

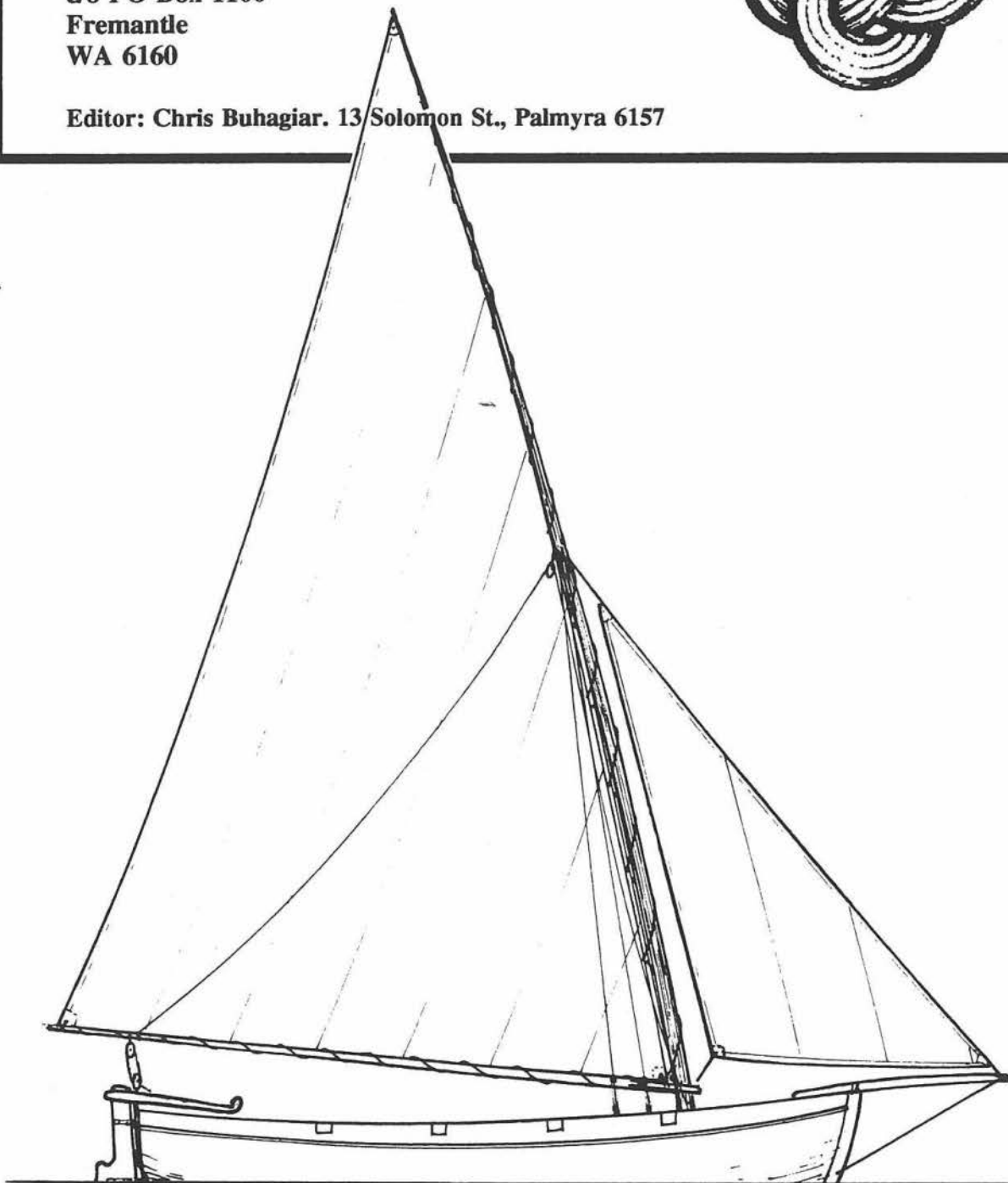
MARITIME HERITAGE ASSOCIATION NEWSLETTER

Volume 4, No. 4. December, 1993

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c/o PO Box 1100
Fremantle
WA 6160

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A reconstruction by Nick Burningham of Captain James Stirling's cutter used in an 1827 expedition to survey the Swan River and surrounding country. Of particular interest is the cutter's unorthodox rig. (See story page 7.)



The Western Australian CLASSIC AND WOODEN BOAT FESTIVAL: 1993

by Mike Beilby

The Sail Training Association's Classic and Wooden Boat Festival held over the afternoon of the 16th and all day on the 17th of October attracted seven thousand people - a good turnout for a weekend when there were many other attractions around.

Held at the Royal Perth Yacht Club's annexe, adjacent to the Fremantle Fishing Boat Harbour, the festival offered 65 floating vessels moored at pens and jetties, the latter generously vacated by RPYC members. There were also about 20 smaller boats on the hardstanding, 21 different exhibits in the large marquee and, of course, STS LEEUWIN herself - all open for inspection in the closest part of the Fishing Boat Harbour.

Although the exhibits did not include any boats of great age, there were several from the 20's and 30's as well as a splendid representation of yachts, gaffers and classic launches from the 40's and 50's. There were a small number of recently constructed classic-style boats including a delightful 20' sprit-rigged yawl from 1991 and a very impressive Couta boat, dated 1987. Most of the hardstanding boats were of recent construction with the exception of Simon Braine's open launch of 1930 and B. Herron's original skiff-style speed and ski boat, a family pet since it was built in 1962. An unusual, if non-floating exhibit was Willy Hanaart's display of vintage inboard engines. He had a Chapman Super Pup and a West-Ho running almost constantly and their exhaust noise alone guaranteed an attentive audience which could then examine his yet to be restored CHICO and ELMET.

The entire marquee this year was the organisational responsibility of the MHA and the result was a tribute to the contacts and organisational skills of Ross and Barbara Shardlow. This resulted in a range of displays far broader, I would think, than we have been able to see in previous years. The exhibits included professional and amateur-built model ships, including Brian Lemon's KRAIT on the Model Steamship Association stand; marine artists Nick Burningham and Ross Shardlow; ropework by Jim Rutherford; spar-making with Ray Miller; scrimshaw by Jim Cumberland-Brown; vintage tools from the Hand Tool Preservation Society; the Wooden Boatworks; the Hicks'

traditional chandlery, and several Association exhibits.

The Build-a-Boat-in-a-Day competition spread over both days with categories for both professional and amateur builders. It's interesting that over recent festivals, designs for this event have become rather more basic and standardised, owing much more to Phil Bolger than, say, Nat Herreshoff!

Awards:

Most Attractive Launch:

SPRAY - 1954 42' Halvorsen cruiser, oregon;
J. Walter.

Most Attractive Sailing Boat:

BRUNETTE - 1952 33' masthead sloop, jarrah and oregon; B. Stone.

Most Attractive Open Boat:

PH-ABLE - 1962 14' ski/racing boat, mahogany;
B. Herron.

Best Gaffer:

NICOLA T. - c.1940 20' sloop, NZ kauri and jarrah; J. Buchanan.

Most Attractive Exhibit:

"Cooperage" - the Hand Tool Preservation Society;
Des Miller.



The varnish finish on R. Lines' WHISPERS was breathtaking, seen here beside PH-ABLE (5723).

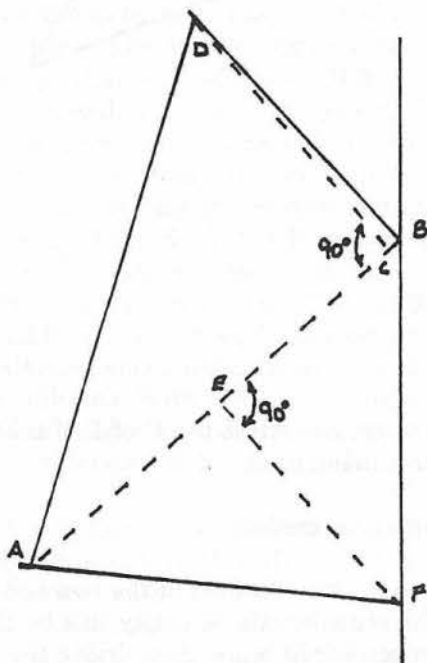


Designing the Sail Plan for the 33' Gaff Cutter PANTHALASSA (Part Two) by Peter Worsley

In the previous instalment I gave my reasons for choosing the gaff cutter rig for my yacht PANTHALASSA. I will now explain how to go about designing the sail plan. The principles remain the same, no matter what type of hull you choose to use as a gaff cutter.

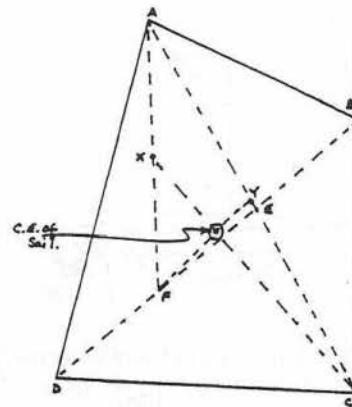
Having found the shape of the mainsail (ratios given in the last instalment), we must first calculate the sail's area, remembering that I wanted it to be under 400 square feet, for ease of handling:

- Divide the sail into two triangles, by drawing a line joining two opposite corners. Then, using the scale of the sail plan, find the area of each triangle by measuring the length of the diagonal and the length of each perpendicular from that diagonal to the remaining corners. The area of a triangle is half the base times the perpendicular height; therefore, looking at the diagram below, $\frac{1}{2}AB \times CD$ and $\frac{1}{2}AB \times EF$, when added together, gives the sail's area. If you measure in feet, the answer is square feet and, if in metres, the answer is in square metres. For PANTHALASSA, the area of the mainsail worked out at 370 square feet:

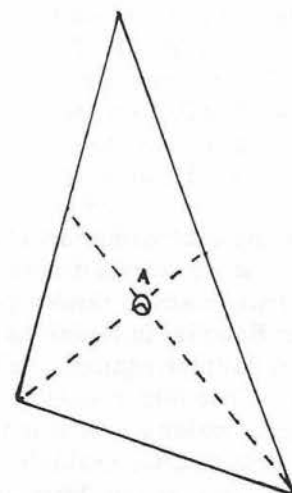


The method of finding the Centre of Effort (C of E) of the sail also needs a scale plan of the sail:

- First, draw two diagonals from opposite corners and mark where they cross. (Point E in the next diagram.) Along the line DB, measure a distance DF equal to EB. Join FA and find the centre of this line (point X). Join X to C. Then find the centre of the line AC, and call it Y. Join F to Y. Where XC and FY cross is the sail's C of E:



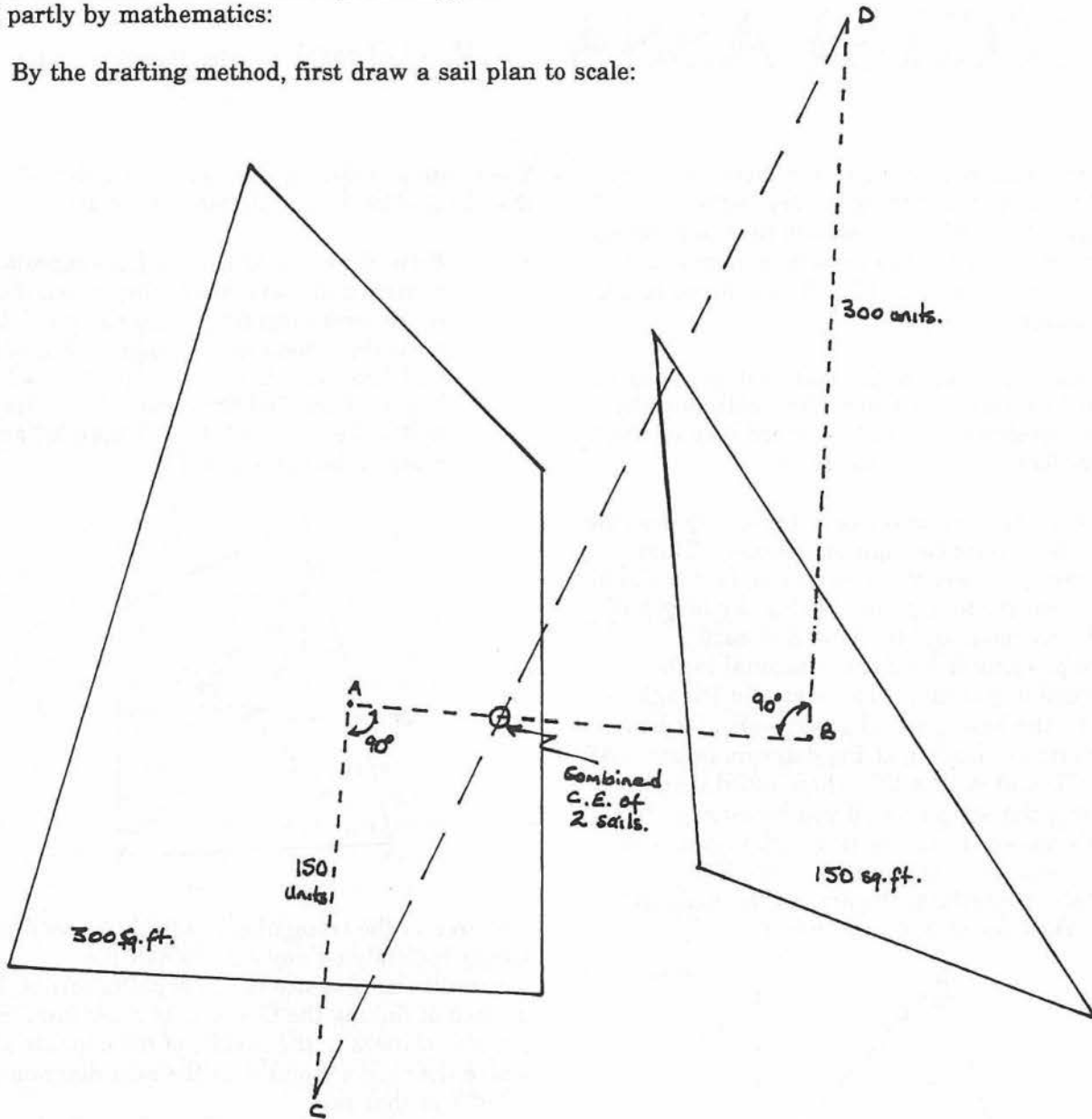
The area of the triangular headsails is found by simply multiplying any side by half the perpendicular distance to the opposite corner. The method of finding the C of E is to draw lines from any two corners to the middle of the opposite sides: where they cross (point A in the next diagram) is the OC of E of that sail:





There are two methods of finding the combined C of E of two or more sails. The first is by drafting, the second partly by mathematics:

- By the drafting method, first draw a sail plan to scale:



Join the centre of effort of the two sails (line AB in the previous diagram). Next, using any convenient scale, raise a perpendicular to AB from B, equal in length to the area of the other sail; for example, sail area = 300 square feet, so use 300 mm. On the other sail, drop a perpendicular equal in length to the area of the first sail; for example, sail area = 150 square feet, so use 150mm. Join DC. Where

this line crosses AB is the C of E of the two sails in combination.

By the mathematical method:

- Join the centres of effort of the two sails and find the scale length. Multiply this by the area of one of the sails, then divide the answer by the total area of both sails. For



example, if AB scales out at ten feet, then multiply 150 by 10. (1500) Then divide this figure by 300 plus 150 (450). The answer is 3.33 feet, or 3'4". This is measured along AB from A and gives the C of E. If you multiplied the ten feet by 300, the result is the same but the answer (6.66', or 6'8") is measured from B.

If you have three working sails, as in a cutter, first work out the combined C of E of the two sails, as above. Then, using that C of E, do exactly the same with the third sail, treating the combined centres of effort (already calculated) as one sail.

Why do you need the C of E of the sails? The answer lies in the relationship between the C of E of the sail plan and the centre of lateral resistance (CLR) of the hull, which influences the balance of the yacht when under sail. The relationship is a bit tenuous, as both the C of E and the CLR move when the yacht is underway, and the amount of movement is not exactly known or calculable. Also, the sails are not flat planes - as is assumed in our calculations and as shown in our drawings - but are curved and not lying along the centreline of the yacht. However, there are certain points which help achieve a balanced sail plan.

The most important point is the lead - the distance between the C of E and the CLR (both projected vertically onto the waterline), and is usually expressed as a percentage of the waterline length. It is normal for the C of E to be forward of the CLR. The problem is by how much should it be forward? Various books give various figures, ranging from virtually 0 (that is, C of E and CLR at the one point), to 16%, depending on the hull type and rig type and height. Modern yachts tend to have a longer lead (12% and above) than old-fashioned, long-keeled yachts. It is a matter of drawing and re-drawing the sail plan until the final C of E falls where you require it in relation to the CLR. In PANTHALASSA's case, it is 2'7½", or 9.6% forward of the CLR. The result is, I am happy to say, a very well balanced yacht which is easy on the helm in most conditions. With a little playing with the sails, she will self-steer for long periods and be light on the helm, even when reaching in fresh to strong breezes.

When reefed down, an advantage of the gaff rig becomes apparent, in that the C of E of the mainsail does not move very far forward as it does with bermudan sail plans. Either of the headsails can be removed or the staysail reefed to balance the reefed mainsail. The long bowsprit is not the danger it may

seem to be, as the jib is hanked on from the foredeck and pulled out to the bowsprit end by a traveller - a method in use in English fishing smacks for over 150 years.

PANTHALASSA's performance has exceeded predictions and confounded the sceptics: it points far higher than anybody expected and there is little more to the sail-handling than any other single-masted yacht. She is quite fast, too, having averaged a little over six knots on the wind, when sailing from the Abrolhos Islands to Geraldton (43 nautical miles in 6 hours 47 minutes). I have often been told that she is the prettiest yacht around.

When next in Geraldton and you see a gaff cutter with wooden spars and tan sails, you haven't stepped back into the last century - that's PANTHALASSA!



References:

A list of some of my books which I found most useful in the planning of the rig. The date of original publication is in brackets:

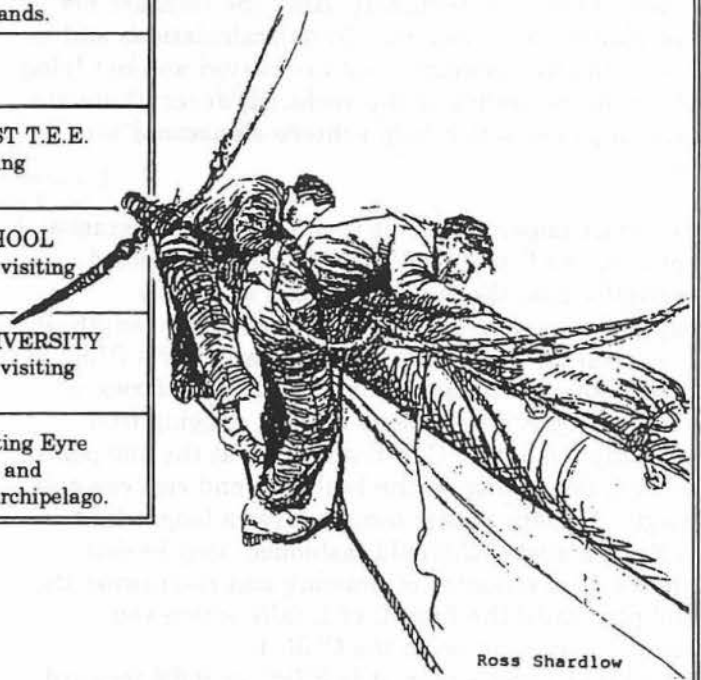
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Schedule: S.T.S. LEEUWIN ADVENTURE VOYAGES

No.	Departure	Arrival	Remarks
26/93	Fremantle 30/11/93 Tue.	Fremantle 9/12/93 Fri.	10 days UNIVERSITY HOLIDAYS visiting Abrolhos Islands.
W4/93	Fremantle 10/12/93 Fri.	Fremantle 12/12/93 Sun.	Weekender.
27/93	Fremantle 14/12/93 Tue.	Fremantle 24/12/93 Fri.	10 days POST T.E.E. voyage visiting Busselton.
1/94	Fremantle 11/1/94 Tue.	Albany 21/1/94 Fri.	10 days SCHOOL HOLIDAYS visiting Augusta.
2/94	Albany 25/1/94 Tue.	Esperance 4/2/94 Fri.	10 days UNIVERSITY HOLIDAYS visiting Hopetown.
3/94	Esperance 8/2/94 Tue.	Esperance 18/2/94 Fri.	10 days visiting Eyre Observatory and Recherche Archipelago.



DAY SAILS

26th., 27th., 30th. Dec; 1st. and 2nd. Jan.:
10.00am - 4.00pm; adults \$70, child \$40. Includes lunch.

For information on all voyages, contact:

THE LEEUWIN SAIL TRAINING FOUNDATION

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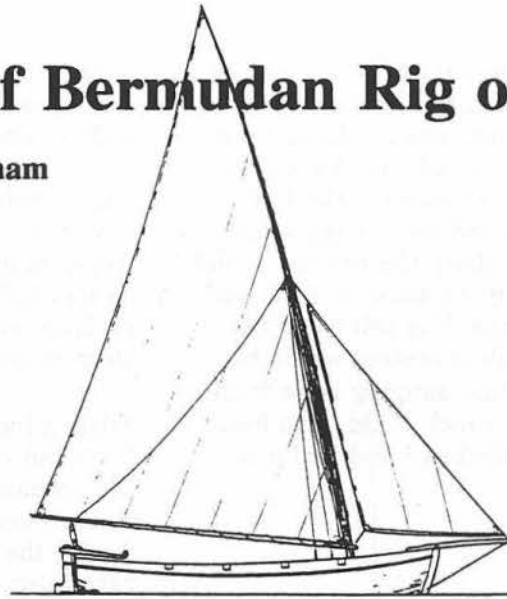
CHALLENGE BANK





The First Record of Bermudan Rig on the Swan River

by Nick Burningham



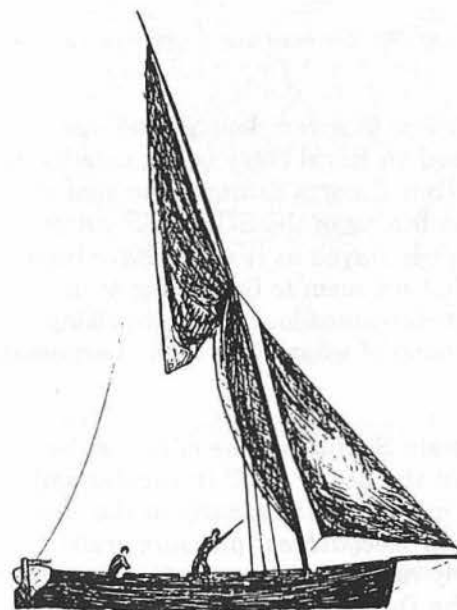
Between March 8th and 18th, 1827, Captain James Stirling of HMS SUCCESS led an expedition to survey the Swan River and surrounding country, with a view to establishing a settlement. Stirling and the botanist Fraser liked what they saw and wrote reports laden with superlatives. The rest is Western Australian history.

Stirling was accompanied by seventeen men, including Fraser and the expedition's artist, Frederick Garling. They travelled in two of the ship's boats, the gig and the cutter. Presumably Garling sketched from on board the gig because he drew the cutter in his watercolour sketches of the Swan. And it was a very strangely rigged cutter that he drew. Most Royal Navy ships' boats were rigged with lug sails carried on fore and main mast. Garling drew the cutter with a single tall mast carrying a large triangular mainsail and jib set from a short bowsprit.

Garling was familiar with boats; indeed, he is regarded as Australia's first marine artist, and his work is regarded as accurate. Details of the cutter's rig can be clearly discerned in four watercolours attributed to Garling in the collections of the Art Gallery of Western Australia (Registration nos. 957/W3, 957/W4, 957/W5, 990/30). It is, however, possible that one or more of these watercolours is actually the work of the ship's surgeon, Clause, rather than Garling, as he, too, practised watercolour and neither man habitually signed his work.

The paintings show the cutter's pole mast supported by three shrouds per side and a forestay; the bowsprit was stayed by a bobstay and there is no sign of any running backstays. The length of the mast above the hounds was approximately equal to the height of the hounds above the rail and also equal to the distance from the mast to the transom. Thus the hounds were only about halfway up the mast. Port and starboard topping lifts were rove

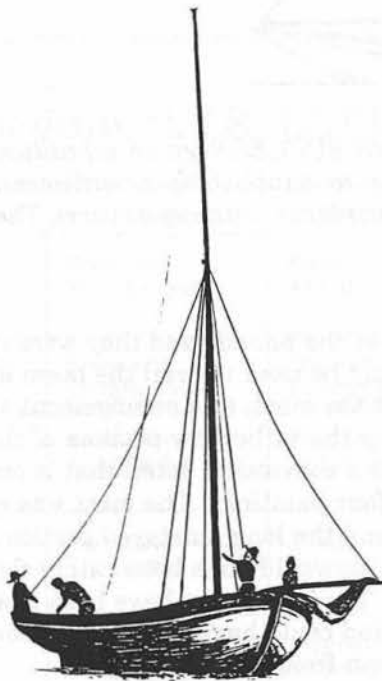
through blocks at the hounds and they were rigged so that they could be used to brail the boom and sail hard up against the mast: this arrangement was made possible by the rather low position of the hounds and it is a convincing detail that is carefully depicted in all four paintings. The mast was quite sharply raked and the long, unstayed portion above the hounds, which would have been rather flexible, was curved aft. The mast must have been nearly 15m in length and could have been a main lower studdingsail boom from HMS SUCCESS.



After Garling, AGWA 957/W4. (Author)



In the painting No.957/W4 the sail is shown brailed up to the mast and the halliard has been slacked slightly; it appears as if the luff was not laced to the mast above the hounds. Such a sail would set very badly. However, in all the other pictures the luff conforms closely with the curved mast, suggesting the use of lacing. Any lacing above the hounds would either be rove before stepping the mast, or by a man who had climbed to the hounds. The sail could not easily be lowered, so the brailing system would be almost essential. There is a line hanging loose from the truck in 957/W3 and W4 which could have been used to wrap around the brailed sail and furl it to the mast.



After Garling, AGWA 957/W3. The mast was originally sketched 20% taller. (Author)

A form of gunter rig with a very long gunter spar was sometimes used on Royal Navy boats, usually in a two masted rig. But there is definitely no sign of any gunter spar in the rig of the SUCCESS cutter and the mast was not stayed as it would have been for gunter rig. What we seem to be looking at in Garling's (attributed) watercolours is a surprising and very early version of what we now call bermudan or marconi rig.

Where might Captain Stirling or one of his senior officers have learnt the use of a tall triangular sail? The rig had been invented before: early in the 17th century some Dutch *speeljachten* (pleasure craft) carried two sharply raked masts, each rigged with a triangular sail. The Dutch termed the masts that carried the triangular sails *roedes*, a name normally

applied to lateen spars, for the rig was regarded as a form of mastless lateen. Later the Dutch rigged short gaffs to improve the set of the head of the sail.

The novelist Daniel Defoe must have known the advantages of bermudan rig (then called "leg-of-mutton rig") for short-handed sailors because he had Robinson Crusoe, in his early adventures, escape slavery in North Africa in a stolen bermudan sloop-rigged yacht!

Stirling had spent much of his naval career with the West Indies Squadron but his cutter's rig was unlike the bermudan development which had the hounds close to the truck of the mast, and, in any event, during the early 1820s when Stirling was there, the bermudan sloops still carried short gaffs - it was at least a decade later that they reversed the Dutch evolution and set a truly triangular sail.

Stirling's wife's family was connected with the East India Company and there are examples of mastless lateen rigs to be seen in Southeast Asia, but there is no evidence that Stirling had been east before 1826. HMS SUCCESS was attached to the Far East Squadron and it has been assumed that she sailed out to Sydney in 1826 via Penang or Singapore. Such a call would explain the small increase in her crew numbers between leaving Portsmouth and reaching Sydney; and it might also explain Stirling's curious naming of Carnac Island. Stirling named the island "Pulo Carnac" - Pulo (*pulau* in modern orthography) is the Malay for "island". Stirling was a noted linguist; either he, or perhaps his first officer, Carnac, had evidently gained some familiarity with the Malay language.

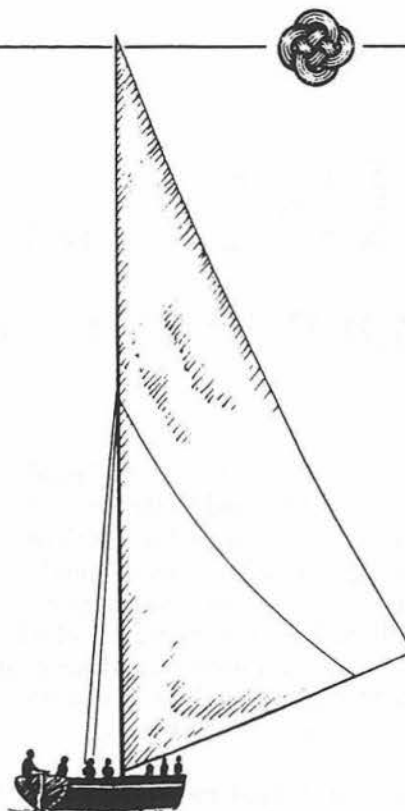
It is the brailing system of the cutter's rig that suggests to me a Southeast Asian influence or origin. Virtually all Indonesian boomed lateen sails (*layar lete*) are brailed in precisely the same way, and some are mastless lateens, like the 17th century Dutch rig. Today, at the beach resort of Pasir Putih, in East Java, one can hire large outrigger canoes with a rig rather like that of Stirling's cutter, though lacking a jib.

Are the paintings genuine?

Could it be that the paintings attributed to Garling were actually executed by someone else at a much later date, either based on rough sketches by Garling or even as deliberate forgery? The paintings 957/W3 and W4 seem somewhat different in style to the other two paintings under consideration. And there is some inconsistency in the detail; 957/W3 shows the mast relatively shorter than the other paintings;

however, it is possible to see that the original was drawn much taller. This pencil sketch has been inked and painted. The treatment of the tree on the right side of the painting is worthy of note; the tree looks quite plausible and exhibits none of the inability to paint Australian vegetation that the early colonial artists are often accused of. (Janda Gooding, Curator at the Art Gallery of Western Australia, has suggested that it shows a very realistic touch of "die-back".) 957/W4 is executed in a similar crisp style. The cutter is shown with four oar ports in her wash strake, a feature that is not shown in the other paintings. 957/W5 and 990/30 (which was more recently acquired) show the cutter in the middle distance. There is less detail but the relative proportions of the rig are consistent and the topping lifts are shown. Both these paintings are less crisply sketched, the paint is more heavily washed on, and the vegetation is less characteristically Australian.

MHA members are invited to view the paintings at the Art Gallery of Western Australia and form their own judgement.



After Garling, AGWA 990/30. (Author)

WOODEN BOAT WORKS - BOATBUILDING COURSES

lofting and boatbuilding classes running

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OWNER BUILDERS: 12-14 DAYS
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\$60.00 per STUDENT

(Reduced price for MHA members.)



CONTACT: Graham Lahiff - WOODEN BOAT WORKS, B Shed, Victoria Quay, Fremantle
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ORIEL: The Restoration Saga of a Born-again Gaffer (Part Five)

by Mike Igglesden

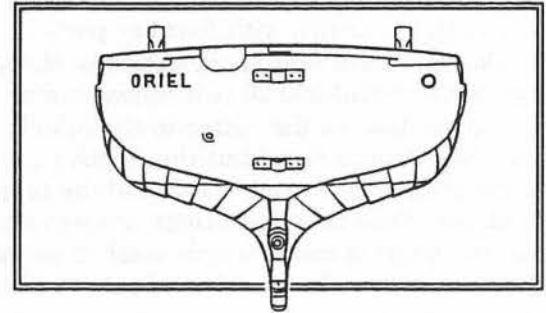
December 1990

I had been stewing over the design of rudder for months, as I knew I needed to increase the original size by at least 15% in order to deliver greater control in light weather. The original rudder was only as deep as the keel, in order to permit shallow water sailing. I wanted a rudder which dropped down 9" below keel level but which could easily be raised and used for sailing in shallow waters and when pulling into the beach.

Dinghy experience had taught me that pivoting blade designs had limitations. When angled back to reduce its draft, the centre of lateral resistance is placed so far aft that the blade is subjected to great strain and steering becomes extremely heavy. Dagger board rudders are very efficient but the stock, to accommodate the blade, would have to be of such design that it would not be in keeping with the traditional appearance and construction of the boat. Eventually a rudder of identical appearance to the original Thornycroft design was made up, with the exception that the blade was deeper by 8.5 inches and a tiller hood replaced the mortice arrangement of the original design.

The new rudder was constructed from a 6'x3'x1/2" sheet of marine plywood. Some judicious juggling enabled a glued and nailed laminate of two thicknesses to form the stock blade to be cut from this sheet with enough left over for the two cheeks, which also housed the two top gudgeons. In addition to these two beautiful cast bronze gudgeons, which had been salvaged from the remains of the original rudder, two additional gudgeons were required by the new design. An intermediate one was discovered at the bottom of a bits and pieces bin in a boat chandler's, and purchased for two dollars, and one for the heel of the rudder was made up in stainless steel as an unusual shape was required.

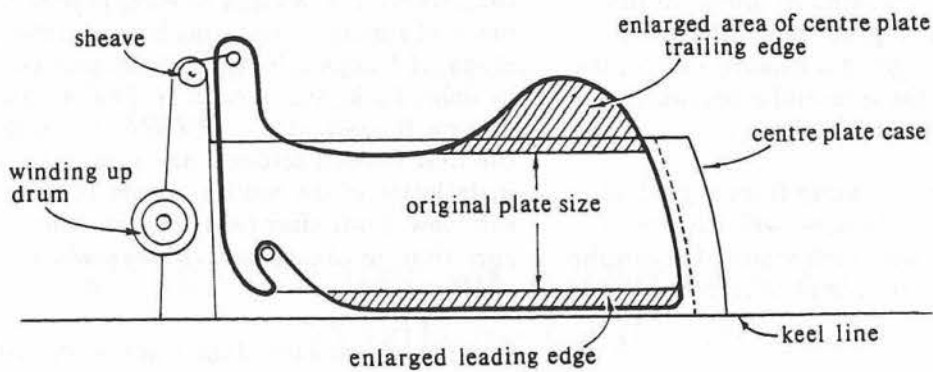
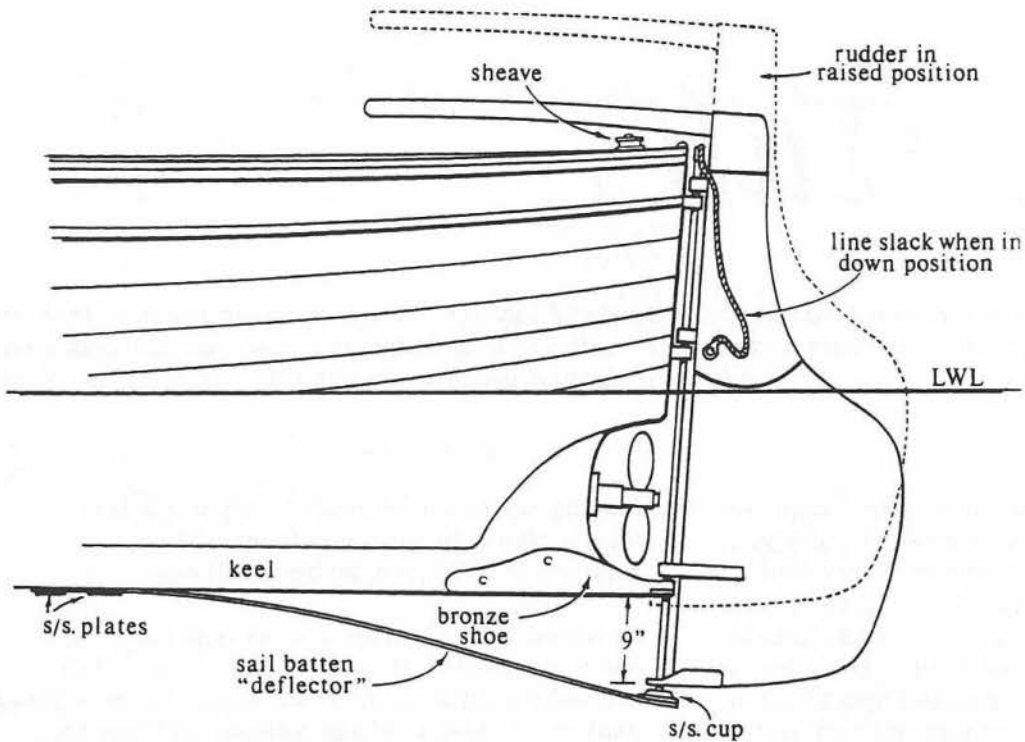
As with many systems which work, the method for reducing the rudder's draft when required is simple. Through the lower section of the cheeks a 1/4" stainless steel rod, one inch in from the forward edge, has been located, with 3/8" of thread protruding from each side. A length of 5mm low stretch line, made up with thimbles at each end, passes in a loop



over the top gudgeon down each side of the rudder to the threaded bolts where they are held in place by nuts and washers. When the rudder is required in the up position, a "heave ho" on the tiller where it passes through the rudder head, slides it up on a 3/8" stainless steel pintle. This pintle runs the full length of the rudder and rides up with it. It passes through a total of seven holes, which require to be near perfect in their alignment to enable a smooth lift to occur! The afore mentioned loop is passed around a 1.25" sheave bolted through the king plank 9" in from the transom. The sheave permits the line any movement it may require when the rudder is moved from side to side but, in practise this movement is very small. The system has proved to be very worthwhile and is used almost each time the boat leaves her moorings.

A somewhat less successful concept was that of a "deflector". The idea arose from the rudder, which would now be normally projecting below the keel, being turned in effect into an efficient sweeper of partly submerged moorings, anglers' fishing lines or any other traps lurking below the keel line. A five foot long fibreglass sail batten, 2" wide by 5/16" thick, was, therefore, attached under the keel in such a manner that its after end (on which a small saucer shaped stainless steel plate was riveted) pressed onto the heel of the rudder. The spring in the batten ensured that this contact with the rudder was maintained even when being used in the up position.

After a couple of months it was noted that this great innovation was no more. It had disappeared and had gone to join all the other pollutants at the bottom of the sea. Possibly it had snapped off whilst going astern sometime and should have been made of



sterner stuff. (*No pun intended.*)

In a further bid to enhance the performance of the boat under sail I enlarged the centre plate area of the original design by adding, in the new 1/4" galvanised plate, an extra 2½" along the leading edge and giving it a hump on the trailing edge, which in total adds 150 square inches to its area. The hump protrudes above the case when raised but since this is usually only when on the mooring it is of no inconvenience.

Deck beams and decking were next on the list.

ARTICLES NEEDED!

Share your interests, knowledge and experiences with others. Contact your editor on (09) 339 2625. You owe it to yourself and to the MHA.

(Other people can do it, so can you!)



"The Tub"

Before the days of lighthouses, a landmark was erected in 1836 at Busselton, W.A., to guide sailing ships to the best place in Geographe Bay to unload passengers and cargo. A replica of this "barrel on a pole" has now been erected at Busselton as a reminder of one of the early aids to navigation which was essential to shipping in Western Australia 158 years ago.

In 1836, when the settlement at "The Vasse" was not yet three years old, Lieutenant Bunbury, then in the service of the Government, travelled overland to the Vasse from the Swan - a very difficult journey in those days - and was hospitably received by a surprised Bussell family. He inspected the new settlement and approved the anchorage in the bay near "The Tub", where a barrel had been erected on a 30 foot pole to act as a landmark for ships and to indicate the best landing place on the beach for passengers and cargoes. The only inhabitants at the Vasse were the Bussell family, the Chapmans, Layman and his wife and a servant, and Dawson, the Constable of the District.

At a later date, a lantern was hung from a yard on the pole, and this landmark became well known to the many American whalers which visited Geographe Bay, and to the colonial cutters and schooners which traded to the Vasse.

In 1839, the resident Magistrate, Captain Molloy, suggested to Governor Hutt that the tub should become the official port location between the Vasse settlement and the outside world - with which suggestion the Governor concurred. The Vasse henceforth developed as the port and town for the district, and finally settled the protracted struggle between the Vasse and Wonnerup for pre-eminence.

In 1848, Molloy notified the Governor that the tub had been blown down in a gale and that this beacon was essential as a guide to vessels and as an indication to them of the Customs House and the authorised place of landing. The reply he received back informed him that re-erection of the beacon had been approved by the Governor at a cost not to exceed £3. (It is on record that at some later date a sailor who had deserted his ship in the bay, hid inside the tub whilst a fruitless search was made for him ashore, but this story appears to lack confirmation.)

Having served for 34 years on the beach front, clearly visible to ships out at sea, the tub was replaced in 1870 by a timber lighthouse.

In memory of "The Tub" and its importance to the Vasse settlement, Busselton Shire Council has erected a replica on the beach front. A bronze plaque explains its historical significance and how the original used to be located over 200 metres inland from where the sea has receded to now. The barrel, made of American oak, has been donated by Earl Happ, of Happs Winery, and the pole and its erection by John Lack, Manager, S.W. Region, SECWA. Maurie Bussell, also of SECWA (and a descendant of the first Bussell settlers) has supervised the installation of the replica. Aware that the original tub blew down after twelve years, Maurie has made sure that, in this respect, history will not repeat itself.

Another descendant, John Carrick Bussell, has contributed significantly to this project and has been invited to unveil the plaque. [From the Newsletter of the Shiplovers' Society of Victoria.]

FOOTNOTE:

Geoff Purcell, Secretary/Port Warden of the Busselton and Districts Branch of the Sail Training Association of WA, who provided the article above, explains that the STAWA barquentine LEEUWIN II tied up alongside the old Busselton jetty late last year - the first tall ship to do so for 68 years. It is hoped that the jetty will continue to be used for similar sized vessels - even the ENDEAVOUR replica - as well as by visiting US warships. Geoff suggests that any Fremantle entrepreneurs with a suitable vessel could be tempted to visit Busselton on a three-day trip, that could include visits to local wineries and the Cape Naturaliste lighthouse. He has drawings that detail the Busselton jetty's bollards, depths of water, etc., and will happily send these details to anyone interested in berthing alongside.



Gary Tonkin, Scrimshander

"Scrimshaw is the activity of carving or engraving on the ivory, bone and other by-products of certain marine mammals, and the use of these same materials in the fashioning of home-made items." (From "Graven by the Fishermen Themselves: Scrimshaw in Mystic Seaport Museum", by Richard C. Malley.)

Gary Tonkin is known to Perth MHA members as the initiator and founding president of the Albany Maritime Heritage Association. Gary lives in a country setting near the sea at Torbay where he works as a full time freelance scrimshander. Gary has never been far from the sea or from the history and activities of the whaling industry.

Whaling has been an ever present influence in Gary's life. He grew up in the Victorian whaling town of Portland where even the school sports teams took names of whales. Trained as a diver, Gary first came to Albany in 1971 on a diving assignment. He eventually settled there and was soon absorbed by the history of the town and its still operating whaling industry.

Inevitably, he began collecting whale teeth and his natural talent for drawing led him, in 1976, to take up the ancient sailors' craft of engraving on the ivory - of scrimshaw.

Behind Gary's finely detailed work are many hours of research, including research trips to the United Kingdom and the United States. This can be seen in the following article reprinted with the kind permission of the author and the Australian National Maritime Museum. In 1991, Gary had the honour of being commissioned by the Museum to engrave the story of a whaling voyage of the 1870's on a rare set of sperm whale teeth. In April, 1993, the fine work described in the "Collectibles" article was added to the Museum's collection.

COLLECTIBLES: Recent Additions To The National Maritime Collection

'EPIC TALE TOLD ON SCRIMSHAW

The Museum has taken delivery of a modern masterpiece of the sailors' craft of scrimshaw with a fascinating tale attached. Master scrimshander, Gary Tonkin, of the one-time Australian whaling port [of] Albany, WA, was commissioned to engrave six rare sperm whale teeth with a series of twelve scenes representing the eventful voyage of the New Bedford whaler ELIZA ADAMS in the 1870's. The pieces will be displayed in the USA Gallery.

Tonkin, who grew up in the Victorian whaling town of Portland, and has been to sea on Albany

whalechasers, obtained the rare and valuable matched set of teeth from the jaw of a sperm whale caught by the Cheynes Bar [Beach] whaling station in Albany. Shortly afterwards, the station closed, in 1978, bringing the long history of Australian whaling to a close. Such teeth have become a rare commodity with the subsequent protection of sperm whales, and Tonkin saved this particularly fine set for over fifteen years, awaiting a commission that would be worthy of them. They are about 750gm each and are up to 20cm in length.

While researching whaling archives in the UK and the USA, Tonkin unearthed the remarkable story of

the ELIZA ADAMS' voyage at the New Bedford Whaling Museum where he encountered the logs kept by both the master and mate of the whale ship. ELIZA ADAMS was a "petticoat whaler", so described because her master, Caleb Hamblin, sailed with his wife Emily and two children on board the four-year voyage. One of these children had been born at sea on a previous voyage; on this trip their son Winfield was born in port at Albany, WA. The ship's mate, Briggs, clearly no ally of Mrs Hamblin, brusquely records the event in the whaler's idiom: "The Captain's cow had a calf aboard!". She would bear three more children during the course of subsequent whaling voyages on her



husband's ships.

Explaining the phenomenon of wives at sea, USA Gallery Curator, Penny Cuthbert, says that it was unknown before 1835 but that, as whaling boomed, the captains more frequently took their wives and children. "American Protestant missionaries who were outraged by the conduct of whalers while in port welcomed the wives' civilising influence," said Penny. "The lot of a whaling wife was certainly not an easy one."

One hundred and twenty years later in the same port, scrimshander, Gary Tonkin, would record the birth of Mrs Hamblin's son on whale ivory for the Museum, depicting the infant being hoisted on board in a bosun's chair. "The Captain's newborn son" is one of the series of twelve scenes chosen by Tonkin for his work for the Museum. Other scenes in the series highlight both the dramatic and the more mundane events of the voyage from 1872 to 1876. They include "Careening and caulking in Hobart"; the vivid and exciting

"Knocked down by a waterspout"; "The second blanket (cutting blubber) about Cape Leeuwin"; "Gamming the Offley"; and "Chawed boat" - when a sperm whale bit a boat into two parts, with the loss of one crewman.

"Into the martingales, Kangaroo Island grounds" depicts men watching two porpoises playing in the bow wave; the ship's log tells us that they will kill the mammals for meat and lantern oil. Another scene shows the children playing on deck on a festive day, crossing the equator on the 4th of July exactly a century after the US Declaration of Independence.

Tonkin spent some 2000 hours engraving the teeth. He is a self-taught scrimshander who experimented with crude tools such as sharpened nails before adopting the simple industrial scribes and etching ink he now uses. The old-time sailor's craft which was practised by both American and Australian whalers is a popular contemporary pursuit in the USA.

First-rate practitioners in Australia are rarer, and Tonkin claims that his isolation has enabled him to develop a style uniquely his own, uninfluenced by current American trends. His work is recognised for fineness of technique, combining a romanticism of composition with undeniably high levels of draftsmanship and a feel for his material that enables him to integrate the subject with the curves and textures of the whale ivory.

Tonkin is excited by the coincidences that link his subject matter with his home town and the waters in which lived - and died - the 15m long sperm whale that yielded these teeth. They are a product of Australia's last commercial whale station, acquired at a period when peoples' attitudes to whaling had just begun to change. It is not a period whose passing Tonkin regrets. His artistry commemorates a vivid period in Australia's maritime heritage and commerce, while at the same time making tribute to the magnificent mammals that were its quarry." (Jeffrey Mellefont)

Christmas Sausage Sizzle!!!

B-Shed, Victoria Quay: Monday, December 20: 6.00pm
A joint Wooden Boat Works/MHA social evening

All Works students, MHA members, families and friends are welcome. (By special arrangement, HM Barque ENDEAVOUR will be alongside for final fitting out. See this unique attraction before she departs our shores for good.)



Building a Traditional River Launch

(Part Six) by Mike Beilby

Well, folks, it seems as if I'm back on air again, having missed Chris's last deadline. Truth to tell, there's not a great deal of advancement to be seen, even though I've been busy enough. I think this is because a lot of the effort has gone into auxiliary items like the prop tube, rudder and so on.

The seats, as reported last time, were completed without much drama. I sealed and varnished all the slats on three sides before installation because those areas would have been almost inaccessible later. This was a slow process, and while rounding the top edges of each slat I soon found myself wishing I'd invested the necessary \$30-\$40 in an appropriate router bit, especially since the spokeshave kept finding curly grain. In installation, the slats took the bend of the side of the hull quite well although each one needed a press of around 10kg. As there are ten slats each side, I half expected that force to affect things. Once again, I seem to have got away with it and there was no significant quantity of mahogany left in the scrap box after I'd cut all the plugs necessary to plug over the screws. After gluing them in, cleaning up and varnishing, the seats look nice.

I did decide to keep the old 5/8" prop shaft and had Novasteen bushes made up and pressed into the bronze bearings, although I had to cut in the water lubricating grooves myself using a pair of hacksaw blades clamped together. Boring the hole through the skeg was a real challenge, because I couldn't afford to get it wrong. After much asking around it seemed that an ordinary machine twist bit would run straightest so I bought a length of 1/2" bright steel rod and had some of it welded up to a twist bit of the same size. Wooden bearings were clamped onto the skeg, outside the boat, to guide the drill on an angle determined from the loft plan and translated using a spirit level. When bored with my larger electric drill running on slow, the hole came out reasonably close to where I'd wanted it inside the hull. This initial 1/2" hole was then enlarged to 3/4" in one cut after I'd cross-drilled the bit extension and

fitted a small adjustable cutter ground from a 3/16" drill bit. There was now a 3/4" hole running not quite the right way, giving enough room to run a boring bar between bearings screwed to the structure to give

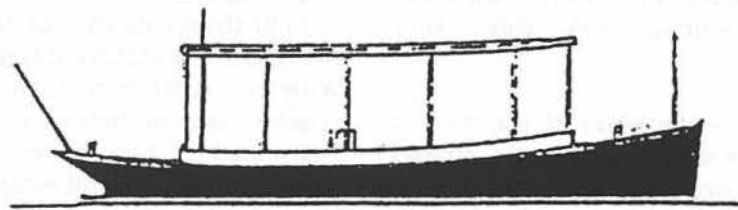
exactly the right direction, determined with a string line. Fortunately, my model building background means that I have the small thread cutting gear necessary to set up grub screws and what-not to lock in adjustable cutters, and the hole was enlarged about 1mm at a time until I had

reached the 33mm needed for the stainless steel tube. After sealing the raw wood with resin as well as possible the three components of the stern tube were assembled in the boat over Sikaflex, and retained with coach screws.

I already had a rudder tube made up from stainless steel with the necessary flanges and nylon bushes and I found that by beefing up the king plank a little and having one small flange at the bottom and a larger one at deck level, I could lower the assembly in from above without cutting out the king plank. The rudder hole was bored in the same way as the prop tube, although I had to make a new, shorter boring bar.

The rudder was a rush job because the *Classic and Wooden Boat Festival* was fast approaching. The shaft was 3/4" solid stainless rod with two pairs of tangs welded to it, made up at the same time as the tube. The blade was glued up from 6" x 1" oregon, grooved to slide in between the tangs, and riveted over. It was then sheathed with glass and epoxy, then painted.

A tiller was laminated from jarrah and pine, to a curve suggested by Ross Shardlow, and I had a rudder head fitting made to my design in solid brass. (I'm only using stainless steel where it is not visible.) It is eventually planned to replace the whole steering system with wheel steering and a "kitchen rudder" which allows reverse, but that is for next year.



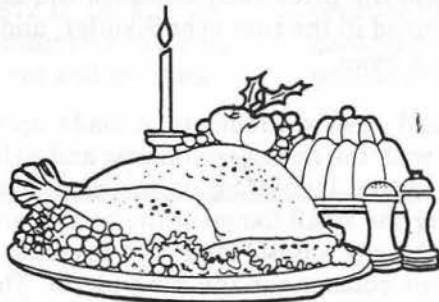


6mm marine ply was used as the deck proper, glued and nailed down all round, but not before a small cradle had been set up under the fore deck to locate the cylindrical fuel tank. In place, the deck looked terrible - really cheap and nasty. Fortunately, I got some 3mm veneers of teak and these glued down to produce fake planks of about 50mm width. I had a good article from the magazine *Australian Amateur Boatbuilder* to guide me in this stage and it became quite an enjoyable operation. The article suggested screwing each portion down with pan-head self-tappers while the glue dried, then removing the screws and plugging the holes with properly cut plugs. I cheated, and held the veneers down with the thinnest panel pins available, through small ply pads. After varnishing I don't think the holes will be visible. The resulting deck looks very ship-shape.

The cockpit coaming, still not in place at the time of writing, meant the purchase of more mahogany, around 150mm width and bandsawn down to about 10mm thick. I had hoped to get it cut to 5mm and to bend it cold directly into the boat with two laminations but the machinist found his bandsaw was too blunt to be accurate enough and so I settled in the end for a finished thickness of 9mm which would need steaming

around the curves fore and aft. I had been dreading this stage because I haven't been really successful at steaming anything so far. However, I made up a steaming box, 2.7m long, from cheap pine wall cladding and hooked it up to a boiler made from an old four gallon drum via 3/4" garden hose, and built a close fitting firebox from old bricks. I used cheap interior ply to make up patterns for the coaming pieces and cut the mahogany to shape in advance. I also decided to do the job properly and to bend the steamed timber around a jig specially made up to duplicate the shape needed in the boat. That used up a full sheet of chipboard and quite a few roofing screws.

The steaming went well enough, with Marg assisting to hold things down, but the timber needed at least twice as much steaming time as the textbooks suggest. With two tight curves, the aft piece was the bigger problem and we broke material at the first attempt. Fortunately, I had just enough scraps to do it in two pieces, and the second attempt - using hot, wet towels to retain the moisture - was successful. At the time of writing, the coaming pieces are still clamped to their jigs. The deck is more easily sanded and varnished without the corners created by a coaming but hopefully all will be in place within a week or two.



Season's Greetings

*Wishing you all a happy and prosperous 1994
(And don't forget those articles!)*



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