 6 hp Palmer. Other work that winter involved the conversion to the new rig: the bowsprit was removed, shortened and put over the stern as a boomkin; the chainplates were hogged out of Everdur in a neighbor's cellar; and working sails were ordered from Ed Raymond who also made a mizzen staysail and re-cut existing sails to make a #1 Genoa and spinnaker.

A beautiful Luders-built, streamlined spar of just about the right dimensions for the mainmast was discovered and practically donated by Paul Adams, to whom it was surplus. A Zephyr aluminum extrusion was found to be just right for the mizzenmast. Tangs and other fittings were designed and fabricated and the standing rigging was spliced by a neighbor, a skilled rigger. Backstay levers were ordered from England and installed. Major Smyth's West Mystic Shipyard shortened the mast a bit and did a beautiful job of applying the fittings, quietly correcting several of my blunders in detail.

Although we were not really ready, yachting friends were ruthlessly pressed into service and off we went to try her out in the Puritan Cup Race at Marblehead, Mass., and a subsequent cruise in Maine. In fact, we went off without deck canvas and had to spend a day at Marblehead applying masking tape to the uncaulked seams and then a coat of Vinylon, which, incidentally, lasted for three seasons without a leak.

That season we didn't win too much silverware, but we gave the new rig a good test. George Owen skippered her in the Puritan Cup Race and pronounced her okay. We knew she would go and became addicted to demonstrating what a vessel built in 1905 (two years before even the Universal Rule was developed) could do against modern cruising yachts built with the CCA and Off Soundings rules very much in mind.

In the winter of '57-'58 we ordered only one new sail and planned some "minor" re-fastening. According to Herreshoff's practice, *Cockatoo* was double planked of 3/8" yellow pine over 3/8" cypress, except for the garboard and two planks above which

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were single thicknesses of yellow pine. In addition, lining screws fastened the inner to the outside planking. These I decided to replace up forward, but before I knew it I had taken out all the cabin joiner work as well as the ceiling. Thousands of lining screws later, all was re-fastened, including—for good measure—the diagonal bronze strapping which undoubtedly had been responsible for keeping her shape over the years. We also found a few broken frames and split butt blocks, which were replaced.

Next came the engine, and what was it doing in there anyway? Out it went, as did myriad attached pipes, tubes, wires, tanks, propeller shaft, strut and stuffing box, oil in the bilge and the massive oak bed logs suitable for a trawler. Next came a bit of below-decks rearrangement. A sea berth went in amidships in place of the galley, the galley went aft, a new chart table worthy of the name was built and two berths were constructed in the fore-peak. When spring came we also drove some new fastenings through the planking into the frames, but didn't bother with fastenings in the garboard and its companions. They had already been thoroughly re-fastened by a reputable yard and needed only a recaulking job.

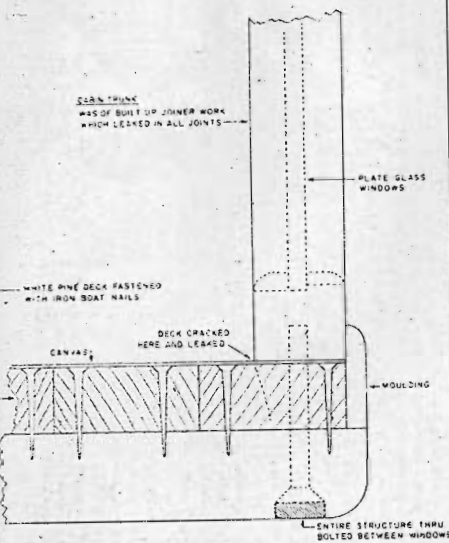
We didn't do too badly during the racing season of 1958 and had time for only a little cruising. The following winter *Cockatoo II* was wooded and a new, faired Honduras mahogany rudder blade was made. A second-hand cross-cut spinnaker and a spinnaker were added to the sail inventory. After a real deep breath we installed two No. 6 geared sheet winches which were subsequently a great help in crew relations as well as sail handling. The highlight of the 1959 racing season was winning the overall trophy for our class in the Spring and Fall Off Soundings. We picked up some other silverware, but mostly enjoyed a fine family cruise in Maine.

But she was leaking. She couldn't hold her caulking in her garboard. Perhaps the thrust of the mast was too great. Also, the cabin house had been racked over the years enough to leak and since the latter was less important but more irritating, rebuilding the cabin house became the primary winter project.

Wanting to retain the handsome Honduras mahogany cabin top, which

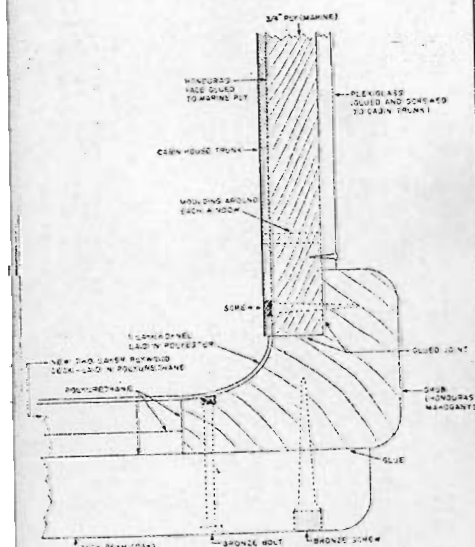
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Original Herreshoff cabin house sides were secured to deck in above manner. In an older boat, this was a sure invitation to leaking.

was in good condition, we had only to rebuild the cabin house sides. This was accomplished by employing Major Smyth's suggestion of a "Grub" (see sketch). The new sides were made of 3/4" fir plywood, scarfed and glued to proper length and size, which were then glued—sandwich style—on either side of a Honduras mahogany plank. This was then slit down the middle, exposing the mahogany which became the outer face. The openings for the windows were then cut in, long strips of Plexiglass were glued and screwed with Monel to the inside face and the completed cabin house sides were in turn glued and screwed to the "Grub" which had been especially milled to shape. This formed two longitudinal girders which were bolted to the deck



New cabin house sides, suggested by Major Smyth, employs mahogany "Grub", especially milled to fit all components.

beams. New corner posts were fitted, the forward and after faces of the cabin trunk refitted, and the top was dropped back in place. Nat Herreshoff is supposed to have scorned the use of plywood, but I think this is one application where we were one up on him.

Then, we got around to ripping out the caulking in the garboard seam—again. We asked the yard to re-caulk it with a two-part rubber compound, but they must have forgotten to read the instructions, for the day she was launched she leaked so badly she had to be hauled. The rubber was hanging in festoons, unbonded to the wood, to say nothing of the red lead, copper paint and seam compound that remained in the seams after they had been "cleaned out." Properly scraped and dried, the seams were re-caulked with the rubber and we were off again.

We did a little hard racing in the 1960 season, which included winning our big local Ram Island race. We took some fine cruises, but she leaked as badly as ever. Inspection disclosed that the garboard seam had been working despite the Monel mast-thrust strap installed earlier that year. Major Smyth, when consulted again, suggested that the bottoms of the floors in the way of the main keel bolts were getting a bit soft and the whole keel structure was rocking ever so slightly when the boat heeled. Since the Tobin bronze bolts were sound, the solution was to install sister floors, bedding them in epoxy for luck. In the way of the mast step we found that a misguided former owner had reinforced the mast step with galvanized steel angle bars, which I was now able to shovel out with a spade. Cutting out the surrounding bad wood, we cast and installed eight new, bronze floors and fastened them with Monel. We then ripped out the caulking in the garboard seam—again. This time the full edges of the plank and keel were scraped clean, banded of all cotton, and, to change our luck, we put one part Dupont polyurethane compound in them.

The above improvements accomplished, we were off again for the 1961 season. Having shortened the main boom a bit, moved the mast forward 18", and deep-sixed the boomkin, we found that *Cockatoo II* now had less of a weather helm in even the hardest of breezes. But she still leaked under sail—less, but annoyingly. When we

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hauled her in the fall of 1962 we deduced that the trouble must be other than the seams, so repeatedly caulked and re-caulked. Sure enough, for this time when the caulking was scraped out, the planks, fore and aft, came away from the stem and the transom framing. We had been sailing around with a good part of our bottom planks held on by little more than water pressure. They had never been refastened as we had been told.

Despite the attempts of knowledgeable friends to dissuade us, we had for years considered fiberglassing the hull. But after reading about Lindsay Lord's experiments with Dynel ("A New Miracle Material?", POPULAR BOATING, Feb. 1962) we decided to try it. But first we had to modernize the deck and gunwales, which was done by laying down two layers of plywood—the first 1/4" mahogany, the second 1/2" fir—bedding them in polyurethane. While the old deck was off we found time to relocate the chainplates inside the hull to facilitate the up-coming sheathing operation. The new deck was finished off with one coat of Dynel laid in polyester. To get in style with modern ocean racers, we added a modest bulwark which was capped with mahogany. Then, back to those garboard seams—again! We routed them out to virgin wood, fabricated and fitted pine wedges to go in each seam, took them out and finally drove them back in place in a bed of polyurethane. After they had cured for several weeks we trimmed off the excess. Any remaining gaps were filled with a glass-resin-Thiokol putty.

Then, using patent sanding blocks, we faired the hull and were at last ready to apply the Dynel cloth.

The application was a three-man job. One mixed, two others applied the resin with rollers. It was found most convenient to wet the surface with resin before applying the cloth—essential, as a matter of fact, in the way of the lead. Bronze staples were used to tack the cloth in place temporarily, especially in the area at the turn of the bilge. The first layer was applied vertically working down from the top of the bulwark. The second layer was applied in longitudinal strakes. While butts were intentionally minimized, any overlaps were ground smooth—a tedious job, but necessary. We then proceeded to smooth up the whole surface, which was even more tedious.

A new waterline was then scribed

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in and the topsides were painted with polyurethane white. Epoxy Bronze compound was troweled and painted on the bottom; the deck was painted with a two-part epoxy.

Cockatoo II now looked like a brand new boat. We could hardly work because of the bystanders who thought she was. But before we could go over there were a few little things to do: the deck fittings went back; the hatches were cut in and reinstalled; a new Kenylog electric speedometer was installed; fairleads were fitted in the new rail; and then the mahogany rail cap was scarfed and put on; the genoa track, the main sheet horse, the new stern pulpit were bolted home; the runnings lights and the binnacle and the life lines were mounted . . . Good Lord, was it worth it?

Finally, so bone weary we failed to acknowledge the cheers of the crowd, *Cockatoo II* slid down the ways on July 15th. A new inclining experiment and measurement found her to be floating on a slightly shorter waterline and a computer cranked out her new C.C.A. rating of 34.6 just in time for us to join the New York Yacht Club cruise. While we were not the outstanding yacht, we did gain one third in our class and sixth in a fleet of 67 boats. In the Astor Cup we were fifth in our class. Esthetically she was pronounced a success; her new bulwark tended to confound the experts, but they liked what they saw.

The Great Experiment of 1963—the Dynel sheathing—was also a success. When hauled on December 7th, *Cockatoo II* was as dry as a bone and those blasted garboard seams were no longer a problem. There was, however, one small 2'x2' patch of about nine bubbles, where the resin evidently remained uncured. A simple job to fix. There was no sign of working planks or seams, although there was a minor protrusion in some of about one or two thousandths. These will be sanded off without compromising the Dynel and when she is repainted no seams will be visible in her topsides.

What to do in the future. Perhaps I shall experiment with the shape of her keel. If they can improve on the 12 Meters by modifying keel shape, why shouldn't we change *Cockatoo's*?

But, perhaps I'd better concentrate on an early start for the 1964 racing season and give that promising young helmsman, Henry, more practice with her. †