San Diego Ship Modelers' Guild

1492 N. Harbor Drive San Diego, CA 92101

July 2008 NEWSLETTER VOLUME XXXII No.7

Guild meeting Report June 11, 2008

AUCTION RESCHEDULED FOR JULY MEETING

Robert Hewitt opened the meeting which was held on BERKLEY. There were no guests or new members. The pursers report was read by Ron Hollod. The balance from April 30 was $<redacted>. The current balance as of May 31 was $<redacted>.

Bob Crawford gave the editor's report. There were some incorrect addresses resulting in non receipt of the newsletter. Please contact Bob if you did not receive a newsletter. Bob Crawford's email addresses for all communications is models@sdmaritime.org or collections@sdmaritime.org

The San Diego County Fair was discussed. Volunteers will note that there is a sign up list for volunteers to help construct SAN SALVADOR. There is also a large picture of SAN SALVADOR in the booth.

FESTIVAL OF SAIL: The Maritime Museum will participate in a Festival of Sail August 20 – 24. Volunteers are still being recruited. Members are encouraged to sign up (volunteers@sdmaritime.org) Contact Bob Crawford if you need additional information.

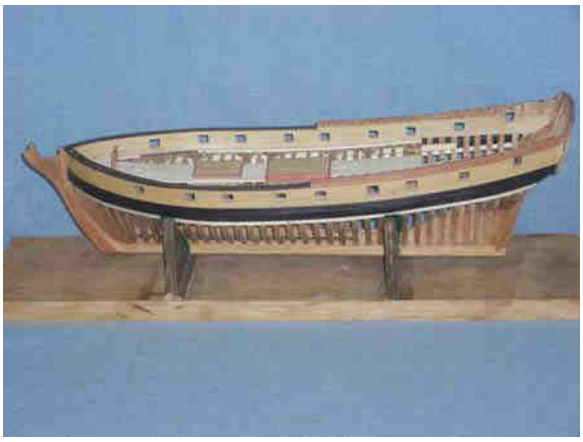
The San Diego chapter of the International Plastic Model Society (event 21 June) was discussed. The one day event was held at the Aerospace Museum, Gillespie Field.

New Business:
The Guild will hold its ANNUAL PARTY on the AUGUST MEETING DAY. GUESTS ARE ENCOURAGED. It will be a "pot luck" with other items being purchased by the GUILD. A sign up list for the pot luck will be available at the July meeting. No models or items for show and tell should be brought on this day.

The auction scheduled for the June meeting has been rescheduled for the July meeting. See list in latter part of newsletter.

San Diego Ship Modelers' Guild is affiliated with and supports the Maritime Museum of San Diego

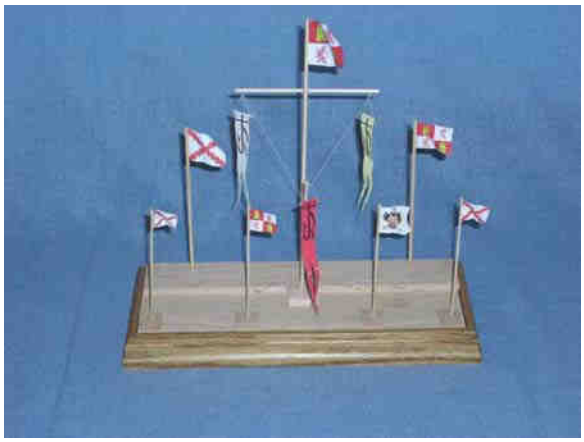
SHOW & TELL JUNE 2008



Fair American.

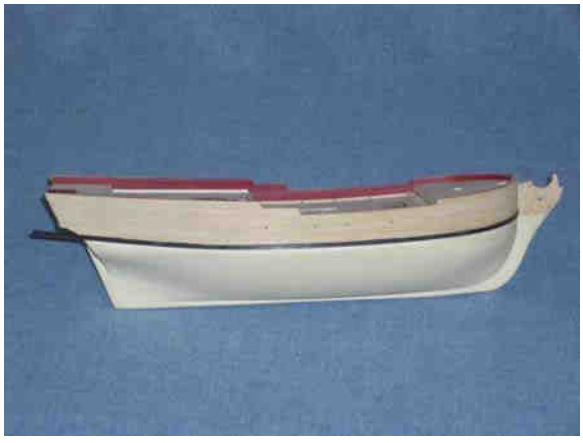
"Coming along," **Don Dressel** said, describing his kit – modified 1" to ¼" *Fair American*. Yes, kit "modified" - it cannot be said that anything Don does is "bashed." He has used his own wood including pink ivory wood and rare African woods, all fine grained and of varying colors, also the more familiar boxwood, ebony, and holly. The Hunt kit had good frames and deck to Don's exacting standards, but the model is fairly scratch built from there. He cut the gun ports with a motor tool that operates a reciprocating saw – it goes back and forth and cuts wood like butter. "Be careful with hit," Don warned.

Don also showed us beautiful bronze castings by Tony Devereau – two exquisitely detailed dolphins curled up with their tails set for holding a model ship. Devereau carves them in wood, then makes a bronze cast. These will be available in the near future. "Look for the Nautical Research Guild ad," Don advised. Then he warned again, this time: "They will be expensive, but much better than Model Expo's."



Flag Display.

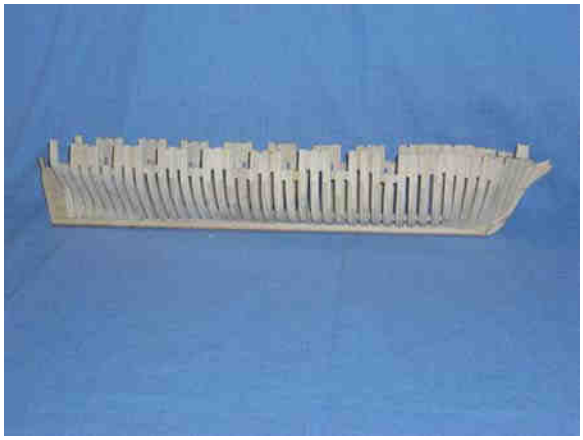
Chuck Seiler brought in a flag display to show the Guild and the guys making the SAN SALVADOR some of the things he is working on. This represents the three flags **Dr. Ray Ashley** decided on for the model and the full sized reproduction. The centre rearmost flag shows the national flag "Castile and Leon" in a size that would be flown from the fantail flagstaff. Also shown are red, white and yellow versions of the banner that represent Juan Cabrillo's personal flag. Little is known about this and it is based on pure speculation, but the design comes from an engraving at Cabrillo's grave site. In the rear corners of his display were the flags sized for the main mast. "Castile and Leon" is what is normally shown there and what **Dr. Ashley** has decided on for the main. The other "Burgundy Cross" was the personal flag of the Viceroy and was used as the nautical ensign into sometime in the early 1700s. The front display row represents the size of flag flown on the foremast and mizzen mast. In addition to the two previously described flags, it also includes the coat of arms of Charles I, King of Spain (aka Charles V, Emperor of the Holy Roman Empire) at the time Cabrillo sailed. This will not be used on the model, but Chuck had a spare flag pole and thought it looked neat. Material used for the flags include onion skin paper, cigarette paper and tissue paper.



SULTANA.

Chuck Seiler brought his model of SULTANA to show progress and to receive grief from **Robert Hewitt** regarding placement of the main wale. Most of the time was spent painting (or staining) and stripping below the waterline. Chuck now feels it is close enough for government work and it is time to model or get off the pot.

ONEIDA

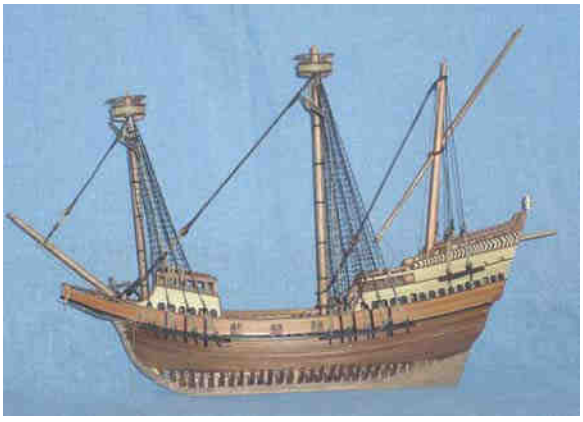


Bob McPhail has come close to finishing the framing on his Oneida. He has added "cant frames" three frames together in the bow. He was not sure how to do that, and had problems fitting them together. "They'll probably be covered anyway," he figured. Faring the frames evenly required a lot of sanding. In places he put battens on and laminated strips to get the m even. Bob wants to add interior "stuff" - below deck details to show. The "stuff" was not included in the kit.

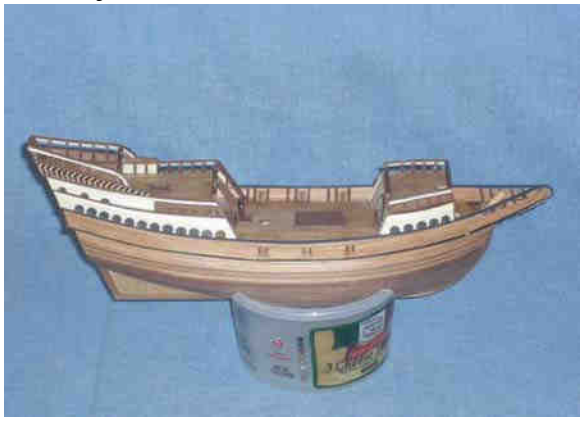
Vikings on the Rocks

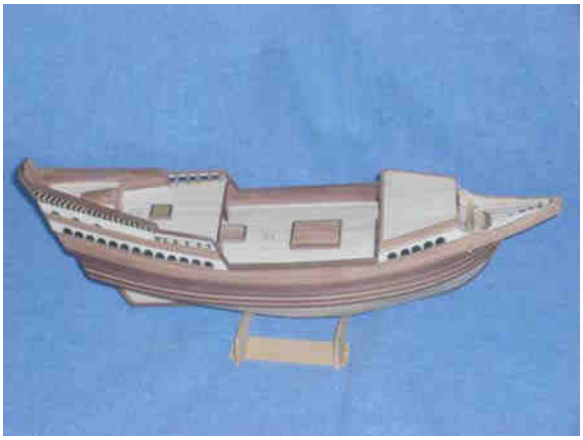
Liborio Insinga, using only his graphic arts experience and talents, crafted these tiny Viking ships purely by hand. Using razor blades, X-acto knives, tweezers, finger nails, he shaped mahogany, plum, and unknown other woods and veneers. He had no plans, no scale, and relied on his artist's eye. It took two months to make the two piece oars without breaking them, finally laminating veneers for the blades. Each pulley took a day to make after grinding down a #80 drill bit on a Dremel stone to drill the holes. The keel is one piece of wood from stem to stern around the hull; the rigging lines were pulled apart thread strengthened with Elmer's white glue; the hull formed from balsa wood, planked, and then the balsa dug out. Liborio mounted the three inch by half-inch hulled ships to appear stuck on old railroad tie rocks, as if they had reached the Bay of Fundy (or a Scandinavian equivalent) at high tide and stayed too long.

San Salvador



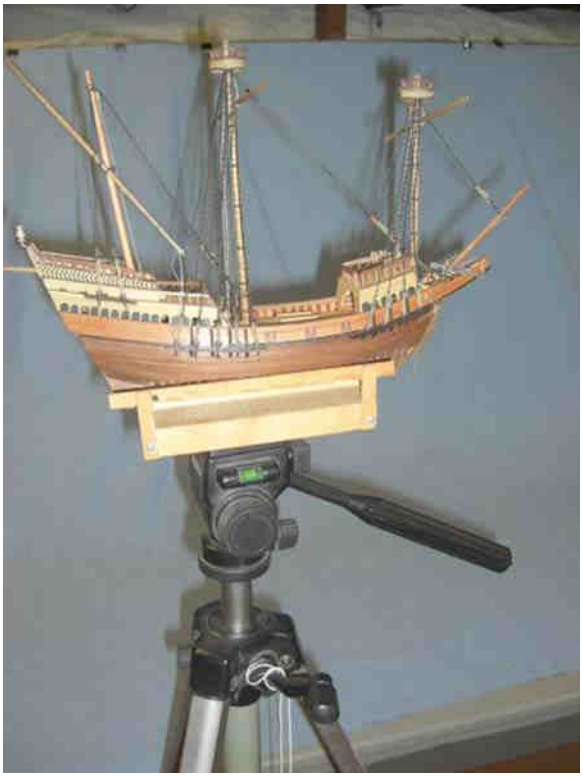
Continuing progress on the *San Salvador* models for the Maritime Museum. **Howard Griffus** has progressed farthest now, having installed masts, shrouds and tops. He wove the "basket" tops with raffia, and used commercial "tear drop" dead eyes. Howard also demonstrated his "adjustable work stand," a camera easel that could be cranked up to head height, saving his back from stooping over a table. **Dave Dana** has completed the stern decoration – with help from his wife, Marcie, a talented miniature artist. Leaded glass windows were simulated by scratching the panes on a plastic sheet with an X-acto knife, and filling the scratches with white

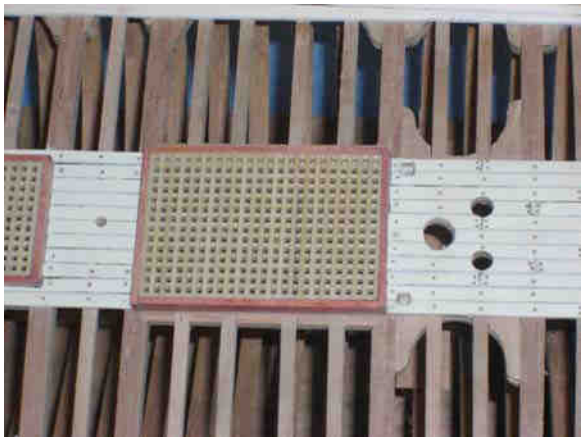


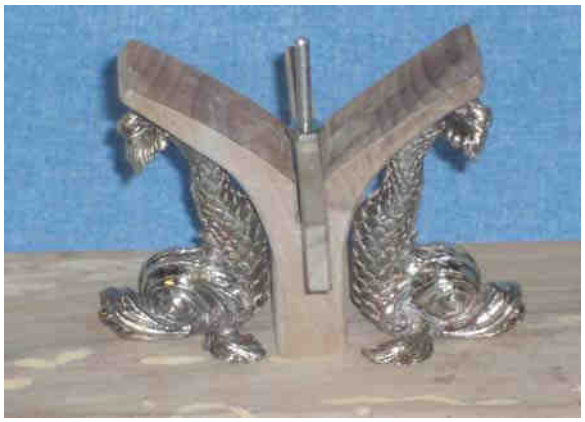


acrylic craft paint. The brass ship's bell he formed with a file, shaping an old gas barbeque gas jet held in a drill press used as a lathe. **Ron Hollod** has completed the railings, which took two days to finish. He incorporated **Robert Hewitt**'s chevron decorations, adding a few more to fit.

Tony Bunch also showed us his latest project, a resin kit-bashed destroyer model, although Tony never bashes anything either. He has found the kit to be "all wrong," so he removed some cast details and added a few scratch built replacements to the hull. The windows were all wrong, too, and he eyeballed their locations, guided by photographs of real ships. Either Tony or our photographer, **John Wickman**, decided that the model was not yet photogenic.







THE JUNK

A Junk is a Chinese sailing vessel. The English name comes from Javanese *djong* meaning ship or large vessel. Junks were originally developed during the *Han Dynasty* (220 BC-200AD) and further evolved to represent the most successful ship types in history. This article is about the history of the Junks.

DESIGN

Junks are efficient and sturdy ships that were traveling across oceans as early as the 2nd century AD. They incorporated numerous technical advances in sail plan and hull designs that were later adopted in western shipbuilding.

The historian H. Warington Smyth considered the junk one of the most efficient ship designs:

> "As an engine for carrying man and his commerce upon the high and stormy seas as well as on the vast inland waterways, it is doubtful if any class of vessel is more suited or better adapted to its purpose than the Chinese junk, and it's certain that for flatness of sail and handiness, the Chinese rig is unsurpassed" (H. Warington Smyth).

SAIL PLAN

The structure and flexibility of junk sails make the junk easy to sail, and fast. Unlike a traditional square rigged ship the sails of a junk can be moved inward, toward the long axis of the ship, allowing the junk to sail into the wind. The sails include several horizontal members("battens") which provide shape and strength. Junk sails are
controlled at their trailing edge by the lines much the same way as the mainsail on a typical sailboat, however in the junk sail each batten has a line attached to its trailing edge where on a typical sailboat this line (the sheet) is attached only to the boom. The sails can also be easily reefed and adjusted for fullness, to accommodate various wind strengths. The battens also make the sails more resistant than the traditional sails to large tears, as a tear is typically limited to a "single" panel between battens. Junk sails have much in common with the most aerodynamically efficient sails used today in windsurfers or catamarans, although their design can be traced back as early as the 3rd century AD.

The standing rigging is simple or absent. The sail-plan is also spread out between multiple masts, allowing for a powerful sail surface, and a good repartition of efforts. The rig allows for good sailing into the wind.

In 1795, Sir Samuel Bentham, inspector of dockyards of the Royal Navy, and designer of six sailing ships, argued for the adoption of "partitions contributing to strength, and securing the ship against foundering, as practiced by the Chinese of the present day". His idea was not adopted. Bentham had been in China in 1782, and he acknowledged that he had got the idea of watertight compartments by looking at the Chinese junks there. Bentham was a friend of Isambard Brunel, so it is possible that he had some influence on Brunel's adoption of longitudinal, strengthening bulkheads in the lower deck of the SS Great Britain.

Due to the numerous foreign primary sources that hint to the existence of true watertight compartments in junks, historians such as Joseph Needham proposed that the timber holes were stopped up during leakage. He addresses this issue in pg 422 of Science and Civilization in Ancient China:

> *Less well known is the interesting fact that the **same** types of Chinese craft the foremost (and less frequently also the aftermost) compartments is made free-flooding. Holes are purposely contrived in the planking. This is the case with the salt-boats which shoot the rapids down from Tzuliuchingin Szchuan, the gondola-shaped boats of the Poyang Lake, and many sea going junks. The Szechuanese boatmen say that this reduces resistance to the water to a minimum, and the device must certainly cushion the shocks of pounding when the boat pitches heavily in the*

rapids, for she acquires and discharges water ballast rapidly just at the time when it is most desirable to counteract buffeting at stem and stern. The sailors say that it stops junks flying up into the wind. It may be the reality at the bottom of the following story, related by Liu Ching-Shu of the 5th Century, in his book I Yuan(Garden of Stranger Things.)

In Fu-Nan (Cambodia) gold is always used in transaction. Once there were (some people who) having hired a boat from east to west near and far, had not reached their destination when the time came for the payment of the pound (of gold) which had been agreed upon. They therefore wished to reduce the quantity (to be paid). The master of the ship then played a trick on them. He made (as it were) a way for the water to enter the bottom of the boat, which seemed to be about to sink, and remained stationary, moving neither forward or backward. All. the passengers were very frightened and came to make offerings. The boat (afterwards) returned to its original state.

Flags were also hung from the masts to bring good luck to the sailors aboard. A legend among the Chinese during the Junk's heyday regarded a dragon which lived in the clouds. It was said that when the dragon became angry, it created typhoons and storms. Bright flags, with Chinese writing on them, were said to please the dragon. Red was the best color, as it would make the dragon likely to help the sailors.

HULL DESIGN

Classic junks were built of soft woods (though in Guangdong in teak) with multiple compartments accessed by separate hatches and ladders: similar in structure to the interior stem of bamboo. The largest junks were built for world exploration in the 1400s, and were around 120 (440+ feet) meters in length.

RUDDERS

Junks employed stern-mounted rudders centuries before their adoption in the west. Though the rudders, origin, form and construction was completely different. It was as innovation which permitted the steering of large, high freeboard ships, and its well-balanced design allowed adjustment according to the depth of the water. A sizable junk can have a rudder that needs up to three members of the crew to control in strong weather. The world's oldest known depiction of a stern mounted rudder can be seen on a pottery model of a junk dating from the 100s AD, though some scholars think this may be a steering oar – a possible interpretation given that the model is of a river boat that was probably towed or poled. By contrast, the West's oldest known stern mounted rudder can be found on church carvings dating to around 1180 AD.

SEPARATE COMPARTMENTS

Another characteristic of junks, interior compartments, allowed reinforced ship structure and reduced the rapidity of flooding in case of holing. Ships built in this manner were written of in Zhu Yu's book *Pingzhou Table Talks,* Published in 1119 AD during the Song Dynasty. Again, this type of construction for Chinese ship hulls was attested to by the Moroccan Muslim Berber traveler Ibn Batutta (1304-1371 AD), who described it in great detail (refer to Technology of the Song Dynasty). Although some historians have questioned whether the compartments were watertight, most believe that watertight compartments did exist in Chinese junks. All wrecks discovered so far have timber holes; these are located only in the foremost and aftermost compartments.

Benjamin Franklin wrote in a 1787 letter on the project of mail packets between the United States and France:

> "As these vessels are not to be laden with goods, their holds may without convenience be divided into separate apartments, after the Chinese manner, and each of these apartments caulked tight so as to keep out water" (Benjamin Franklin, 1787).

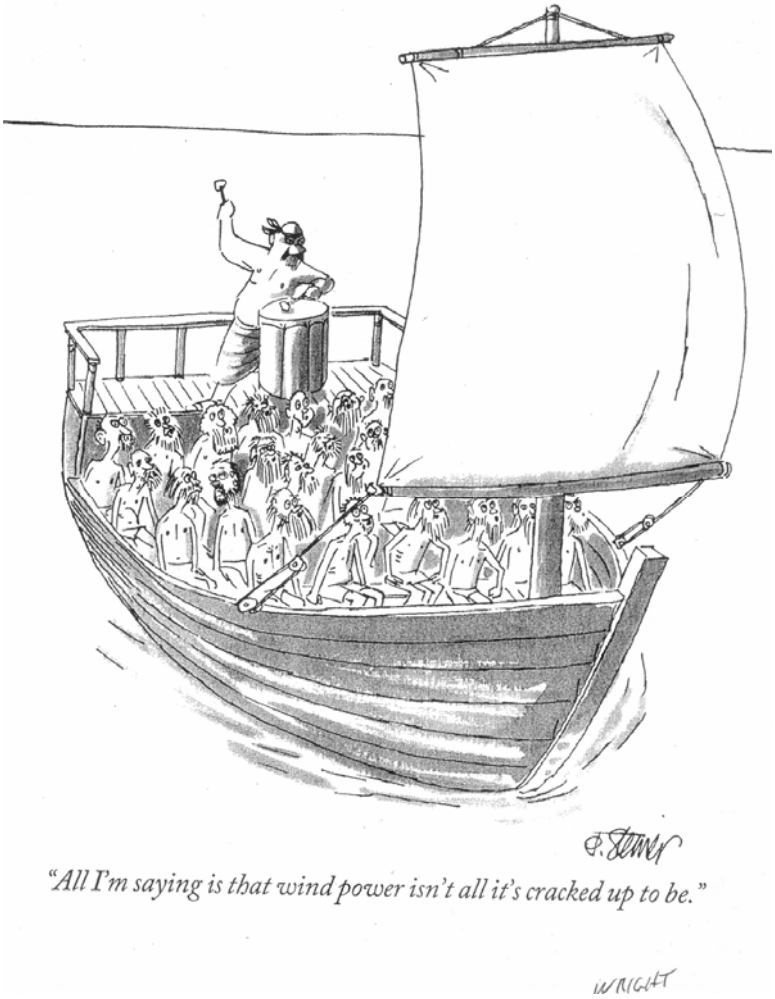
This however, would seem to have involved openings which could be controlled and the water pumped out afterwards. This was easily effected in China (still seen in Kuangtung), but the practice was also known in England, where the compartment was called the "wet well ", and the boat in which it was built, the "well smack", If the tradition is right that such boats date Europe from +1712 then it may well be that the Chinese bulkhead principle was introduced twice, first for the small coastal fishing boats at the end of the seventeenth century, and then for large ships a century later.

LEEBOARDS & CENTERBOARDS

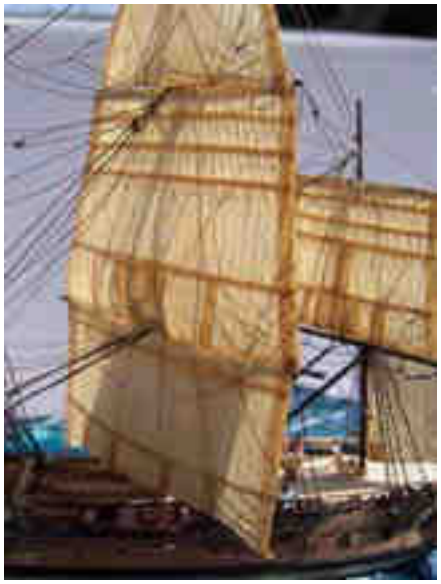
Leeboards and centerboards, used to stabilize the junk to improve its capability to sail upwind are documented from a 759 AD book by Li Chuan, an innovation adopted by Portuguese and Dutch ships around 1570. Other innovations included the square-pallet bilge pump, which were adopted by the west during the 16th century.

A Note on Newsletter Contributors

I've been very bad about crediting those who submit items for the newsletter each month. Bob McPhail has been our note taker for the "Guild Meeting Report" on page one and has never failed to get us the notes in a timely manner. Dave Dana and John Wickman have provided the Show and Tell text and photos respectively. In fact, John's photos are usually in my E-mail mail box the morning after the meeting. Robert Hewitt has been very helpful with his "Though the Lubbers Hole" articles as has Chuck Seilor with a variety of articles. Ron Hollod keeps us up-to-date on E-mail and snail mail addresses. To all who contribute, I thank you for all that you do the make the newsletter informative for our members. Thanks – Bob Crawford - editor



THRU THE LUBBERS HOLE



Rice Paper Sails By Robert Hewitt

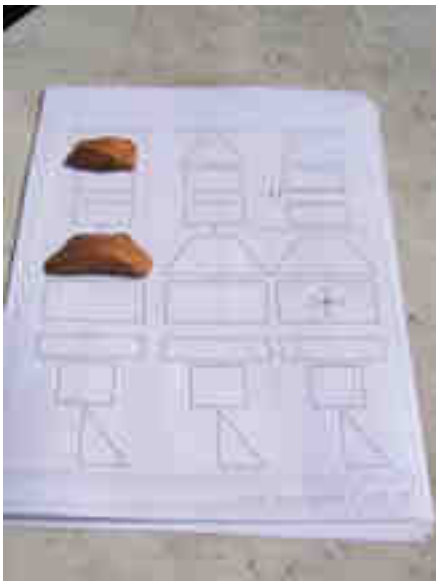
The first step is to measure the sails from your sail plan. A drawing is then made on the computer. If you don't have a computer, just draw the sail outlines on a sheet of rice paper. A cross section of each sail is then made and an arc is drawn to indicate the billowing of the sail. This distance is measured and transferred to the drawing of the sail. The head of the sail does not change. This increase is no more than 5% of the length and foot of the sail.

All of the drawings of the sails are placed on one or two sheets of your paper as close as possible. I always make extra copies. The drawings of the sails are oriented so the sewn panels on each sail are on the same parallel. Tick marks are then drawn on the top and bottom of the sheet. These represent two-foot wide panels to your scale. At this stage it is advisable to run a copy and check the sails to the model you are building. Another copy is made and a sheet of rice paper is glued to the copy along the top border only. When the glue is dry, place the two sheets in the printer, rice paper either face down or up, depending on your printer. The glued end is the leading edge as fed into your printer. Run the print again and the sail images and tick marks are now on the rice paper. Make an additional copy of the sails on plain paper.

Lay the sheet of rice paper on a clean flat surface. With a sharp hard lead pencil and a steel rule draw fine lines using the tick marks at the top and bottom of the sheet. Flip over the sheet and rule the other side. A light table may be used for this, or just tape the sheet to a window to see through the rice paper. The lines must match those on the opposite side. When the lines are complete, cut out each sail, leaving a tab to aid in grabbing the sail with your tweezers.

Using the additional print of the sail outlines, form a clay mold over each sail. I use Sculpy Clay, available at any art store. Form the clay to the shape of the billowing sail. Keep the areas that attach to the yards, stays and masts as flat as possible. A steel ruler will aid in doing this.

When all of the forms are made, separate the molds so you can work with each one individually. Now a good spot of tea is in order. Earl Grey seems to work best. The tea is poured into a shallow bowl and allowed to cool. You didn't actually think you were going to have a tea break, did you? The sails are then dipped into the tea to soften the whiteness of the rice paper. Left in longer, the tea turns the rice paper to a rich brown. A nice effect is to have a few different shades of sails, as all of the sails on a ship were never of the same age. Just soak them for different lengths of time.



Each wet sail is laid over its Sculpy mold. Bubbles and creases are gently pushed out with a wet finger. You would be advised to try a few, no, many scrap pieces of rice paper until you are ready with the ruled rice paper. As soon as the sail is set on the mold, a toothpick is used to form creases in the foot of the sail where the stress point occur.

Allow the sails to dry on the molds. The drying time usually takes twenty-four hours or more. When the sails are dry, glue reefing bands, corner patches and strips on the sails.

Follow James Lee's book, *The Masting and Rigging of English Ships of War 1625-1860*. Trim the tweezer tab at this point. Short pieces of thread are then glued to the reefing bands fore and aft to represent the reefing lines. These are placed in the center of each panel and should be angled following the wind direction in a model placed in a sea. If the model is static on a stand they should hang straight down. The final touch is to glue lines to the edge of the sails to represent boltropes. The sails are now ready to attach to your model.

Good luck and good modeling.

Auction items for July meeting

The auction was postponed last month and is re- scheduled for July 9th meeting. These items were graciously donated by Mrs. John C. Mathews on behalf of her husband the late John Christopher Mathews CDR USN RET . His models are for sale at Wall Gallery and include his personal models along with large collection of top-grade models that include a miniature Royal Yacht of 1600's by Lloyd Mc Caffery.

Tools:
Dremel #271
Bench sander with cover
Jarmac table saw with cover
Wood tool box
Chopper
Scroll saw on 3 leg stand with cover
Many hand tools, files, saws, gouges.
Wood mini- tool bench top with wood vices
Kits, Lexington, patrol boat, Willie Bennet, DD445 Fletcher, Steam Trawler.

Books:
Ship building in Miniature by Donald McNarry
Ship models in Miniature by Donald McNarry
Scale Model Sailing Ships by John Bowen
Ships of the past by Charles C. Davis

In addition there are other items donated by various contributors, to be auctioned. They are:
Two pond yacht hulls
Kits: Emma C. Berry and Cutty Sark
Unimat lathe

Along with the above items from CDR Mathews, there are eleven of his books that are now in our library, they are:
Deans Naval Architecture of 1670 by Brian Lavery
Trumpy by R Tolf
The Built Up Ship Model by Charles Davis
Boat Building by Howard Chapelle
Model Open Boats by Ewart Freeston
Techniques of Ship Models by Gerald Wingrove
The Thames Sailing Barge by Dennis Davis
Building Classic Small Craft by John Gardner
Plank on Frame Models Volume 1 by Harold Underhill
Good Boats by Roger Taylor
Ships in Miniature by Lloyd McCaffery
American Small Sailing Craft by Howard Chapelle

There are three additional books donated by member Hideki (Doug) Yumoto.
Ship Model Building by Gene Johnson
How To Make Clipper Ship Models by Edward W. Hobbs
Ship Modeler's Shop Notes NRG Publication

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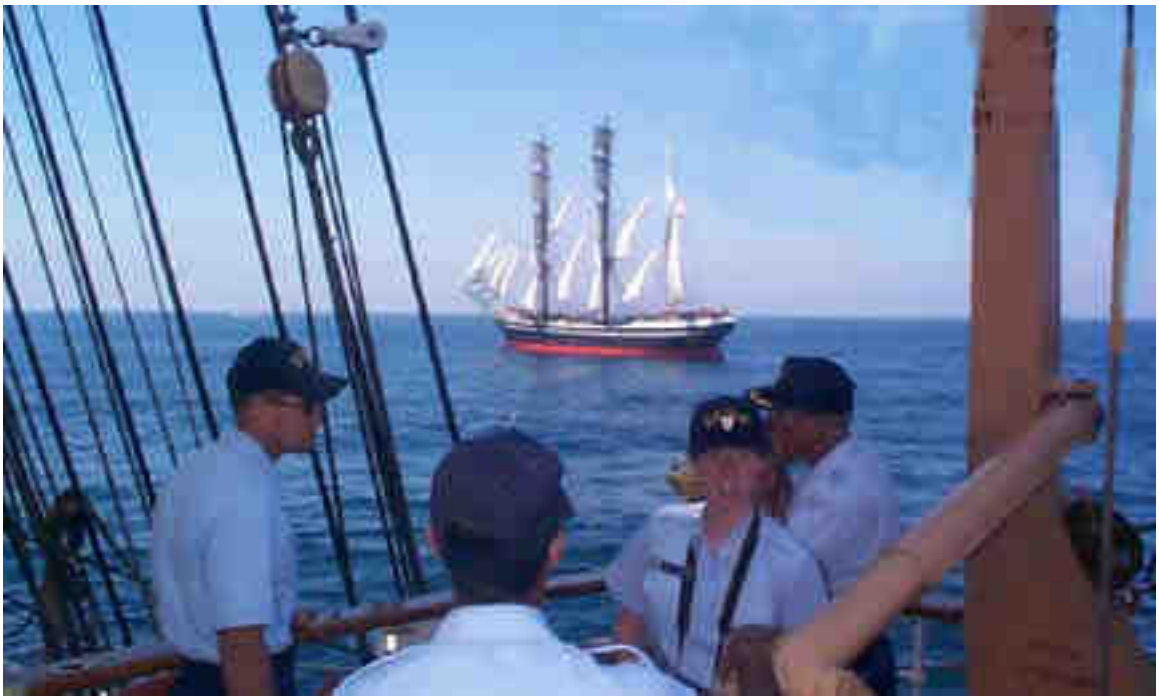
San Diego Ship Modelers Guild Officers

Guild Master	Robert Hewitt	<redacted>
First Mate	Bill Grolz	<redacted>
Purser	Ron Hollod	<redacted>
Editor	Bob Crawford	<redacted>
Log Keeper	Bob McPhail	<redacted>

Next Meeting will be Wednesday July 9, 2008
aboard the Berkeley at 7:00 pm on the Main Deck



Star of India from U.S.C.G.B Eagle 1999