

# MARITIME HERITAGE ASSOCIATION JOURNAL

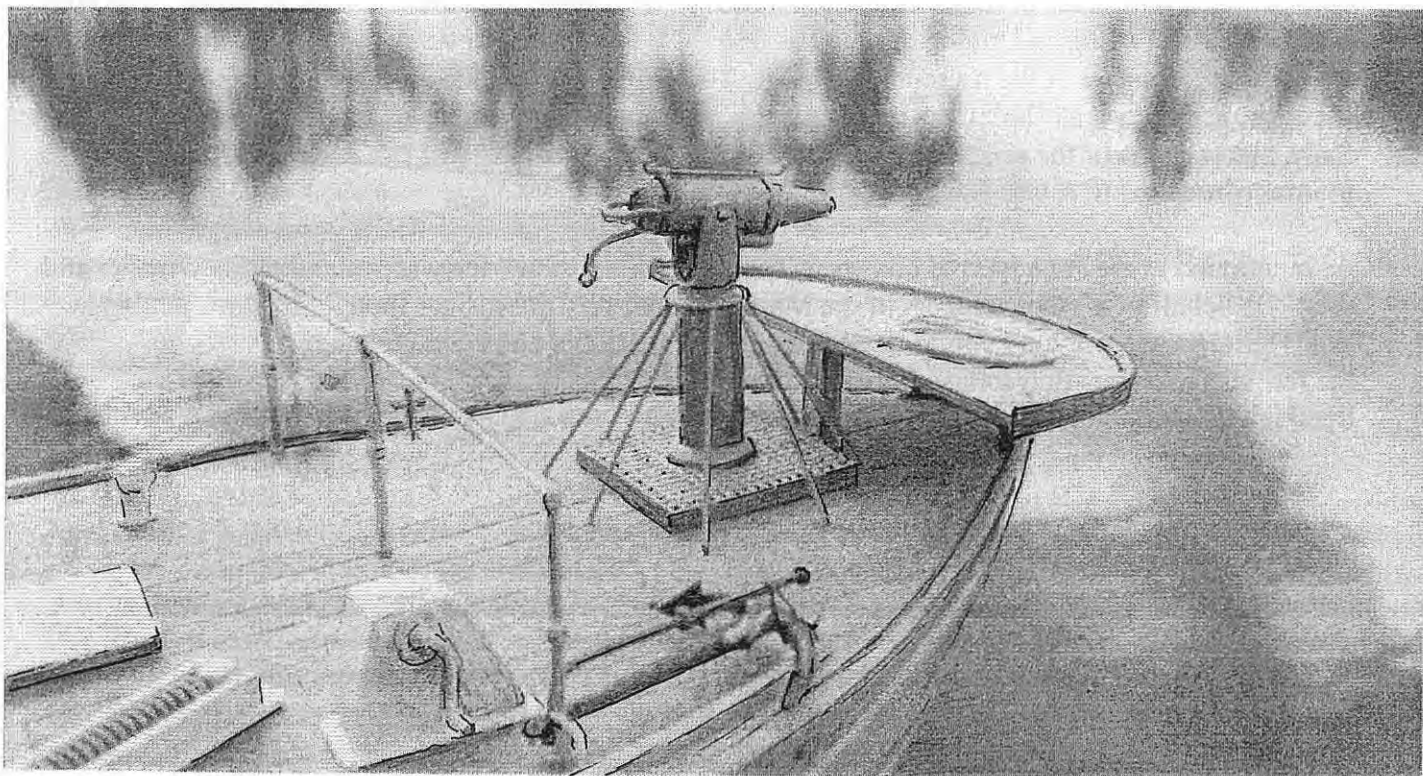
Volume 13, No. 3. September 2002

*A quarterly publication of the  
Maritime Heritage Association, Inc.*

**C/o: 12 Cleopatra Drive,  
Coodanup,  
W.A. 6210.**



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The bow of Brian Lemon's model of the whalechaser *Wadjemup* showing the harpoon gun. This model is in Whaleworld at Albany.  
See article page18.



The Maritime Heritage Association Journal is the official newsletter of the Maritime Heritage Association of Western Australia, Incorporated.

All of the Association's incoming journals, newsletters, etc. are now archived at *Wooden Boat Works*, Slip Street, Fremantle Harbour, and are available to members on loan. Please note that to access the videos, journals, library books, etc it is necessary to phone ahead on 9335 9477.

(If you have an unwanted collection of magazines of a maritime nature, then perhaps its time to let others enjoy reading it. Contact the Association; we may be interested in archiving the collection.)

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## EDITORIAL

At the America's Cup Jubilee held last year at Cowes, Isle of Wight in the UK, *Australia II* was one of the main attractions. It is to the credit of the Western Australian Maritime Museum in Fremantle that they allowed this valuable yacht to not only be taken thousands of miles away but to also take part in the sailing and racing during that festival. A representative of the museum, Sally May, accompanied the yacht. Members will know Sally, she was one of the original editors of this journal when the MHA was first formed.

As mentioned in the June journal I am now Treasurer. On behalf of all the members of the Maritime Heritage Association I would like to thank the retired Treasurer, Bob Johnson, for a job extremely well done over many years. Thank you,

Bob.

Recently Bill Leonard demonstrated a couple of methods of taking lines off small craft. These demonstrations were held at the Maritime Museum's boat storage and conservation building in O'Connor and attracted a good crowd. The talks were very interesting and Bill has kindly let the MHA publish the notes for one of these methods. (see article page 7) The evening included a light supper, courtesy of Bill and various others.

The illustration to Rod's article on the "collapsible" ferry is from an old newspaper and not very good, but I thought it worth putting in as a matter of considerable interest.

### Some advertisements from *The Yachting World* magazine 2 September 1899.

**400**-ton (about) AUXILIARY, classed boat; steams 10 knots under steam, and under steam and sail 14; saloon, deckhouse, and seven staterooms; machinery worth price asked; a first-class sea boat. £3,500 or offer.

**300**-ton (about) modern Steel STEAM YACHT, cut water stem; ample accommodation; entirely redecored and refurnished; speed 12 knots; too small for present owner. - Price £6,500, prompt sale.



# Presidential Tidings

*Tidings: from the Old English Tidung meaning news and information. (Ed.)*

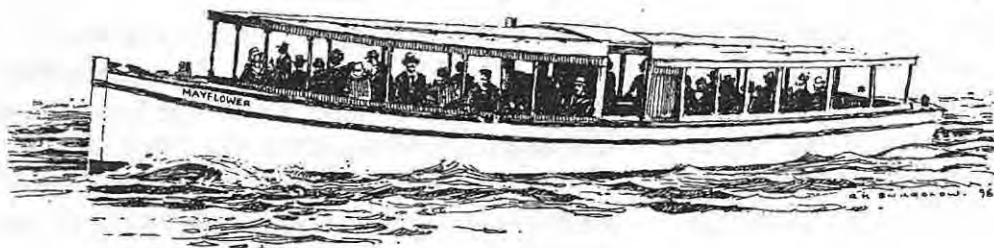
Sorry there was no message in the last issue of our magazine, it was all due to the pressure of having flown to Nagasaki to rejoin my ship in the Mitsubishi Heavy Industries drydock and the amount of work we have to get through in this brief repair period.

Unfortunately I wasn't home in time for the presentation done by Bill Leonard on taking off the lines of vessels, large and small, but I've been informed that it was really successful, so successful in fact that another evening has been arranged for later in August. This time I will definitely be a participant.

This program of taking the lines off historic vessels is essential to our maritime history because

even if the vessel, or model, is destroyed we still have a record of her shape as built and this means that in the future shipwrights would be able to recreate vessels that have meaning to the maritime history of Western Australia. There are a number of worthy vessels still in yacht clubs and on moorings around the Swan River and at the outlying ports and towns and it is intended, if possible, to gradually work our way around them taking off the lines.

At the last A.G.M of the Association Bob Johnson resigned from the position of treasurer and I would like to thank him for his efforts over the past ten years. Peter Worsley has accepted the position of Treasurer and I thank him also.



*The motor launch  
Mayflower  
built in 1908 by McCarter and Dorward and first used on the South Perth Ferry Service in 1911*

Drawing by Ross Shardlow

## WESTRALIA

**Rod has a query concerning the early ferries on the Swan River. Can any reader help in this matter?**

**S**On the MORNING HERALD, Monday October 23rd 1905 appeared the story of the launch of the hull of the new ferry *WESTRALIA*, the first steel vessel to be built in Western Australia. According to the article the hull was launched from the beach facing Bazaar Terrace, in the immediate neighbourhood of Mill Street. The builders were Messrs G. & C. Hoskins, Ltd; Mr Allen was the architect. After the launch, at six in the morning, the hull was towed to the wharf of the Swan River Shipping Co. to have the engines fitted. She was then towed to Fremantle to have the boilers installed. The hull was painted green with a yellow riband and a white water line. She was expected to enter service in December 1905.

The problem here is that she was to replace the aging ferry *MANX FAIRY* and the article makes it clear that the hull is different to her predecessors but the vessel's registration certificate states that the *WESTRALIA* is the rebuilt *MANX FAIRY*. In fact it states, "Previously the *MANX FAIRY* and rebuilt at Perth by Hoskins & Co., assisted by Alf Tilley during 1905."

The *MANX FAIRY* was built by Thomas Louth at Rutherglen, Lanarkshire in 1887, and her certificate of registration states that, "because of competition from the other ferries was made redundant. This vessel was broken up during April 1906, according to a letter from the owners." So, which is the correct story, was she a new vessel or a rebuild?

# The Ditty Bag

An occasional collection of nautical trivia to inform,  
astound, amuse and inspire.

(The inspiration could take the form of contributions to this page!)



The first Australian-built engine installed in an Australian-built ship was that made by William Bourke of Sydney in the paddle steamer *Maitland* built by John Russel of Pyrmont in 1837.

Further to the item in the Ditty Bag for December 2000 on the whaleboat *Elizabeth* which circumnavigated Tasmania. Besides the skipper, James Kelly, the other four crew were John Griffiths, George Briggs, William Jones and Thomas Toombs. The journey took from 12 December 1815 to 30 January 1816. Christmas dinner consisted of black swans cooked in a large iron pot.

The first ocean going vessel to be fitted with a diesel engine was the *Vulcanus* in 1910. The first Australian diesel engined vessel was the MV *Kangaroo* built 1915. An earlier vessel, the *Excella* launched in Hobart in 1912 was fitted with a 80 hp, 2 cylinder Bolinder hot bub (semi diesel) engine.

**Nettles or Knittles.** The small lines which attach the canvas part of a hammock to the ring on the lanyard.

The 90 ton, two masted topsail schooner *Pet*, built by Robert Wrightson in Fremantle in 1876 was struck by a whale which deliberately rammed the vessel about 50 miles from Hamelin Bay on 1 March 1882. The schooner sank almost immediately taking the Master with her. The other six members of the crew survived. The *Pet* was 85.58 feet in length.

Jon Penn, builder of the horizontal trunk engines found in both the Western Australian wreck *Xantho* and the restored *HMS Warrior* in the UK, made his first engine in 1825. It was fitted to the paddle steamer *Ipswich* which ran a ferry service from London to Norwich.

I have read that the first vessel to steam in Australia

lian waters was the ferry *Surprise* launched in Sydney in 1831. Does anyone know whether this is correct?

**Bollocks.** Blocks secured to the middle of the top-sail yards in large ships; the topsail ties pass through them, and thereby gain an increase of power in lifting the yards.

In 1866 the barque *Hastings* loaded wool at Champion Bay, taking on over 500 bales before scudding back to Fremantle in the remarkable time of 24 hours from port to port.

*HM Sloop Diver* was the first steam driven vessel to arrive in Western Australia. She appeared over the horizon in December 1845. The lookout man in Fremantle gave the alarm that a ship was on fire, and the port's primitive fire fighting equipment was hastily assembled to give whatever aid they could.

**Grog.** A mixture of rum and water. Until 1970 a daily issue of grog was made to ratings in the Royal Navy, a practice instituted by Admiral Vernon in 1740.

On 11 May 1623 the Dutch ship *Arnhem* under the command of Jan Carstensz anchored near the Carpentaria River on the west coast of Cape York. There was a fight between the Dutch and the Aborigines of that area and one Aboriginal was killed. Carstensz on examining the body found that it appeared the Aboriginal had been shot before. Carstensz concluded that he must have been shot in the fight with the crew of the *Duyfken* in 1606.

Joan Pieter Purry, an official of the VOC, proposed the establishment of a settlement near Cape Leeuwin to act as a supply and refitting port between Capetown and Batavia. This proposal made around 1627-28 was not acted upon by the VOC.



## What Vessel Is This?

Rod Dickson found this very interesting item in the *Morning Herald* of Saturday, 11 November 1905. Any ideas and/or information?

### THE RIVER TRAFFIC NOVEL TYPE OF STEAMER BUILT ON THE COLLAPSIBLE PRINCIPLE

A new steamer building at Blackwall, New South Wales, for the McIlwraith, McEacharn, and Co. Proprietary Ltd., and intended for passenger service on the Swan River, between Perth and Fremantle, and thence across the bay to Rottnest presents some novel features.

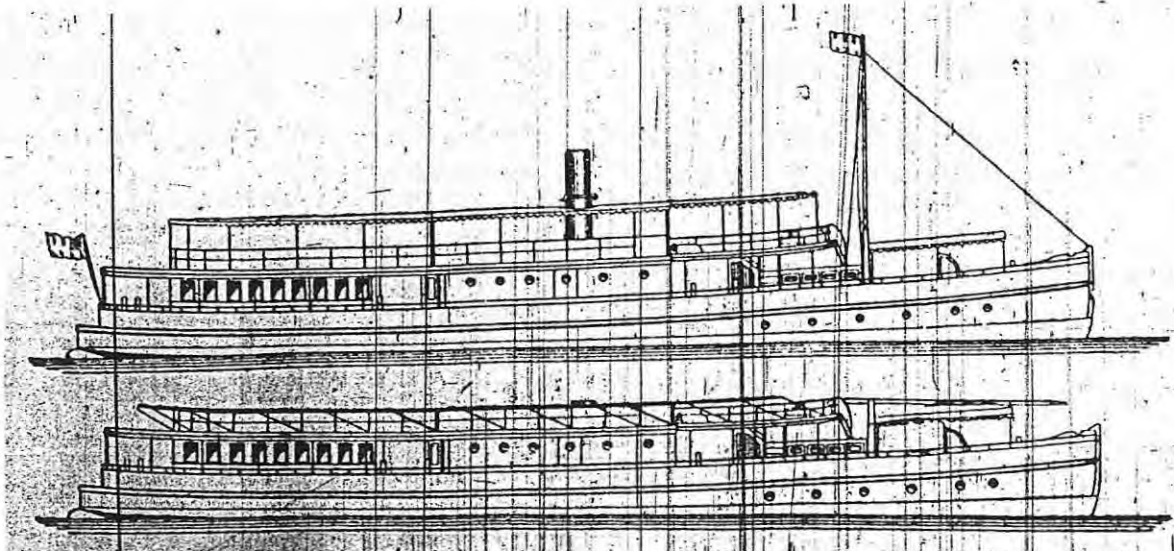
The Swan River, as everyone knows, is tortuous, in places shallow and is crossed by three bridges, one of which is only 15 feet above high water. To negotiate these bridges it is necessary to lower the mast, funnel and awning of a steamer to less than the height mentioned. The mast is therefore, fitted in a tabernacle, and drops by tackles on a crutch forward; the funnel telescopes in two lifts, operated by two specially designed crab winches; and the awning, which is of canvas on a pipe frame, hinged at every stanchion; is lowered aft and raised by two men by means of another winch, also specially adapted for the purpose. There is not enough height for an ordinary steering wheel, so the vessel will be steered by one set horizontally, on the principle of the motor car.

Our illustrations will convey a clear idea of the new design. One shows the vessel in her normal condi-

tion, and the other when she is "shut up," ready to shoot the bridge.

Other important features are that to meet the service she must run a timetable of 12 knots speed, and not exceed 6 ft. draught of water, with a full load of 600 passengers, coal, water, and stores on board. To accomplish this she will be a twin-screw vessel, with triple-expansion engines, each indicating 250 horse-power, taking steam from one large return tube boiler, fitted with Howden's forced draught.

The steamer is 130 ft. overall, 25 ft. 4 in. in width and 8 ft. 3 in. in depth; and while as flat as the proverbial pancake amidships, with a view to light draught, forward she will be as fine as the crack turbine steamer Loongana, and aft she will be fine and clean, terminating in a graceful moulded tuck. Forward there is a large dining saloon, a bar, and a pantry below decks. Wing-houses, containing galley, stores, and lavatory appointments, with a large deck saloon and a ladies' boudoir, are fitted on the deck aft. The steamer is from plans and specifications prepared by Mr. Walter Reeks, naval architect and engineer, of Sydney. The hull is being built by Mr. Rock Davis of Blackwall. The fittings will be by Messrs. Morrison and Sinclair, of Balmain; the machinery by Messrs. Wildridge and Sinclair, and the electric lighting by Messrs. Warburton and Franki. Messrs. McIlwraith, McEacharn, and Co. expect to have the boat at work on the river in April next.





## Yarns

Here are another couple of stories from Chris Buhagier's mate Syd Davies.

### Hold on to your cap.

The time is early 1944 and the *Fort Camosun* has arrived at Cape Henry pilot station at the seaward end of Chesapeake Bay and bound for Baltimore. The voyage from Middleborough was interesting in so far as she was light-ship and carried only some ballast of colliery slag waste. This was loaded partly in the lower holds, partly in the 'tween decks and with some piled on deck against the accommodation. Two thirds of the way over in convoy the crew proceeded to shovel the deck portion over the side to save time at Baltimore. Because we had an Indian crew we also had on board six sheep that were allowed to wander at will about the deck. The poor things would be slaughtered ritually at Ramadan.

We had a foggy crossing with oily seas and it was incongruous to be wallowing along peering ahead at the waterspout created by the ship ahead trailing a device astern so that the following ship could keep station. Occasionally the wheezing steam whistle was sounded, the sheep would be "baa-ing" and the invisible ships in the convoy would add to this unusual nautical symphony. Having parted company with the convoy the *Fort Camosun* awaited the arrival of the pilot. He was rowed over in a six-oared cutter manned by beefy young apprentice pilots and he reclined in the sternsheets - a large corpulent man smoking a large cigar and sporting a base-ball hat with a large peak. He clambered aboard and climbed to the bridge where the Captain greeted him. Bearing in mind that the hundreds of Liberty ships around at the time could do 11 knots and the Victory ships even more the *Fort Camosun* was pretty slow at about 8½ knots.

After some small talk the pilot asked, "What speed will she do Cap'n?" and he replied animatedly

"She'll do 8½ knots, pilot, - and if I have a word with the Chief we might even get 9 knots". The Pilot grinned and putting both hands to his base-ball hat and reversing it sharply on his head and grabbing the dodger rail with both hands he said - "O.K. Cap'n, - Full Ahead and hang on to your cap."

### Crunch.

American pilots were more "gung-ho" than their British counterparts. They would proceed at higher speeds and manoeuvre a ship quite a bit faster. Whereas the British pilots would be giving orders for Dead Slow Ahead, Slow Astern, etc. the American pilots would be ordering Full Ahead and Full Astern. A shipmate told me that he was Third Mate on the bridge of a ship manoeuvring into a pier berth at Manhattan further up the Hudson River from the Cunard berth. Approaching the berth at a fair old speed and when nearly on the berth the pilot ordered "Full Astern". He said to the Captain, "She is steam reciprocating, isn't she Cap'n?" with the emphasis on the "is". The Captain said "No pilot, she's steam turbine". "Oh my God," said the pilot holding his hands to his head. In the meantime the engines were Full Astern but as most seafarers will know, turbine driven ships have only about a third of the power in reverse as they have going ahead because it involves a separate reversing turbine. The reciprocating engine on the other hand has as much astern power as ahead.

The outcome inevitably was that the ship carried on, slowing only a little until the stem met the stone end of the berth and the rending of metal and the shuddering of the masts and derricks indicated an expensive arrival.



# A Simple and Accurate method of Lifting the Lines off Small Craft

Recently Bill Leonard demonstrated a method of taking lines off small craft to members of the MHA. The demonstration was held at the Maritime Museum's boat storage and conservation facilities in O'Connor and was well attended. Bill has kindly allowed the publication of his notes on this method.

With the possibility of taking the lines off any vessel and being placed in the unique position of telling its story, it is appropriate that some time be spent in really looking at the vessel prior to any work being carried out.

The hogging of the keel sheerline, the replacement of planking, displaced knees, pulled chain plates etc. makes for a greater understanding of its history and a closer sympathy to the subject.

As suggested, this method of lifting the shape (lines) off a vessel is not only simple and accurate, but allows quick comparison of sides and also provides a permanent full scale record that can prove useful for future deliberations.

The basic method involves transferring the hull shape directly onto screeve boards by means of a simple screeving jig. This jig is a measure of appropriate heights of waterlines above a base which is the screeve board.

In reality, our screeve boards were made out of 4mm ply nailed onto an existing flat and level floor. The beauty of using such boards is that they can be used again and again (in different coloured pens) for future reference.

Having nailed down the boards it is a very good time to reassess the two most important factors in taking the lines off a boat: they are accuracy and patience. Having armed ourselves with these words, we then proceed to lay down the basic grid on the boards. These lines consist of a C/L, buttocks, say three at 200mm spacings and section spacing (see Fig.1). The number of sections used for most craft is ten. This might be considered a lot for say a five metre boat: (eg. spacing 0.5m). However, the more foundation lines used, the more accurate the shape and offsets. The actual method of placing the hull shape onto the screeve boards is so quick and positive it is well worth the extra work.

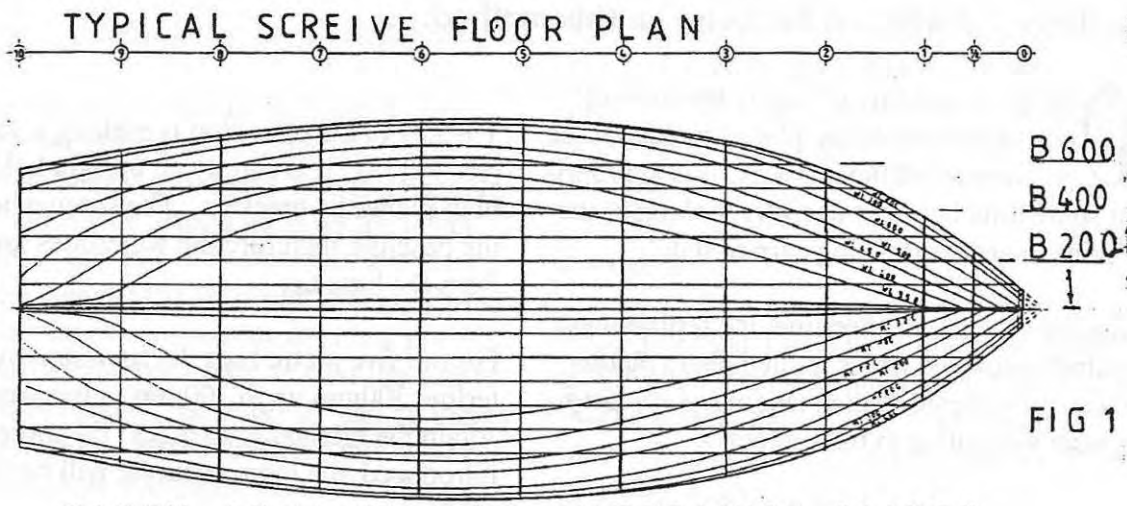
The key to the operation is making a screeve jig. (see Fig. 2). It is simply an upright held plumb in both planes by brackets. The screeve boards act as the baseline therefore the waterlines are marked from the base up.

For our five metre boat, let us assume we chose waterline 300mm up to 700mm in increments of 100. Again the method is so quick, the more waterlines introduced, the more accurate will be the shape and offsets.

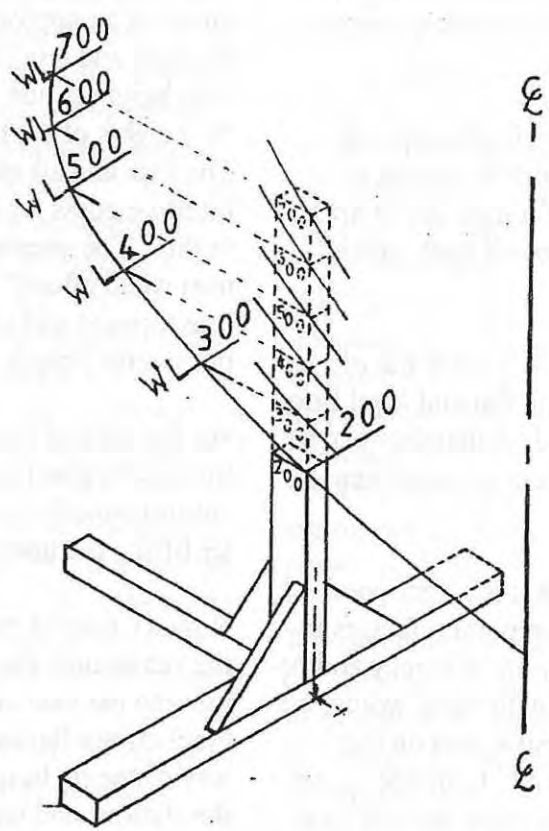
The vessel is laid upon the screeve boards and raised to an appropriate height, say 10 cm. above the base and level both fore, aft and athwartships. This height is just enough to reach under to obtain the heights of the buttocks in way of the stations. The fore and aft plane sometimes requires a certain intuitive guess, as there are often no obvious clues to this. The question to ask oneself is "how did she trim when afloat?" The terminations off the waterline forward and aft are level, therefore parallel to the screeve boards (baseline).

For the sake of our convenience, the height above the base is also the height of our vessel above her yet-to-be-made cradle, which we shall describe after lifting the lines.

Now it's time to place the shape and dimensions of the vessel onto the screeve boards. Place the screeve jig onto the side of the hull and making sure its brackets are flat on the floor, mark the width and way of the jig base and the height. This is done at the stations and terminations of the ends and one has established the height and width of the sheer. Now, if the first waterline useable is the 700mm waterline simply cut the top of the jig down to the 700mm. waterline and push the jig in until the top just touches the hull and mark the width and way of the stations and terminations of the ends. Proceeding down to 600mm WL, then 500mm WL, 400mm



DINGY REMOVED AND WATERLINES FAIRED



TYPICAL SCREIVE JIG



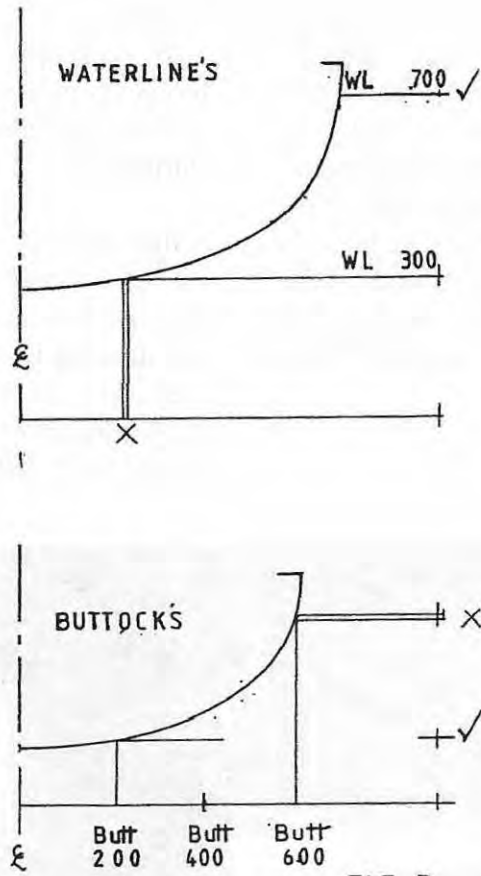


FIG 3

OFFSET SHEET

		STATIONS												
		0	1/2	1	2	3	4	5	6	7	8	9	10	
HEIGHTS ABOVE BASE	E	600	403	335	272	255	240	232	232	233	243	258	270	
	RABBIT	600	430	349	284	265	255	246	246	247	258	270	395	
	Butt A		550	438	330	290	270	260	261	371	303	358	432	
	Butt B		770	537	392	332	302	285	285	296	332	390	467	
	Butt C			678	468	376	327	308	301	315	351	420	500	
	Butt D				538	427	367	335	331	348	390	455	540	
	Butt E					670	495	421	379	370	386	440	518	610
	Butt F						600	487	430	429	452	513	610	
SHEAR		989	970	950	920	894	868	849	835	825	825	830	835	
HALF-BREADTHS	RABBIT		8	10	22	30	38	40	40	35	30	21	17	
	WL 350			18	135	258	360	433	460	415	295	80	17	
	WL 400			67	215	357	475	545	565	530	435	246	17	
	WL 450			29	120	295	445	558	628	632	600	525	390	130
	WL 500			62	170	358	602	610	668	640	658	590	480	318
	WL 600	0	126	247	450	597	695	740	748	723	670	590	490	
	WL 700	34	185	315	520	655	735	770	772	750	705	638	559	
	WL 800	55	215	350	550	685	760	790	787					
SHEAR	160	245	382	580	700	768	795	790	770	725	660	583		

FIG 4



WL and 300mm WL, until the position of each of these heights-cum-waterline widths are marked on the scribe boards.

The position and accuracy of the waterlines are proportional to a vessel's deadrise. (Fig. 3). It eventually becomes more accurate to use buttock heights, especially as you get closer to the C/L. These are simply measured vertically from the base in way of the station-buttock intersection on the grid and the termination off the buttock ends of the vessel. These measurements should be written on the scribe boards in way of these positions.

The vessel is then lifted off the scribe boards. A baton can be run round the waterlines if necessary, to see the shape of the vessel. It is always a help, as it lets one see the difference between one side and another. Then, of course, the half width of these waterlines are measured from the C/L and placed onto an offset sheet, marked port and starboard. (Fig. 4).

If there is no obvious structural damage to the vessel, the final offset could be obtained by adding the two dimensions of both sides and dividing by two. The beauty of this method is you can see the shape before directly measuring it and you can also refer back to it later.



*Bill Leonard demonstrating how to take the lines off a dinghy using the method described in this article.*



## August Tellefsen

This article by Rod MacKay tells of building his model of the *August Tellefsen*, a ship with a very interesting final resting place.

The seed was planted in 1985 after I had finished building the ship *Rockingham* and was looking for another likely subject. A friend said why not keep to this area and build the *August Tellefsen* as she was wrecked in Rockingham, or maybe the *James Mathews* wrecked at Woodmans Point. (As his family was connected with *James Mathews* I decided on the latter).

Many ships later I decided to see what I could find on *August Tellefsen*. I didn't get off to a good start as my first two choices for information didn't know what I was talking about. I should let Rockingham Museum have it for a while when finished, I'm sure it would create interest. Anyway back to the search; I soon found references and snippets from books, etc. and finally had a breakthrough after finding a neighbour who had a photo of her in the jetty. I then took what I had to Ross Shardlow who waved his magic photo copier and produced more information including plans I could work from. By this time my enthusiasm was at its peak so I decided to build her as she appeared in the photo, jetty and all. Ross tends to do this to me.

So here goes:-

The barque *August Tellefsen*, 697 tons, 43.7 metres long, 9.2 metres beam, 5.2 metres draft. Built Tvedestrand, Norway, in 1883 by F.A. Morland. A typical Scandinavian trading barque. Wrecked at Rockingham 27 January 1898. She was moored at Rockingham's No. 2 jetty to load timber. Moored fore and aft to the jetty with her port anchor out with about 480 feet of cable. A strong northerly wind blew up accompanied by an exceptionally high tide so the starboard anchor was let go. However later in the afternoon the bow line parted followed by the stern line. Dragging the anchor she drifted backwards until her stern touched bottom. She then swung side on to the shore and began bumping her way along the bottom taking her anchors with her until she finally hit No. 1 jetty and by 4 pm she had gone halfway through the jetty, taking with her the *Alice Maud* which was sheltering behind the spur on the end of the

jetty. *Alice Maud* a total loss. With her back broken and aground in just a few feet of water after the tide had returned to normal she presented quite a problem to the locals having put No. 1 jetty completely out of commission. They decided the best and quickest way to deal with it was to leave her there and extend the jetty through her sides linking up with the outer spur which was still standing. They did this and ran the railway line through as if nothing had happened. One report shows her as still there in 1906 but I haven't been able to confirm this.

Building the ship is reasonably straight forward being plank on frame. She doesn't show much damage in the photographs and most of her topmasts have been struck and removed making the number of ratlines to be tied minimal (I hate ratlines). The scale I chose is 1:96 to keep the overall size down a bit but it makes you feel in awe of the modellers who build miniatures. You spend hours fabricating something that looks great then when you go to fit it you realize that you were thinking 1:48 not 1:96 so you toss it out and start again and when you try to do it again you realize you wouldn't be able to see most of it anyway. Internal and external doors have therefore been left closed, or off altogether, hinges, etc. being quite impractical.

Because of the great gap for the trains to run through I've used rather heavy full length ceilings in the hold for extra strength. I have put in full bulkheads just forward of the foremast and halfway between the main and mizzen masts. The forward deckhouse is fitted out with a galley, tables and benches but as the doors are shut you can only see them through a couple of small windows with extreme difficulty. The aft deckhouse is recessed about 4 feet into the deck and has four 6 feet by 4 feet cabins, a couple of sette/bed spaces, a writing area with a desk and a communal area. The wheel box is fairly large as there is a toilet on each side (doors closed). I scoured the backyard for twigs suitable for pylons for the jetty and finally came



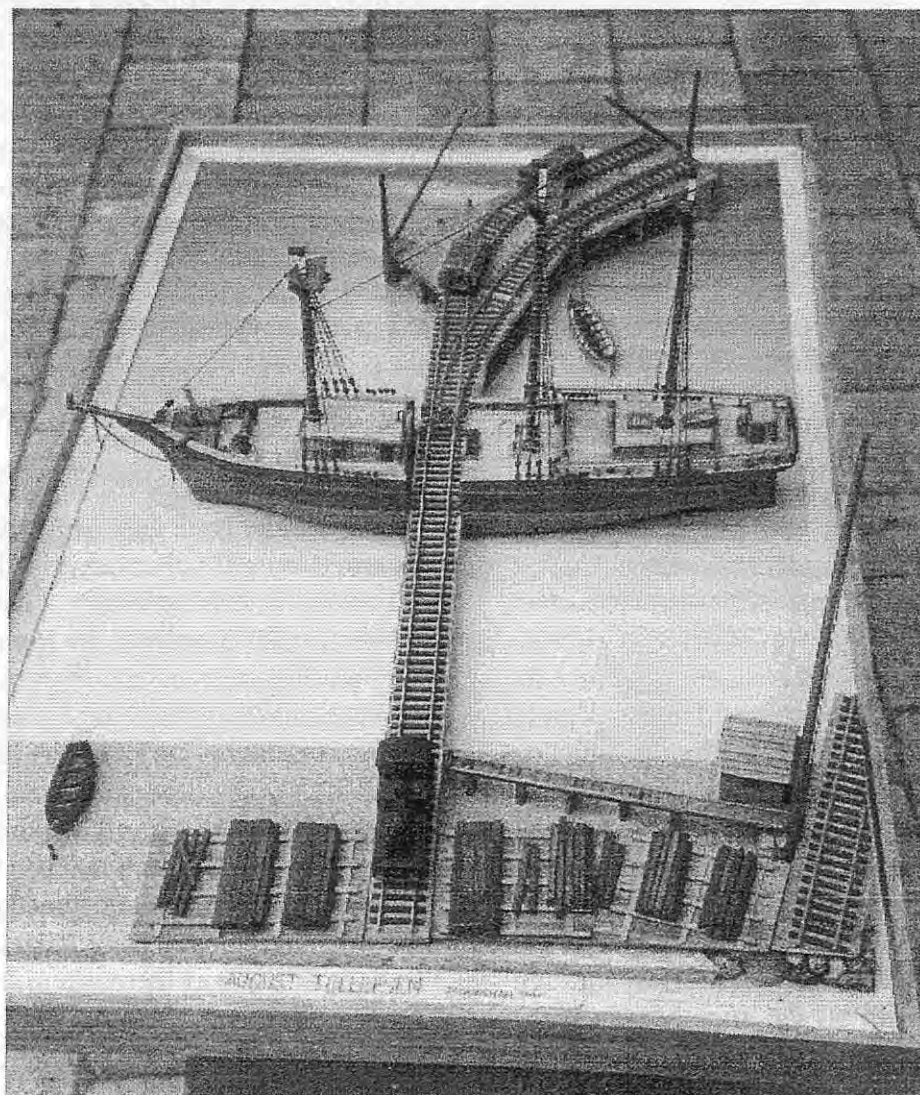
up with some pretty good ones from acacia. I cut these to length and drilled them to take bamboo dowels to attach them to the jetty and the base. Next came measuring the hull shape and cutting it from the base to sit the model in. I had big trouble bending the railway line to the curve I wanted and could picture even bigger trouble if I took the sleepers off and tried to fit it direct as it should be. So I cut the shape of the jetty from 3/16" plywood and attached the line to it then did some artificial planking where it was obvious. At a glance you wouldn't pick it up, it also gave my pylons a better grip. I then put a couple of flat top rail trucks loaded with timber out on the spur along with a derrick at each end.

The railway then ran back through the ship to the start of the timber holding platforms where some stockpiles of timber lay waiting for loading. The old steam engine "Samson 2" can be seen between the timber. There is a raised catwalk from jetty 1 to the tally clerk's office on jetty 2. In the office is a desk, chair and bookshelf with files. The flag-

pole outside is quite long, probably for signalling. But no photos show anything flying so I have left it bare. No. 2 jetty runs off at a steep angle so I have only put in a small section as a token. The sand on the shore is from our local beach and looks quite good even though the scale is wrong. The groyne under No. 2 jetty I made by crushing small bits of the local Rockingham limestone.

The sea believe it or not was my biggest nightmare, trying to make it look authentic. The photos of the wreck show the sea like a millpond so no waves to worry about. I have some aerial photos of the area that give me colour but trying to match it and make it look real was another sorry. After many variously painted boards and computer copies of the sea I eventually threw my hands in the air in disgust and admitted defeat. The least said the better.

I think my next effort will be something more predictable.





## The Bluff Point Leading Lights

**This article by Captain D. Peter Piggford, Master Mariner, Lt. Cdr. RANR (Rtd), Marine Surveyor and Consultant was originally for the Geraldton Historical Society. Peter Piggford has kindly allowed it to be published in this journal.**

I have been asked by your Society to add some personal insight to the history of the seamarks and lights which are situated adjacent to this meeting place. As historians you will all be aware of the story of the lighthouse keeper's cottage next door, as you have in fact produced a very informative booklet on the subject which I could not better, but during the last 46 years there have been changes, in some of which I have been personally involved.

As far as I know the reasons for and the extent of these alterations have not been recorded.

Firstly I feel that it is necessary to look at the general subject of lighthouses and seamarks, why they are necessary and how they have evolved historically. The first mention of a lighthouse was in the 7th century BC by a Greek poet who said that a fire was lit at night at the entrance to the Dardanelles as a guide to shipping, and subsequently fires were kept burning along the Greek coast for this purpose. The most famous structure however was the Pharos built by one Sostratus at the entrance of Alexandria harbour during the reign of Ptolemy II (285-246 BC). This was quoted as one of the seven wonders of the world, the tower of white marble was 183 metres high, and at the top a fire was kept burning during the hours of darkness. It stood for many hundreds of years before being destroyed by an earthquake in the 14th. century AD.

In Australia like many other aspects of life here, the history of lighthouses and seamarks starts in Britain. Prior to the Tudors, coast lighting was provided as a matter of Christian Charity, conveniently located church towers often being used. Some lights were built by entrepreneurs who were allowed to collect tolls from passing shipping, a forerunner of present day light dues. As far back as the early 13th. Century Stephen Langton, Archbishop of Canterbury established the 'Trinity Guild' an objective of which was, inter alia, to "build and light proper beacons for the guidance of Mariners". Henry VIII granted a Royal Charter to the Guild

which then became the Corporation of Trinity House, empowered "To erect seamarks at its own expense"

There are three main categories of lighthouses, landfall lights, coastal lights and harbour lights. In WA we have about 15 of the first, a similar number of the second, and over 800 of the third. In Geraldton. Point Moore is a landfall light with 320 000 candlepower and a visible range of 23 nautical miles being 34 metres above the Mean HW Mark.

The Bluff Point Leads on the other hand are coastal lights only which mark the line of a safe channel through the reefs north of Point Moore (A leading line is delineated by two lights in line leading clear of dangerous waters). These lights are of limited power and visible from 8 miles only. In this case they only have to be viewed from a distance of less than five miles offshore to negotiate a safe passage through the reefs.

Within the Port Limits of Geraldton there are an additional 16 harbour light to assist navigation.

In Australia, landfall lights, offshore buoys and coastal lights outside port limits are the responsibility of the Commonwealth Lighthouse Service, lights within port limits and harbour lights are administered and maintained by local port authorities or the State Department of Transport as appropriate. To defray the cost of these services, the Commonwealth raises light dues which are levied on all ships calling at Australian ports. These monies are collected by the Customs and Excise Department, while the State is remunerated by the collection of harbour dues from ships berthing at their ports.

The historical importance of the Bluff Point Leads are that they were the first permanent lights built in Champion Bay as aids to shipping.

The initial reason for the establishment of a port at Geraldton was that early shipments of minerals from the Northampton area had been directed



through Port Gregory, but this was found to be an unsafe port, difficult of access and insufficiently protected from the prevailing southerlies. There were many casualties and it was found safer and more economical to ship through Champion Bay at Geraldton, where there was some protection in the lee of Point Moore. Some casualties still occurred in Champion Bay, but not on anything like the scale experienced at Port Gregory

The townsite of Geraldton was gazetted in 1840, though settlement did not start until 10 years later in 1850. The only regular connection with the Administrative centre in Perth was by sailing ship, there were no road, rail nor normal services as we understand them today, therefore aids to safe navigation were of paramount importance

The State Government in Western Australia was keen to expand northwards from Fremantle and had obtained the services of Royal Naval hydrographers to chart the north and west coasts in detail. In early 1874 Lieutenant Archdeacon RN was asked to re-examine Champion Bay and determine the safest line of approach. Prior to this a start had been made on building a stone lighthouse on Flagstaff hill near the foot of Gregory St.

Archdeacon was newly arrived in Australia and on visiting Geraldton advised that the site was unsuitable and recommended that a landfall light be put on the extremity of Point Moore so that ships arriving from the south have an unobstructed view of the light and which would also give them an indication of when to turn onto the leading line.

This line should have two light towers which when kept in transit would indicate a safe route past the reefs north of Point Moore. Prior to the construction of the Bluff Point lights the safe approach into Champion Bay was found by lining up the southern end of Mount Fairfax with the northern end of what was called "Scrub Range", the coastal limestone ridge, As early as 1862 a pole and barrel beacon was erected on Scrub Range but this lead was not visible after dark.

In 1874 tenders were called for both the Point Moore lighthouse which now to be sited on the low lying point would have to be a much taller structure than the stone tower under construction

on Flagstaff Hill. A separate tender was called for the Bluff Point towers. The Point Moore tender was let to Chance Bros, a British company specialising in lighthouse and lanterns; the Bluff Point contract was let to a local contractor, Jesse Hammond, although the lanterns were again to be provided by Chance Bros. As the Pt. Moore tower was to be prefabricated in the UK and sent out by sailing ship and the Bluff Point towers built from local stone, the latter contract was obviously going to be completed first; as indeed was the case.

The stone for Bluff Point came from the White Peak quarry, and the site was levelled by convict labour and the building went ahead so that it was all completed by 1876 when the two lights were lit for the first time, showing a red fixed light from each tower. Point Moore on the other hand suffered further delays when the locally prepared base was found to be in the wrong position. The original estimate for the base was five thousand pounds but after fourteen thousand had been spent, it was necessary to move 200 yards south. It is not clear whether the move was due to survey error or that the ground conditions were found to be unsuitable. The tower was eventually erected on a wooden base but in later years this was replaced by concrete.

Back at Bluff Point there were more problems. Complaints from shipmasters that the lights were unreliable and very hard to see. The lighthouse keeper Kelly had his own troubles having to keep two lights burning and trimmed from dusk to dawn when they were situated in towers over three hundred yards apart. The front lead light particularly had a propensity to flare up dangerously and cause a fire hazard. The powers in Fremantle gave Kelly the sack in 1877, but on his first night the relief, Joseph Wright, had a fire in the front tower, and complaints about the lights continued.

When the Pt. Moore light was being installed, a lighting engineer from Chance Bros inspected the Bluff Pt. Lanterns and said that the grade of kerosene being used was wrong and this was causing the flare ups, also that the front light tower was very close to the water's edge and as the structure was not weather-tight. The lanterns were being affected by spray and the damp atmosphere, also



this was causing misting on the inside of the glass which was further reducing the visibility of the light

In 1882 Lieutenant Coughlin a hydrographic surveyor advised that it would be beneficial to remove the red filters from the lanterns and just show fixed white lights, also that the lights should be given new lenses and parabolic reflectors. At the same time the tower was made weather-tight. A strange condition of these kerosene lights was that in one year they were reported to have used more fuel than all the other lights in the State together.

In 1943 the Bluff Point leads were converted to automatic electric which made the lighthouse keepers redundant

On the 24th April 1952 the Bluff Point front tower was badly damaged by fire, the cause of this was never established. This event brought about my personal participation in the saga of these leads. I had only migrated to Western Australia towards the end of 1951 as a refugee from the Mossadeq takeover of the BP oil refinery at Abadan in Iran. I was a Master Mariner and Surveyor but my early months in WA were anxious ones as I went around seeking employment which seemed to be unavailable until I was finally appointed Hydrographer in the Harbours & Rivers Branch of the PWDWA. This Department had built Geraldton harbour just before WWII. The Engineer for Harbours & Rivers was Norman Henry who had been the assistant Resident Engineer for the project here. My office was in the Old Barracks in Perth, and one morning I was called into Norm Henry's room which overlooked the full length of St. George's Terrace. On a side table was spread out the current chart of Geraldton. "Got a job for you Peter, I want you to go up to Geraldton and look into the leading line there. Somehow the front lead tower has been burned out, but before we go about repairing it I want you to resurvey the line and adjacent waters. The Harbourmaster is Capt Cyril Sweet and he maintains that the existing line is too close to a dangerous reef north of Point Moore here" He indicated the problem on the chart. "Go down to Fremantle Harbour Works and load up all the necessary survey gear

into the 1 ton Dodge utility, leave for Geraldton as soon as you can and sort it out. I will send up a couple of Engineers with you, and you will have to hire some local craft from which to do the sounding, Capt Sweet may be able to help you with this. Good Luck!"

So it was that early one morning on Anzac Day 1952, two engineers, Peter Turpin, Avery Haines and myself set out for Geraldton in the big utility carrying a ton of buoys, flags, chain, calibrated wires, anchors, shackles, sextants, theodolite level, staffs, ropes, fathometer, radios, half a dozen truck batteries, field books and etc. Arriving that evening we rented one of the old Westend Chalets as a base.

Through the good offices of the Harbourmaster we hired an old pearling lugger from a Greek fisherman. The terms of the charter were unusual, we were to pay hire only while we had any equipment on board. The owner stood by watch in hand as we lugged the ton of gear on board and fitted up the sounder, carefully noting the time to the minute.

As time was of the essence, at the end of the day everything had to be off loaded, and the next day put back on board. The survey took three weeks as we were often unable to work afloat because of the strong southerly weather which made it too rough to obtain accurate soundings offshore so when the sea breeze came in we would have to return to harbour and dismantle it all.

With the results of the survey we were able to say that the Leading Light should be rotated slightly clockwise about the square tower to give more clearance from the reef north of Point Moore. So we then had to set out the new line on the ground at Bluff Point and peg the position of the proposed new front light. We advised Perth of our findings and asked for instructions as to building a new tower. We were informed that a tower was being sent, which duly arrived as a few bundles of angle iron some bracing rod and a bag of nuts and bolts dumped on the site by the local carrier.

It was a broken down 60 foot windmill tower. Who was going to build it? Silly question, we



were of course. Back in those days as a surveyor I often had to drive piles, erect marks and beacons and clear survey lines. Don't just stand there!

The topmark was an eight foot white painted heavy wooden jarrah triangle which had to be hoisted up and bolted on to the top of the tower point up then the electric range lamp wired up and aligned.

In case there should be any confusion with the remains of the old limestone octagonal tower then still standing, the ruin was cast down, the stones of which now form the seat of the lookout of the memorial built for the Bicentenary by the Society in 1988. Also in that year, 36 years after the erection of the windmill tower, it was replaced by a new steel monotube column a short distance to the north.

But this was not the end of the saga. After a few months of use the Harbourmaster and the Captains of pilot exempt ships such as the State Ships and the Blue Funnel Line's Charon and Gorgon which visited the port regularly in those days, complained that:

- (a) The leads were very difficult to see in the early morning when the sun was behind them and the face of the towers were in shadow.
- (b) The leads were too insensitive (i.e. The base line distance of the two lights was too short, and that at the outer end of the channel it was possible to get dangerously off line before it was apparent to the mariner.

Well neither of these considerations were new, perhaps the windmill tower was not as conspicuous as the old octagonal white painted stone tower it replaced, but the distance separating them was the same, and the sun still rose behind the leads as it had always done. Nevertheless something had to be done. The Admiralty recommends that the baseline distance of any leading line should not be less than an eighth to a sixth of the critical range from which it has to be viewed. The critical distance here was 3.5 nautical miles or about 7000 yards, in other words the base distance in this case should be approximately between 900-1200 yards, whereas it was

only just over 300 yards in fact. Due to the local topography it was not practicable to lengthen the baseline on land as the square tower sits atop a coastal limestone ridge with the ground falling away to the lower sandplain beyond.

The only economic solution therefore was to place the front beacon on the alignment but half a mile offshore. A new 4 legged beacon made of 45 lb. railway iron was built on shore and transported out to its site by barge and lowered into position, after which 4 one ton concrete blocks were placed on its feet for stability as it sits on the flat capstone bottom.

This beacon itself became an instant heritage item because of the materials used in its construction. Geraldton in the fifties was the only port owned and operated by the WAGR. During the building of the breakwaters the stone was brought by rail from the quarries at White Peak where a spur from the Northampton line had been laid. When the harbour was complete the spur line was lifted and the rails stacked in Geraldton near the harbour, and I was told that this was the railway iron that had been used in the fabrication of the new beacon

The problem of early morning visibility was fixed by placing panels of frosted glass on the beacons, through which the sun could shine and cause iridescence, these glass panels became popular targets for local youths equipped with gings and air rifles and had to be replaced by plastic sheets which were not so susceptible to vandalism.

At first after the construction of the extra front sea beacon, there were 3 lights on the line. The square tower, the windmill tower and the sea beacon. This could be confusing to some so some years later the middle light was replaced by a new tower as mentioned and became the rear lead showing a fixed Blue light seawards. The sea beacon shows a white isophase that is 3 secs on and 3 off. When these are kept in line they lead a ship into the centre of a new dredged channel as far as Nos. 1 and 2 buoys before negotiating the cut which leads south to the harbour entrance between the breakwaters.

The old square tower on the lighthouse keepers





cottage then was no longer on the original leading line and became redundant and trees allowed to grow in what had been a cleared line between the old square tower and the windmill tower which we had erected in 1952.. This old line is no longer evident and there is no view to seaward from the square tower which is a pity.

There is a deal of uninformed comment which asks that since the advent of the Satellite Global Positioning system anyone can establish their position and track with a high degree of accuracy anywhere in the world and at low cost, why are nav aids such as leading lights still necessary? It is one thing to navigate a large vessel from point to point but it is something altogether different to

take a big ship hundreds of feet long down a narrow channel with a hundred and ten degree bend at the inner end of it without visual reference to physical limit marks.

Electronic aids such as GPS are only aids, subject to unpredictable errors and electronic glitches, not to mention power failures. It would of course be theoretically and technically possible today to build a hands off facility which would do all this automatically like an aircraft blind landing system. but we are some distance from this at the moment. The stakes are too high and the penalties for failure too great, the cost of the equipment too high, and that no ships are yet thus equipped means that the Bluff Point Leads will guide shipping into Geraldton for years to come.

**Rod Dickson came across these snippets of information during his research.**

Occasionally when researching in the State Records Office on the ground floor of the Alexander Library building, (where I seem to spend half my life), I chance upon something that tickles my fancy. It generally has nothing to do with the subject that I am presently studying which makes it even more appealing. The latest gem arose from the Broome Courthouse Records of 1915.

**1915; Case 306.**

**Frances Ahmat,**

You, at Broome on the 27th October 1915 unlawfully attempted to strike Tanaka Yasaburo with a projectile, namely a revolver bullet, by discharging a loaded revolver at him. Committed to the Quarter Sessions. Bail, £100 and 2 sureties, £50 each.

The case came up during the December sittings and I was intrigued to find the outcome so requested the Evidence Books for that period. In fact Frances Ahmat was drunk on the night that he fired three shots from the revolver and swore to all and sundry that he was going to kill Tanaka. All the witnesses agreed. He was drunk, the shots were fired and the threats were made, but he was acquitted of the charges and freed to do it all again!!!

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Tonnage. (Royal Naval Vessels).

Originally the size of a vessel was quoted as "Builder's Measurement", or bm.; based on the number of tuns or casks of wine that could be fitted into the hull. This was also known as the burthen or tons burthen and was used for calculations of import duty and harbour dues.

Tons burthen can be calculated thus: -

$$\frac{(L - \frac{3}{5} B) \times B \times \frac{1}{2} B}{94} = \text{bm}$$

where L is the length.  
where B is the maximum beam.

L is equal to the length along the rabbet of the keel, (where the lower planks of the bottom terminate) from the fore side of the stem beneath the bowsprit to the aft side of the stem post.

In 1880 tons burthen was replaced by displacement tonnage.



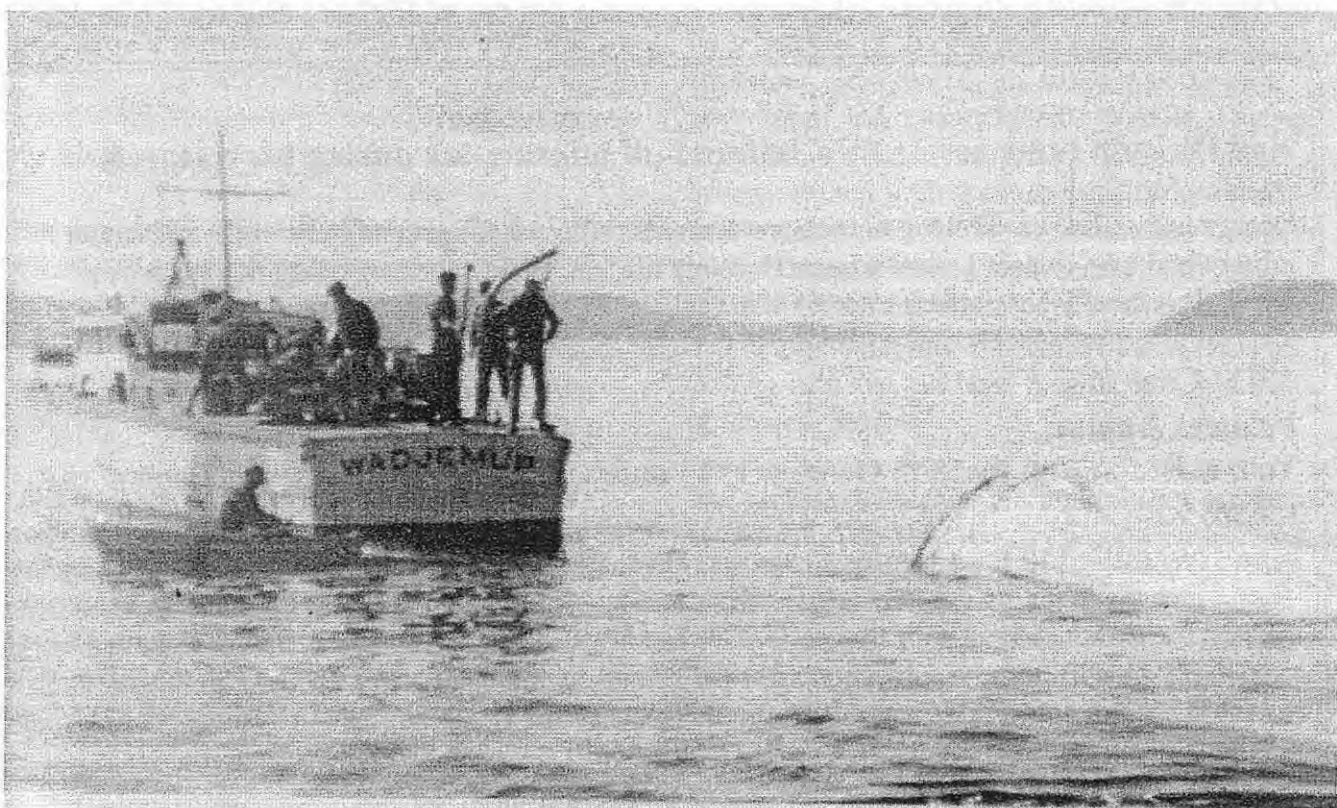
## The *Wadjemup* Story

This article by Brian Lemon along with a photograph of his model, now at Whaleworld in Albany, will hopefully bring a few responses from readers. Who in the Eastern States built the vessel?

The *Wadjemup* was one of two 55ft target towing launches, built for the army by an Eastern States ship building company in 1940. Built of maple wood on the famous hard chine Thornycroft concept it was a very fast and sea worthy type of vessel. During the war years it was seen frequently off the Leighton beach area towing targets for the shore battery practice guns around the Leighton Swanbourne coast. The

*Wadjemup* turned up down at Albany. In 1947, having been altered appropriately it was used for whalechasing by the Australian Whaling Company. It is rumoured that it was towed unceremoniously around Albany harbour for several hours by a harpooned whale.

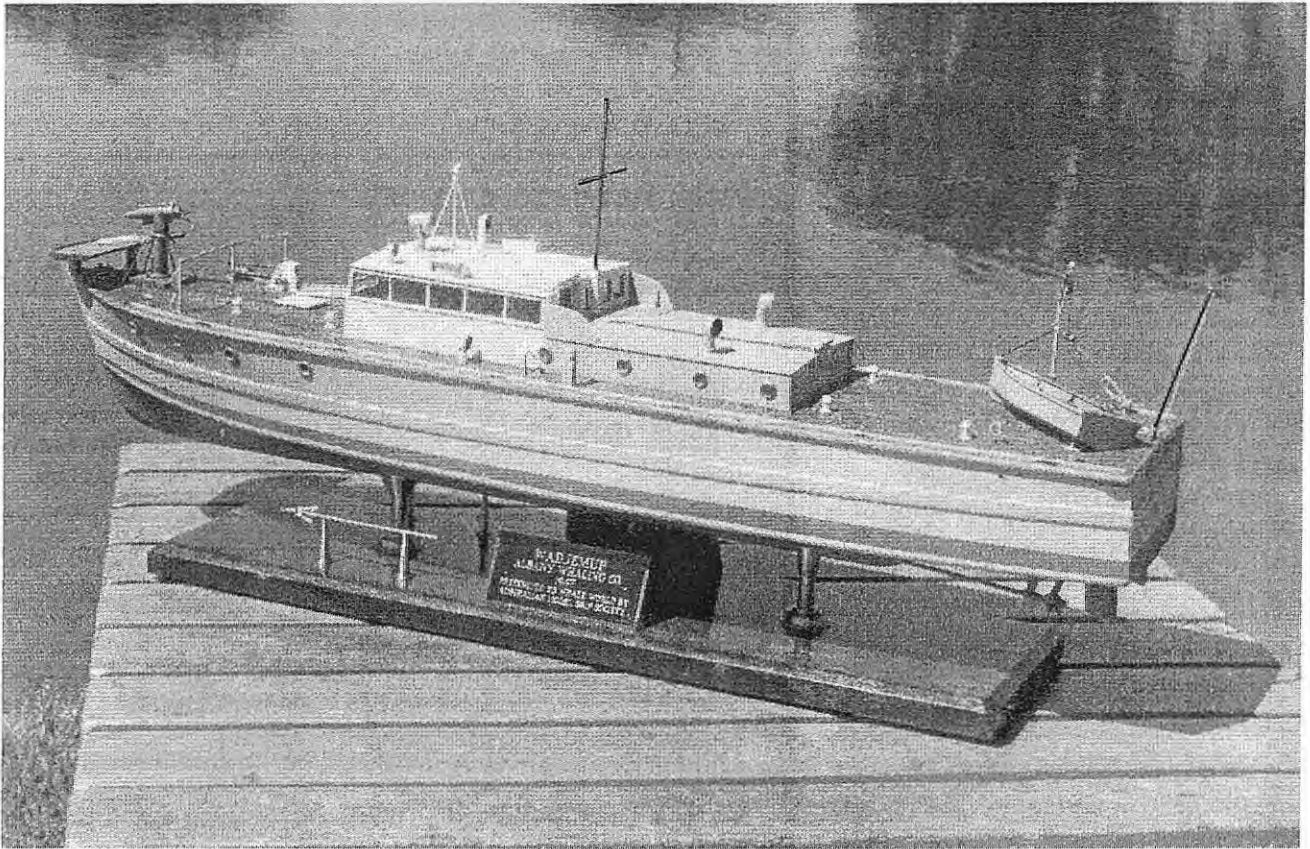
This company was short lived and the *Wadjemup* was then purchased by the proprietor of the



method of hull construction was unusual in two areas. Firstly it was built of maple for lightness, and secondly the outside skin was horizontal planking with the inside planking vertical. Both were separated a waxed linen sheeting and fastened by copper nails. Figure 1. The power units for *Wadjemup* were twin Thornycroft petrol motors, each developing 650h.p. at 1,500 R.P.M. These were later changed to diesels in peace time. The speed of this vessel was somewhat in excess of 50 knots. It is rumoured that it once did a rush emergency trip to Rottnest (Wadjemup is Aboriginal for Rottnest) Island in 16 minutes to rescue an injured soldier. This in very rough weather. After the war the

"Ravenswood" Hotel, out from Pinjarra. At this stage the cabin area and some interior alterations were undertaken to turn it into a private launch. It spent a few years moored in the Swan River before being purchased finally by a Mr George Strickland. It is Mr. Strickland I have to thank for the information making this article possible.

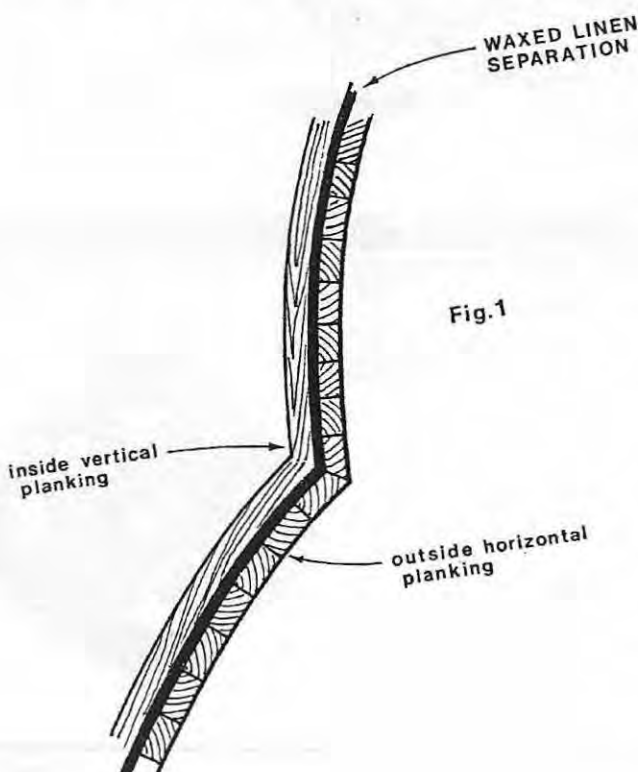
Somewhere about 1953 George Strickland acquired the *Wadjemup*. He did some minor alterations and improvements and because of the launches size and beauty it became for many years, one of the most note worthy boats on the Swan River, being used many times for official functions such as Judges



boat for the Head of the River Rowing races. George did a number of deep sea fishing trips over to Rottneest Island, when marlin fishing was being talked about. I have been privileged to see some of his photos of this era showing some beautiful catches of deep sea mackerel etc.

In the very early 1970's the *Wadjemup's* early rugged life started to show up. As I have mentioned

the vessel was constructed of Maple. This wood, while being light in weight, say compared with Jarrah is unfortunately also a soft wood. One of the unfortunate things also was that the waxed linen separation between planks had rotted away allowing an air gap. This encouraged rapid deterioration of the hull and sadly *Wadjemup* was lifted from the river in 1973, in a special cradle, to rest in Mr Strickland's backyard. As well as being declared unseaworthy at this stage it was very apparent that the economics of a rebuild were out of the question.



All fittings and engines were removed, the hull was cut into sections and burnt. A very sad but necessary end to a unique piece of West Australian history. All is not entirely lost out of this exercise. Mr Strickland has already presented to Whaleworld the two large air vents and the name-plate. The other night when I and Mr Rod Preece from the Australian Model Ship Society visited Mr Strickland he agreed to present the two beautifully maintained Port and Starboard oil lamps to Whaleworld. These lamps have the word 'Wadjemup' engraved into them. As well as this the A.M.S.S. is privileged to be responsible for presenting the only known model of this famous whalechaser to the Albany Whaling Museum, "Whaleworld."



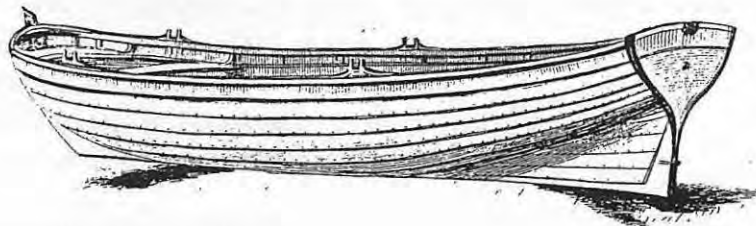
# QUIZ

## Answers to June 2002 quiz

1. The *Mayhill* was wrecked between the entrance to the channel leading into Geraldton Harbour and Point Moore on 10 August 1895.
2. The light of a lighthouse is said to be occluding when the period of darkness is less than the period of light. When a light flashes the period of darkness is greater than the period of light.
3. A snotter is the support into which the foot of a sprit is placed so as to prevent it from slipping down its mast.

## Questions

1. What sort of sailing ship rig is a 'snow'?
2. The barque *Eglinton* gave her name to the reef on which she was wrecked about 49 kms north of Perth. On what date was the *Eglinton* wrecked?
3. The equinox (around either 21 June or 21 September) is when there is equal day and night. Where is the sun at these times?



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