The Broadaxe

THE SHIP MODEL SOCIETY OF NEW JERSEY

Founded 1981

Volume 35, Number 8

Newsletter of the Ship Model Society of New Jersey

August 2017

In This Issue

Our next club meeting is **August 22** at **6:45PM**

ROSELAND PUBLIC LIBRARY

AUGUST NOTES...

The July meeting was opened at 1845 by our immediate Past President, Jim Lavelle, as President Chuck was not able to be there. There were eighteen members in attendance. Click here for photos.

We've said it many times before, but another great job by Steve Maggipinto with *The Broadaxe*.

Larry brought several books from his extensive collection to the meeting for members to take as they wished. Larry is in the process of renovating his shop. Some things just need to go. Thanks Larry.

Al Geigel presented the financial report. He noted that, including checks he has received in the mail from members who have moved away, most members have paid their dues. Thank you all for that. If you haven't paid yet, please send Al a check so that he can close the books on this.

Our next meeting is Tuesday, August 22nd. The Tech Session will be "Making Belaying Pins" presented by Mike Rogers.

The next Saturday Workshop will be on August 19th, at Chuck's. It starts at 10:00. Please notify Chuck if you will be attending and enter through the back. Click here for photos from the June workshop.

OLD BUSINESS

Lunch Cruise on Lake Hopatcong – Mason Logie will be booking our annual lunch as a cruise of Lake Hopatcong. We have settled on Saturday, September 16, 2017, at 11:00 am (1100). Plan to arrive at 1030. The cost will be $45 per person. If you will be going, you need to send a check to Al Geigel as well as advising Mason.

Continued on Page 2

UPCOMING EVENTS

AUGUST

19 - Group Working Session at
Chuck Passaro's Workshop
22- Monthly Meeting - 6:45PM,
Roseland Public Library, 1st Floor

SEPTEMBER

16 - Lunch Cruise on Lake Hopatcong
TBD - Group Working Session
26 - Monthly Meeting - 6:45PM,
Roseland Public Library, 1st Floor

OCTOBER

TBD - Group Working Session
24 - Monthly Meeting - 6:45PM,
Roseland Public Library, 1st Floor

On the Horizon

Trip to Gulliver's Gate (Times Square)

August 22 - Making Belaying Pins:
Mike Rogers

Gulliver's Gate – This is an ongoing exhibit in Times Square of 1:96 reproductions of major cities throughout the world, including ships. Mason once more asked if there would be interest. There still is and he will be looking into scheduling this in January of 2018. For more info on this exhibit, take a few minutes to view these two videos:

- Intro to Gulliver's Gate
- Gulliver's Gate Assembly

NEW BUSINESS

Time For a Break – Larry Friedlander has been managing the Coffee Mess for quite a while. In fact, Larry makes sure that he gets the supplies to the meeting even if he can't be there. It's time for someone else to step up. Please let us know if you would be willing to take over the coffee break responsibilities. And – many thanks to Larry and his assistant Roy Goroski.

OF INTEREST IN THE LOCAL AREA

I think most of us have heard about "First Class" and "Third Class" accommodations on ocean liners in the late 19th/early 20th centuries. But how many of us have a feel for what it was like to travel in those categories?

Well, here's your chance to find out. South Street Seaport just recently opened a new exhibition entitled **Millions: Migrants and Millionaires aboard the Great Liners, 1900-1914.** In the words of the museum:

> *Millions...is one of the first exhibitions to examine, side-by-side, the dichotomy between First Class and Third Class passengers aboard ocean liners in the early 20th century.*
>
> *From 1900 to 1914, nearly 13 million immigrants traveling in Third Class arrived in the United States. During this same period, America's wealthiest citizens, totaling no more than a hundred thousand passengers each year, traveled to Europe in First Class, spending over $11.5 billion (2017) on luxury vacations. Even though First Class and Third Class sailed on the same ships, their journeys were worlds apart.*

Sound interesting? It might be worth checking out...

TECH SESSION

Making Masts and Spars

Tom Ruggiero brought in his current project, *HMS Liverpool*, to demonstrate his methods for making masts and spars in very small scale. As we are all well aware, most kits supply dowels, (usually birch) with the expectation that these will be tapered to the correct shape.

There are a number of ways to shape dowels. One of the more popular methods is to place the dowel in the chuck of a drill and then proceed to sand it, taking care not to burn oneself in the process as the sandpaper gets quite hot. If the turning is too thin, its likely that the portion closest to the drill will fracture. The best way to make a mast or spar, however, is to start with square stock. This is the way that it used to be, and is still done, in full size practice. This method provides the advantage of using any type of wood that is available. As with all modeling, tight straight grain is desirable.

When Tom makes a mast or spar, he typically uses stock that is slightly larger than the largest diameter. He also tapers the squared stick first in order to provide better control. For example, a topmast on a seventeenth or eighteenth century ship tapered in a curve (it wasn't a straight taper), and at the top, had an octagonal stop. Following this practice, Tom tapers to the correct dimension just below the top. Some modelers will cut down that dimension, affix two strips and slice off the corners. Tom has done that, but another method works better for him – starting with a stick a little longer than required, and doing almost all of the tapering by scraping with a new single edged razor blade, counting the number of scrapes on each side.

Before Tom goes from square to octagonal, he drills all of the holes needed for the various sheaves. You can do that with a pin vise, but he finds that a drill press works much better. Spars and masts have a section that remains octagonal. Geometrically, each of the four faces of the stick has a ratio of 7/10/7. In larger scales, and in full size practice, a line is drawn on each face. You then simply scrape, chisel, file, or sand down to the line. However, in smaller scales, it is next to impossible to draw that line. The thickness of the line is one third the diameter of the finished spar. So, to keep it simple, you take off the corners a little at a time until all eight sides are the same width. This works very well for Tom. For topmasts and other spars that have a larger diameter at the top, he places a stop cut so that his thinning operation doesn't intrude into the larger section. The final step is marking off where the mast or spar needs to stay eight sided and then carefully sanding the rest round using progressively finer grit sandpaper or sanding sticks.

(**Ed Note**: This is a good primer on how to make masts and spars. But how do you determine the correct dimensions of each mast component? And ensure that each piece in a multi-mast model is properly proportioned? Answers on the next 3 pages.)

Using A Spreadsheet to Work Out Mast Tapers

— An article by Rich Brayshaw from the MSW website

Depending on the vessel and period, masts and yards were tapered according to formulae. Steel's *The Elements and Practice of Rigging and Seamanship Vol. 1* has tables of data showing the measurements worked out for various diameters of mast. This reference work can be found online. Click here.

The length of the mast determines its diameter at the partners (where the mast is at its greatest diameter as it passes through the upper deck). The diameter of the mast at the partners determines the diameters at the various quarters, the head and the heel.

From Steel's *The Elements and Practice of Rigging and Seamanship Vol. 1,* page 39:

> *The diameters in proportion to the length, in the royal navy, are as follow: viz.*
> *The main and foremasts of ships of 100 to 64 guns inclusive, are one inch in diameter at the partners to every yard in length. Ships of 50 to 32 guns inclusive, 9/10 of an inch to every yard in length. And ships of 28 guns and under, 7/8 a of an inch to every yard in the length.*
> *The main-mast of brigs to be one inch to every yard in length, and the foremast 9/10 of the diameter of the main-mast.*

The following original table is from *The Elements and Practice of Rigging and Seamanship Vol. 1,* page 42 (for an easier to read table, click here and scroll down to page 42):

A FRACTIONAL TABLE OF THE PROPORTION THAT EVERY PART OF A MAST OR YARD BEARS TOWARD THE GIVEN DIAMETER IN THE TABLES OF DIMENSIONS.

	Quarters.			Head.		Heel.
	1ft.	2d.	3d.	Lower part.	Upper part.	—
Standing Masts that are checked { fore and aft. athwartships.	60/61	14/15	6/7	3/4	2/3	6/7
	60/61	14/15	6/7	6/7	2/3	6/7
Standing Masts that head themselves	60/61	14/15	6/7	3/4	5/6	6/7
Top-masts, Gallant-masts, and Royal-masts	60/61	14/15	6/7	12/13	10/11	—
Mizen-yard { Lower-arm	60/61	11/12	3/6	Arms.	—	—
Upper-arm	30/31	7/8	7/10	2/3	—	—
Yards in general	30/31	7/8	7/10	3/7	—	—
Bowsprit	60/61	11/12	4/5	5/9	Outer End.	6/7
Driver booms	40/41	11/12	5/6	Ends. 2/3	—	—
				fo. end.	af. end.	Middle
Main booms	40/41	12/13	7/8	2/3	3/4	11/12
Gaffs	40/41	11/12	4/5	5/9	—	—
Heeling { Standing masts	3/4 athwartship.			—	1/2	fo. & aft.
Bowsprits	7/12 athwartship.			2/3	up and down.	

LENGTHS OF

The cheeks 3/7 if oak, and 6/20 if fir, of the length of the mast.
The head of the main and fore masts, 5 inches to every yard of the mast's length.
The head of the mizen-mast, and main and fore topmasts, 4 inches to every yard of the length.
The head of the mizen topmast, and all topgallant-mast, 3½ inche to every yard of the length.
Long pole-heads to topgallant-masts 2/3 of the length of the flop, (that is, when the 3½ inches to a yard is taken out of the whole length). Proper pole-heads to be 3/15 of that length; and stump pole-heads 3½ inch to every yard in length.
The hounds of all lower-masts 7/15 of the length of the head.
The topmasts 3/5 of the length of the head.

So, knowing the diameter of the mast at the partners, we can get a spreadsheet to work out the various diameters throughout the length of the mast. Note that there are fore and aft, and athwartships dimensions for the heads, which were wider athwartships (6/7 of the diameter at the partners) than they were fore and aft (3/4 of the diameter at the partners).

Okay – lets get this information into a spreadsheet. (***Ed Note**: For those not well versed in spreadsheets, before proceeding click here and review pages 1-4 of Rich's article. If you do not already have spreadsheet software installed, Rich explains how to download the software [non-pirated!] at no charge.*) I've set mine up as shown in Fig. 9. By now, you should be able to work out the formulae to enter into the relevant cells. I've listed them next to the example spreadsheet for the work-shy. I've also highlighted the cells that require input in green.

	A	B	C
1			
2			
3			
4		Diameter at the partners	23.0 inches
5			
6		Diameter in millimeters	584.2 mm
7			
8		Scale (for 1:64 enter 64)	64
9			
10		Scaled diameter at partners	9.1 mm
11			
12		Heel (6/7)	7.8 mm
13			
14		Partners	9.1 mm
15			
16		First quarter (60/61)	9.0 mm
17			
18		Second quarter (14/15)	8.5 mm
19			
20		Third quarter (6/7)	7.8 mm
21			
22		Lower part of head (¾)	6.8 mm
23			
24		Upper part of head 5/8	5.7 mm

The formulae:

C6	=C4*25.4
C10	=C6/C8
C12	=C10*6/7
C14	=C10
C16	=C10*60/61
C18	=C10*14/15
C20	=C10*6/7
C22	=C10*3/4
C24	=C10*5/8

Fig. 9

Next, consider that we need three masts. All of the cells can be copied to another part of the spreadsheet without worrying about the formulae we've entered. The cells named in the formulae are automatically updated to the new locations. We need to copy the table we've made twice, for the foremast and the mizzen. Simply highlight the areas to be copied (click and drag), copy (control C), click the top left cell of the area where they are to be pasted, and paste (control V).

We know the diameters of the masts at the partners from the data in Steel (page 49), and these can be entered into the relevant green cells. Of course, Steel provides us with the various diameters of the masts too, but the spreadsheet automatically converts these to millimetres and at the required scale (see Fig. 10, next page).

	A	B	C	D	E	F	G	H	I
1									
2		**Lower Mast Tapers for a 74-gun Ship**							
3									
4		**MIZZEN MAST**			**MAINMAST**			**FOREMAST**	
5									
6		Diameter at the partners	22.25 inches		Diameter at the partners	37.00 inches		Diameter at the partners	32.25 inches
7									
8		Diameter in millimeters	565.2 mm		Diameter in millimeters	939.8 mm		Diameter in millimeters	819.2 mm
9									
10		Scale (for 1:64 enter 64)	64		Scale (for 1:64 enter 64)	64		Scale (for 1:64 enter 64)	64
11									
12		Scaled diameter at partners	8.8 mm		Scaled diameter at partners	14.7 mm		Scaled diameter at partners	12.8 mm
13									
14		Heel (6/7)	7.6 mm		Heel (6/7)	12.6 mm		Heel (6/7)	11.0 mm
15									
16		Partners	8.8 mm		Partners	14.7 mm		Partners	12.8 mm
17									
18		First quarter (60/61)	8.7 mm		First quarter (60/61)	14.4 mm		First quarter (60/61)	12.6 mm
19									
20		Second quarter (14/15)	8.2 mm		Second quarter (14/15)	13.7 mm		Second quarter (14/15)	11.9 mm
21									
22		Third quarter (6/7)	7.6 mm		Third quarter (6/7)	12.6 mm		Third quarter (6/7)	11.0 mm
23									
24		Lower part of head (¾)	6.6 mm		Lower part of head (¾)	11.0 mm		Lower part of head (¾)	9.6 mm
25									
26		Upper part of head 5/8	5.5 mm		Upper part of head 5/8	9.2 mm		Upper part of head 5/8	8.0 mm
27									

Fig. 10

Some of the data in this spreadsheet are redundant – for example, the scale has been entered three times, and the diameter of the mast in millimetres before scaling isn't a required measurement for the model. It can, however, be useful to include such results in the design of your spreadsheet as it makes it easier to troubleshoot. I also think it's good practice not to have long formulae, for the same reason.

It's possible, given the way mast and yard dimensions are calculated, to design a spreadsheet that will produce all the required mast and yard dimensions upon entering very few figures.

Steel (page 39) …

> *The length of the lower deck and extreme breadth being added together, the half is the length of the main-mast.*

If we know the length of the main-mast, then …

> *Fore-mast, 8/9 of the main-mast.*
> *Mizzen-mast, 6/7 of the main-mast.*

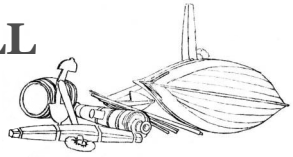
If we know the mast lengths, then ….

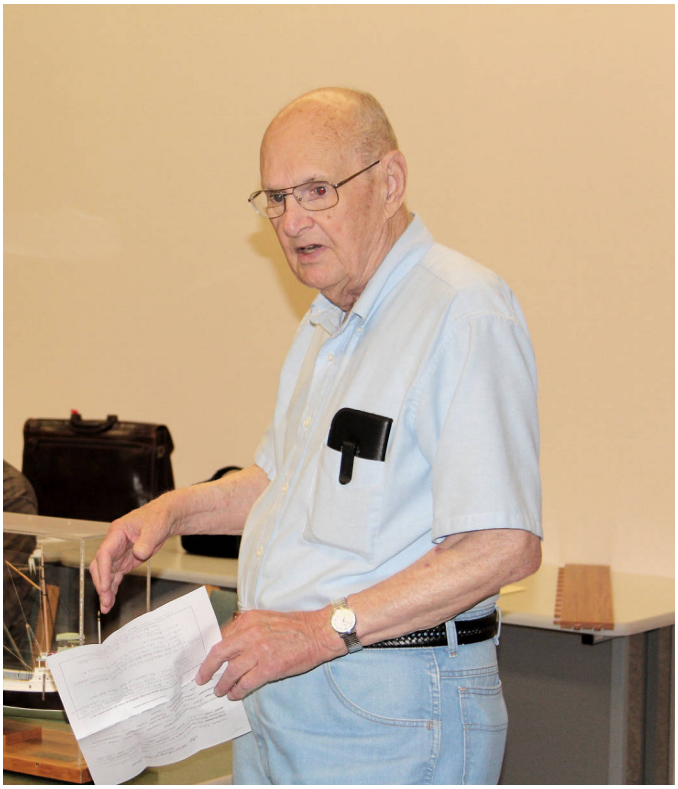
> *Main-yard, 8/9 of the main-mast.*
> *Fore-yard, 7/8 of the main-yard.*

Etc, etc.

So, if anyone is feeling inspired …

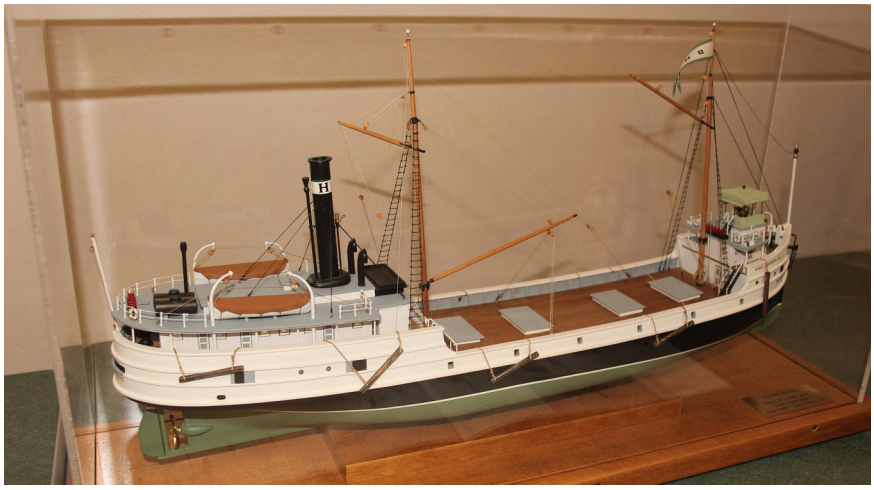
SHOW AND TELL





Ken Schuetz arrived at the June meeting with a model of *Huron Brave*, a typical nineteenth century (1890) Great Lakes lumber carrier, or "lumber hooker". During the late 1800's, ores, lumber and coal were the most important cargoes on the lakes. The ship also carried Christmas trees. You will note that this period was a time of transition from sail to steam, so the vessel had a full rig even though it operated under steam power. It had an open pilot house, also typical of this era.

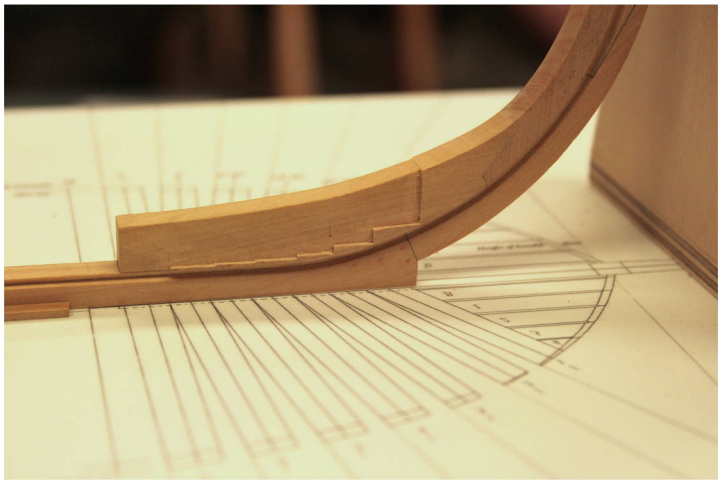
Ken's model is a highly modified AJ Fisher kit in 1:96 scale (22" x 3 ¾" x 10 ¼" high). The kit started as a solid hull to which Ken added many scratch details including the deck furniture. The model is well over thirty years old. It is fully cased and it is still as pristine as the day it was completed. Interestingly, cyanoacrylate was used extensively. We know that cyano is frowned upon in some circles, but this build indicates that, if used properly and on compatible materials, it will survive well. As with all of Mr. Schuetz's scale ship creations, the model is very well done. Great job, Ken.

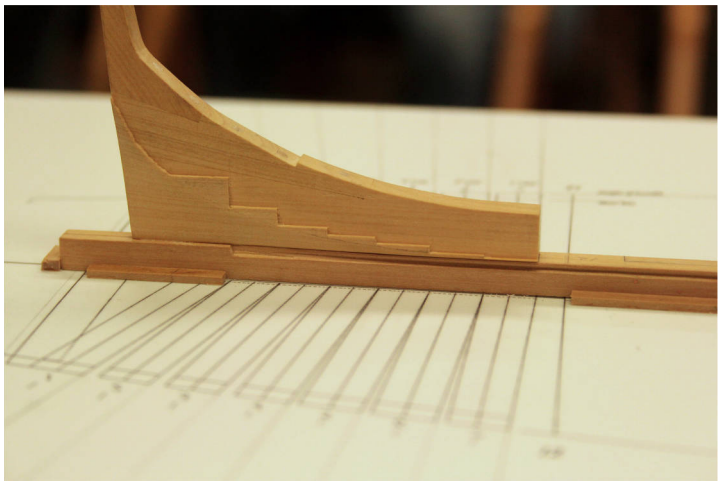


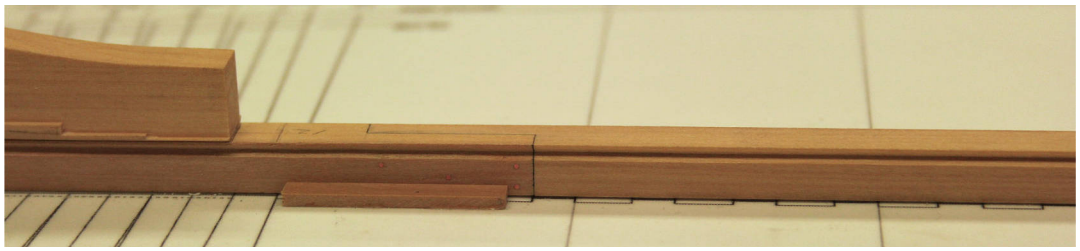
SHOW AND TELL

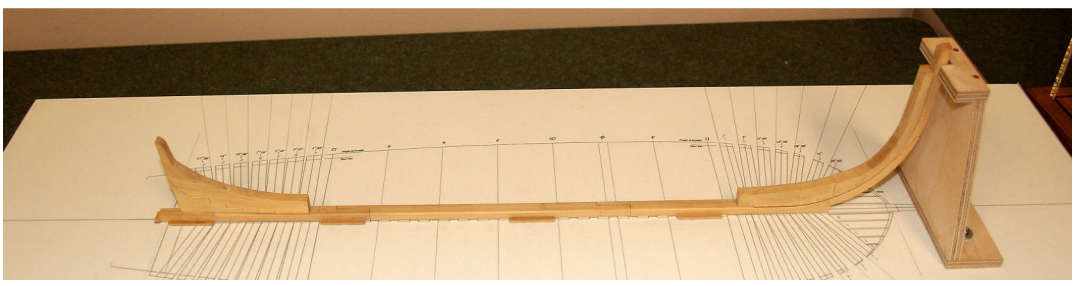
Following the completion of the revenue cutter *Cheerful*, **Mike Rogers** has already started a new project. It's an English Anchor Hoy, *Hayling*, in 1:48 scale. Mike will be building this as a fully framed model using true to actual practice full frames. Hoys were small harbor craft that conveyed supplies and passengers from other ships and retrieved anchors that had become detached from haulers. Construction is entirely scratch. Mike has completed the base for the building board, using ¾" medium-density fibreboard (MDF). Initially, Mike glued a paper plan to the building board with spray adhesive. It worked well until the weather turned extremely humid and he noted that the paper was rippling. So Mike stripped the paper and refinished the board. He attached a "bathroom board" to the MDF. He then had the plan printed on Mylar. Mylar is a plastic film used in drafting; it is very stable and doesn't expand or contract with humidity. Problem solved.

So far, Mike has completed the keel, keelson, stem and sternpost using boxwood. He is using copper wire for the bolts; he will subsequently blacken these with liver of sulfur. Pictures do not do the model justice. The joinery and the fabrication of the keel and dead wood are impeccable. Looking very good, Mike.





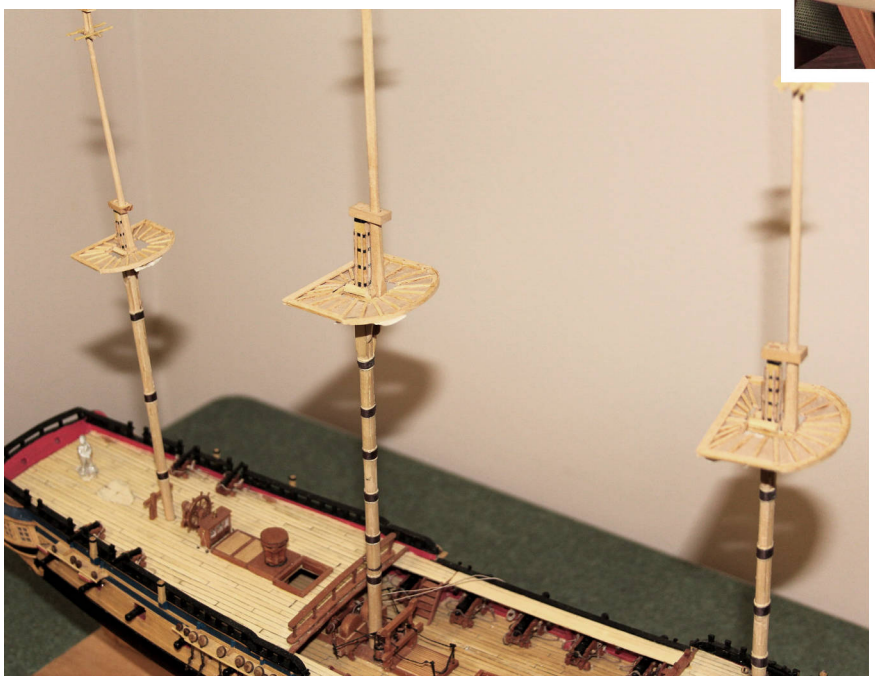




SHOW AND TELL

We have seen *Liverpool* many times. At the July meeting, **Tom Ruggiero** showed the progress he has made since the last Show and Tell: fabrication and temporary stepping of all the masts. Tom is currently making the spars (yards and gaff, etc.). Once these are completed, the masts and yards will be blackened in the appropriate places.

Now Tom has a decision to make – whether to go with his original plan to install sails. If he decides to do that, the sails will be made of silk span. They will all be furled except for the three topsails. Considering all of the time already spent on this model, the sails will add quite a bit more work. If Tom decides to go with sails, the plan is to install them before crossing the yards, and to attach the yards to the masts before they are permanently stepped. There were varying opinions at the meeting about how to proceed.



An Open Letter From Tom Ruggiero

Pirating; don't support it!

How many of us had very well meaning children come up to our model at one of our functions and call out, "Wow, it's a pirate ship"? Well, unfortunately that is beginning to happen. Most of us have been to Manhattan. We, or our significant other, has been drawn to the siren song of the street vendor hawking those really inexpensive Gucci hand bags. But they are knockoffs. Gucci is a large established company, and they have been able to get legal protection. Everyone has seen the opening warning on a DVD or video tape about pirating movies. Again, large companies with the resources to get legal help.

Many of the companies that we rely upon in this world of Ship Modeling (and all modeling for that matter) do not have the resources to get that protection or have any redress of the infringement. In the global economy, there are countries where copyright isn't even a minor consideration. Small businesses spend the time and costs needed to bring out a new kit to see it very quickly copied and marketed by a company that relies on stealing other people's work. Indeed, someone can buy one kit, copy the plans, and then market the kit as their own. Although the pirated copy is, like the knock-off Gucci bag, an inferior copy, it can make the genuine kit impossible to sell. Have this happen a few times and the small business will fold. That benefits no one!

Here are a few examples:

- The *Confederacy* model kit, designed by our own Chuck Passaro and marketed by Model Expo, has been copied by another company. The copying is so brazen that the plans in the kit, and displayed on their web site, are an exact copy of Chuck's plans including the copyright statement and his name.
- The serving machine produced by Syren Ship Model Company has been copied exactly. The only difference is that the logo on the copy is in Chinese.

Plans have been copied from several of the current ship modeling books. Knock off kits are being manufactured using those copied plans. The consequence is even worse for those of us who scratch build. What will happen as a result of this blatant copying is that the days of buying a CD or book with detailed modeling plans will soon be over. Now, we would be back to, once again, drawing our own plans.

Competition is the normal course of doing business. It is healthy and is acceptable and allows better products and ideas to evolve. "Pirating" is not acceptable; ever. So, please do not buy pirated or knock off kits, plans, or other supplies. The price of that kit may be tempting. But the result is that the legitimate business will leave the market. If you see a price that is "too good to be true", it probably is a copy. If you don't know if something is pirated, there are several ways to find out. Probably the simplest way is to ask our President, Chuck Passaro. Another way is to look for the listing of companies that pirate kits on the *Model Ship World* (MSW) website.

All of us in this hobby need to help. The only way that pirating will stop is if the cheap copies aren't sold. Let's do what we can to help.

The Ship Model Society of New Jersey

The Broadaxe is published monthly by The Ship Model Society of New Jersey (SMSNJ), a nonprofit organization dedicated to teaching and promoting ship modeling and maritime history. Membership dues are $25.00 for the first year and $20.00 per year thereafter.

Visit our Web Site at: http://www.shipmodelsocietyofnewjersey.org where a web version of *The Broadaxe* can be found. *The Broadaxe* is distributed by both US mail and email in PDF format.

Regular meetings are held on the fourth Tuesday of every month at 6:45 PM, at the Roseland Free Public Library, 20 Roseland Avenue, Roseland, New Jersey. Guests are always welcome.

Contributions to *The Broadaxe* are always welcome, and SMSNJ members are encouraged to participate. Articles, shop hints and news items may be submitted directly to the Editor as typed manuscript or electronic files, either on discs or by email. Handwritten notes or other materials will be considered depending on the amount of editing and preparation involved.

The Broadaxe is edited by Steve Maggipinto. Your ideas and suggestions are always welcome. Please submit them to Steve Maggipinto at stevemagg@optonline.net.

If any member would like an email copy of the roster, please drop a note to Tom Ruggiero at the email address listed below. If there is an error in the roster let Tom know and the roster will be amended. Please make sure that your spam filter is not blocking emails from Tom because if it is, you won't get member bulletins. You can eliminate the filtering by adding Tom's email address to your contact list. Please keep the secretary informed of any changes so that the roster can be kept current. If you would like a printed copy of the roster, please send a SASE to Tom Ruggiero at the address below and one will be mailed to you. Rosters are also available at the monthly meetings.

Please keep your contact information up to date. Your email address is particularly important because that is the main avenue of communication for club announcements. In case of emergencies such as last-minute cancellations due to weather, emails will be sent to the members.

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