**Volume II Issue II** 

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- The Crow's Nest



# The MSB Journal

#### **The MSB Journal**

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On the Cover

Mersey Lifeboat Mike Pendlebury

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**

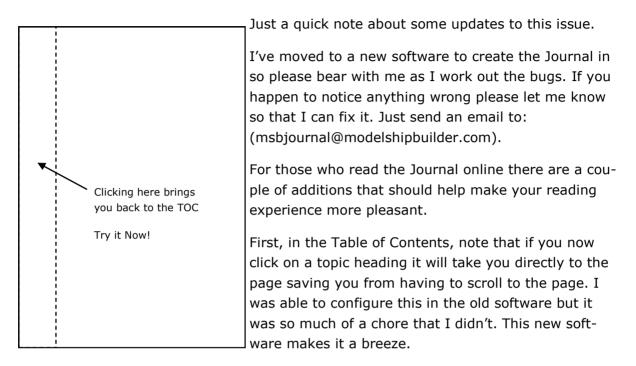
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### **Editors Notes**



Next, from any page, if you click in the blank area in the left hand column you will be brought directly back to the Table of Contents.

As I figure out this new software you will see various changes over the next few issues. There are a lot more features available than the last software I was using so one never knows what little secrets I'll uncover! :-)

Again, a special thanks goes out to those of you who were in a position to make a small contribution last month. Part of those contributions went into helping purchase this new software.

And as always, we are on the lookout for anyone who wishes to provide content for the Journal. We've received a few articles this past month which will be showing up in future issues of the Journal.

Happy Sailing!!!!

Winston Scoville www.modelshipbuilder.com Home of "The MSB Journal"



In Part I of this series of articles, we discussed several variations of the solid-hull type of construction. In Part II, we will examine a method commonly referred to as plank-on-bulkhead (POB), which is sometimes called "built-up" construction or the "hollow-hull" method. Some kit manufacturers call this method "plank-on-frame," but this is a misnomer.

The POB method is most often used for models of steel ships, such as modern warships and merchantmen, and it is frequently employed by the scratch builder for wooden hulls when he wishes to take short cuts.

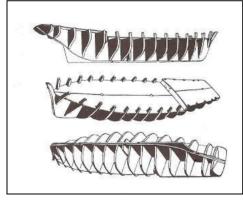


Fig.1

Essentially, POB construction uses crosswise slices of the hull called "bulkheads," which are notched and fastened in similarly notched areas of a "backbone" that corresponds to the profile of the hull, as shown in Fig. 1. These are frequently made from plywood and are common in kits, especially those of European manufacture.

#### **Building a Plank-on-Bulwark Model**

To build a POB model from scratch start with cutting out the "backbone" of the ship, which includes the outline of the profile of the vessel with its stem, keel, and sternpost, as well the lower edge of the main deck. Plywood or other sheet wood may be used. Its thickness should be the same as the keel. Next, cut notches to the thickness of your "bulkhead" material at least half way down from the deck level. The location of each notch should correspond to the section lines found in the profile view of your plans.

Now lay out the bulkheads on your wood, as drawn from the body plan, one for each section. Cut a notch in each bulkhead starting at the keel. The length of the notch should be long enough so that the top of the bulkhead rests perfectly at the top edge of the backbone, and the bottom of the bulkhead meets the point where the planking will rest. Test-fit each bulkhead as you progress.

In building a POB from scratch, you should probably make more bulkheads than you would normally find in a kit, because the more bulkheads you install, the easier it will be to plank them later, and you will

also find that only a single layer of planking material will be required.

Before assembling all these bulkheads permanently on the backbone it is best to build a jig that will ensure that all the bulkheads will be installed perfectly in alignment. The jig can be made from small angle irons or lengths of wood spaced apart by the width of your keel, but not any higher that the height of the keel planking, as shown in Fig. 2.

Starting with the midship bulkhead, apply an adequate amount of adhesive to its notch and also to the corresponding notch in the backbone. Insert the bulkhead, checking that it is level with the deck at the top and level with the keel area. Using a T -square, make sure that the bulkhead is perfectly perpendicular to the backbone. Some modelers clamp a temporary square

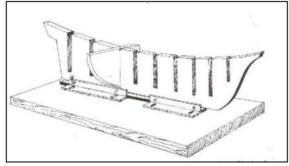
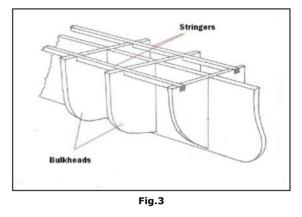


Fig.2

block of wood to hold it in place until the glue has dried. Repeat this process for the bulkhead toward the bow, then a bulkhead toward the stern, always checking that they are perfectly square. Keep alternating the bulkheads until you have completed all of them. After all of them have been installed, let the glue dry overnight. Do not remove the assembly from your jig until you are sure the glue has dried, because you don't want to disturb the perfect alignment.

Some modelers like to reinforce the bulkhead with "stringers" (two long lengths of wood) placed in notches in every bulkhead at the deck level, as shown in Fig. 3. This ensures that the bulkheads will not shift out of their perpendicular positions.



Other modelers prefer to insert blocks of balsa wood between each bulkhead instead of stringers. This serves the additional purpose of providing underlying supportive material for the thin exterior planking material, especially if you have to cut out gun ports.

In many kits, the concept of stringers is built right into the design of the model. In Fig. 4, a stringer appears as an integral part of the bulkheads and will eventually become a backing for the gun ports.



Fig.4

Another important point to keep in mind when fitting stringers or blocks is the location of the mast holes. You may wish to leave spaces for these holes. See Fig. 5.



Fig. 5

An interesting note is that some modelers fill the entire surface between the bulkheads with some soft wood, such as balsa, and sand this to the shape of the hull before beginning the planking. This essentially results in a hull shaped much like a solid hull, with the bulkheads serving as built-in templates.

When you are satisfied that you have given you model sufficient support, it's time to sand a bevel on the outer edges of appropriate bulkheads. Make a sanding block about two or three inches wide, and long enough to cover the distance of three or four of your bulkheads, and thick enough to hold comfortably in your hand. Wrap a piece of medium-grit sandpaper around the block, and it's ready to use. Also keep a piece of your planking material close by – it should be about the length of one-third of your hull.

Use the sanding block to bevel the bulkheads, especially near the bow and the stern. If your bulkheads are made of plywood, it is important that you sand in one direction only; otherwise, you risk pulling away layers of the plywood. As you sand, make sure that you always cover two or three bulkheads with each stroke. The object is to attain the smooth curve of the hull's shape at all points. Use your long planking strip to test periodically by placing it along the edges of the bulkheads. If the planking lies perfectly flat along the bulkheads, you have achieved the proper results.

Occasionally, you may find that one of the bulkheads is a bit too small and doesn't meet your planking-strip test. If this is true, add a thin strip of wood to that bulkhead to provide a shim. Then sand again until your planking-strip test proves that the strip lies perfectly flat at all locations.

You will find it more difficult to sand the extremely canted areas of the bulkheads, which are at the bow and stern. These areas must pass your planking-strip test, too, so you might have to shave a bit with an X -Acto knife or small file before you proceed with your sanding block. In any event, all bulkheads must be formed so that your

> "...the more work involved in preparing the kit, the higher the price of the kit. But remember, you almost always get what you pay for..."

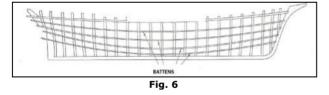
planking material will lie flat everywhere when placed across your bulkheads at all points. In addition, it is usually necessary to install basswood or balsa blocks of wood at the bow and stern areas to give your planking material a firm place to rest upon. Otherwise, your planking will not display the proper smooth curve that should be there if done properly. The blocks should be installed and sanded nice and smooth right along with your bevels, and these blocks should also pass your planking-strip test.

A word about kits: If you build kits for a while, you will soon discover that bulk-heads are almost always made of plywood.

However, in some kits the outlines of the bulkheads are simply printed on the plywood, which requires you to jigsaw them out. In other kits, the bulkheads are die cut and only need to be popped out. In still other kits, the bulkheads will already be cut out and ready to use, even with the bevels cut for you. Of course, the more work involved in preparing the kit, the higher the price of the kit. But remember, you almost always get what you pay for.

Furthermore, in higher priced kits, you will get more bulkheads that will help ensure that the shape of the hull will be more natural and won't tend to sag when you plank the exterior of the hull. In less expensive kits, you will find fewer bulkheads, because they cut corners to reduce the cost. Of course, if you are scratch building your model, you can add a more than sufficient number of bulkheads, as already mentioned.

What's the next step in building the POB model? You are now ready to begin plank-



ing the exterior of the hull. In kits, follow the directions outlined for your model. Planking is usually accomplished in two separate layers of planking material, with the first layer being an inexpensive wood, and the second layer being the finished better-grade wood. Especially in cheaper kits, POB models have excessive spacing of the bulkheads, so they must be doubleplanked to cover the sagging. The first layer, sometimes called the "learning layer," can be finished by sanding to a smooth surface but will usually be accompanied by minor inaccuracies. The second layer, sometimes called the "finished layer," is applied as the final product, which will provide a good clean look.

In scratch building, especially if you've added extra bulkheads, as recommended, it will only be necessary to plank with a single layer of wood.

It is recommended that you use a series of battens to determine the best layout pattern for your planking strakes. (See Fig. 6.) Battens are merely long thin strips of wood that extend the full length of the hull. Pin about five or six battens onto the bulkheads in such a way that, when viewed from the bow or from the stern or from the profile view, the general curvature of the battens leaves a nice smooth curve and is pleasing to the end. When you are satisfied with these lines, mark their location with a pencil on each bulkhead, remove the battens, and begin planking as you would for any model.

#### Summary

In this installment, we have examined how a POB model can be built from scratch or from a kit. We started with the backbone, built bulkheads, supported the structure with stringers or blocks, beveled and sanded it smooth, and then began planking the exterior of the hull.

#### Next Installment

The next installment will concentrate on methods of building plank-on-frame (POF) models.

Fig. 1: Ship Modeling from Stem to Stern by Milton Roth, p. 103.

Fig. 2: Ibid., p. 105.

Fig. 3: Ship Modeling from Scratch by Edwin B. Leaf, p. 62.

Figs. 4 and 5: Compliments of Sergio Galli (better known at www.modelshipworld.com as Jack Aubrey).

Fig. 6: Ship Modeling from Scratch by Edwin B. Leaf, p. 60.

From the Files ShipWreck Central

Built at Rotterdam, Netherlands and launched on June 9, 1925 the SS Caribou was destined for service in the Gulf of St. Lawrence, Newfoundland to ferry passengers between Newfoundland and Canada (Newfoundland joined Canada in 1949).



SS Caribou in Dry-dock St. John's Harbour 1926

sonnel and escorted by a warship made this a legitimate target for the U-boat. The sinking took the lives of 136 persons including



On October 14, 1942 the SS Caribou, was blown apart at 3.20am by a torpedo from the German submarine U-69.

The Caribou was carrying 251 crew and passengers of whom 118 were military personnel. Also on board were fifty head of cattle. The fact that the defenseless ferry was carrying military per-



16 women and 14 children. There were 115 survivors, 104 being rescued by the minesweeper. Two of the survivors died en route to hospital in Sydney, Nova Scotia. Among those lost was naval nurse Margaret Wilson, the only Canadian nurse killed in WWII through enemy action. Of the crew of forty six, thirty one lost their lives. Six soldiers of the Prince Edward Island Highlanders also died. Of the fourteen children on board only one survived.



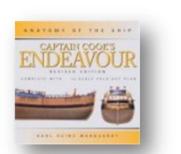




## Anatomy of a Ship

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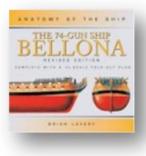
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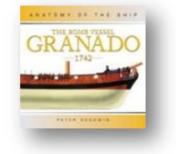
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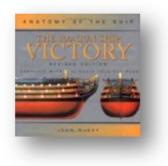
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Part 8 The Upper Works

Within this project, as the model shipwright you have various options open to you with regards to the design of the upper works.

You can draw from several references:

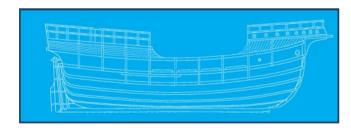
First we have the Matthew built in England with eight inlayed, arched panels.

Next we have the Mathew built in Newfoundland with four windows,

Or you may draw from the original drawings this project is based on whereby there is only planking.

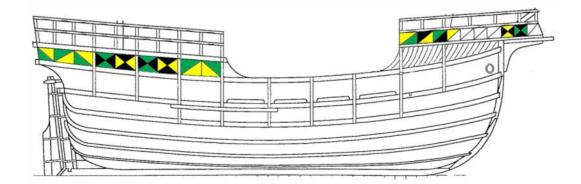
Yet another option you may decide is to paint geometric designs on the upper part of the hull (see below).

Or you may simply design your own Upper Works. The choice is yours.

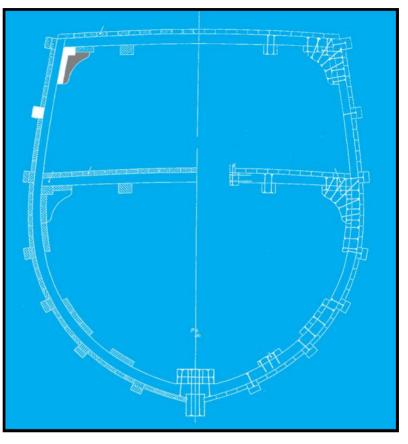




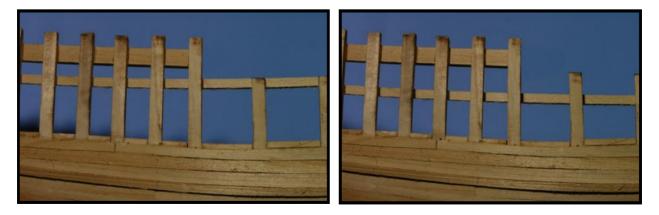




Planking the upper works from the sheer line to the cap rail, the planking is the same as the rest of the hull. On the Matthew, as built, the upper section of the hull over lapping planking was used called lapstrake. The original drawing does not show lap-strake planking. On the original drawings there is a deck clamp colored white behind the hanging knee colored gray. Lower is the channel wale colored white, between the bottom of the deck clamp and the wale there isn't enough room for windows. If you are going to plank up the hull as designed then the deck clamp is no problem, as it will be covered, same applies if you wanted to panel the hull. If vou want to put windows in the hull then some adjustments will have to be made. The deck clamp is a structural



timber the deck sits on so you cannot eliminate it, you can't raise the quarterdeck nor move the wale down because it runs along the top of the bulwark which produces a nice sheer from bow to stern. The solution to adding windows is to lower the bulwarks. From photos of both reconstructions of the Matthew with people standing on deck the bulwarks look to be four feet up from the deck. On the original drawings the bulwarks are five feet up from the deck, this gives a foot of play. What I can find on cogs, galleons and caravels there doesn't seem to be windows, which makes sense because you didn't want rain and ocean splashing into the closed area under the quarterdeck. On the prototype model a combination of both Matthews were used. The plan is to use one window at the stern and



arched inlayed panels along the rest of the area. This will cover the framing in of a window and also how the inlayed panels were made. If you choose to add more windows just follow the steps for making one and repeat it for as many windows as you want. The lapstrake planking is not used at all so if you want to use it your on your own.

If the rail clamp were run along the tops of the bulwark timbers it would not leave enough



room between the rail clamp and deck clamp. In order to add any windows the rail clamp is moved down to a four foot bulwark thus leaving enough room for windows.

Once you decide on where you want the rail clamp it is glued in place to strengthen the top timbers.

The rail clamp runs from the stem at the bow along the bulwarks and to the stern. If you plan on putting any windows in measure one inch up from the entire length of the water-way to locate the rail clamp. Notice on the drawing a wale runs along the rail clamp on the outside of the hull so it is important you maintained the correct sheer of the deck.





Once the rail clamps are glued in place and the top timbers braced, it is finally time to fin-



planking. All this handling would most certainly have broken a timber or two. The top of the timbers should be sanded to a measurement of 3/32. Looking at the photo you can

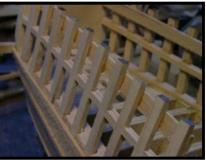
see the bevel the timbers are sanded to and the amount of material that has to be removed.

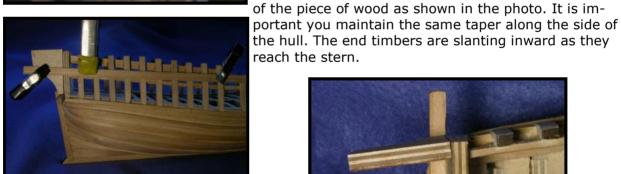
If you decide on windows now is the time to add sills. These sills are added to the outside face of the rail clamp between each timber. For the sills I used a piece of the wale stock cut to fit between each timber. Once the sills are in place the timbers are sanded until they are even with the sills. There isn't any reason to add a sill between every timber, I did it for

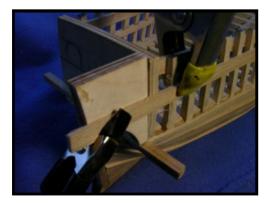


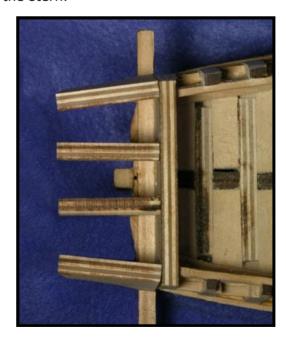


the support of the structure. When you have the top timbers all sanded down to the correct shape and thickness clamp a stiff piece of wood along the side of the hull. Allowing it to extend beyond the last bulkhead. Glue and clamp the end stern timber to the end



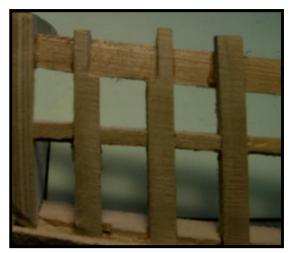




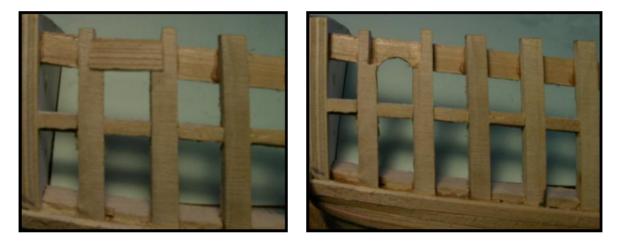


On this model one window will be cut in close to the stern. The reasoning for not adding four windows is to keep this section of the ship as dry as possible. Less windows would prevent the wind and rain and the sea from splashing in and provide some shelter from the weather. If you choose to add more windows simply repeat the following steps. To begin, cut the timbers about half way to create a shelf for the window header to sit on.

Next I used a piece of the wood from the keel sheet, it was the perfect thickness. A block was cut to fit snug between the timbers. This blocks thickness sticks out beyond the face of the tim-

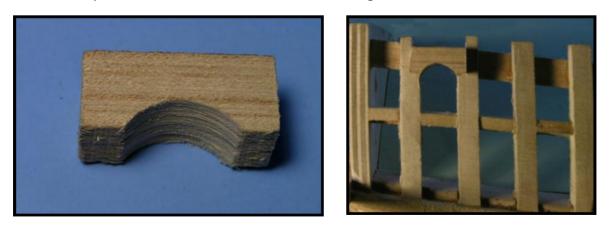


bers about the distance equal to two thickness of planking.



Remove the block and use a drum sander in a dremel and arch the deck clamp.

Then arch the header block to match the arch in the deck clamp. Now glue in the header block. To complete the window frame a wale runs along the face of the sills at the bottom



of the window and two molding are glued at the sides from the bottom of the header block to the top of the wale.

### **Planking the Stern**



The shutter planks were cut to fit the last belt of planking to insure they line up with the edge of the waterway. Looking at the darker colored plank in the center you can see how it is shaped to fill the space between the lower planking and the waterway, the bottom of the plank has more of a curve than the top edge.



When the last wale is installed it should line up with the top of the waterway at mid ship as shown in the photo looking out between the bulwark stanchions.

At the stern the wale pointed to with the blue arrow ends at the top of the transom timber pointed to with the yellow arrow.

With the last wale in place the next job is to plank up the stern. Begin by installing two blocks at the top and bottom of the tiller opening. Next you will have to cut the ends of the hull planking even along the transom timber.

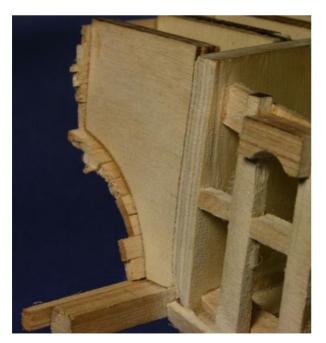


You should have a space between the inside face of the stern post and the face of the transom timber as shown in the photo.

Planking the stern is quite a simple job of running planks up from the transom timber to the top, leaving the ends overhang the sides









slightly. The first plank on the transom timber slips between the stern post and transom timber.

Using a felt disk and 180 grit sandpaper give the stern a final sanding and trim the ends by sanding them flush with the sides.



One last item added to the stern is the molding piece. You can set the molding so it is even with the stern planking or off set it a little to frame in the stern.







The addition of stern windows is also left to you. Join us next issue as we carry on with the upperworks and decking.

### Ship Replicas



#### Shtandart

Replica of a 1703 Russian Frigate.

Learn more about this ship at their website:

www.shtandart.com



#### Fame

A replica of a successful privateer from the War of 1812.

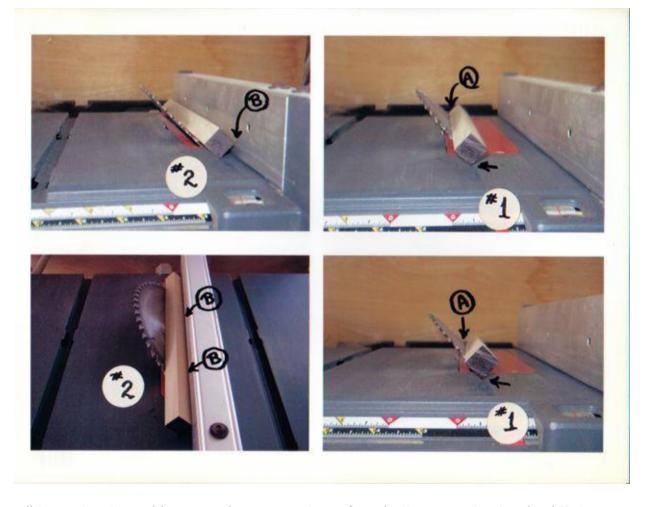
Learn more about this replica at their website:

www.schoonerfame.com

### **Workshop Notes**

Lately a lot of people on woodworking sites have been coming up with some very bizarre formulas just to knock the corners off of a stick that they plan to turn into a spindle, but they don't want to jar their teeth loose on the lathe. The last one I saw required calipers and a good calculator.

I have a method for this that I've been using for about 25 years with no problems and



all it requires is a table saw and a square piece of stock, No measuring involved !! Let me say at this point, however, that the use of a push stick would be a very wise thing, and if you're not comfortable with narrow stock, a feather board will help. By the same token, this is not a dangerous operation and you'd really have to try hard to get anything to kick back at you

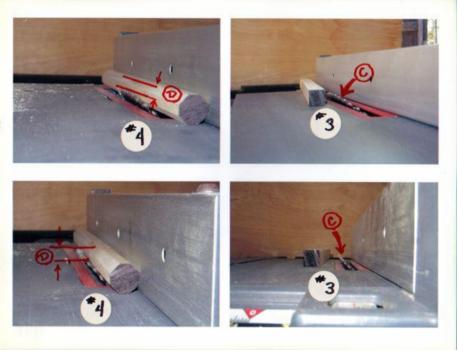
If you look at the pictures, #1 shows how to start off. Here I'm using a 3/4" square piece of poplar with the end blackened for clarity. Run your blade over to 45 degrees and up so you have a nice flat side to lay your stock against. The 45 isn't that critical, you don't need a protractor, we're not building the space shuttle here. Just make sure the stock is laying flat against the blade and the table.

Picture #2 shows the next step. Slide the fence over to the edge of the stock, being careful not to knock the piece off the blade (not that easy really) and lock the fence down.

Number 3, and this is important, move the stock out of they way and drop the blade back down to where it is below the top of the stock, but, of course, still high enough to cut

safely. DO NOT try to make this cut with the blade way up in the air. It's not that it can't be done, but you're just begging to cut your fingernails about 1 1/2" too short !!

Picture #4 shows the approximate height needed, just enough to cut the corner off with the teeth outside the wood. Now you just turn the saw on, lay the stock on a flat side and with your trusty push stick, slide it



through cutting the first corner off. Turn the stock 90 degrees for the next cut, well you get the idea.. The last cut is quite stable also even though the stock is riding on a narrower face at this point, but with a good pusher, I've never had one slip on me

The good thing is, there's really no way for the wood to kick back since it's never caught between the blade and the fence. As you can see in the 4th picture. at this point you have a pretty fair equal octagon. I usually try to use a piece somewhat longer than I actually need to allow for bad ends, etc.

### THE CROW'S NEST

by Gene Bodnar

The crow's nest was an integral structure of early sailing vessels dating all the way back to the days of the Vikings. It was an essential part of their navigation equipment Initially, it was simply a barrel or basket lashed high on the mast that allowed a lookout a position of better visibility, allowing lookouts to view approaching hazards, other ships, or land.

Why was it called a "crow's nest?" The raven, or crow, is a bird that loves land and hates water. Take a crow out over the water and it will invariably fly back to the land. The



Norsemen knew this fact and took advantage of it by carrying these landlubbing birds onboard on their long voyages. Especially in cases of poor visibility, they would release a crow, which would immediately head for land, thus enabling the navigator to plot a course corresponding to the bird's flight path, "as the crow flies."

Not long after the days of the Vikings, the crow's nest became a platform especially designed for the purpose, which also contained a protective railing, along with a cage that held a crow or two. Thus, the lookout man stood his watch while sharing his lofty perch with the birds.

Christopher Columbus was not the first person to witness the Americas in 1492. It was Rodrigo de Triana, a sailor perched in the crow's nest, who sited the land.

The crow's nest was the best device for long-range viewing at sea until the invention of radar. Ships of the present day no longer carry crow's nests, but the term still lives on in a host of unrelated areas, including the names of restaurants, bookstores, etc. The topmost structures of many buildings and towers are still called crow's nests today.

### What Ship Is This?





Surprisingly, no one was able to pick out the HMS Victory in last months issue.

Ravaged by the combined guns of the allied French and Spanish fleets at Trafalgar and by the great storm that followed the battle, a weary battered HMS Victory enjoys the relative calm as crew from HMS Neptune are despatched to take up the tow from the 3rd rater HMS Polyphemus for the final leg of her journey to the safety of Gibraltar, the flagship still bearing the body of Admiral Lord Horatio Nelson.

# **Online Discussion Forums**

In this issue we continue on with our list of discussion forums. These are online forums where model builders can connect to discuss all aspects of model building. They are listed in no particular order of importance as all have something unique to offer you the modeler. If you know of a good discussion forum you think others would like to know about, by all means let us know by sending us an email at msbjournal@modelshipbuilder.com. Eventually, we'll get them listed in this section.

#### **Seaways Shipmodeling List**

http://groups.yahoo.com/group/SeawaysShipmodelingList

The Seaways Shipmodeling List is a very active discussion forum hosted by Yahoo. There's something here for everyone.

#### Swedish Warship Wasa

http://groups.yahoo.com/group/SwedishWarshipWasa

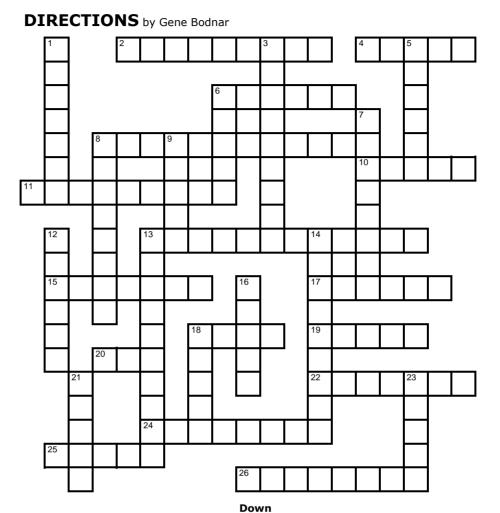
If you want to learn anything about the Wasa, this is perhaps the best discussion forum on the net to do that. Because of it's focus it is not a highly active group, but don't let this deter you from dropping buy. Those involved in the group are very knowledgeable about this famous ship.

*Fred Hocker* the Projektledare Vasaforskning/Director of Vasa Research at the Statens Maritima Museer/National Maritime Museums in Stockholm, Sweden often frequents the forum. As such, he often responds to questions from Vasa Modelers (they say its not uncommon of him to grab a tape measure and walk to the ship to take direct measurements!)

#### Lauck Street Shipyard Forums

http://www.lauckstreetshipyard.com

I believe the LSS Forum was originally set up as a private by invitation only forum to support the School of Model Shipbuilding courses offered through LSS. It has been opened up to the general public over the past year or so.



#### Across

- 2 Over the sides of the ship and into the water
- 4 Nearer the stern
- 6 Within the ship
- 8 To range the ship adjacent to another ship

10 Running at right angles to the longitudinal line of the ship

- 11 Furthest toward the rear of the ship
- 13 The shore lying to windward of the ship
- 15 Toward the bow of the ship
- 17 Behind the ship
- 18 Below
- 19 Moving toward
- 20 Side of the ship sheltered from the wind
- 22 Across the ship

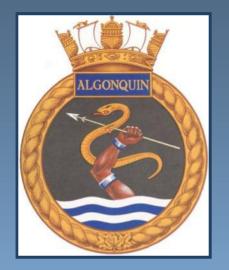
24 In a direction away from the central fore=and-aft line

- 25 Under the upper decks of the ship
- 26 Toward the side of the ship from which the wind

is blowing

- 1 Side by side, or parallel to
- 3 Adjacent to
  - 5 On the land
  - 6 Anywhere about in the higher yards of the ship
  - 7 In the lead position
  - 8 At the left-hand side of a ship; toward the port
  - 9 In front of (old-style)
  - 12 Closer to the front of the ship
  - 13 Bow of the side of the ship from which the wind is blowing
  - 14 Right-hand side of a ship
  - 16 At a distance
  - 18 Toward the left-hand side of the ship
  - 21 Of the part of the ship that lies toward the stern
  - 23 In front of the ship

# Badges: Heraldry of Canadian Naval Ships





#### **HMCS Algonquin**

**Description:** Blazon Sable, a base barry wavy argent and azure of four, from which issues an Indian's arm embowed proper wearing arm and wrist bands argent and holding a fish spear in bend argenttransfixing an ce/or

Colors: Gold and Azure Blue

Motto: A coup sur (With sure stroke)

Battle Honours: Norway, 1944; Normandy, 1944; Arctic, 1944-1945

The first HMCS Algonquin was launched in September 1943 as the British "V" Class Fleet Destroyer, HMS VALENTINE. After negotiations between the British and the Canadian government, HMS VALENTINE was obtained by the latter and commissioned HMCS Algonquin in February, 1944. For more than twenty years, HMCS Algonquin was a proud and worthy fleet asset. Finally in 1971 she was paid off and disposed of through Crown Assets. Over the years she received numerous battle honors which are worn with pride on the new Algonquin.

### Contributors Pictures

Here's an update from Mike Pendlebury on his current build

The Next thing to determine was how to build the deck shelter. The answer was to make a former from florists foam to allow for planking.





This was then covered with a couple of layers of paper mache to give a smooth inner surface and the base layer of planking glued in place.

After this layer was completed the surface was sanded and the light timber frame added in the correct place.

The top layer of mahogany was then added, sanded, varnished and trimmed to the final size.









Portholes were then fitted and the shelter added to the deck.







The engine casing was also made at the same time from the same batch of timber.

Stay tuned for more updates from Mike.

**Directions Answers** 

