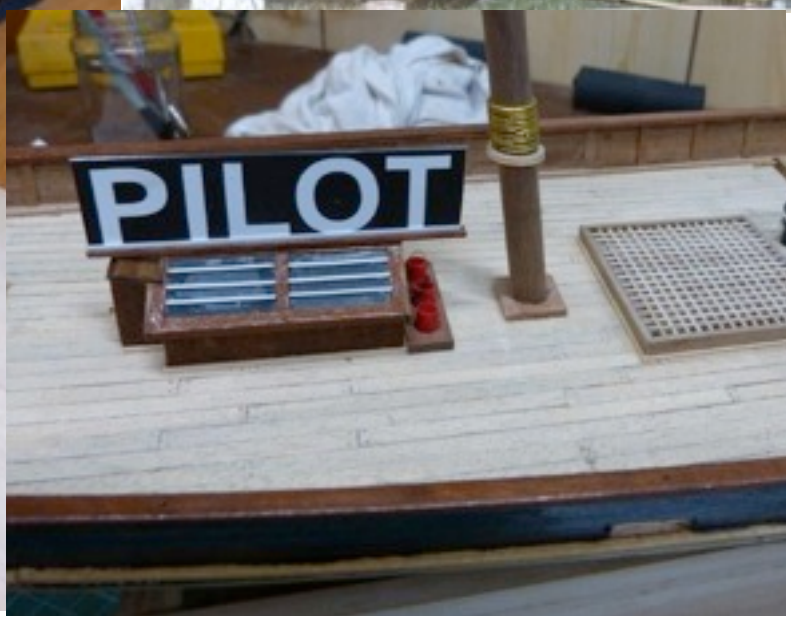
Scuttlebutt

December 2021

NEWSLETTER OF THE CANBERRA MODEL SHIPWRIGHTS SOCIETY

Established 21 April 1988. Incorporated 16 January 1991

OBJECTIVES: To foster and maintain interest in building model ships, boats, associated fittings, gear, equipment, armaments and relevant items and structures and the pursuit of excellence in this field.



COMMITTEE MEMBERS - 2021-22

President Bob Evans
Vice-President Matt Shepley
Secretary Bill Atkinson
Assistant Secretary Ray Osmotherly
Treasurer Peter Hateley
Members Robert Hodsdon, Rod Carter, Elizabeth Hodsdon
Appointments made by Committee:
Public Officer Ray Osmotherly
Member Liaison Max Fitton
Webmaster Steve Batcheldor
Newsletter Brian Voce

Gatherings

The Society will meet until further notice, at the Men's Shed at Melba on the third Tuesday of each month (except December and January).
Visitors are welcome.
Coming CMSS activity:

Society Web-page

CMSS members are encouraged to visit our website at:
http:/ / www.canberramodelshipwrights.org.au.
Instructions for using this website are on the site itself where members will need to register. The webmaster will help you in any way possible.
We seek content for the website - everything from photographs of your models through interesting web-links and chat.

Society Facebook Page

The Society has a Facebook group to promote the Society and to attract new members. So please feel free to post items on the page and share it with your Friends. https://www.facebook.com/canberramodelshipwrights/

Subscriptions

Annual Membership:

a. Canberra Area-Single $30.00, Couple $45.00.
b. Country/Interstate-Single $15.00, Couple $22.50.

Payment Details:
By Cash to Treasurer
Post by cheque/Money Order to: c/- 5 Stretton Crescent, Latham, ACT, 2615, or
Bank Deposit to: Beyond Bank - BSB 325185
Acct Name - Canberra Model Shipwrights Society (or CMSS)
Acct No. 03452396.

INSIDE

President's Report

It seems like no time at all since our highly esteemed Editor was knocking on my door for the October special edition and here it is time for the regular December Edition.
Brian tells me that he has had many contributions to this issue also and that is indeed wonderful, coming hot on the heels of the October issue. Thank you all for your efforts.
Our colleagues at the SMSC had arranged an Expo for 4th and 5th December which has unfortunately had to be cancelled. No, not to Covid for a change, but to renovations taking place in their planned venue.
The CMSS has decided to hold Expo22 in mid-September 2022 at our usual venue, the Mount Rogers Primary School. It was decided to keep this timing and venue as it has become the norm for the CMSS to hold the event at that time and place each year, so it seemed best to at least start off with some familiarity. I know it is not seen as ideal by some, but we do get a great deal of support from the School and there is no cost to us. Venue hire can be crippling and with a limited interest shown we could not possibly cover our costs. If anyone has any suggestions I'd be more than happy to hear from them.
At this time it is very difficult to predict what 2022 might hold for us, but I am confident that the usual events will resume such as Malkara, the ACTSMS exhibition later in the year and the SMSC at some time during the year. I am also

Max Fitton sends an update of the development of a modelling facility at the Falcon (WA) Menshed which recently accepted a gift of a small collection of framed postcards of ships which were collected at various exhibitions at the National Gallery of Australia, Canberra. Above - John Ellery, President, with Max in the main area of the Menshed where the mounted illustrations will be hung.

hopeful that the Canberra Museum might be able to accommodate us some time next year.

Again if there are any events out there that could accommodate a display from us, please let me know.

Our monthly meetings have now resumed at the Melba Mens' Shed and whilst Zoom was great in keeping us in touch, particularly with out-of-town Members, there is nothing to beat face-to-face in my humble opinion.

I am hopeful that we will be able to utilise Zoom for our monthly meetings for people to join in and go as it suits them.

There are of course no further meetings until February, so hopefully we will be sorted out by then.

I thank you all for your continued support and contributions, please have a great Christmas and New Year, and above all stay safe.

See you next year.

Best wishes,

Bob Evans
President

EDITOR'S NOTE

With the extra edition of Scuttlebutt published in October, I wondered whether contributions might be a bit thin on the ground for this normal quarterly December issue (making three issues for the quarter). I was delighted with the response, however, and this edition is packed with informative and interesting articles. Thank you all. It also reflects that some of us at least are cracking along with model-making. I know of others who are also actively pursuing our hobby and I urge you to share your thoughts with other members through these columns. If you are short of time, send in a photo or two. Speaking of photos, this issue has some tips on photographing models. These notes are not overly technical, but cover some basic considerations for photographing your work for best effect - in this case, for reproduction in your own journal. In the absence of Expo in recent times, Scuttlebutt is an alternative medium to connect with your fellow members and share your thoughts with other like-minded enthusiasts.

So - as Christmas approaches - all the very best to you all for good fortune and health. And in the New Year that follows close behind, let us all look forward to 2022 where we hope we might be able to reconnect with life as we once knew it.

Brian Voce, Editor

A SWEET LITTLE BUILD

BOB EVANS explains how he came to give Harvey a new persona

Building the Artesania Latina "Harvey" -Part 1

Baltimore clippers were small, but fast sailing vessels primarily used for trade around the coastline of the United States and with the Caribbean Islands. Other nefarious uses were obviously drug-running and slavery, but we won't dwell on that.

Some of you may have read some of my other articles and have been wondering whether or not I have finished any of them. The answer is no. I did find it very difficult to get my interest levels up sufficiently following the passing of my wife.

Slowly but surely,

However, I have managed to dabble a little, that is when my domestic and gardening chores will allow!

I had the "Harvey" in my collection of unbuilt models and thought it looked a nice little model to get me out of my personal doldrums and it is proving to be a wise choice. Not a difficult hull to plank, the quality of timber and fittings are quite good as was typical of a lot of the earlier Artisania kits. You get what you pay for.

I freely confess to not building my models for any reason other than the enjoyment of the build. Research and rivet counting are not my forte; I simply like to put together a reasonable representation of the vessel in question. The exception is when I build a model of a vessel in which I have sailed. I do however admire those who do create well-researched and accurate miniature replicas.

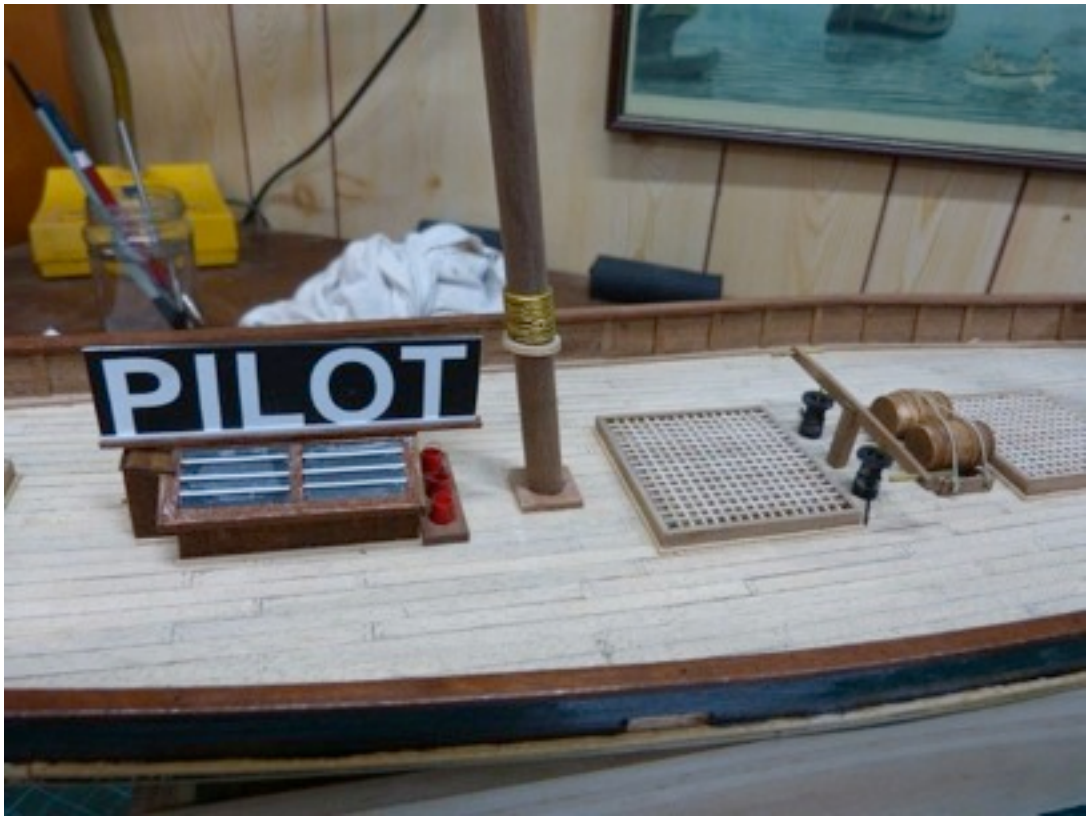
All this waffling leads me to my rendition of the "Harvey". I believe these vessels were also used as Pilot cutters, transferring pilots to inbound vessels and taking them off departing vessels in US ports.

Well, if they can be used there, why not in places like Mombasa. Highly unlikely but not impossible you would agree? The word "sukari" is Swahili for sugar so in case you don't get the connection, let me explain. My late wife, Elizabeth, spent a considerable part of her early years in various parts of East Africa, including Kenya where Mombasa is located. "Sukari" was a word of endearment I remember so very well.

So there you have it, building a model can serve many purposes and doesn't necessarily need to be historically accurate.

The **above photo -** ↑ shows the hull complete with the second layer of planking. The rather graceful lines of the vessel meant that planking was a relatively straightforward exercise. The instructions called for the ply bulwarks to be planked prior to fixing to the hull. I felt that this could give rise to issues if the bulwarks did not fit exactly where they should. Planking after the ply bulwarks had been attached allowed for the planking to be attached

integral with the hull, allowing for minor gaps to be covered by the planks. It worked for me.
The masts were made up and inserted at this time to give proper reference as to the positioning of the deck structures and fittings, as shown. This **Photo →** shows the snail like race of construction at present. However it is heartening to see some kind of progress. It was at this point in the construction that I decided what I was going to do with the model. From a number of years of experience peering through binoculars at odd assortments of small craft used in remote ports to convey Pilots to the vessel, on many occasions not identified as to their purpose in life, I thought I should rectify this, at least on the model.
There is not a great deal of freeboard on this vessel, so to put the word "Pilot" on the bulwark would have meant difficulty for an approaching ship to actually see the sign. For this reason I elected to mount it on the deck house in nice large letters. (BECCS lettering, available from Float-a-Boat in Melbourne). **Photo above ➚**



Since I was not utilizing the cannon I have only cut two freeing ports on each side at points on the hull where any wash should run off. The little red objects in front of the deck house are fire buckets I made up to replace the rather chunky things provided with the kit.

This photo → shows the transom with the name and port of registry. Whether or not this is how, at the time, this would have been displayed is fictional, but since so is the rest of the model, I figured it not to be important.

So there you have it, I hope by the next edition to have this completed, if only to show myself that it can be done. And should be done!

✶

Grant Dale, inspired by Kip Catanese, details how he went about

Scratch Building A Better Steering Wheel For A Model Runabout

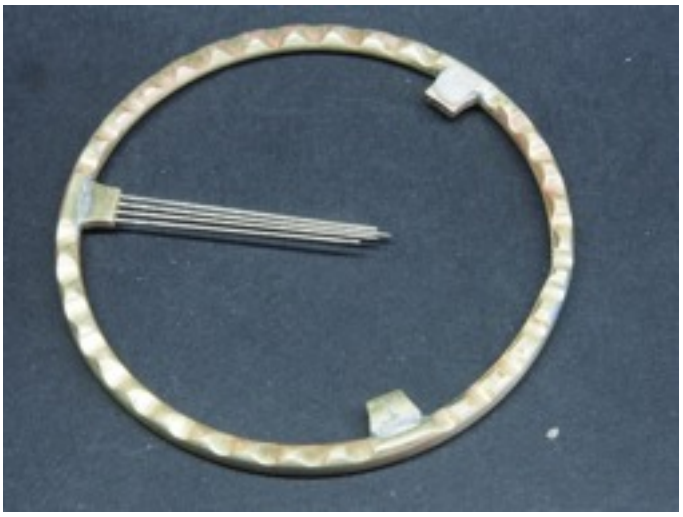
I had decided to replace the kit-supplied steering wheel for my Dumas kit of the 1949 Chris-Craft 19' Racing Runabout after reading an excellent "how-to" by Kip Catanese on the RC Groups forum. Kip made a replacement wheel for a fellow forum member and documented his process so well, that I decided to try and replicate it – at least as far as I am able. What follows then, is an implementation of Kip's methodology.

The starting point is a piece of 1/8" diameter brass rod. This needs to be bent around a form and then silver soldered to form our basic wheel. Below is a picture of the finished ring, alongside the original kit-supplied wheel. You can see that it is slightly smaller – the outer diameter of the new wheel is about the same size as the inner diameter of the kit wheel.

The next stage was thinning and shaping the wheel and adding the crenellations (finger grips). To begin with, the soldered wheel was placed back on the wooden forming buck so it could be spun on the lathe while files were applied to create the shape. First of all, the thickness of the outer rim was reduced by 1/32" by using a flat file Then the outer part of the back face was given a slight angle, again with a file. The wheel was then removed from the buck and held in the lathe chuck so that the inner part of the back face could also be angled, giving a very slight "v" shape to the back part of the wheel (top).

Now we needed to create a jig to hold the wheel while the crenellations were milled. I turned a piece of 75mm diameter HDPE (a plastic of sorts) with a 2.37mm deep rabbet around the outside, such that the wheel would just go over it. I also centre-drilled the jig while it was there. The next job was to drill and tap some 6-32 mounting holes for some hold-downs. Hold-downs were made from 1/16" brass strip, 1 inch long by 3/16" wide, drilled for clearance for the 6-32 socket head screws. A strip of honeycombed rubber (off-cut from a non-slip drawer liner) was inserted under each strip. The wheel was then mounted on the jig, the jig on the lathe chuck, the lathe chuck on the rotary table for the mill, and the rotary table on the 90-degree angle table.

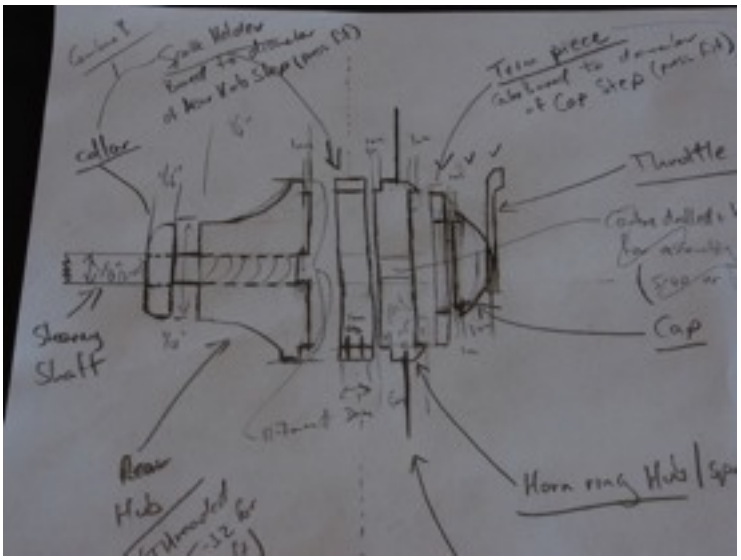
The original wheel had either 12 or 13 crenellations in each of three 120 sections. The sections are separated by the spoke holders, where there are no crenellations. The spoke holders cover about 10 degrees each, leaving 110 degrees of arc to fit the crenellations into. This worked out that for 12 crenellations, the centres needed to be 9.17 degrees apart. Way too hard for me – too much chance of going wrong. I decided I would use 11 crenallations, making them 10 degrees between centres, which just happens to be two complete turns of the hand wheel on the rotary table. Much less chance of stuffing it up, and who's going to notice anyway? And here is the finished wheel rim (below).



The spoke holders, which will be attached to the inner face of the wheel rim, were next to be machined. These are milled from a piece of brass stock 1/4" wide by 1/16" thick. The outer end of each piece needs to be milled with a convex radius of 1" (to mate with the 2" diameter of the wheel). Additionally, the end needs to be cut with a concave surface so that it will mate cleanly with the curved surface of the wheel rim. I had to devise a holding jig of some sort. It took several days of thinking through but I got there in the end……

Drilling the holes in the spoke holders proved to be something of a challenge and very frustrating. The drill bits at this this size are very easy to break, and once broken they remain in the part and are impossible to remove, so the part then goes in the scrap. The spoke holders were cleaned up and given a bit of shape by filing. The next job was to solder them to the wheel rim, again using silver solder. I've included the spokes in the shot at top to give an indication of how they will look once they are all together

The next step was to actually design my hub components. Below is a copy of my early chook scratchings.



From here, I decided to make up a set of CAD drawings of each component to further understand what I was attempting to do, and also as a useful check on my own measurements and calculations. Needless to say, there were many changes to both this diagram and the CAD drawings as the manufacturing process got underway. Once I had the design principles clearly in my head, the manufacturing process actually went quite smoothly…….for the most part.

The rear hub was shaped by first cutting a series of steps (staircase effect) and then smoothing with a

round file while still on the lathe. The Horn Ring Hub, Trim Piece and Cap piece required a radius on the end. The Radius Cutting attachment for the lathe worked a treat for these parts.

The Horn Ring itself is square in section and this was formed by using a 1/16" square brass tube. After first annealing with the MAPP torch, it was bent around the same wooden buck as used for the wheel rim. As the tube is hollow, it allowed me to insert a piece of 0.8 mm brass rod inside and extending across the join. This really helped when silver-soldering the join closed. The piece was then returned to the rotary table on the mill and 0.85 mm holes were drilled at 120 degree intervals for mounting the spokes.

The spokes for the horn ring are also square in section and the same brass tube was used for this. By inserting a piece of the 0.8mm brass rod through the pre-drilled hole in the horn ring, right through the length of the spoke, and into the horn ring hub, the hole assembly becomes self-aligning.

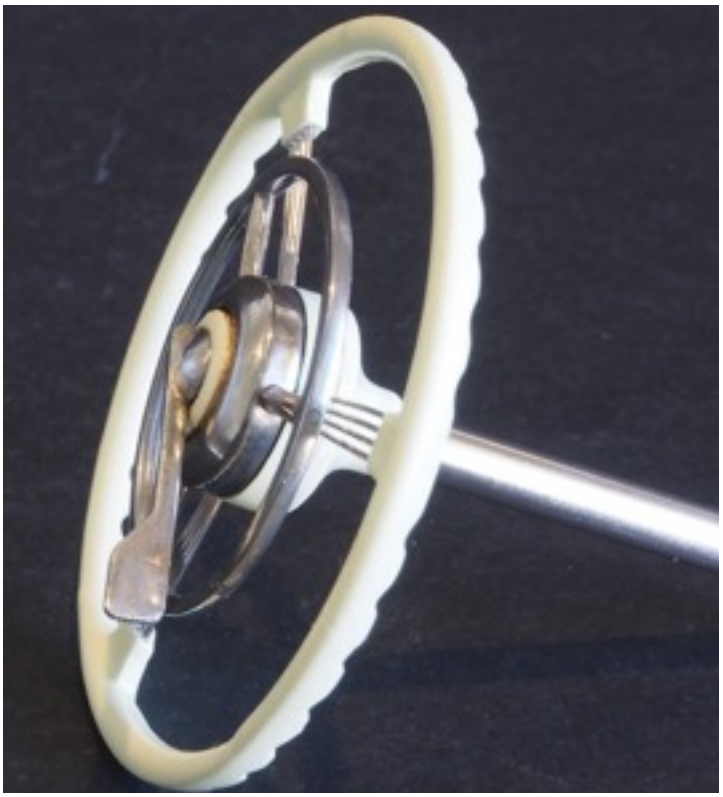
The horn ring hub itself was probably the most difficult of all of these parts to make and I had three attempts at this before I was finally satisfied. The Cap Piece, as well as having a radius turned on the end, also had a 1/32" slot cut with a slitting saw to receive the Throttle Lever, which itself was cut and filed from a piece of 1/32" brass flat bar.

The picture top right shows all of these parts, starting with the Wheel Rim and a selection of banjo spokes at the rear, the Horn Ring, Horn Ring Hub and Horn Ring Spokes (temporarily mounted and ready for soldering), and then across the front from left to right are the Rear Hub (note the internal threading to receive the steering column), the Banjo Spoke Hub, the Trim Piece, and the Cap Piece, with the Throttle Lever in the foreground.

I painted the hub assembly, trim piece and wheel rim with Vallejo Ivory, sprayed through the airbrush, while the Horn Ring and Throttle Lever are chrome plated. After test fitting all parts, I glued them in place with epoxy. Right centre is the completed wheel and steering shaft assembly.

✶

And finally, here it is in place in the boat. ➔



Building a Japanese Bezaisen: a work in progress

Michael Pearson embarks on a voyage of discovery

Learning how to adjust the sail with multiple sheets

History and description of the bezaisen

Bezaisen: a generic term for large Japanese cargo ships of the Edo to mid-Meiji era (early 17th to late 19th century).

The Tokugawa shogunate (1603-1868 – the Edo Period) deliberately kept the land transportation system under-developed, in fear of it being used in revolts, especially by strong clan leaders (Daimyo) in western Japan, so in the absence of good roads sea transportation was essential for supplying the growing shogunate capital at Edo and other population centres. However, the shogunate, as part of its isolation policy, also strictly banned Japanese people from overseas travel, so ships were limited to operating in coastal waters and traditional construction dominated local shipbuilding . Western style ships were not introduced until the Meiji Restoration in the 1860s, but when they were the progressive Meiji government put restrictions on the building of Japanese traditional ships above 500 koku in order to encourage local construction of ships in the western style. Ships were usually described by the number of 'koku' they could carry. A koku (goku) is a unit of measurement of 180 ltrs or 150 kg, a koku being regarded as the amount of rice needed to feed one person for a year. The bezaisen, traditionally up to 2,000 koku in size, therefore rapidly lost favour, and the last one is believed to have been built in 1882, although some Kitamaebune (see below) are said to have operated to the end of the Meiji period in 1912.

In the absence of surviving ships, evidence of bezaisen construction comes from 18th and 19th century models kept at shrines, paintings, and lines taken from examples by Vice Admiral François-Edmond Pâris in the mid 1800s. Four replicas have been made based on this evidence, built by shipwright Niinuma Tomenoshin in the 1990s and 2000s. One of these, the *Naniwa-Maru*, is housed in the Osaka Maritime Museum, and my model draws heavily on photographs I have taken of that ship. The *Naniwa-Maru* is 29.9m long, 7.4m broad, 2.2 m draught, an 88 ton hull and 56 tons of ballast. This would have been able to carry about 150 tons of cargo, so was a 1,000 koku ship, just half the size of the largest bezaisen in the Edo period.

Naniwa-maru replica sailing downwind

The bezaisen were of indigenous Japanese design, and developed in the early Edo period in response to the relatively settled political conditions and the growing need to move goods from production areas to growing towns and cities. They were frameless, had planked box keels ('kawara') rather than the slim western keel, had no internal bulkheads and the planking was hard-chine in two rises above the box keel. In the absence of a frame the hull was held together by deck beams ('funabari') that ran the width of the ship at chine and sheer and were tenoned through the side strakes. The decks are mostly made of removable boards rather than fixed planks, to allow easy access to the cargo space, so they were not very watertight. The strakes of the bow ('goshaku') immediately behind the stem are also removable, allowing the loading of cargo from the bows. The strakes were edge-nailed in a very sophisticated way, the indented iron heads being covered with copper plates, creating a distinctive pattern along the hull. Parts of the hull of some types, especially in the Higakikaisen, were characterised by areas of diamond-shaped lattice work ('Hishigaki' or 'kakitatsu-tachi'), which appears to have reduced the risk of hogging, but is also believed to have had a largely decorative purpose. Cargo on deck was held in place by lattice-work or bamboo strip fences. The stern planking extended beyond the transom creating a slot in which a large rudder was suspended by ropes tied to beams and the stern side walls were thin and vulnerable. The rudder, which extended below the bottom of the vessel, could be raised for shallow-water navigation using a small windlass below deck. The stem was decorated by a hanging tassel ('nagasagari').

Propulsion was provided by a single main mast and square sail ('moto-ho'), with one or two much smaller sails raised at bow and stern for balance when needed. The large square-sectioned mast is supported in a tabernacle and can be lowered to rest on a supporting frame near the bows. Two vertical windlasses ('rokuro') are positioned under the poop deck to enable heavy haulage of the mast, yard, cargo and the boat that was usually carried. The large square sail is made up in strips or panels about 1.5 m wide, which were stitched together at about 15 cm intervals to a rope that ran down between them, leaving gaps between the stitching. These panels were gathered in bundles of about six panels which in turn were stitched together to make a full sail, that could be 24 panels wide and about 20 m deep. The ropes between the sail panels extended far below the level of the bottom of the sail becoming multiple sheets that were tied to a hawser stretched across the ship's deck just aft of the mast. The angle of the hawser could be adjusted with the angle of the sail, to keep the foot of the sail parallel with the yard. The sails therefore displayed slits between each of the panels, which is said to have made them safer in sudden wind gusts, and also allowed sailing close to the wind for the square-rigger, aided by the fact that the mast is only supported fore and aft with no shrouds to hinder movement of the yard fore and aft. Sail was shortened either by gathering and wrapping the foot of the sail around the mast, or lowering the yard, or both.

These various construction characteristics led to an overall weak structure that would not withstand open ocean travel. However, they could be constructed locally, were able to sit upright on beaches at low tide, and were easy to sail. The fastest bezaisen, carrying the new-season's saki and cotton from Osaka to Edo, could average about 7 knots over a 2-3 day voyage, with a crew of about 14, though the normal cargo voyage might take up to 12 days and probably had a smaller crew.

Different terms were used for quite similar ship designs depending on where they sailed and in what trade. Some of these names seem to have changed over time and it is now hard to find descriptions for some, such as 'Ise-bune' and 'Futanari-bune' (not having Japanese language skills doesn't help!). The generic term 'Bezaisen', and maybe 'Bensaibune'(also called 'sennishibune'), seems to cover them all. Some of the types were:

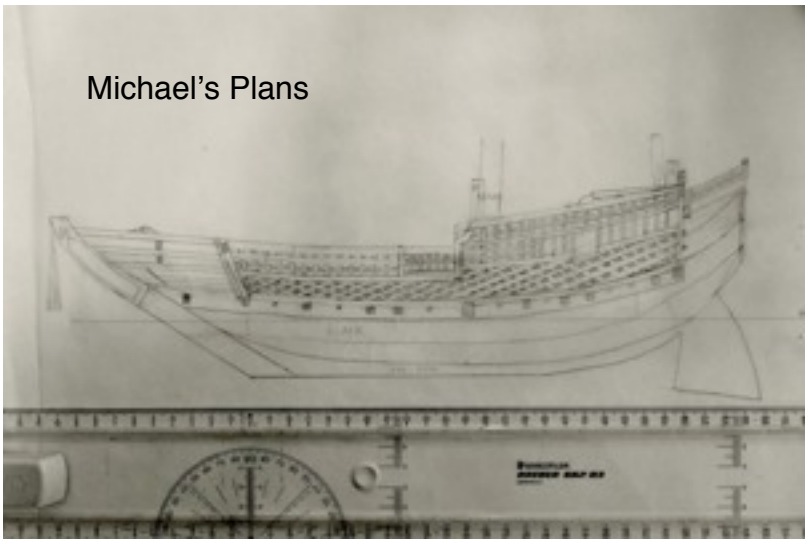
- Kitamae-bune / Kitamaesen ('Kitamae ship') sailed on the Sea of Japan (Kitamae) along the west coast of Japan from Hokkaido south and around the western end of Honshu and north-east again to as far as Osaka in the Inland Sea, carrying goods such as kelp seaweed ('Kombu'), salmon and herring southward while rice, salt, cotton, cloth and sake was carried north.

- Taru-kaisen / Tarukawasen ('barrel boats') connected Osaka and Edo (Tokyo) on the major route taking sake, cotton, soy sauce, oil and other goods from the highly productive Osaka/Kinki region to the capital. They could range from 200 to 2,000 koku in carrying capacity (the latter being the equivalent of 300 tons).

- Hishigaki-kaisen / Higakikaisen (Diamond-panelled ships) Similar to the Taru-kaisen, they operated on the Osaka to Edo route carrying similar products, and could range from 200 to 2,000 koku in carrying capacity. Their name appears to be linked to the use of the diamond-patterned side panels, 'Hishigaki' being a synonym for them.

- Higashimawari-koro / Higase-bune ('eastbound route ships') ships linking Edo with Ishinomaki port near Sendai in north-east Honshu, bringing rice down to the capital and southern products north.

- Sengokubune / Bensaibune ('one thousand *koku* ship'), carried rice and sake from Osaka area to Edo, and seems to be another generic term for bezaisen.



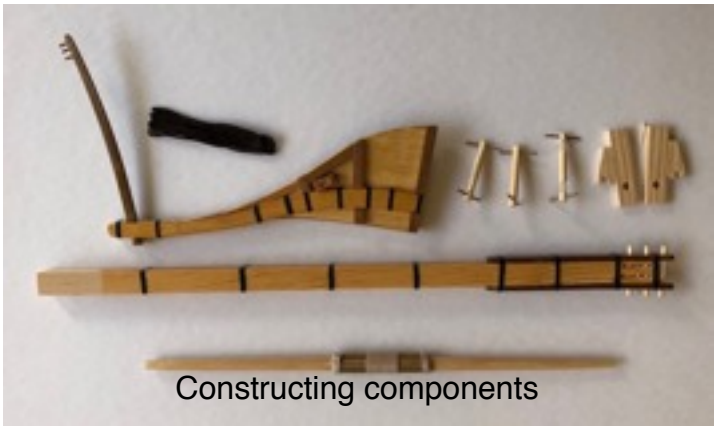
Planning and building the model

The only historic plans of a bezaisen are those drawn by Vice Admiral Pâris in the mid-late 1800s. There are a few photos, temple votive models, and traditional paintings from the 18th and 19th centuries. The four reproduction ships were built in the traditional way without paper plans, relying on old images and traditional shipwright knowledge. I have drawn from all of this information, and particularly from my own photos of the reproduction ship at the Osaka Maritime Museum, to draw my own plans of a generic bezaisen (above) and for information on details of construction.

One of the big challenges is that nothing is square, and many of the lines and transitions of form are alien to a builder of 19th century western ship models. While not the traditional form, I built the hull plank on frame, as the alternative did my head in! This created its own problems, as I had to fake many of the cross-hull deck beams, and the frames can be seen through the often open sides of the hull – an issue I didn't realise until it was too late to rectify it. I am three-quarters through the model, and the steep learning curve means the next one (if I get the strength) will be much better.

Some specific challenges include:

- Fitting the huge rudder, which sits inside the open stern slot, and is hung by ropes that tie to cross beams and lead through blocks to a capstan within the hull. I had to set this up



Constructing components

and tie off the rope system before finalising the hull and deck planking. The rudder hangs below the level of the keel, and you can't fit it until the model is put on a temporary mount.

- Constructing the hull side sections that stand out from the main hull lines. Getting both the appropriately spaced offset each side, and building the timber lattice and rail sections to fit and have the right compound curves was a major headache. I built them as off-model parts, the lattice work being laid on a thin 3-ply section fitted to size and bent by soaking and twisting into the compound curve needed before gluing on the lattice pieces.

Stern and rudder on temporary cradle

- A joy yet to be approached is the making of the sail. The model really needs a sail (which I normally don't put on my models), and as can be seen, the sail is of a complex construction, with multiple panels joined by tacking at intervals to lines running between each. Disaster looks like just a stitch away!

✶

Stepped out sides, lattice work and beams penetrating the hull

Now for the sail!

Some sources

Brooks, Douglas.2009. 'Bezaisen, Japan's coastal sailing traders', in Bennett, J. *Sailing into the past: learning from replica ships*. NVl Institute Press, Annapolis, Maryland: 134-149.

Brooks, Douglas. 'Sengokabune: Ships of the Japanese coastal trade', *Shipwright 2011*: 176-179.

Kimura, Jun (ed). 2010. *Shipwreck ASIA: Thematic Studies in East Asian Maritime Archaeology* (see my **Reference folder: maritime**)

Kojima, Ryoichi. 1995. *Higakikaisen / Tarukaisen*. Museum of Maritime Science, Tokyo.

Pâris, François- Edmond. 1882. *Souvenirs de Marine, collection de plans ou dessins de navires et de bateaux anciens ou modernes, existants ou disparus, avec les élements numériques nécessaires a leur construction*. A. Bertrand, Paris, (facsimile Grenoble Editions, 1975.)

Tanaka, May. 2016. 'Bezaisen: Japanese cargo vessel with unique functions in the Edo period'. At https://docplayer.net/53915104-Bezaisen-japanese-cargo-vessel-with-unique-functions-in-the-edo-period.html

•

First Ventures into Fibreglassing

by GRANT DALE

Building my Dumas kit of the 1949 Chris-Craft 19' Racing Runabout introduced several new challenges for me as a modeller.
One of these was fibreglassing – something I had never attempted before. So I decided it would be prudent to do some trials before "going live". I read a number of "how-to" guides, and found that the one by Pat Tritle on the RC Groups Forum was probably the simplest to follow. For anyone that has never done this before, my advice up front is "trust the process!" It is really quite a simple process, but if you don't know what to expect along the way, it is easy to think that something has gone wrong. It hasn't (probably…..)

Materials used for the test were exactly what was planned for the actual job, and comprise some 2oz. fibreglass cloth, West Systems Epoxy Resin (No 105), West Systems Hardener (No. 207, which is supposedly designed for use with a clear finish), Feast Watson Spar Marine Varnish, and Krylon Premium "Copper Brilliance" (rattle can spray paint – for the below the waterline colour).

I made up two test pieces of roughly three inches by four inches Sintra (the plastic sheeting that also forms the sub-planking). One of these was planked with Mahogany strips just the same as the sides of the hull, and the other was left 'au-naturale', the same as the bottom of the boat.

The first step was to cut some cloth a little over-size and drape over the test pieces. The Epoxy was mixed according to the West Systems directions (a three to one ratio by volume in this case). A lot of folk say to thin this mix by adding up to about 20% denatured alcohol (methylated spirits here in Australia). The reason given for this is that it supposedly helps the epoxy penetrate the timber substrate and also reduces the chance of bubbles in the mix. The West Systems website advises against thinning and states that strength is significantly reduced by thinning. I decided to stick with the West Systems advice and did not thin. I applied the epoxy by pouring a small amount onto the centre of the test piece and then using a hotel room keycard (same size and shape as a credit card) as a squeegee to spread the epoxy and press it into the weave of the cloth. The important part of the process here is to ensure that the epoxy gets into the weave all over, and right up to the edges (though excessive over spill along the edges is to be avoided).

Here's what the test pieces looked like after this step:

Once the epoxy had cured, the excess cloth was roughly trimmed back with a single edge razor blade, and then block sanded with 80-grit sandpaper to the edge of the test piece. The surface was then lightly sanded with 120 grit to remove any high spots. Care needs to be taken here not to sand through the glass itself.

Note that the weave of the cloth is still visible here. Don't panic!

A second coat of epoxy was then applied, this time with a stiff brush. The aim of this coat is to fill the weave of the cloth. This is what makes the cloth seem to totally disappear. Once that coat had cured, it was again lightly sanded and a third coat applied. The aim here is to get a smooth surface with the weave of the cloth completely filled. If it isn't to your satisfaction you can keep adding more layers until it is, but I stopped at three coats for the purpose of this trial.

Here is what it looked like after the third coat and wet-sanding with 240 grit. Not sure if the variation in "shiny-ness" is due to light reflections, or whether that section was still wet from sanding. Again, the aim here is a flat smooth surface – don't worry about "shine" at this stage (remember, trust the process!).

At this stage, it is time to start adding the clear coat (or colour in the case of the bottom)

I brushed on one coat of Spar Marine Varnish on the planked test piece, and then lightly wet-sanded with 1200 grit. On the unplanked piece, I sprayed one coat of Copper from the can, followed again by lightly wet-sanding with 1200 grit.

For the remaining clear coats, I wanted to spray the varnish. The directions for the Spar Marine Varnish say to thin by 10% with Mineral Turpentine for spraying, so that is exactly what I did. Took no time at all to lay down a good coat of varnish and as the varnish is thinned just that little bit, it also levels very well.

Here is a picture of both test pieces having had one coat of varnish sprayed on. The copper painted piece shows both some variation introduced by sanding, and also a blemish where the initial epoxy coats did not quite level. Lessons for the “real thing”.

And finally, here is a shot of the planked test piece next to the un-treated hatch cover. Notice how the grain is much more apparent after glassing and varnishing, as well as being a slightly richer colour.

At this stage, a few extra coats of varnish would be followed by further shine imparted by very fine sanding and polishing. I'm didn’t bother with that on the test pieces as the purpose of the test was purely to get comfortable with the fibreglassing process.

Having declared a win with the trials, I commenced the process of glassing the entire boat. This is a slow process overall as it is necessary to work on only one surface at a time and to allow it to fully cure before proceeding to the next surface.

I began with bottom, cutting the glass mat slightly larger than required. In hindsight, I could have trimmed this much closer prior to applying the epoxy. The resin was applied by pouring a small amount into the centre and spreading outwards with a rubber squeegee. Care needs to be taken to avoid any drips landing on the overhang and sticking itself to the hull sides – don’t ask how I know this!

The sides were next:

Here is a close-up of the side, showing just how much of the weave of the cloth is visible at this stage. Remember, trust the process!

Once the epoxy had cured (overnight) the cloth was trimmed back using a single edged razor blade:

It's not clear in the above photo, but I found that with a little caution I could run the blade right along the adjoining edge, making final clean up with some 80 and 120 grit sandpaper that much easier.

Speaking of clean-up, this next shot shows the side after it had cured, been trimmed and lightly sanded with both 80 and 120 grit. The purpose here is to remove any high spots and create a smooth (but toothed) surface for the next layer of resin.

As you can see in this photo, it looks pretty ugly. There were quite a few "blemishes" where the cloth may have lifted slightly during the initial coating. Remember, trust the process!

Once both sides had been done, the transom followed, and finally the deck. All went pretty much as shown in the above photos, though perhaps with fewer flaws as I gained experience.

Then it was time to apply the second layer of epoxy. Again, it was a case of doing just one surface at a time, keeping that surface as horizontal as possible to allow the resin to level and not overflow the edges. As per the trials, the second coat was applied with a stiff brush, care being taken to ensure that the "oopses" from the first phase were filled in by firmly stippling the area with the brush until the oops disappeared.

I didn't take any "in-progress" shots of individual panels, but here are a few on completion of the second coat of epoxy. At this stage, the epoxy has fully cured, but no clean up sanding has been done. This will be carried out prior to applying the third coat of resin. However, I thought it useful to post these overall pics to show just what a difference the second coat of epoxy makes. It has almost entirely filled in the weave of the cloth and the "shiny-ness" gives an indication of what is to come.

It's very difficult to take pictures of a highly polished and reflective surface, but I think you can get the idea. And yes, you can see a slightly uneven "wavy" effect on the surface – this will come out with the between coats sanding.

After a third coat of resin, the hull was wet-sanded with 120, 240 and 360 grit sandpaper and is now ready for finish coats. That left me with something of a chicken and egg dilemma. Should I apply the colour to the bottom of the hull before commencing clear coating, or should I clear coat the top/sides to a finished state before applying the bottom colour?

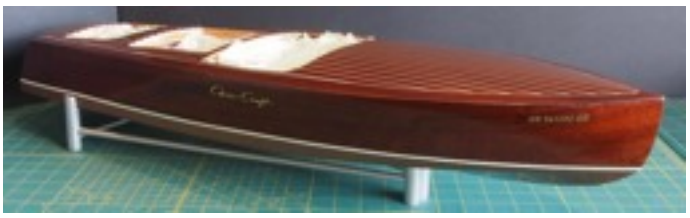
I decided that my approach would be:

1. *Apply bottom colour*
2. *Apply one clear coat over everything (mainly to protect the bottom colour from lifting with the masking for the next stage)*
3. *Apply waterline boot-topping stripe*
4. *Apply graphics*
5. *Apply remainder of clear coats (to a total of five coats)*

The photo shows the sanded resin with a whitish appearance. This will disappear with the application of the clear coat. Here's a couple more shots to show overall progress.

Then it was time to apply the graphics. I first gave the entire hull a light wet sand wit 600 grit paper, so the overall look is a bit ho-hum (the gloss will return with the next coat of clear). The graphics are vinyl and come from Callie Graphics in the US.

After a further three coats of clear finish, with wet-sanding between coats using 1200 grit paper, I think we are done with the spray-gun at last. It still needs several hours' worth of polishing before it's really done, but here is an update shot to this stage



Polishing is not a particularly difficult job, though admittedly tedious. I worked my way through 9 grades of wet sanding, starting at 1,500 grit and going all the way through to 12,000 grit before

finishing with some liquid polish (Micro-gloss liquid abrasive).

The end result. I have managed to get rid of most (not all) of the "orange peel" effect and have achieved a nice high-gloss finish without going to the "boat in an ice cube" look. It's very difficult to take pictures to show the high gloss finish, but here's what I got.

✶

PHOTOGRAPHING MODELS

Your editor is always keen of course to get stories about projects that members undertake – and it is a given that he also loves to have a selection of good photographs to accompany the article.

Not all of us are keen photographers and making a superb model and photographing it for publication are too different things and don't always go hand-in-hand.

If you wish to improve your photography there is plenty of information available on-line. Don't Google "Photographing Models" for help as this will take you to information on models of the live variety, a quite different subject, even if edifying in its own way. Try instead "Photographing Model Ships", or even (as well as) "Photographing Model Trains" where similar principles apply. "Product Photography" and "Tabletop Photography" are other suggestions.
Grant Dale, whose article on photographing models follows, also recommends the following site which he says contains a lot of useful information about manipulating light using some neat (and dead easy) DIY techniques. https://www.youtube.com/watch?v=nr1NzO4q-q4

The following is offered in realisation that many members might only have modest equipment for the purpose. That doesn't preclude achieving a workmanlike job. (I am reminded here of a friend who in the main took very ordinary photos and in an effort to lift his game, he continued to invest in more and more expensive cameras, but, sadly, there was little to see in the way of improvement.) A top-of-the-line camera is a wonderful thing, but doesn't produce beautiful pictures of its own accord.

One can achieve good results with most modern cameras – and today's mobile phones are capable of producing great photos, and have easy point-and-shoot capabilities.

Major points to bear in mind in photographing your model are:

Lighting – Background - A steady camera – Focussing/ Exposure/Aperture - Closeups - Setting up the model.

LIGHTING
Light for this purpose might be natural or artificial, or a combination of both.
It is tempting to look outdoors, but there are many variables – sunlight is harsh, shadows are unhelpful, backgrounds can be distracting. Taking photos outdoors is not to be dismissed; but for our purpose, let's stay indoors where your model has been built and you are happy to keep it out of harm's way.

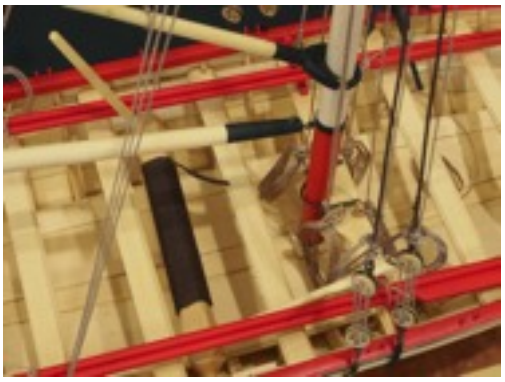
Indoors –
A window allowing good light, but not full sun, into the room can provide sufficient brightness for our purpose, but it will need to be aligned correctly, otherwise you may have a back-lit or side-lit subject – which generally will not work well for you. Here, additional lighting can be beneficial to be sure you capture essential detail.

Windows allowing direct sunlight, depending on time of day, will not be your friend unless you take care to avoid conflicting light and shadow problems. If window light is filtered through gauze curtains or 'scrim' material, it will provide a softer, more even light. We are looking for good light, without shadows. Many of us use the automatic setting on our cameras which makes life easy in most situations, but contrasts of light and shade can cause problems in exposure settings.

Additional lighting –
You don't need to have access to professional studio lights – for most subjects, a couple of reading lights, angled from each side, with ambient lighting will provide adequate lighting without casting shadows. Angle them until you get the desired effect.

BACKGROUND
It is a natural inclination to take shots of your model on the workbench as work progresses. This is fine for logging key stages and maybe also providing some progress photos for publication. Just bear in mind for the latter that too much clutter (tools, coffee

mugs, background intrusions), while a real part of life, may detract from the main point of view. This does not preclude setting up a staged shot – maybe showing as background part of a plan and some artfully placed tools to create a natural looking and pleasing photo.



Moving the model to another location (e.g. the dining table or the verandah), with the best of intentions, may provide the viewer with a distracting background of domestic décor or structural distractions unrelated to the subject matter, unless care is taken in framing the shot. A table though against a plain wall – avoiding curtains, windows and furniture – can provide the basic set-up for a workmanlike shot.

At the very least, you can simply prop some card behind the model to achieve a clean background.

STEADY CAMERA

Often photos seem to be out of focus – and that is not hard to achieve – but often it is a question of 'camera shake', where the camera moves slightly as the shutter is operated, particularly at lower shutter speeds. This can be nullified by ensuring the camera is firmly held at this crucial point. A camera tripod is the best answer. Otherwise, brace the camera against a solid object such as a door jamb or other support. You can also line up the camera on its own firm base (a pile of books, maybe) and use the self-timer. If none of that is practical, the usual advice is to clamp your elbows against your sides as you line up your shot through the view-finder, then gently squeeze the shutter release. Holding your breath is another tip.

FOCUS

Most modern cameras have a self-focussing setup. Not always foolproof and it is worthwhile checking as you go. Take several photos – you may be surprised to find that just one in the bracket is sharp; others 'soft' (that might also be a result of camera shake). It may be better to manually focus - your decision.

CLOSEUPS

Closeup shots are important to show the viewer the finer details of your work. Principles as outlined above apply here too, even more so in some ways, including the importance of 'depth of field' (see Grant's closing lines in his following article for some useful tips).

SETTING-UP

Apart from taking photos 'on the fly' as you might do as work progresses - on completion, or at key stages, it is worthwhile to set up for a 'studio shot' or two. This is simple enough to achieve. The basics are: – a flat and stable surface – neutral background - good lighting – stable camera.

You will need –

A base to display the model (we are assuming it will be on a cradle or other stable stand). The base might be a table, desk, bench, trestles or similar supports.

A sheet of mdf, ply, card, etc. beneath the model might also help.

For the background, plain, neutral colours, without strong textures will best suit.

Large sheets of card are a small outlay at most stationers or art suppliers. Several sheets in different shades will give you flexibility to suit your needs and won't break the bank.

Bending to your needs: A simple background that will give great results can be easily achieved by anchoring the forward edge of your card with double-sided sticky tape, bluetack, clips, weights, or other means that won't show in your photo, then curving the sheet up behind where the model will stand (held in place against a wall, or even a simple pile of books). This creates a seamless background also giving a subtle range of tone which creates the effect of the model seemingly floating in space.

Brian Voce

Next page - Some experimental photos.

A successful outdoor shot without shadows on a grass background.
Photo - Steve Batcheldor.

Photo taken using flash is flat and washed out. Unwanted shadow is from lens hood.

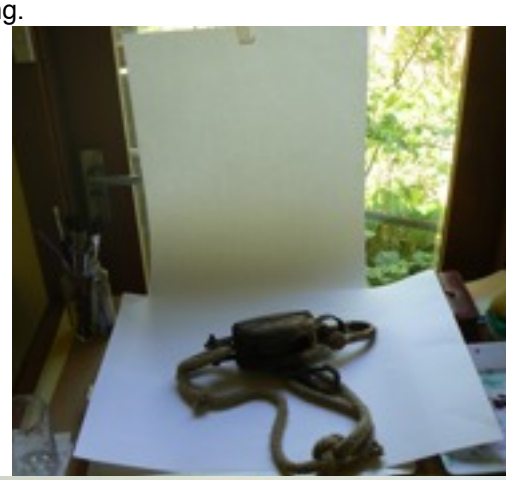
Some experiments with light

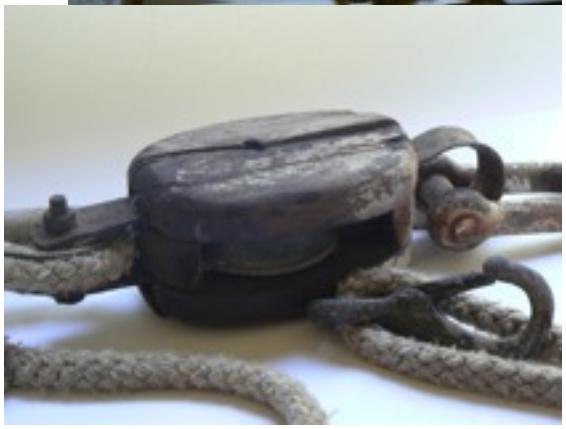
Side Lighting

Left - Simple setup with two pieces of card. Side-lit by window.
Above - Acceptable photo, but shadows are strong.

Back Lighting

Left - Strong light from window throws heavy shadows.
Right - Drawing paper taped to window diffuses light.
Below right - Closeup shows softer shadow, but detail of block could be better. This is where additional lighting could help.





On the following pages, Grant Dale outlines his approach to getting the best results in photographing his models.

Tips for Photographing Models - Backgrounds

Grant Dale

One of the biggest challenges we face in sharing our work with others, either via online forums, social media, or in publications such as newsletters, is how to present our models in a way that draws attention to what we want the viewer to see.

In this article, I want to share some thoughts on some simple solutions to a common problem – that of the distracting background. In our zeal to take the "perfect" shot, we often neglect this aspect, with the result that our work is not able to be fully appreciated, because all of that lovely rigging has become invisible among the living room curtains. Here are three ways to overcome this and show your model in the best possible light. They are all quite simple and range from almost no cost, to moderate but not expensive cost.

The first thing we want to do is provide a plain background. Think about your choice of colour for this. White is not necessarily a good choice, though sometimes might be. My personal preference is a light to mid-blue, or black as you'll see in some of the examples to follow.

Starting at the "top" end is a simple photography backdrop. These are readily available through e-bay

for less than $20 (although you can also pay much more!). The size I use is 3m x 2m – I'll explain why in a moment. You could simple tape this in place over a wall, but I favour using a support stand. Mine uses two tripod arrangements with an expandable cross bar. Again, you do not need to spend a fortune for these – mine cost me about $60. The beauty of this system is that is very quick easy to put up and take down, so it gets stowed when not in use. Here is what it looks like:

This is set up in my "workshop" – a spare bedroom that doubles as my study/office. The frame has been set up in front of the built-in wardrobe. The small desk in front of it is cheap art desk on wheels that does multiple duty as spare modelling surface, spray booth painting station, and photography table. The blue screen has been set up with the 2m width spanning the frame, with the 3m length falling to the floor.

Next, we bring the blue screen over the top of the table and try to form a seamless edge between

horizontal and vertical surfaces.
The next stage is to add some lights. This will make a big difference to your photos, but is not necessarily essential. Here (next page) is my set-up, purchased as kit with a "photo tent" (which I don't use) for somewhere under $200.

The advantage of this set-up is that it is lighting the subject from 3 sides, thus reducing shadows. BUT….it's not necessary if you budget is limited. The next logical step would be to add some light diffusers – a step I haven't got around to yet.

Now we add the camera. My tip is that you really should use a tripod for the camera whenever possible.

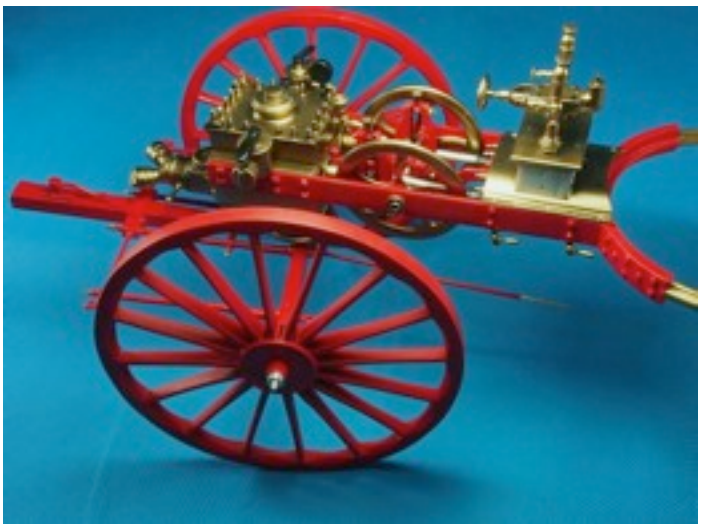
The above photo was taken with my iPhone as the camera was obviously being used as a prop.

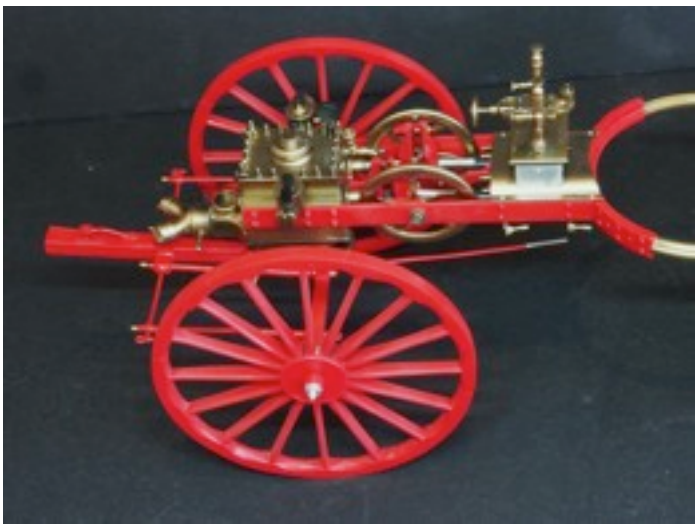
Here is an example of a photo of my current project taken with this setup – admittedly not a ship model.

Although the above setup is relatively straight forward to set-up and take down, it takes up a lot of room, so I tend to be lazy and only set it up for those "special" shots. For day-to-day work, I tend to favour the following set-up.

To achieve a similar effect to the "big" setup previously described, I use a piece of coloured posterboard and a piece of coloured card – both available from Officeworks.
The reason for the posterboard is that it will stand

up by itself (leaning against the drawer units behind). Then the card simply lays on the table surface. It takes only moments to move the current project out of the way and put these in place. When placing the subject with this arrangement, I tend to place it as far back as possible in order to provide the maximum width of background for the camera lens. I then zoom in to frame the subject as tightly as possible. Here is the result, using the same subject in the same "pose" as the previous example, but on a black background this time.





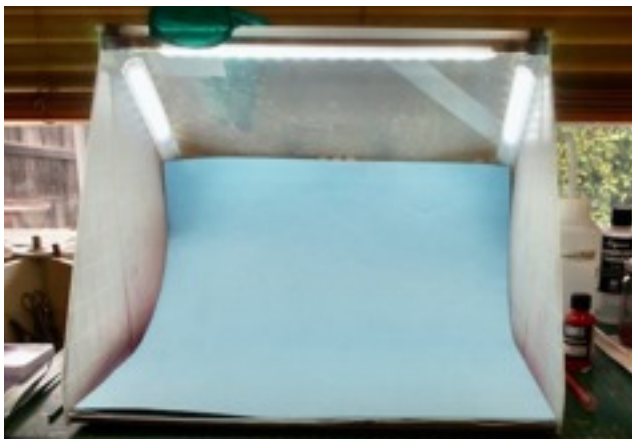
For small objects, I recently discovered that my spray booth also made quite a good photo booth – particularly as it has integrated LED lighting.

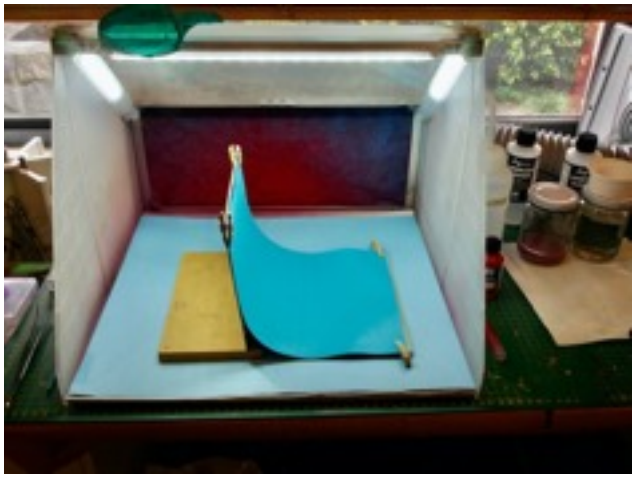
By using another piece of coloured card cut to fit the opening of the booth, I can provide the seamless background as seen in the first example (top right).

For very small subjects, an even smaller arrangement can be made using some A4 sized coloured paper, some scrap card (the back of an A4 note pad) and a small piece of MDF . The MDF (roughly A5 in size) has a thin kerf cut into it to take the thickness of the backing card. The backing card is in two pieces, with the vertical piece being inserted in the MDF. The coloured paper is held in place on the two backing cards with some miniature pegs (right).

This arrangement is really useful if you want to take some photos of a particular component you've been working on - maybe a capstan, or gun carriage or such. Below is an example showing one of the wheels from our earlier test subject:

I should emphasise that the mini arrangement shown is completely separate from the spray booth arrangement - it works equally well straight on the desktop. I've just shown it here in the spray booth as I wanted to take advantage of the spray booth's lighting.





Depth of Field

Before leaving this subject, a word about camera settings. For MOST pictures, I find it best to have the camera set in Aperture Priority mode. This means I set the aperture and the camera sets the shutter speed as appropriate. Then I use the smallest aperture (highest f-stop) I can as this gives the greatest depth of field. This means that more of the photograph will be in focus. Doing this generally means a slower shutter speed and hence the need for the use of a tripod and where possible additional lighting.

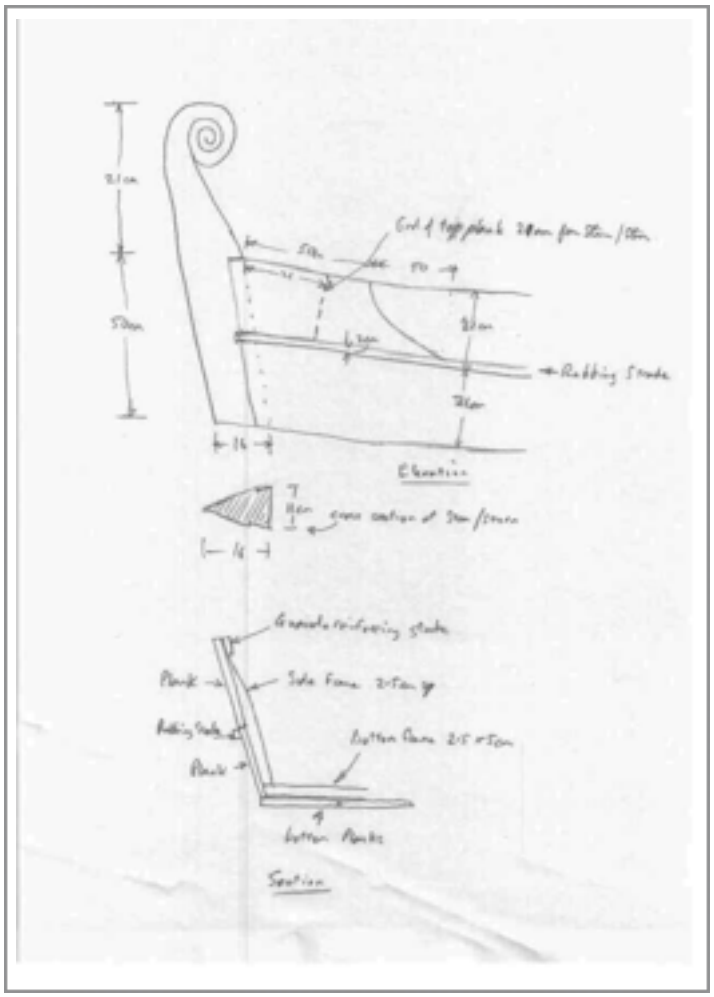
✶

An Irrawaddy River canoe

Michael Pearson Reports

My wife Rosalie and I have taken a few river cruises on the Mekong and Irrawaddy Rivers, and I have been fascinated by the local canoes, which might be a subject for modelling. Peter Hateley showed pictures of some on the Mekong in recent editions of *Scuttlebutt*.

I was able to measure up a small Irrawaddi boat in the garden of the Bagan Thandi Hotel, Myanmar, it being 5.5m long by 1m beam at the top of the side planking. I can provide the details to anyone who wants them. The construction of this small canoe is very simple, but the technique applies up to the largest sizes: two side planks on each side above a flat bottom three planks wide. The boats have varying degrees of sheer, caused mainly by the flaring out of the side planking towards midships and the use of short planks extending the uppermost side planks at bow and stern, and rocker on the bottom, more pronounced at the ends. The sides are reinforced with an internal gunwale flush with the top of the upper plank, and a wale along the top of the lower plank.Ribs supporting the side planks and bottom frames reinforcing the bottom planks are all straight pieces of squared timber. The bow a stern posts are carved with scrolls and various designs inscribed into them. There is no keel on the flat bottom.



Sketch measurements taken on the spot in Bagan.

- Length: 5.5 m
- Breadth: 1 m
- Width of two planks forming each side: 21 cm. Bottom plank overlaps top plank by 2cm, on the outside. Planks c. 1cm thick.
- Thickness of frame ribs: 2.5 cm sq. thinned to 1cm at the gunwale.
- Thickness of rubbing strake: 2 cm, overlapping top of bottom plank 2cm.
- Bow and stern posts 11cm wide inboard, thinning to a point at extreme bow and stern, over breadth of 16cm.
- Bow and stern post top in scroll form, protruding 21cm above the top of the gunwale.
- Top plank ends 21 cm short of bow and stern, and has a cover plank fitted on the outside to continue the sweep of the planking. The top of this cover plank extends 50 cm back from the stem and stern posts. Side planks are rebated into the stem and stern posts for a combined height of 50 cm.
- Bottom between side planks is 67 cm at extreme breadth. Bottom flat, but with steady sheer bow and stern to midships.
- Bottom planks are 21 cm wide
- Bottom ribs 2.5 x 5 cm .
- The inboard faces of both the stem and stern posts are incised with traditional markings.

I will build a model of a bigger version of the canoe, similar to those shown in the attached photos of canoes in the village of Moedar, where the canoes are kept under the houses for use when the river floods the land during the monsoon. I will give a report on that in a later *Scuttlebutt*. (Photos next page).

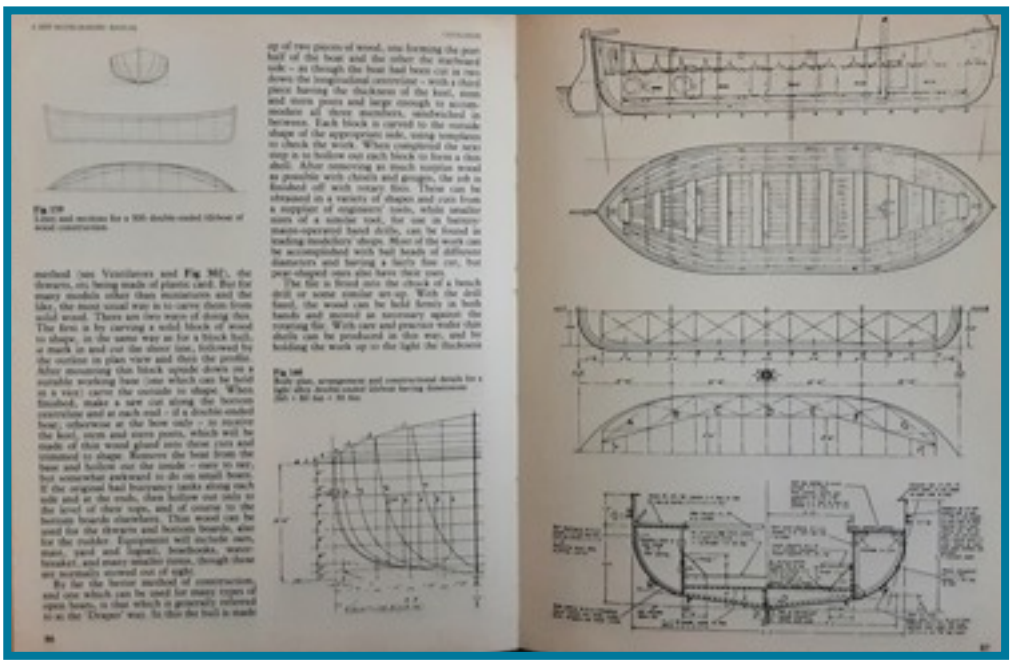
✶

From top, left to right:

Canoe in Moedar village - Moedar canoe with motor -

Detail of carving - Another Moedar canoe

PETER HATELEY discusses progress on his latest project: WWI Lifeboat, from HMT Ascot, used in the Gallipoli landings



Body plan and details of 26' light alloy double-ended lifeboat

A short update on progress. I was able to take photos at the Australian War Memorial and make some extra measurements from those not included in the only information held by the AWM. It still left me the quandary of finding a set of lines and details of a suitable lifeboat to use to make a fairly accurate model. Eventually I found a chapter on lifeboats in a book I had, titled A Ship Modelmaker's Manual by John Bowen.

This chapter had an extract from a Board of Trade table of requirements for lifeboats and I was able to determine the Ascot boat was probably a 28' double-ended steel pulling lifeboat (using the dimensions supplied by the AWM). Also in that chapter were a few differing sets of lines, one of which was for a 26' light alloy double-ender which had the same dimensions, except for the length. I used the body plan (copied to 143%) to provide the right shape and size for a 1/20th scale for the build. This will make the model 432mm x 113mm x 55mm (gunwhale height midships) x 79mm stem/stern height. To represent the steel hull I will be using thin copper sheet.

On the build itself I have cut out a set of frames and a keel to build a plug, similar to the one Steve made for the papier-mache/cardboard model for one of the Mt Rogers projects. I have plenty of timber for infill which a neighbour will cut up and run through a thicknesser for me. There are probably too many sections at 15, but at least the shape should be pretty close before I modify it to provide for the misshapened keel. Even though I have made this for the full boat, I am still completing each side separately and joining them together with an appropriate thickness keel piece.

I am making the boat symmetrical to produce the same for each end of the boat I stuck the similar frames together with thin double-sided tape for the final cut out and sanding to shape (three together for the central frames 7, 8 & 9). All the frames are made for the hull to sit squarely on the workbench while the copper sheeting is moulded to the plug. The keel for the plug has been cut to show the height of the gunwhale for each frame. ✶

Photos next page

Top - Frames fitted temporarily to the keel.

Left - The three central frames “stuck” together for final cutting out and shaping.

Below - Frames and keel roughly cut out of 3mm MDF for plug.

Don't we all like mysteries? Especially when they are solved. MAX FITTON enjoyed this exhibit at Fremantle's Maritime Museum.

Skindivers found evidence of a wreck on Ningaloo Reef, WA, in 1978, including copper fittings, a cannon, anchor, ship's bell and silver coins. The ship was unknown at the time, but research by the museum eventually identified it as the 373-ton ship Rapid out of Boston from recovered artefacts, including a beef barrel, a ceramic jug, hull timbers and other evidence.

✶