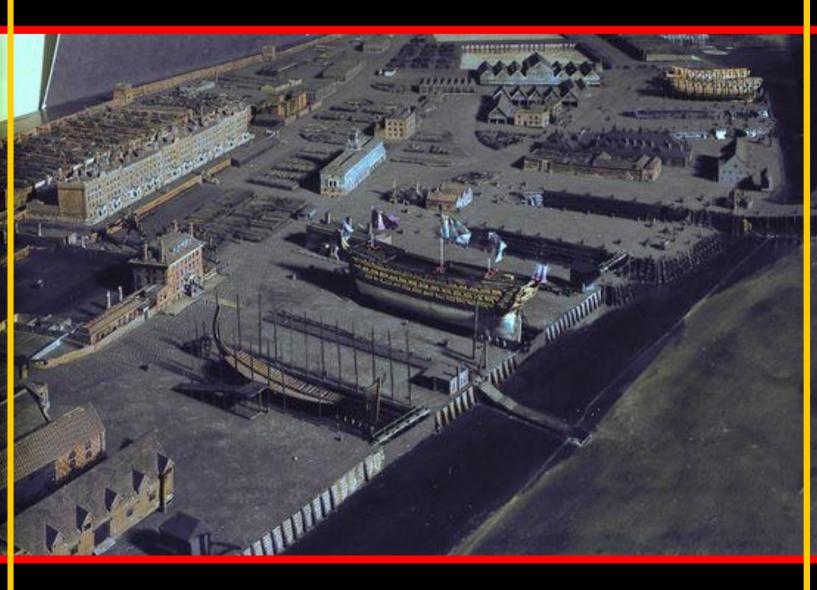
# The MSB Journal

Vol. II Issue V



✓ Ships Bells

✓ From the files of ShipWreck Central: The Bonhomme Richard

### The MSB Journal

ISSN 1913-6943

#### Volume II, Issue V

July 2008

© www.modelshipbuilder.com

All articles published in The MSB Journal are covered under international copyright laws.

This newsletter may be re-distributed freely as long as it remains, whole, intact and un-altered.

We also urge you to print a copy for your workshop or reading area.

Published by www.modelshipbuilder.com

On the Cover

Model of Royal Chatham Shipyards The National Marime Museum

How to Contact The MSB Journal

By email: msbjournal@modelshipbuilder.com

By Snail-Mail

ModelShipBuilder.com c/o Winston Scoville 5 St. Charles Place RR 5 Clinton, Ontario, NOM 1L0 Canada

#### **Article / Content Contributions**

Please submit all article and content contributions to:

msbjournal@modelshipbuilder.com

### In This Issue

<u>Editors Notes</u>	3
Ships Bells	4
From the Files of Ship Wreck Central	5
Navy Board Models Website	6
The Matthew Project Part XI: The Quarter & Forecastle Decks	7
On the Cover	24
MSB Book Nook	25
Badges: Heraldry of Canadian Naval Ships	26
What Ship Is This?	27
Blocks & Things	28
At the Stern Crossword	30

Don't forget, clicking in the left column brings you back to this page!

## **Editors Notes**



A relaxing moment with the new Admiral on our ship

Well, it's hard to believe, but we're already half way through 2008. How time files!

This is a little bit of an abbreviated issue this month. This was a very busy month around here. Our son had his graduation and is moving on to High School, and we just moved into a new home. So needless to say I didn't have much time to spend putting this issue together. There were a couple of articles I wanted to squeeze in here but time just didn't permit it. Not to fear though, they'll be in the next issue.

I'll keep this real short. While the moving part is over, the unpacking and organizing is not and

there's a ton of work to be done. Especially in the new workshop area! Hopefully she won't find me there! :-)

Happy modeling everyone!

Winston Scoville www.modelshipbuilder.com

### SHIP'S BELLS

#### By Gene Bodnar

A ship's bell is always fixed in place; the bell itself does cannot be swung like a church bell. Only its clapper is movable, and it is swung by the watch member on a short lanyard to indicate the passage of increments of time.

The belfry, which contains the ship's bell, was sometimes a simple iron hoop or a plain bracket. In many larger ships, however, the belfry could be an elaborate wooden structure designed much like a pagoda and frequently contained intricate carvings. However, its main purpose was not a decorative one. Instead, it served to protect the bell from being inadvertently struck by flying ropes, which could create timing problems and throwing the crew watch members into confusion.

The bell is struck by a watch member every half hour. At 12:30 one bell was sounded; two bells at 1:00; and so forth until eight bells were sounded at 4:00. Then one bell was sounded at 4:30, and the cycle was repeated around the clock. The sounding of eight bells was the end



Ships Bell of the HMS Surprise

of one watch and the beginning of another. Of course, the crew of a ship was usually divided up into two and four watches, with each watch taking its turn with the routine activities aboard the ship. The so-called "dog watch," which occurred between the hours of 16:00 and 20:00, was divided in two. The purpose of the odd number of watches was to give each crew member a different watch each day, which also allowed the entire crew to eat an evening meal.

Bells were sometimes sounded at other times that those indicated. For example, when two or more ships were close together, particularly under foggy conditions, bells would be sounded periodically in order to prevent collision.

A ship's bell is usually cast of bronze. Frequently, the name of the ship was etched on it by the bell-maker, sometimes with addition ornamentation. It is interesting to note that bell-makers always refer to a ship's bell as "she."

Large vessels have big bells, and small ships have little bells. Since the tone of a bell depends on its size and weight, it is also true that the size of a ship could easily be estimated by the sound of its bell even if the ship could not be seen, as at night, for example.

A ship's bell is sometimes its most prized possession, especially after the ship itself is broken up. As shown in numerous museums around the world, it is, in some cases, the only article remaining of a ship that once thrived on the open seas.

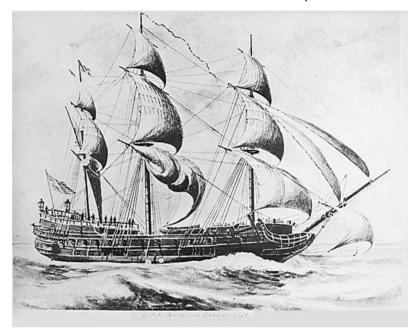
As a final note, the term "eight bells" is a nautical euphemism for "finished." The term frequently appeared in the obituaries of seamen.

## From the Files of Ship Wreck Central Bonhomme Richard

The first Bonhomme Richard, formerly Duc de Durae, was a frigate built in France for the East India Co., in 1765, for service between France and the Orient. She was placed at the

disposal of John Paul Jones 4
February 1779 by the French
King and renamed Bonhomme
Richard in honour of Ben
Franklin.

On 19 June 1779 Bonhomme Richard sailed from L'Orient accompanied by Alliance, Pallas, Vengeance, and Cerf with troop transports and merchant vessels under convoy to Bordeaux and to cruise against the British in the Bay of Biscay. Forced to return to port for repair, the squadron sailed again 14 August 1779. Going northwest around the west coast of the British Isles into the North Sea and then down the east coast the



squadron took 16 merchant vessels as prizes.

On 23 September 1779 they encountered the Baltic Fleet of 41 sail under convoy of HMS Serapis (44) and Countess of Scarborough (22) near Flamborough Head. After 1800 Bonhomme Richard engaged Serapis and a bitter engagement ensued during the next four hours before Serapis struck her colors. Bonhomme Richard, shattered, on fire, and leaking badly defied all efforts to save her and sank at 1100 on 25 September 1779. John Paul Jones sailed the captured Serapis to Holland for repairs.

According to Clive Cussler: "The debris and ballast mound of the Bonhomme Richard lie somewhere between twenty-five and thirty-five miles out to sea from Flamborough Head. I've marked the search area in a diagram. Unfortunately, if I'm right, we're looking at a search grid of nearly 500 square miles since I can't say with any degree of accuracy whether Jones' ships were north or south of the head when the Richard sank. He should have been to the south of the head, but the winds might have kept him to the north. He was forced to beat and tack against unfriendly winds before arriving at the Texel in Holland."

View a short video of the Sea Hunters as they look for the elusive Bonhomme Richard at:

www.shipwreckcentral.com

## Navy Board Models

### A website for scratch builders of Navy & Admiralty Board Models

www.navyboardmodels.com

A couple of issues ago I mentioned that we were working on building a new website for model builders. We are still a little ways from opening up the site at this point, but I would like to extend the invitation to any modellers who would like to help in building the foundations to the site.



For the most part, the technical end has been taken care of. There's just a few areas we're still working on that should be wrapped up soon. Now we are looking for individuals who would be interested in contributing content.

If you have an interest in building Navy Board or Admiralty Board style models and would like to share your knowledge with others through a website dedicated specifically to this discipline of model building we'd like to hear from you. To contact us, simply drop by the site (www.navyboardmodels.com) and send us a message through the contact form.



### The Lumberyard for Model Shipwrights

We are proud to be your supplier of rough lumber, milled sheets and strips, plank on frame hull kits and model ship kits

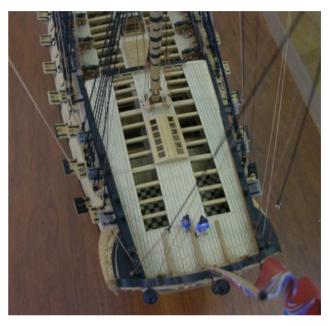
Visit us Today! www.dlumberyard.com

# The Matthew Project Part 11:

## The Quarter and Forecastle Decks

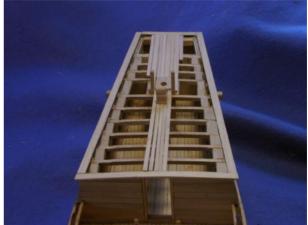
In the classical form of model ship building it is common to leave off sections of deck planking to allow a viewer to look inside the hull or down to the next deck below. On the Alfred model built by Harold Hahn (right), sections of the deck planking was left off to show the parquet flooring in the cabin below as well as the lower gun deck. In the photo of the Rattlesnake (below) half the decking was left off to expose the deck construction.

At this point in the construction of the Matthew, as the model shipwright it is up to you if you want to show any detail below the deck.









If you decide to show cabin details below deck you can lay decking down the middle of the deck or strips of decking on either side of center. In actual shipbuilding lodging knees would have been used between deck beams along the sides. In the photo you can see the lodging knees being installed in a model. If you add knees to the end of the deck beams you can leave off the deck planking along the sides to show off the detail work. On the prototype model the deck will be planked over so blocks were used instead of knees. Blocks or "chocks" as they are called, are an important part of the deck structure because they provide a landing for the ends of the deck planks.



Once all the decisions have been made we can begin to construct the bulkhead and deck. On the prototype the bulkhead was framed and closed in leaving a door in the center. A close up of the bulkhead framing shows a footer set on top of the sill and studs are placed on top of the footer and extend to the underside of the deck beam.





Once the bulkhead is framed horizontal planking finishes the job. The deck beams provided are longer than required and will be cut to fit the model. The first two deck beams to be installed are at the location of the mizzen mast, once these are in place the rest of the beams are spaced out evenly along the deck.

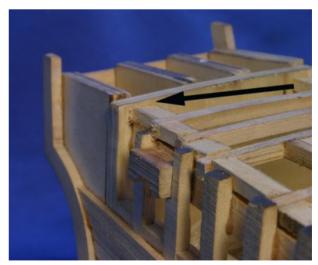


Carlings for the knight and mast partner are added with square holes for the bitt posts. Blocks are added at the end of the deck beams and the beams are trimmed to size. When the stern was built the exact height and angle was left unfinished until the deck was installed. The black arrow is pointing to a slight difference in the height of the deck and stern timbers.

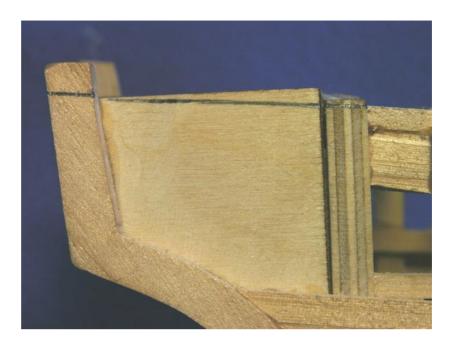








Mark the height of the deck on the stern timbers and trim it even with the deck. A margin plank is placed all around the deck. The margin plank placed over the bulkhead extends beyond the bulkhead leaving a ledge along the inside for the ends of deck planks to fall onto.





It would be a bit redundant to go through the process again on laying deck planking. The quarter deck was done the same as the main deck using hard Maple with a black crayon used as caulking. If you look careful at the bitt posts in the photo you can see two slightly wider planks running the length of the deck. These were the two starter planks on the deck and the rest of the planking was worked from these planks to the margin planks along the sides.

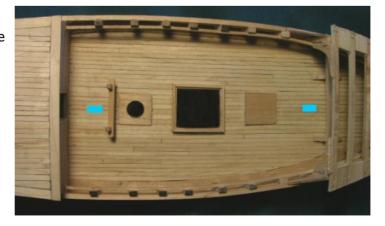


## THE KNIGHTS

Before we proceed to the forecastle deck we will go through the steps of making the

knights. Three knights are needed in the following locations. The first location is on the quarter deck we just finished and two are needed on the main deck in the locations marked in blue.

Knights were not added when the main deck was constructed because only the part of the knight above the deck will be made and glued to the deck. In real life the knights would be





timbers which went down to the keel and secured by knees under the deck and at the keel.

The knight at the quarter and forecastle deck was below those decks and on the main deck, a hole was made in the deck to run the rigging to the knight.

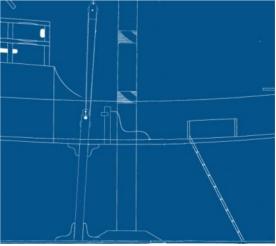
On the quarter deck if decked over would make rigging the knight impossible plus the idea of having a hole in the deck would defeat the purpose of weather tight cabins. On the quarterdeck the knight was run up to the deck, the break of the forecastle deck is open so the knight is accessible for rigging and it was placed on the main deck.

The blue print shows the complete knight from the keel to the deck with knees.

Making the knight begins with the proper size timber and drawing the profile on the side then mark off the front for eight holes and the slots where the sheaves would fit. You could if you wanted to, cut the slots all the way through and put in four sheaves. You can buy sheaves or make them yourself. On this build we are going with a dummy with only holes to pass a rigging line through.







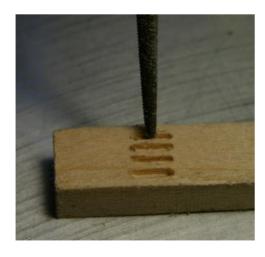
#### The MSB Journal—Volume II Issue V

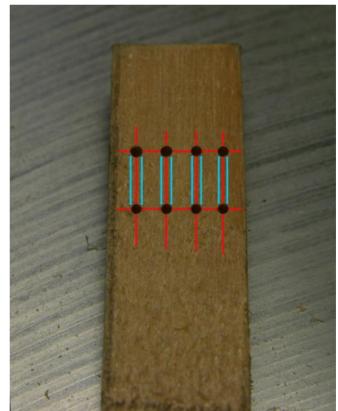


The blue lines are showing where you make a cut with a knife You are cutting from the edge of each hole to the edge of the one below it. Next make and angle cut from the center between the two lines and cut to the line, do this to both sides creating a small wedge shaped of wood down the center of each slot. Using a round file, clean out the slot.

This process is done on both sides of the knight. Above the slots make a V cut at the center location of the concave curve. The V cut gives a good start for a round file to file in the final shape. If you're round file has a taper to it file in one direction then reverse and file in the opposite direction. If you don't do this the curve will also have a taper.







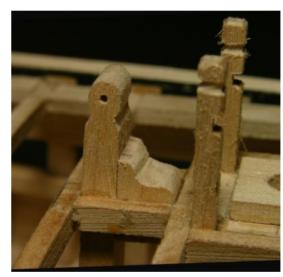
#### The MSB Journal—Volume II Issue V

On the quarter deck, the knight is mounted between two carlings. The empty space between the carlings is taken up with a knee. This knee is a simple block rounded at the top and wedged between the carlings and the knight









## The Forecastle Deck



In this section we will build the sides and deck of the forecastle. The only difference between the prototype model and the replica is the location of the last channel wale. On the prototype model the channel wale is right under the cap rail and runs between the hull planking and the forecastle side planking. Notice in the photos the last channel wale is not on the model. This was done because it makes the lower set of blocks easier to install. Begin by



adding blocks between the timberheads along the outside of the deck clamp. Add another set of blocks between the timbers at the location of the rail clamp. The purpose of the blocks are to add a backing for the ends of the vertical planks. When all the blocks are glued in place sand them even with the top timbers.

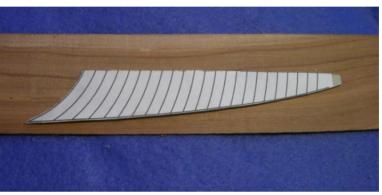




Make a copy of the planking layout from the plans. Use the layout and check it against the side of the model. The model should match pretty close to the planking pattern.

Because the planking is vertical you can not just lay the pattern on to a piece of sheet stock. The pattern has to be rotated so the grain runs length wise to the planks. Begin by sticking two sheets of wood together with double sided tape. By using two patterns rubber cement the patterns to the wood sheets one set with every even numbered plank and one set with every odd numbered plank. Continue to cut all the planks apart and give them a sanding to the lines. Line up the planks and you will notice the creeping line. With each plank

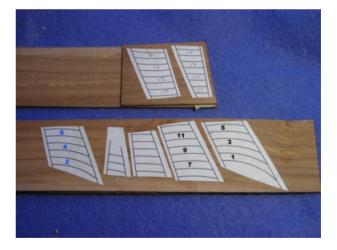




having two lines and 23 planks the thickness of the lines add up to being an overall of 3 to 4 planks to long.



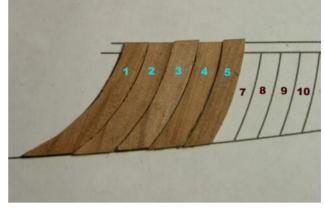






Placing the planks on to the pattern we can see the first 5 planks have already taken up the space for the first 6 planks. To solve this problem use a drum sander on the Dremel tool and give each plank a quick pass against the sanding drum. These planks are small and difficult to hold, you might end up sanding the tips of your fingers. A solution is to hold the plank with a clamp, this gives better control and holds the plank secure.

Go through each and every plank until the planks match up with the pattern.





Planking begins with plank 1 places right at the first timber and each plank butts against the one another. Plank number 23 is then cut to fit the final space at the stem. The planks are all left a little long at this stage of construction. Later they will be sanded even along the top.



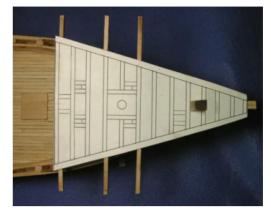


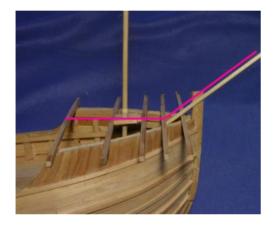




To begin the forecastle deck, a cutout from the plan was used to check overall fit and the location of the key beams. Next a test bow sprit was set in place to check the angle which was also taken from the plans. If you look careful at the bow sprit and the far right beam it was moved a little so the bow sprit can rest on it.

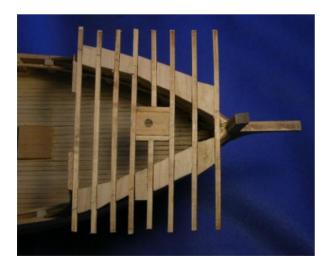
Note the bow sprit runs alongside the stem and not centered over it. In order to maintain the correct angle of the bow sprit it has to run past the fore mast.







Once all the deck beams have been glued in place blocks are added between the deck beams. At the very front I opted to use one solid piece of wood rather than individual beams and filler blocks.





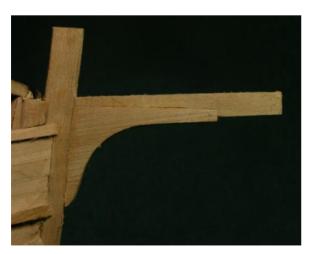
With all the beams and blocks in place flip the model over and set up a guide to trim the deck to size. The forecastle deck does extend beyond the sides of the hull. Using a circular saw on the Dremel tool just zip off the extra close to your guild. With a sanding disk on the Dremel sand the edge clean and even with the guide.







Before gluing on the front of the forecastle deck add the timber to the top of the head knee. Make sure the top of the beam is level with the bottom of the deck beams.





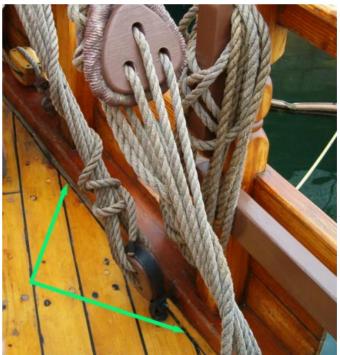




The forecastle deck was held in place with the use of hanging knees. Each deck beam would have had a knee fastened to the side of the bean and into the side of the hull. On the prototype model only the knees at the last beam were added. Before the deck planking is started on the forecastle deck, a margin plank is run around the edges. The green arrows are pointing to the caulk seam between the deck planks and the margin plank

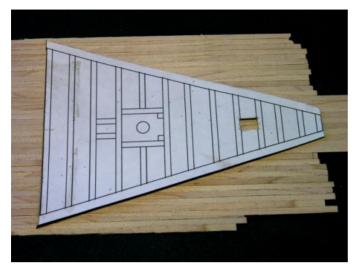






Each plank will have to be cut on an angle, an easy way to cut the planks all at once is to layout enough planks to cover the entire deck. Use masking tape and tape the planks together. By using a pattern of the forecastle deck trace the pattern on to the planking and cut out the deck.

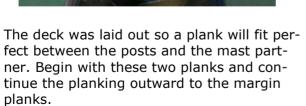




What you have done is to create a mat which you can fold over and with a black crayon darken the edges for caulking. As you lay the decking peel off the planks one by one, trim them to length and glue them in place.

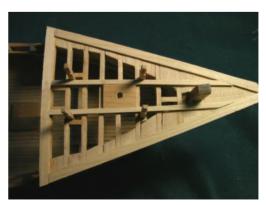






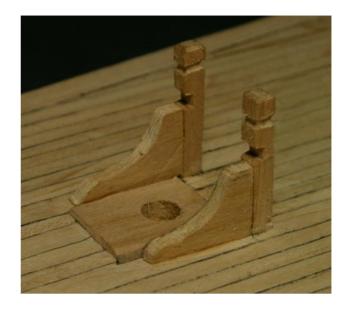
Once all the deck planking is finished then go back and install all the post knees.





This now completes this part in the series. The next part will be the final installment in the design and construction of the model.

In the final part we'll be building the railings, installing cap rail and closing in the sides of the quarter deck with planks and moldings.



#### Coming to a Close

Well folks, this project will be wrapping up in the next issue. I was hoping to be able to provide you with information on the timber kit and plans in this issue. Unfortunately due to our wonderful postal system and the Canada Day holiday (July 1st) all the information I have been waiting for has been held up. It's currently sitting in a post office somewhere (maybe the one next to you!)

I hope to have everything in my hands by the end of the week. As soon as I do I will be contacting everyone who expressed an interest in purchasing the kit or the plans as soon as I can to fill you in on the details so that you can then make your decisions and we can get some orders placed.

For everyone else, I suggest that you keep an eye on the Model Ship Builder website for information as I will try to put up some info there if time permits. You will definitely find all the info in the next issue of The MSB Journal.

Until then!

WS

Modeling
Shows,
Competitions,
Exhibitions,
& Displays

It's that time of the year again when we start

To see modeling shows starting.

If you have an event coming up in your area

Let us know and we'll help spread the word!

Just contact us at:

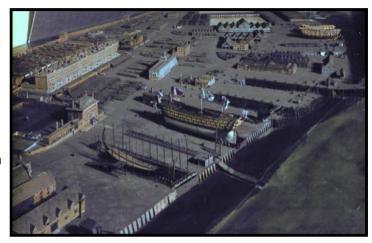
msbjournal@modelshipbuilder.com

## On the Cover Royal Chatham Dockyards

National Maritime Museum

Established as a royal dockyard by Elizabeth I in 1567, Chatham became important during the Dutch wars, owing to its strategic position (on the River Medway) and by the late 17th century it was the largest dockyard.

It was superseded first by Portsmouth, then Plymouth when the main naval enemy became France, and the Western approaches the chief theatre of operations. In addition, the Medway had silted, navigation was more



difficult, and Chatham became a building yard rather than refitting base.

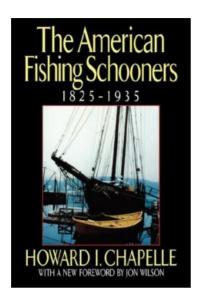
In 1771 Lord Sandwich, First Lord of the Admiralty, ordered models to be made of the Royal Dockyards at Deptford, Woolwich, Sheerness, Chatham and Portsmouth. These models show the houses, offices, workshops, stores, dry-docks, and building slips of the yards where the repair and launching of ships took place. HMS 'Victory' was first floated out from the Old Single Dock at Chatham in 1765.

In the 1860s the yard had a large building programme and St Mary's basin was constructed for the steam navy. When the yards at Deptford and Woolwich closed in 1869, Chatham again became relatively important and remained so until 1983 when it closed. The site is now a museum, the Chatham Historic Dockyard Trust.

The National Maritime Museum houses many records from the dockyard including: 1,063 letter books containing correspondence between yard officials, the Admiralty and Navy Boards, 1669-1900; internal yard records; and a collection of 67 plans of the yard, 1718-1867.

You can learn more about the Chatham Historic Dockyard at the National Maritime Museum website: <a href="https://www.nmm.ac.uk">www.nmm.ac.uk</a>

## The Model Ship Builder's Book Nook



# The American Fishing Schooners: 1825-1935 by Howard Chapelle

At the time of this writing this great book was available for \$50.00 and eligible for FREE Super Saver Shipping on orders over \$25. So you can basically get the book at half the price delivered to your door free of charge!

Its available at our Amazon Book Store

#### Some customer reviews:

The American Fishing Schooners: 1825 - 1935 This is a great reference book for any serious model builder, with lots of details and illustrations, clearly charting the evolution of the design of the American fishing schooners over the golden age of their careers.

A Must Reference Book for Scratch Schooner Model Makers! The most comprehensive source I have encountered for the intricate details of North American fishing schooners from the late 1800's and early 1900's.

A classic book on American fishing schooner design

This is the most comprehensive book ever written on the subject. It was penned by one of America's premier historians of 19th Century Naval Architecture. It is doubtful that a finer book will ever be written on the subject of American fishing schooners. It was a classic when I was a boy, and it is still a classic. No student of 19th Century Maritime history should go without this book.

## **Badges:**

## **Heraldry of Canadian Naval Ships**





## **HMCS Magnificent**

Type: Light Fleet Carrier Class: Majestic

Displacement: 15,700 tonnes

Length: 698 ft. Width: 80 ft. Draught: 25 ft. Top Speed: 24 # Officers:

# Crew: 1200

Weapons: 6 - 40mm (3xII), 18 - 40mm

Pendant (Hull Number): 21

Builder: Harland and Wolff Ltd., Belfast, Ireland

Laid Down: 29-Jul-43 Launched: 16-Nov-44 Commissioned: 7-Apr-48 Paid Off: 14-Jun-47

Remarks: Ex-HMS MAGNIFICENT. Capacity of 30 aircraft.

Source: readyayeready.com

## What Ship Is This?



#### Last Issue



The ship in our last issue was the Earl of Pembroke!

Photo used by kind permission of Chris Spracklen

www.pbase.com/moorlands

## **Blocks & Things**

We continue on in this issue with a look at various blocks used on ships



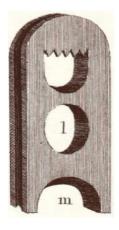
**A Monkey Block** 

The monkey block is made with a saddle, to nail upon the Topsail Yards in Merchant Ships, for the Bunt-lines to reeve through. Sometimes they had a swivel above the saddle, to permit the block to turn when used for a Leech-Line.



**A** Heart

The heart is a block of wood with a large hole in the center, at the bottom of which are four or five scores round the outside, A groove is cut, to admit a rope, called a stay, &c.





A Dead Eye

The dead eye is a large circular piece of wood, having a groove in its circumference, for a shroud to lien in. The three holes or eyes are for a lanyard to reeve through.



A Heart for a Collar

This block is sometimes open at the lower end, opposite to which the lanyard is passed. It has a groove on each side (k) for the seizing to lie in as shown above.

The heart to the left was often used in the Merchant Service with a round hole (I), for the heel of the Jib Boom to rest in, which is bevelled for that purpose. The bottom of the heart (m), is also bevelled according to the steeve of the bowsprit.



A Truck

A truck is rounded, having a hole bored vertically for a rope to reeve through. In the middle is a score (n), for a seizing, and down the back a groove for a shroud to lie in.



A Rack

A rack is a piece of wood, through which the holes of belaying pins are struck. A the back part are several scores for the shrouds to lie in, to which it is seized.



**Nine-Pin Block** 

The nine-pin block is shaped something like the pin from which it derives its name; and is placed in the breast-work, for the running rigging which leads down by the mast, to reeve through.



A Bulls Eye

A bulls eye is a kind of wooden thimble, with a hole in the center, and a groove in the circumference.

You can learn more about blocks and rigging in "The Young Sea Officers Sheet Anchor (A Key to the Leading of

Rigging, and to Practical Seamanship)". There are a couple of variations of this book available on the market. The one I would recommend you acquire if you have a store in your area is the one put out by Lee Valley Tools as part of their Classic Reprint Series.

This edition includes the original Darcy Lever publication of 1808 and the updated 1858 version by George W. Blunt (commonly referred to as the American edition).

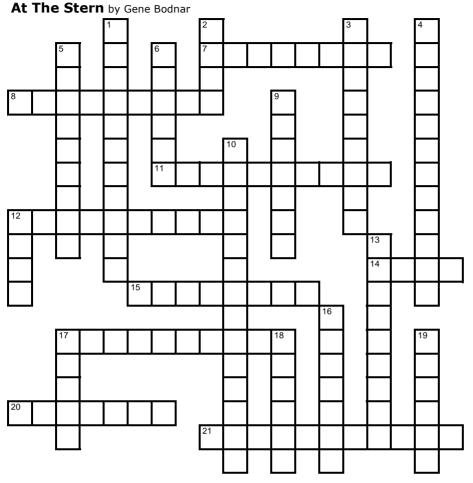
This latter edition includes in its latter part a lot of interesting detail on total canvas for different classes of vessels, weights of chain and cordage, details on the clipper ships (just coming into service at the time of publication, weights, characteristics and testing methods for armament (ball and shot), and notes and illustration describing the Porter anchor and Forbes rig.



Various footnotes are provided wherever Blunt's text differed from Lever's, and contains an appendices containing all the material Blunt added.

If you don't have a Lee Valley store near you, you can get the newer edition at the MSB Journal Book Store. Either book is a good addition to your library.

Source for this Article: The Young Sea Officer's Sheet Anchor—Classic Reprint Series from Lee Valley Tools



#### **Across**

- 7 That part of a vessel's stern projecting aft beyond the rudder head
- 8 Timber that strengthens the joint at the heel of the innerpost
- 11 Place in the middle of a ship's stern where her name and port of registry are inscribed
- **12** Piece extending aft and upwards from the keel and forming the main structural member of the counter
- 14 Part of a ship where the ends of the bottom planks meet under the stern or counter
- **15** Ornamental rail along the upper edge of the stern
- 17 Timber composed of the sternpost, transom, and fashion pieces
- **20** Balcony projecting from the stern or quarter of an old man-of-war or large merchantman
- 21 Curved timber which joints the ship's quarter to the transom

#### <u>Down</u>

1 Timber that supports a projecting stern

- 2 Piece of timber attached to the foot of a rudder to bring it into line with a false keel
- 3 Length of timber mounted along the fore side of the sternpost, strengthening the stern and holding the transom
- **4** Aftermost frame of a ship, which delimits its breadth and set the shape of the stern
- 5 Opening at the stern which serves for ventilation, allows guns to be fired astern, or facilitates the loading of cargo
- 6 Vertical bolt at the back of a rudder which fits into a gudgeon on the sternpost to form a hinge
- **9** Another name for the stern gallery
- 10 Small balcony on a ship's quarter, usually with doors leading to the stern gallery
- **12** Another name for a tiller, the lever controlling a rudder
- across the stern, level with one or more of the upper decks (these were abolished in 1797 but reintroduced in 1814)
- 16 Metal clamp bolted to the sternpost that becomes part of the rudder's hinge
- 17 Horizontal piece of timber fastened along the bottom of a rudder to reinforce it and to protect it if the vessel runs aground
- **18** Molding or carving on the quarter gallery
- 19 Wood or iron bar fitted to the head of a rudder, for the purpose of moving it from one side to the other in order to steer the ship

#### **At The Stern Answers**

				С	Ì			S					•	ī			F	
		S		0		Р		0	٧	Ε	R	Н	Α	Ν	G	Ī	Α	
		Т		U		I		L						Ν		•	S	
S	Т	Е	R	Ν	K	Ν	Е	Е			В			Е			Η	
		R		Т		Т					Α			R			1	
		z		Е		L			Ø		J			Ρ			0	
		Ρ		R		Е	S	О	כ	Т	С	Τ	Е	0	Z		Ν	
		0		S					Α		0			S			Р	
Н	0	R	Ν	Т	Ι	М	В	Е	R		Ν			Т			1	
Е		Т		Α					Т		Υ				S		Е	
L				Υ					Е						Т	U	С	K
М					Т	Α	F	F	R	Α	1	L			Е		Е	
									G				G		R			
		S	Т	Е	R	Ν	F	R	Α	М	Е		U		Ν		Т	
		Η							L		K		D		W		1	
		0					i		L		Е		G		Α		L	
G	Α	L	L	Е	R	Υ			Е		-		Е		L		L	
		Е						Т	R	Α	Ν	S	0	М	K	Ν	Е	Е
									Υ		G		Ν				R	