



# San Diego Ship Modelers' Guild

1306 N. Harbor Drive

San Diego, CA 92101

February 1998

NEWSLETTER

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February

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**NEXT MEETING**

*A Great  
Learning  
Experience!*

## January Meeting Notes

A last-minute party booking aboard Berkeley precluded our meeting being held in the usual topside area. Rather than resort to the orlop deck on the Star we held our meeting in the navy model section aboard Berkeley, which worked out nicely as a change for the 17 members attending.

Filling in for Guild Master TOM TAYLOR, First mate JACK KLEIN conducted the meeting and opened it by giving a rundown on the projections for the 1998 Del Mar Fair. He has chaired this activity for five years and stated that he would welcome a relief for the job in 1999. Outlining the benefits of being a fair volunteer, he again asked if we couldn't have more "new blood" involved in the coming year.

Museum Model Curator BOB CRAWFORD then made some announcements regarding the National Convention of the N.R.G., which will be held here on Nov. 4-7, 1999. Bob announced a committee meeting would be held aboard Berkeley Wednesday evening Jan. 28 at 7 p.m. (subsequently to be attended by six members who will act as chairmen for different activities).

Bob has made tentative arrangements for a tour of the Navy's Point Loma model show and has lined up various speakers including DANA WAGNER, who is the U.S. Navy's top model curator. Wagner will speak of the problems associated with

maintaining a fleet of 1,100 models. PHIL MATSON has agreed to speak about building his incredible model of the U.S.S. Bennington, now on display aboard Berkeley. Bob also mentioned several other areas of interest for this convention, asking for additional ideas and suggestions.

The March model show on the Queen Mary was then discussed, including transporting model up and back, vendors participating and the March 1 deadlines.

First Mate JACK KLEIN then asked for suggestions for speakers and topics for our 1998 meetings. Who would you like to have and what would you like to hear? Purser ED WHITE gave a preliminary report on our checking balance etc., saying we had about \$1,000 in our treasury.

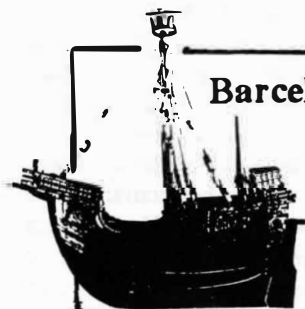
The "Great Ships" television series was discussed and it was noted that the subject "Windjammer" will be aired on March 3 at 7 and 10 p.m. Several members attended the January Maritime Museum meeting, where the show's producer Marty Markan was the guest speaker. Much of this film was shot last fall aboard the Star of India, and those attending had to opportunity to see this film in advance.

Two models were brought in for show and tell. ROYCE PRIVETT displayed his U.S.S. Essex, built from a Model Skyways kit he acquired 17 years ago. The model features individual copper plates and he has added the rudder and cap rails since he showed it last in August. KRIS BODZON explained his progress on Kate Cory, also built from a Model Skyways kit in 3/16" scale. This is his first model and he planked over the solid hull.

Guests attending this meeting included Brian Bauer and his friend Brian Rowe. New member HANS G. MERTEN drove down from San Clemente to join us.

Please BRING A MODEL to the February meeting

--FRED FRAAS



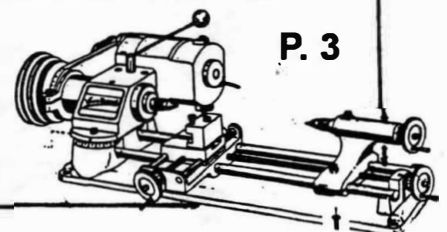
## Barcelona's Treasurehouse

A Wonderful  
Maritime  
Museum

P. 4

## Scratchbuilder's Friend

A Small  
Machine  
Lathe



P. 3

IN THE NEWS

## Old Warships Never Die

A spate of news reports lately tell of new developments in the Navy's ship donation program, which over 50 years has provided 43 U.S. cities with museum ships. Soon the battleship *Missouri* will be towed from the boneyard in Bremerton, Wash. to join the sunken *Arizona* at Pearl Harbor. San Francisco wants the Navy to move the battleship *Iowa* from its dock in Philadelphia to Piers 30-32 in San Francisco.

The "Mighty Mo," of course, is the battlewagon that displays on its deck the spot where Japan surrendered on Sept. 2, 1945. She later fought in the Korean War and at Desert Storm. The *Iowa*, 55 years old, carried President Franklin Roosevelt to the Teheran Conference of 1943 and remained in commission until 1990.

And San Diego? The non-profit San Diego Aircraft Carrier Museum reports that it has raised \$1.7 million toward its goal of persuading the Navy to park the *Midway* at the Navy Pier near the harbor end of Broadway. The group calculates that it needs \$2.8 million more.

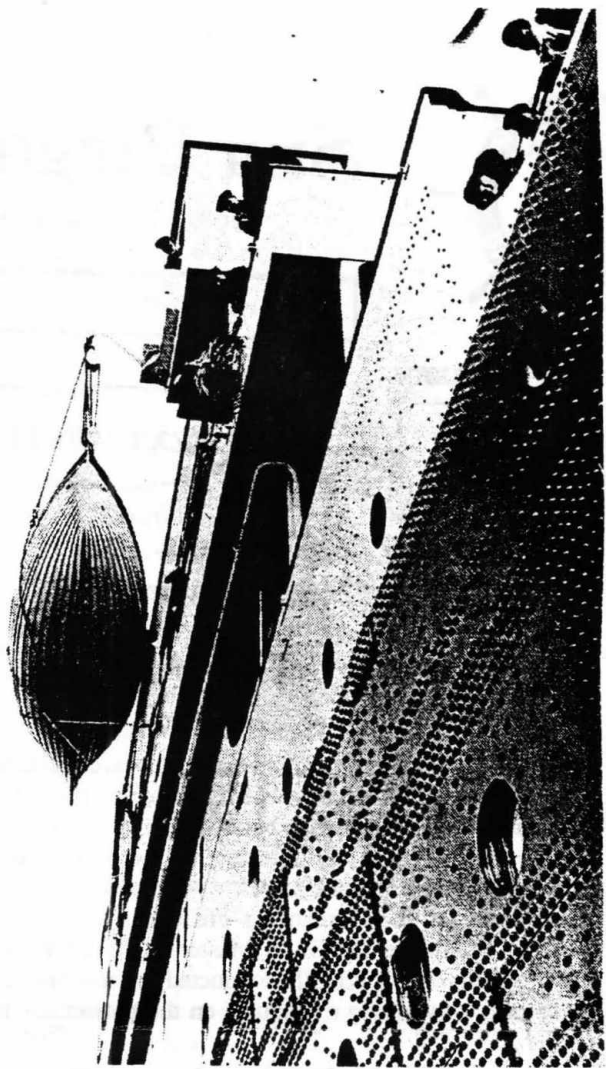
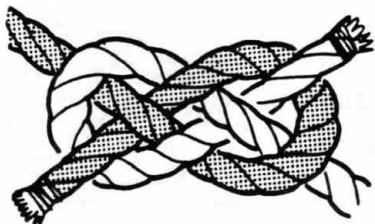
But, says the Union-Tribune, "Tremendous hurdles remain, any of which could torpedo the project." In the first place, the proposal's backers have to get the Navy's authorization.

A lot of critics basically think that the carrier would be a waterfront eyesore, partly because the ship is huge. At high tide, its flight deck would loom five feet above the warehouse on the pier, with its superstructure towering over that.

The *Midway*, of course, carries a famous name, that of the turning-point battle of the War in the Pacific, and also lasted through Desert Storm. She never spent much time in San Diego, however.

## Don't Be Afraid to Show Off

"We've got a lot of talent in this club, but we never show it off," says Museum Curator Bob Crawford. What he means is that he desperately needs models to take to the Western Ship Model Conference and Exhibit on the Queen Mary in Long Beach on March 27, 28 and 29. It's your chance to help promote our Guild and achieve world fame at the same time. Moreover, he says that he can help with transportation problem.



## THE TITANIC MYSTERY

### It's the Rivets, Stupid

"If the *Titanic* had been President Clinton, the iceberg would have sunk," somebody said the other day. The New York Times recently came up with an intriguing possible explanation for why it was the ship and not the iceberg that went to the bottom.

Three million rivets were used in building the *Titanic*, and not long ago two of them were brought up and given to Dr. Timothy Foecke of the National Institute of Standards and Technology in Gaithersburg, Md. He noticed that they lacked hammered ends. He sawed them in two lengthwise and put them under a microscope. He found that the wrought iron in the rivets contained 9.3% of slag (largely silicon) in the form of microscopic threads, which could have made the rivets brittle and weak.

Foecke recalled that a French expedition last year, using sonar, probed the mud that buries the lower starboard bow and found six narrow horizontal slits in the hull that seemed to follow rivet lines. He theorizes that ice scraping the hull popped enough rivets to open serious wounds. He now wants to obtain more *Titanic* rivets to bolster his conjecture.



## Shop Talk

# 142 Ways a Small Machine Lathe Can Help You Build Models

**Gratings.** With the lathe in drill-press mode, mount a backup block on the slide. Tape a piece of 1/32" airplane plywood to it. Using a .040" drill, and cranking the right handwheel two turns at a time, make a row of holes as long as the desired grating. With two turns of the slide handwheel, move the workpiece away from you and drill a row of holes parallel to the first. Repeat until you reach the desired width. Replace the drill with a sawed-off six-penny nail that has a four-sided point. Using the handwheels as before, punch each hole to make it appear square.

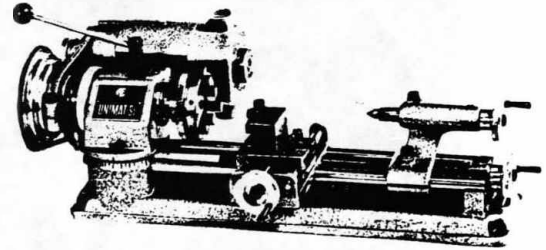
**Portholes.** The goal is to drill a shallow hole in the end of a short brass rod, creating the effect of a porthole rim (the piece will later be pushed into a hole in the hull) Put a length of brazing rod into the chuck and with lathe running file the end square. Install a drill small enough to leave a rim in the chuck on the tailstock. Make a shallow cut – the drill will center itself – and saw the porthole off about 1/4" long. Dot light blue paint into the shallow hole. File off excess paint to reveal the rim

**Masts, Yards, Gaffs, Booms, Bowsprits.** Mainly these spars need tapers. Calculate the needed diameter, at each centimeter along the length of the spar, in thousandths of an inch. Feed a dowel as big as the spar's largest diameter through the hole in the spindle and out of the chuck for several centimeters. Set the cross slide cutting tool to the planned end diameter. Turn on the lathe and crank the lateral handwheel ten turns (on a metric lathe) to make the first one-centimeter cut. Back off to the calculated diameter for the second centimeter. Pulling more stock into position as necessary, make the rest of the one-centimeter cuts. The lathe will also let you make yardarms, masthead trucks and shoulders for eyebands on gaffs, booms and upper masts.

On a metric lathe, the handwheels advance the cutting tool .040" (1 cm) per turn, meaning .002" for each of the 20 marks around the wheel's perimeter. On a spinning workpiece, a .002" advance removes .004" of material. Use a micrometer.

**Stanchions.** A lathe can fashion the top and middle balls of brass stanchions, plus flanges and

The pictures show an Austrian-made Unimat DB-200 in lathe and drill press modes. It is no longer manufactured, but used machines can sometimes be found, and most of its parts can still be bought from Blue Ridge Machinery & Tools in West Virginia (1-800-872-6500). Micro-Mart (1-800-225-1066) offers a similar lathe for \$469. It does not convert to a drill press, but the same firm has a press for \$149.95 and a drill press/milling machine that uses the lathe's motor and headstock for \$315.



pins on the lower end. As a drill press, it can drill holes through the balls for rails.

**Wooden Rails.** Make stanchions with pins on both ends. Tape the rail to the edge of the deck. With the lathe in drill press mode, swing the headstock on its post until it is located over the taped rail. Drill a hole for the first stanchion through the rail and into the deck. Repeat for the remaining stanchions. Untape the rail and insert stanchions into deck holes. Drop the rail onto the upper pins.

**Deadeyes.** On a hardwood dowel, turn a series of grooves suitable for shrouds, spaced apart by the planned thickness of the deadeye. Mount a three-jawed chuck on an indexing accessory and screw it onto the tailstock. Put about an inch of the dowel in the tailstock chuck, and a lanyard-size drill in the headstock chuck. Shim the headstock up enough for the drill to meet the dowel-end between its center and edge. Drill a hole well into the dowel. Rotate the indexing wheel 60 degrees, drill again, and repeat. Saw deadeyes off the dowel one after another.

**Blocks.** On a dowel, turn a row of ovals closely linked to each other. File two sides flat; file grooves in the sides that are not flat. Using the drill press vise, make holes for ropes. Saw the blocks apart.

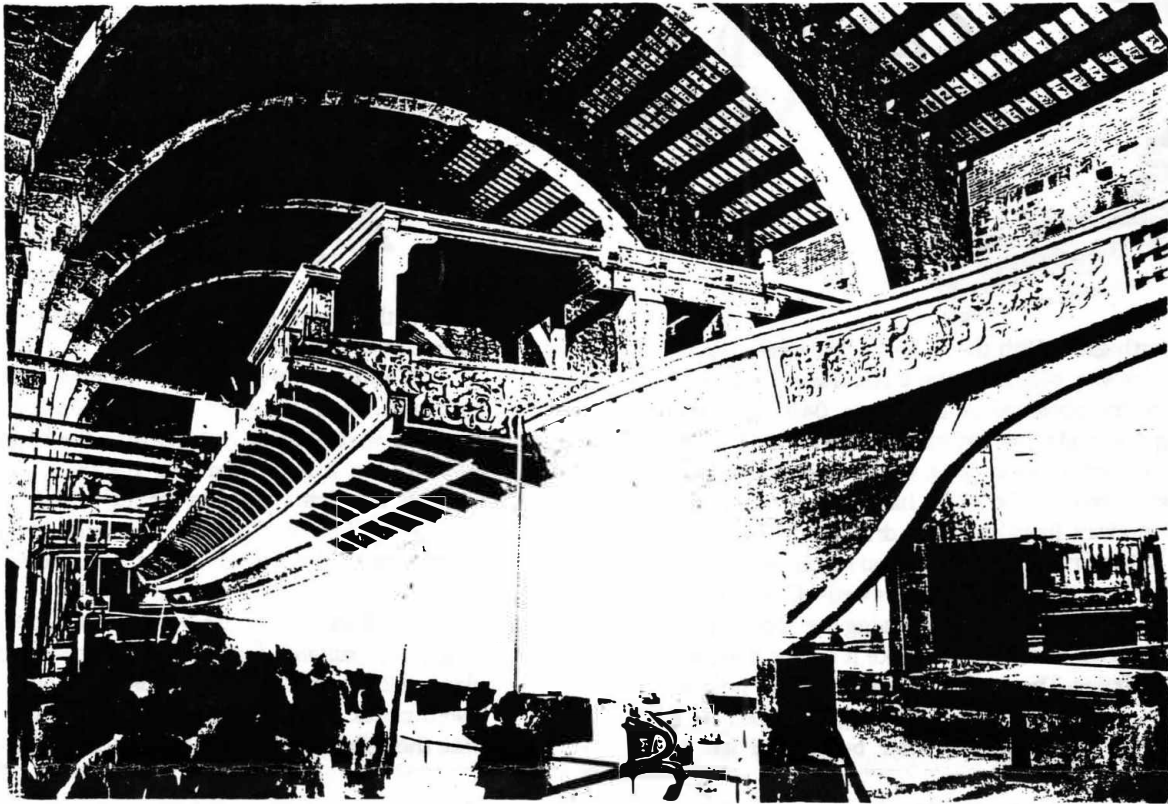
**Milling.** Fitting an end mill (a kind of flat-ended twist drill) into the chuck of the drill press makes it possible to flatten surfaces, such as those of an octagonal taper for bowsprits. The workpiece is held by the vise or by clamps on the slide, and moved around under the end mill by the handwheels.

**Mortising.** For square holes such as window openings for deck houses, grind and file a nail into a chisel and fit it into the drill press chuck. The lever on the spindle will drive the chisel cleanly into wood.

**Anything That's Round.** Lathes can make eyebolts, padeyes, nails, deck plates, old-style davits, thimbles, ventilators, hawse lips, mast bands and boots, and parts of binnacles, goosenecks and crane irons. And beautiful capstans.

All this doesn't add up to 142, of course. Just kidding. But in terms of individual parts, the number for an average ship could rise well into the hundreds. A typical freighter needs around a hundred portholes.

# In Spain, a Spectacular Show of Ships



*Replica of the Galera Real, in one of the bays of the ancient Drassanes shipyards where both it and its history-making predecessor were built. It is 60 meters (196 feet) long.*

## By Our Special Correspondent

During the 11 days of a cruise of the Western Mediterranean that I took in October, the most fascinating single experience was visiting the waterfront Maritime Museum in Barcelona, housed in ancient structures and in recent years developed into one of the best ship showplaces in the world.

The building, or set of buildings, is impressive from the moment it comes in sight. It consists of a series of seven huge side-by-side masonry bays, topped by lofty vaulted ceilings, looking for all the world like so many creamy sandstone cathedrals, and all handy to the nearby sea.

Growing from beginnings in the 13<sup>th</sup> Century, these vast barns became the roofed-over

shipyards that in the Middle Ages and later built caravels, galleons and galleys for Spain's great Mediterranean merchant and naval fleets. In the 18<sup>th</sup> Century, the buildings – called *Drassanes* in the Catalan language that is spoken in Barcelona – were turned into arsenals and barracks, and in 1937 gained designation as national treasures. It gradually became evident that the *Drassanes* should be the home of Barcelona's until-then neglected Maritime Museum. With room to grow, it has become a world-class nautical treasure house.

So what's on display? Glass-cased models on scales typical of our San Diego museum occupy only about a fourth of the Barcelona museum, but they are splendid. One model, for instance, was built from a study of the remains of a 4<sup>th</sup>

Century B.C. Greek merchantman, brought up from the sea in 1968 and 1969 by the Institute of Naval Archaeology of Texas. Another is an 80-gun frigate built in Havana in 1740.

There are a number of other handsome frigates, and some curious items such as ships made entirely of clear glass, including the rigging. On the walls surrounding the small models are meticulously detailed ship paintings, seascapes, charts, figureheads, maps and instructive drawings, such as a forest scene showing how to find and cut curved timbers for ships' knees and frames.

The ample floor space and 40-foot ceilings of the bays in the *Drassanes* provide room for historic models ranging up to, I'd guess, one-tenth actual size – notably Magellan's *Victoria*. The biggest model is something called a *cojt*, in I don't know what language. Other big displays include lots of actual boats old and new – yachts, fishing boats and so on. As you push through the museum to see them, your eye begins to catch glimpses of a ship that is both glorious and nearly as long as the *Star of India*, though only 19 feet in the beam.

This turns out to be the museum's spectacular

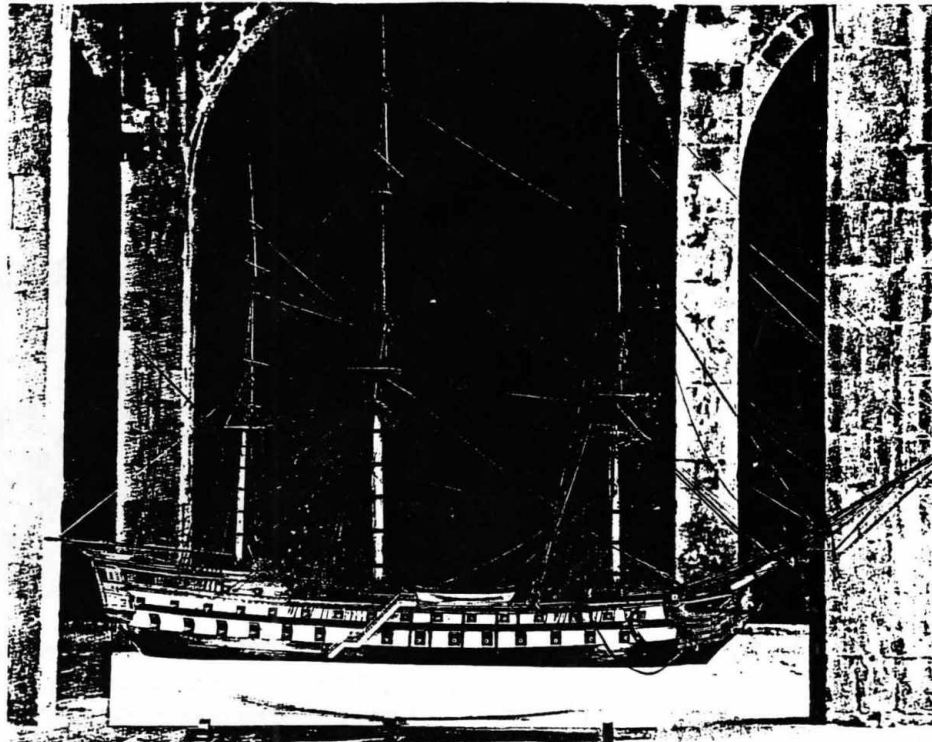
climax. The vessel is a full-size reproduction, including all 59 oars, of the *Galera Real*, the *Royal Galley*, which Don Juan of Austria captained as squadron leader in an epic victory of Christian forces over the Turkish navy at the Battle of Lepanto, off Greece, in 1571. The original was built in the *Drassanes* and the replica too, on the 400<sup>th</sup> year after the battle.

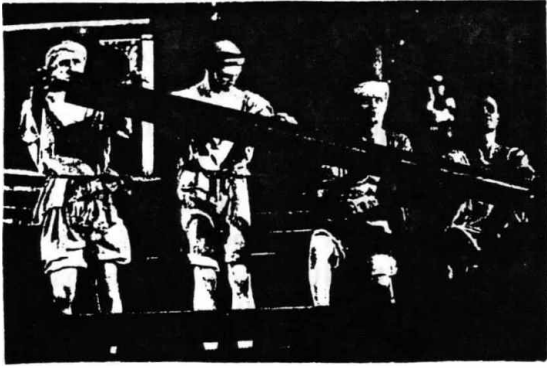
The hull of the galley, as you see it in Barcelona, could be that of any modern wooden vessel built for speed. The same goes for the frame size and spacing, which can be seen through some omitted planking amidships.

The deck, however, is a long rectangle extending well outside the hull's sheer line, rather like an aircraft carrier or our *Berkeley*. This provides room for four men at each oar (236 in all) and for powerful leverage at the fulcrum, a rope oarlock. The oars are about 30 feet long and five inches in diameter – too thick for a man's hand; galley slaves pulled on rails fastened to standoffs on the after side of the oar.

Using dummies, the museum replicates four wretched slaves standing or seated on the bench at one oar, with ankles chained to the deck. At

*This shipwright's model of an 80-gun Spanish frigate was built in Havana in 1740 and used until 1798 in the construction of eight warships. The columns are typical of dozens in the Barcelona museum.*



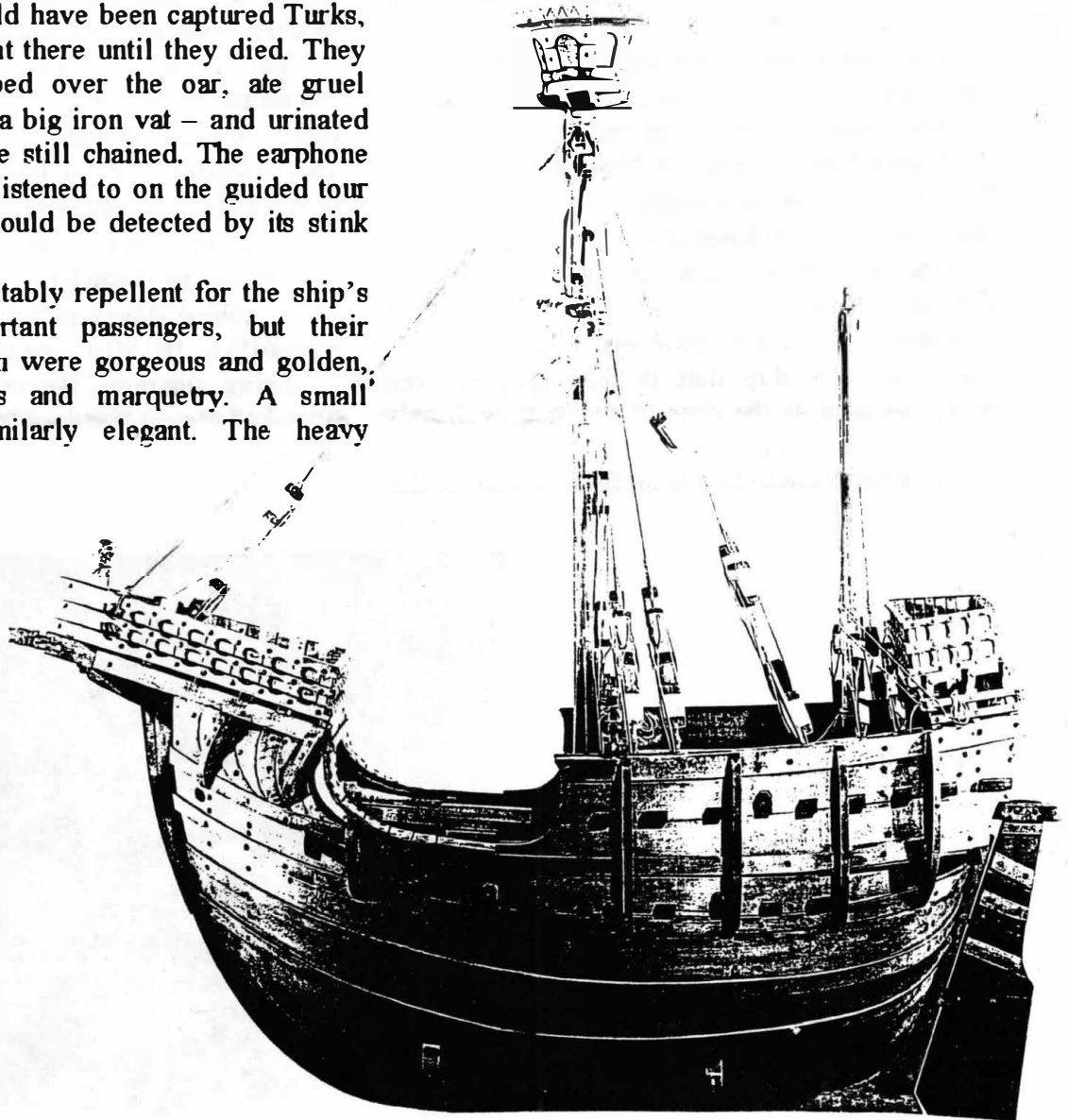


Lepanto, these would have been captured Turks, doomed to stay right there until they died. They rowed, slept slumped over the oar, ate gruel cooked on deck in a big iron vat – and urinated and defecated while still chained. The earphone commentary that I listened to on the guided tour said that a galley could be detected by its stink from two miles off.

This was indubitably repellent for the ship's officers and important passengers, but their quarters at the stern were gorgeous and golden, with rich carvings and marquetry. A small forecabin was similarly elegant. The heavy

structure forward of it was less a bowsprit than a ram to sink the enemy. That was a major tactic in galley warfare, though the ship also had a 36-pound cannon in the bows and four smaller guns. The point of the ram was a lively carving of Neptune riding a dolphin, which presumably would have been destroyed in battle.

The galley depended on its human engines for speed, maneuverability and progress in dead calm weather, but it carried sail too for long reaches in steady winds. The lateen rigging



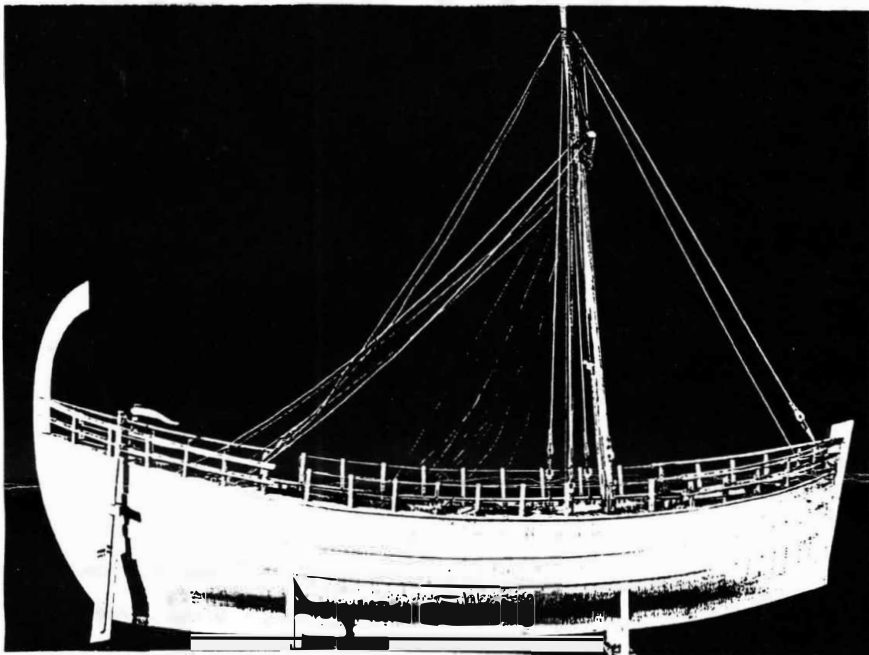
*Model of a cog in the Barcelona museum, about 12 feet long on a scale about 1:4. The design of this stubby merchantman came from the Baltic Sea. It was the workhorse of the Mediterranean in the Middle Ages.*



*Stern and rudder, Galera Real*

consisted of a stubby foremast, raked forward, and a stubby mainmast stepped amidships

Though I shouldn't, I'm going to pass on here a bit of black humor that I got from a fellow passenger on the cruise, just because it tells something about the speed and class of the gallant galley that we saw. Says one galley slave to another: "The good news is that we won the Battle of Lepanto. The bad news is that now the skipper wants to go water-skiing."



*Model of a 4<sup>th</sup> Century B.C. Greek merchant ship.*

## **THE BATTLE OF LEPANTO**

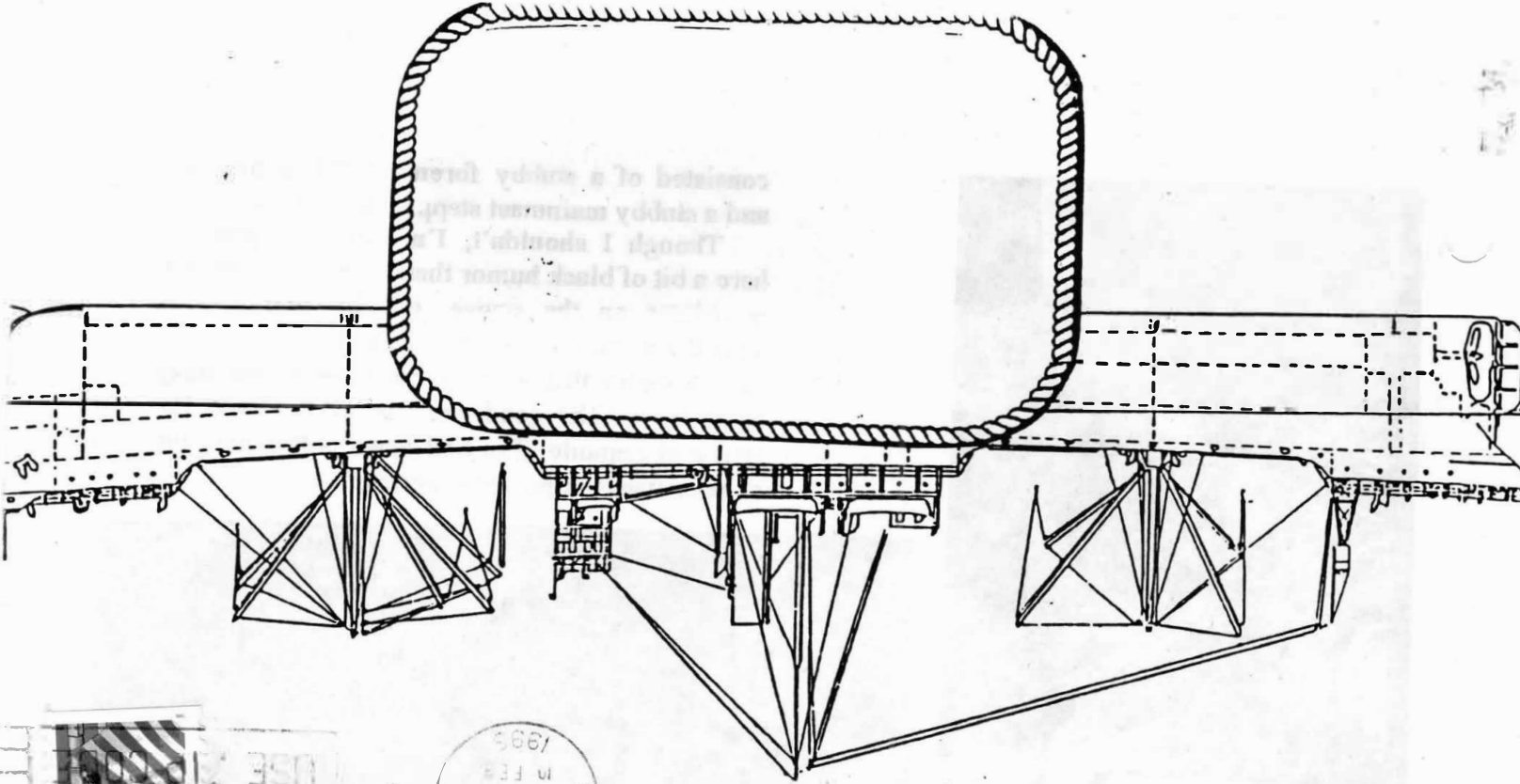
After the Turkish-Islamic Ottoman Empire overthrew the Byzantine Empire in the Eastern Mediterranean, in 1329, it set its sights on conquering the lands to the West, meaning Europe. By 1571, the Ottomans were banging at the doors of Vienna and Venice. At sea, though, they had failed to gain control of the Mediterranean west of its choke point between Greece and Africa.

rope decided to take a stand.

On Oct. 7 of 1571, a Christian naval force that included 208 galleys mainly from Spain and Venice confronted the Turks, with 250 galleys drawn up at the mouth of the Gulf of Lepanto (now Corinth) which lies between the Greek mainland and the Peloponnesian peninsula. On that bloody afternoon, the Turks panicked, and most of their galleys were sunk or captured. The casualties were enormous: 8,000 Europeans killed and 16,000 injured, and 25,000 Turks killed. Fifteen thousand Christian galley

slaves were liberated.

In its consequences, the Battle of Lepanto was one of the greatest naval victories ever – a sort of Mediterranean Midway. Defeated, the Ottoman Empire declined and fell. Europe was saved from Islamic dominion. And the galley as a warship was finally seen to be too vulnerable. Lepanto was the last confrontation of galleys, thus ending 2,500 years of oar-propelled ships. In to replace them came multiple-decked frigates with lofty sails and ear-splitting cannons.



San Diego Ship Modelers Guild  
 200 Maritime Museum Assoc. of San Diego  
 1306 North Harbor Drive  
 San Diego, California 92101



**San Diego Ship Modelers Guild  
 officers for 1997**

Guild Master	Tom Taylor	/redacted/
First Mate	Jack Klein	/redacted/
Purser	Ed White	/redacted/
Logkeeper	(open)	
N'letter Editors	Fred Fraas	/redacted/
	Gordon Jones	/redacted/
Regatta Commodore	<u>VACANT</u>	

**Schedule of Activities:**

**- WEDNESDAY -**  
 Meetings — Third Thursday of the month. 7:00PM Social, 7:30PM Meeting, held on board the ferryboat "Berkeley."  
 R/C Operations -- Saturday mornings at the Model Yacht Pond. (Mission Bay)  
 Annual Regatta — Third weekend in June.

**Membership:**

Dues are \$15 annually (\$7.50 after July 1st)  
 We strongly encourage all to join the San Diego Maritime Museum as an expression of appreciation for the facilities they provide for our benefit.

