

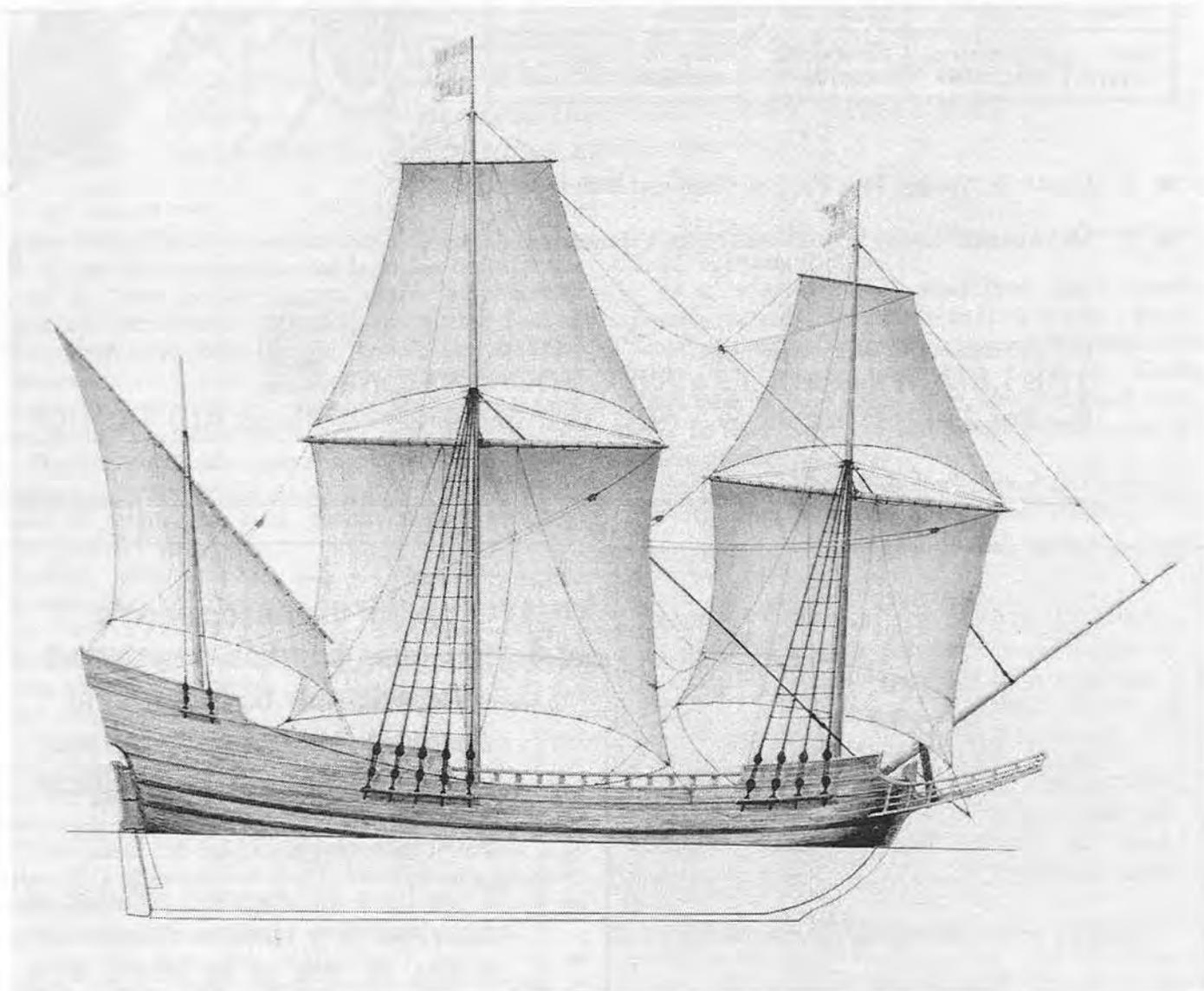
MARITIME HERITAGE ASSOCIATION JOURNAL

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An impression by Nick Burningham of the proposed DUYFKEN reconstruction, incorporating design features suggested by recent archival research. (See Nick's major article on page 7.)

Schedule: S.T.S. LEEUWIN ADVENTURE VOYAGES

No.	Departure	Arrival	Remarks
18/95 10 days	DAMPIER 12/9/95 Tue	GERALDTON 22/9/95 Fri	General public, visiting Ningaloo Reef, Abrolhos Islands
19/95 5 days	FREMANTLE 26/9/95 Tue	FREMANTLE 30/9/95 Sat	Special voyage for young people with physical limitations
20/95 10 days	FREMANTLE 3/10/95 Tue	FREMANTLE 13/10/95 Fri	School holidays: visiting Abrolhos Islands. Minimum age 15 years
W3/95 2 days	FREMANTLE 13/10/95 Fri	FREMANTLE 15/10/95 Sun	Whale watching weekend
21/95 10 days	FREMANTLE 17/10/95 Tue	FREMANTLE 27/10/95 Fri	General public, visiting Bunbury
23/95 10 days	FREMANTLE 28/11/95 Tue	FREMANTLE 8/12/95 Fri	University holidays, visiting Abrolhos Islands



- Classic & Wooden Boat Festival: 28th and 29th October 1995.
- Maintenance period 4/11/95 – 27/11/95. Volunteers required.

For information on all voyages, contact:

THE LEEUWIN SAIL TRAINING FOUNDATION

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

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Articles will be published at the earliest opportunity.

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All of the Association's incoming journals, newsletters etc. will now be archived at Porthole Prints, South Terrace, Fremantle, and will be available to members on loan.

(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; it may just be interested in archiving the collection.)



The WADJEMUP Story

A little slice of West Australian history is in the possession of Whaleworld Museum, in Albany. It is a model of the ex-Army high-speed target-towing launch, WADJEMUP. The real launch was used for a short period post-war as a whale chaser in Albany. The model was built to 1/24th scale by Brian Lemon. As well as making use of the hull plan of a Thornycroft high-speed air/sea rescue launch, since it was of very similar form, Brian had an excellent full broadside photograph of WADJEMUP, from which he was able to determine cabin size and the position and relative sizes of many fittings. Brian takes up the story ...



The WADJEMUP (aboriginal for Rottnest) was one of two 55 foot target-towing launches built for the Army in 1940 by an Eastern States shipbuilding company. Constructed of maple, and on the famous Thornycroft hard chine concept, it was a very fast and seaworthy type of vessel. During the war years, it was frequently seen offshore towing targets for the coastal batteries at Leighton/Swanbourne.

The method of hull construction of WADJEMUP was unusual in two respects. As already mentioned, it was built of maple, to keep weight down, and had horizontal external planking, with vertical internal planking. These two surfaces were separated by waxed linen sheeting, fastened with copper nails.

The power units were twin Thornycroft petrol motors, each developing 650 h.p. at 1 500 r/min. (Post war, these were changed to diesels.) The original speed of this vessel was said to be somewhat in excess of 50 knots. It was rumoured that it once did an emergency trip to Rottnest Island in sixteen minutes, to pick up an injured soldier – this in very rough weather.

After the war, the WADJEMUP turned up at Albany. Having been altered appropriately in 1947, it was used for whale chasing by the Australian Whaling Company. (It was also rumoured that the launch was once unceremoniously towed for several hours around Albany harbour – by a harpooned whale!) The whaling company was short-lived, and the WADJEMUP was

then purchased by the proprietor of the Ravenswood Hotel, out from Pinjarra.

At this stage, the cabin and some interior alterations were undertaken to turn it into a private launch. As such, it spent a few years in the Swan River before finally being purchased by a Mr. George Strickland, around 1953. (It is Mr. Strickland that I have to thank for the information that made this article possible.)

George also undertook some minor alterations and improvements to WADJEMUP, and, because of the launch's size and beauty, it became one of the most noteworthy boats on the Swan River, being used on many occasions for official functions such as Judge's boat for the Head of the River rowing regatta. George also did a

... WADJEMUP ... became one of the most noteworthy boats on the Swan River ...

number of deep-sea fishing trips to Rottnest Island, where 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 early 1970s, the effects of WADJEMUP's early rugged life started to take their toll. As I have mentioned, the vessel was constructed of maple. While being light in weight, and when compared with, say, jarrah, maple is unfortunately wood. In addition, the less durable waxed linen separation between the skins rotted away, creating an air gap which encouraged rapid deterioration of the hull.



Sadly, in 1973, WADJEMUP was lifted from the river in a special cradle, to rest in Mr. Strickland's back yard. As well as being declared unseaworthy, it was very apparent that the economics of a rebuild were out of the question. All fittings and engines were therefore removed, the hull was cut into three sections, and burnt. A very sad but necessary end to a unique piece of West Australian history.

But all was not entirely lost. George has since presented two large air vents from WADJEMUP to

Whaleworld, as well as the vessel's nameplate and two beautifully maintained port and starboard oil lamps. The lamps have the word WADJEMUP engraved into them. The Australian Model Ship Society (AMSS) is privileged to be responsible for presenting the only known model of this famous whalechaser to the Albany Whaling Museum, Whaleworld.

Brian Lemon



Spot the difference (if you can). The "real" WADJEMUP off Albany (above), and Brian's model. Note the massive harpoon gun mounted in the bows. Formed in 1947, the Australian Whaling Company failed to pay its way, and soon closed down. The Cheynes Beach Whaling Company was established at Frenchmans Bay, Albany, in 1952, and operated until 1978. The whaling station is now the whaling museum Whaleworld, one of Albany's great tourist attractions.





WADJEMUP, showing her harpoon gun (above); and "after the kill" (below) – lying off the whale, in what looks like King George Sound.





bits 'n pieces ...

Active MHA member, Peter Worsley, of Geraldton, has written to tell us that this year marks the 100th anniversary of the start of one of the great voyages of history. On April 24, 1895, Joshua Slocum set sail on a voyage around the world alone in a small yacht. When the SPRAY tied up to the same post at her home port over three years later, Slocum had become the first person to have circumnavigated the globe single-handed. Many have since emulated his voyage, and a great number of replicas of the SPRAY have been and are still being built.

What is of interest to Western Australians is that one of the most famous of the early copies of SPRAY – and only the second one built – was constructed here in Perth and sailed from Fremantle in late April, 1910. She became the first small boat to sail around Cape Horn. Called PANDORA, the yacht was built by George McCarter for Mr. F. B. Blythe, and was of 1.25" jarrah planking on a jarrah keel, with frames of blackwood and stringybark. (The owner is elsewhere recorded as G. D. Blythe, as well as George Blythe.) Crew was Pietro Arapakis, a Greek Australian. The PANDORA sailed to Melbourne, Sydney, New Zealand, Pitcairn, Easter Island, then Cape Horn – where she was rolled over by a large wave. She was then towed to the Falkland Islands by a Norwegian whaling vessel, repaired and continued on to New York, towards London.

Does anybody know the exact whereabouts of George McCarter's yard. The only reference Peter can find simply states "Perth", and that George retired because of ill health in 1919, and died in 1937. Does anyone have any knowledge of George McCarter and the whereabouts of his boatbuilding yard?

Peter also provides the following two extracts from the old Geraldton paper, the *Victoria Express*. The first is from the 30th October, 1878 issue, and the second from the issue of 27th November, 1878:

1. "AGE OF VESSELS: The age of a good oaken English ship is about the age of a robust man – threescore years and ten – with an equal chance of going into years beyond. During the year 1875-76 there were 639 British vessels wrecked and otherwise destroyed between the tender years of 3 and 10; 1032 between 7 and 14 years; 1414 between 15 and 30 years; 611 between 30 and 50; 80 between 50 and 60; 41 between 60 and 70; 12 between 80 and 90; 2 between 90 and 100. All these old ships that had for so many years buffeted the storms of all climes were wooden hulls, that material being superior in lasting qualities to iron, of which the majority of modern hulls were built."

2. "Champion Bay Yacht Club: The recent aquatic tournament in Perth reminds us [that] we have a yacht club with an active and efficient committee, but we have not lately heard anything of their movements. When is the first event, under the new regime to come off?"

Peter's question is whether this the second oldest yacht club in W.A.? Perth (now Royal Perth Yacht Club), dates back to 1876 and was the first. The Geraldton Yacht Club may have very old antecedents indeed!



Reconstructing the DUYFKEN

by Nick Burningham and Marit van Huystee

It is increasingly likely that the DUYFKEN 1606 REPLICA FOUNDATION will soon achieve the momentum and financial backing necessary to commence ordering materials for construction of a replica or reconstruction of the DUYFKEN. Indeed, it may be under way before this article goes to press.

The little Dutch *jacht* DUYFKEN was the first European vessel to sail to Australia, or, at least, the first vessel to sail there of which there is historical record. The DUYFKEN and her commander, Willem Jansz can be justly compared with SANTA MARIA and Christopher Columbus. A number of reconstructions of SANTA MARIA have been built during the last one-hundred years. Each reconstruction has been an attempt to build a typical *nao* of the size and date of the original ship, according to current research, for no contemporary plans, drawing or description exist. It has been thought that DUYFKEN was a similarly anonymous vehicle of history; known only by her name, notional tonnage and approximate date of building, and therefore a reconstruction should be a typical Dutch *jacht* of an estimated appropriate size.

However, through meticulous combing of the archival evidence, a faint ghost of the original ship can be perceived against the tapestry of history. The DUYFKEN was a rather exceptional vessel. VOC documents reflect recognition of her superior speed and sailing characteristics. A sketch in a log book shows a low and lean sailing ship, quite the antithesis of the cumbersome and high-sided galleons with their gilded baroque decorations that in the popular imagination characterise the shipping of the period.

The DUYFKEN set sail for the Indies for the first time on the 23rd April of the year 1601, captained by Willem Cornelisz Schouten. The DUYFKEN was one of five ships in a fleet under the command of Admiral

Wolfert Harmensz, and this fleet was part of a larger fleet of thirteen ships under the command of Admiral Jacob van Heemskerck. The thirteen ships stayed together until the 8th May, then Wolfert Harmensz, whose ships were faster and more weatherly, separated in order to reach their destination as soon as possible. Harmensz fired a parting salute and Van Heemskerck's guns fired back three times (one of the guns aboard Van Heemskerck's ship AMSTERDAM exploded, causing a death and much damage.)

After staying for more than a month at Mauritius, they arrived in December 1601 in the Sunda Strait between Java and Sumatra. As the ships sailed through the Strait, a Chinaman in a small prahu came to warn them that a large Spanish-Portuguese

armada, under command of Andrea Furtado de Mendoca, consisting of eight large galleons and twenty-two galleys and *fusta* (small galleys that were used by the Portuguese in the Indies) lay off Bantam to blockade the town, and intending to chase all the Dutch from the Archipelago. Immediately a "Broad Council" of the captains met and decided that, "considering the importance that depended, for the United Provinces and their trading interests ... the Portuguese Armada would be approached with courage, trusting on the help of the Most High".

The ships were cleared for action, all surplus stores were thrown overboard, and the guns were brought out of the holds, cleaned, mounted and made ready for battle. An unsigned letter written on board the DUYFKEN reads:

... through meticulous combing of the archival evidence, a faint ghost of the original ship can be perceived against the tapestry of history ...



Have in the morning of 25 December 1601 two hours before dawn hoisted the sails and about sunrise approached the Portuguese fleet and within range shooting with all guns and muskets aimed at them demonstrating all possible hostility, sailing through and again through the Portuguese fleet who were surprised unexpecting, weighed their anchors, made sail, hoisting the blood flag to fight back at us. And after the battle had lasted considerable time, the Portuguese settled their ships under an island, named Poelopenzang [Pulau Panjang], and ours under a certain other high island, repairing the damage the ships had suffered from the fighting, amongst it also our admiral, due to the bursting of a half cannon (that had been cast at Utrecht).

The 26th it was bad weather, such that the ships could not utilise sail nor guns.

The 27th being good weather, we again made sail and sailing in at the Portuguese fleet our admiral engaged and boarded the Portuguese admiral. The ship Seelant another large carrack and the ship Utrecht and the ship Wachter a galley each, the small jacht too another galley, have taken-on the large ships bravely, the 2 galleys were boarded, captured, plundered and destroyed, the Portuguese having the advantage of wind and current set three of their galleys on fire and to cause us damage let them adrift, but were evaded by our ships, and so drifting the battle lasted by day and night when the lay of the land and the current permitted such until the Portuguese resolved to leave from Bantam, with us being free of damage and feared, in pursuit until the 1st of January 1602, having put the Portuguese to rout, let them go. [Translation, Adriaan de Jong.]

Having repaired the ships and refreshed the crew, the fleet departed Bantam. The five ships separated and sailed to various destinations; then at a rendezvous of the ships' officers in April, it was decided to send DUYFKEN to Ceram to load sago:

Secondly, whether there is anything to be had there besides sago, their way of doing business and in what places, what commodities had best be sent there, and to what limits their farthest navigation extends, also, whether they have any knowledge of Nova Guinea, whether they have sent ships there, or whether ships from Nova Guinea have ever come to Ceram. In the island of Banda, actum April the 10th, A.D. 1602, on board the ship Gelderland. God send his blessing unto salvation. Amen.

This was the first time the DUYFKEN was sent to explore new lands. The fact that the DUYFKEN was chosen for this purpose on this occasion and later in

1605, reinforces the impression that she was, like all the ships in Harmensz' fleet, faster and more weatherly than the average ship.

In August 1602 Admiral Wolfert Harmensz sailed back to the Netherlands with the ships DUYFKEN, GELDERLAND, and ZEELANDIA, arriving there in April 1603.

The DUYFKEN, now with Captain Willem Jansz, set sail for the Indies in December 1603. This time she was part of a fleet under command of Admiral Steven van der Haghen, aboard the ship GEUNIEERDE PROVINCIE. In May 1605 five ships sailed for Tidore to attack the castle of the Portuguese, but the DUYFKEN was not one of them. In September 1605 Admiral Steven van der Haghen returned with GEUNIEERDE PROVINCIE and DUYFKEN to Bantam. The following month he sailed for the Netherlands while the DUYFKEN stayed at Bantam to be equipped for the historic voyage to "Nova Guinea". The DUYFKEN with Captain Willem Jansz had been placed at the disposal of Governor Houtman at Amboina by Admiral Steven van der Haghen. Houtman gave orders for an expedition to Captain Willem Jansz, but as Jansz had to obtain some very necessary provisions and ship's stores before he could sail, Houtman sent him first to Bantam.

We do not know the movements of the DUYFKEN directly from Dutch records, because unfortunately the DUYFKEN logbook has never been found. Still there is enough evidence that the DUYFKEN explored the coast of the Gulf of Carpentaria. On 18 November 1605, Captain Saris, an agent of the English East India Company at Bantam, made the following entry in his diary:

The eighteenth, heere departed a small pinnasse of the Flemmings, for the discovery of the Iland called Nova Guinea, which, as it is said, affordeth great store of Gold ...

A few months later, he received further news:

The fifteenth of June [1606] have arrived Nockhoda [Captain] Tingall a Cling-man from Banda, in a Java Juncke, laden with mace and nutmegs, the which he sold to the Guzerats; he told me that the Flemmings Pinnasse which went upon discovery for Nova Ginny, was returned to Banda, having found the Iland: but in sending their men on shoare to intreate of Trade, there were nine of them killed by the Heathens, which are man-eaters: so they were constrained to returne, finding no good to be doene there.

Several documents from later in the 17th century mention the voyage of the DUYFKEN, Captain Willem



Jansz and supercargo Jan Lodewijck Roosenin, amongst these is the "Instruction to Commander Abel Jansen Tasman" written in 1644. But, most importantly, the Duyfken Chart which was only found in this century, in Vienna, is extremely informative, in that it shows the whole course of the vessel from Banda on the outward and the homeward voyages. It shows that the DUYFKEN visited the Kei and the Aru Islands; it shows the actual landfall on the coast of Australia, and it locates the position of Cape Keerweer where DUYFKEN turned back to Banda.

The DUYFKEN returned in June 1606 and continued to play her role in the Dutch attempts to win a monopoly of the spice trade, often carrying small cargoes of provisions and relief for embattled garrisons. In January 1608 when DUYFKEN arrived in Ternate, Jan Roosengin wrote in a letter:

... the jacht Duyfke arrived off Ternate coming from Bantam and was loaded with rice, beans and a bit of arrack, which brought much joy amongst our people and gave courage to the Ternatens as well, because we are greatly lacking in these things; the 29th do. I sailed off with the aforesaid yacht and captured a prahu, which came from the island of Makian and was on its way to Ternate, with about 2.5 last [about 5 tonnes] cloves, about which we came to blows with the enemy the next day with two galleys and a small fregat [a smaller type of galley], about 5 hours, and they fired more than 80 shots to us, but God be praised no injury was done to us.

More Portuguese ships arrived in Ternate from Manilla, and the Dutch could not attack them. The *jachts* DUYFKEN and KLEINE SON were sent to the Portuguese ships which were lying very close under the Spanish fortress, and the two yachts spent three days sailing around trying to lure them into the open sea, but the Portuguese would not engage.

THE END OF THE DUYFKEN

Paulus van Caerden left Makian on 20th July for the town of Malayo on Ternate where he arrived the following day. According to Van Caerden, much work had to be carried out, including repair to DUYFKEN:

We got the Duyfken here inside the reef because she is leaking, and got her hauled to one side aground, after having made great efforts and done

much work, found that her whole body had given way, and because of her old age could not sail again, the knees budging totally, caused by putting her ashore, two beams are burst in the hold, and the sides have bulged out totally, therefore there is nothing we can do for her and she must remain as a wreck.

This was the end of the DUYFKEN, she could not be repaired, though they had tried to save her. She was probably stripped of fittings and broken up.

THE EVIDENCE

The historical evidence shows that the DUYFKEN was employed in a number of roles. She was used for carrying small cargoes of provisions and relief for embattled outposts in Maluku; she was used, as her name suggests, as a carrier of messages; she was even used as a warship; and of most significance to our history, she was used for exploratory voyages.

DUYFKEN's exact design will never be known with certainty, but something of her individual character is beginning to emerge ...

Documents relating to several of these episodes show that the DUYFKEN was valued as a fast and capable sailer by the commanders of VOC operations in the Indies. The pictorial evidence that she was a low and perhaps relatively sharp-lined *jacht* of the pinnace-type, equipped with a rig that allowed her to be sailed by a small crew fits well with that

historical data. DUYFKEN's exact design will never be known with certainty, but something of her individual character is beginning to emerge.

THE HARMENSZ DRAWING

Until recently it was thought that there was no drawing, painting or other iconography that could be regarded as a contemporary representation of the DUYFKEN which was the first European vessel to sail into Australian waters. There are two paintings of the return of Houtman's fleet in 1599 which show an earlier DUYFKEN, the first small *jacht* sent to the Indies. Now a drawing showing the "second" DUYFKEN has been identified. The fleet of five ships, including the second DUYFKEN, bound to the East Indies in 1601, anchored in a bay on the west coast of Mauritius during september-October of 1601. In a log book there is a plan of the anchorage, drawn on a double-page spread. It shows the five ships in the bay along with details such as entrances in the reef. The ships are not named, but DUYFKEN is easily identifiable because she was much the smallest of the fleet.



The sketches of the ships show a reasonable amount of detail and the appearance is that the artist had plenty of leisure, while the crews filled the water casks and shot dodos, to insert decorative detail such as men fishing with a beach-seine net, and to show the complex rigging of the ships.

The ships are drawn quite small: they are not finely drawn and cannot be taken as completely accurate representations. Basic ratios of proportions, such as length-to-freeboard, show obvious distortion. However, it is clearly the work of an on-the-spot observer and a mariner with good knowledge of ships and their rigging. The differences between DUYFKEN and the other four vessels seem to be distinctly observed and they are very informative.

In essence, DUYFKEN is shown as a relatively long and low ship, she is drawn with only half as much freeboard in proportion to length as the larger ships. She is apparently not carrying any heavy guns since no gun ports are shown. And she has a rig that belongs to the poleacre or polacca line of development. The waist is long, while the quarterdeck and poop are relatively short. Unlike the other four vessels, DUYFKEN has no gallery on her stern.

The foremast seems to be stepped through the forecandle deck, rather than at the forward end of the forecandle as it is in other vessels, which might be taken to indicate that DUYFKEN had rather finer lines in the bow – it suggests that the mast could not be stepped right up in the bow because the hull shape provided less buoyancy there.

The majority of European ships of the late 16th century appear in contemporary art as rather cumbersome and high-sided vessels with high aftercastles, but there was also a tradition of building much lower and leaner vessels, particularly for naval use. The *galiasses* built in the reign of Henry VIII belong to this tradition, and Matthew Baker, the master shipwright of the Elizabethan naval shipyards, was greatly in favour of low-built ships, even flush-decked ships which anticipated the design of the frigate by nearly two-hundred years. Small and medium-sized ships of this type were often classed as pinnace (*pynnes*, *pinas* etc.) by the English, though like all such terms "pinas" was never formally defined and carried an ever-shifting semantic load. Saris, the English trader in Bantam, Java, whose journal provides the earliest historical evidence for DUYFKEN's voyage to Australia, described DUYFKEN as a *pinas*.

W. B. Baker defined the early 17th century pinnace: "A lightly built, single decked, square-sterned vessel generally having superstructure forward and aft ... suitable for light naval duties, as tenders to large exploring or trading ships, or for independent voyages ... [they were] primarily sailing vessels ... often

equipped with sweeps [for use in calm weather or for moving around in harbour]". Pictorial evidence shows that it is typical of the pinnace that the low maindeck is long and the aftercastle short relative to the total length of the hull, as seen in the DUYFKEN sketch. Contemporary etchings and paintings show that this type of ship was also used in the Netherlands.

The rig shown on DUYFKEN is different from that of the other four ships. She has no sail on the bowsprit, and no topsail yards are crossed although there are topmasts on which topsails could be set. There are no tops ("crows nests"): the masts and topmasts are single poles (rather than the topmasts being separate spars "doubled" onto the lower masts). The mizzen is very short and stepped very far aft. The absence of the topsail yards and tops is unlikely to be a mistake since other minor details of the rigging such as the lead of the braces and the bowlines are clearly shown.

These details, particularly the lack of tops, and the appearance that the topsail yards were sent down when the topsails were not set, indicate that this is an example of the type of rig which was later classified in Holland and England as poleacre rig. (The name has no connection with the pole topmasts but refers to Poland, for many of the ships which traded from Holland to Baltic ports were poleacre rigged.) It is a type of rig that was recognised as appropriate for relatively small vessels that were handled by a small crew. Often they were ships of easily-driven design, but bluff and capacious 17th century Dutch cat-ships were also poleacre rigged. The tall and narrow sails, and the reduction of windage obtained with the simplified rig allowed a well-designed hull to sail slightly closer to the wind.

Some early 17th century etchings of Dutch ports show that the poleacre rig was not uncommon. It is possible that poleacre-rigged vessels are under-represented in the pictorial record because it was not a prestige rig: artists would tend to concentrate on the larger galleons with their high sterns and heavy spars.

Interpretation of the DUYFKEN as a relatively low *jacht* has advantages for designing a reconstruction with adequate stability and good sailing characteristics. A number of reconstructions of "Age of Exploration" ships have had poor stability because of their deep hulls and high superstructure. The MAYFLOWER reconstruction required 133 tons of ballast to sail and sat much deeper in the water than had been intended. Like a number of the Columbus reconstruction ships, she was unable to float upright without ballast. This seems to be incompatible with the function of the original vessels as cargo-carriers, and suggests a fundamental problem with our understanding of 15–16th century ship design. A relatively low *poleacre yacht* will have good stability, will sail well, and also be easier to sail.



Western Australia's Ships' Figure Heads: An Additional Note

Gordon de L. Marshall's article on figure heads, which appeared in the last edition of our Journal, will have been of great interest to many readers. He notes that, '... very few figure heads were actually made in Western Australia, and a total of only five are recorded in ships' registers from 1856 to 1900'.

There is some information about a figure head carved for a vessel built at Mandurah in the mid-1840s by one Thomas Bates, who apparently had come out to WA with his family in 1842 on the *DIADEM*. Bates had emigrated under the auspices of the ill-fated Australind Scheme, and when that venture failed he turned his hand to other pursuits. Being a very clever 'mechanic' and stonemason, Bates found plenty of work – some of the headstones in the East Guildford graveyard (now behind the Guildford Grammar School Chapel) are said to have been carved by him.

Although the official records state that the ship was built by W. H. Edwards, old-timers at Mandurah whose parents were there at the time maintained that she was constructed by a man named Joseph Morris, who had come out to the colony in 1830 to work for Thomas Peel. Originally it was intended that the vessel would be named *JOSEPH MORRIS*, but before she was completed Morris had run into financial trouble and the hull was sold to Captain John Thomas of Fremantle, who re-sold her later to South Australian interests. In the meantime she had been named the *RIVER CHIEF*.

Bates probably carved the figure head out of jarrah. It resembled a native warrior in the act of spearing a fish, and it seemed so realistic that the local Aborigines would not go near it.

The *RIVER CHIEF* was built on a point of low-lying land where the Peninsula Hotel now stands. The *Inquirer* newspaper reported the launching in December 1945:

On Tuesday, the 2nd instant, was launched in Peel's Inlet, on the Murray, the River Chief, 220 tons burthen. The novel mode of launching "broadside on" was affected on this occasion with the most perfect success, to the great credit of the builders and others employed, and high delight of the multitude of spectators.

It is intended immediately to warp the vessel over the bar of the Murray, and run her up, under jury masts, with the first southerly breeze, to Peel's Harbour in Warnbro' Sound, where she is to be rigged and got ready for sea as expeditiously as possible, in order that she may take on board, at Augusta, 220 tons of that valuable timber, the Tuart, wherewith she is to proceed direct to London, via the Cape.

Unfortunately the Mandurah Bar was as troublesome in those days as it is today, and great difficulty was had in getting the ship out into the open sea. The delay in achieving this feat was a good part of the reason for Morris's bankruptcy, apparently. When she was ready to sail, the *RIVER CHIEF* headed for Adelaide instead of London, and carried 20 passengers, timber, shingles and whale oil.

After several adventures, which included hitting a reef near Garden Island on her way out and then being feared lost in a storm off Cape Leeuwin, she eventually reached Adelaide.

The *RIVER CHIEF* was described as, '... a powerfully built, though unsightly vessel'. She was painted black, had a square stern, and was rigged as a brig. She traded up and down the eastern seaboard of Australia for many years and made a voyage to San Francisco in 1850, carrying gold seekers to the diggings there. Ross Shardlow has ascertained that she was wrecked at the Richmond River Heads, New South Wales, in November 1865.

It would be a marvellous thing if her figure head were still extant, though that is highly unlikely – which is a great pity.

Ronald Richards



Caulking

by Barry Hicks

For all their massive appearance, the great schooners were very flexible assemblages of relatively short pieces of timber, iron straps, bolts, spikes and tree nails. They leaked so badly that they could not have been kept afloat without steam-driven pumps. Age did nothing to improve the tightness of these assemblages and frequent recaulking – particularly of deck and topside butts – was a growing expense.

In some yards there were separate oakum shops. Here, the caulkers could spin their raw materials in wet weather. A big four-master had about six miles of seaming to be caulked. On a basis of four threads to each seam and each thread divided into loops, about 48 miles of oakum had to be spun and driven - work for twelve to fifteen men labouring six days a week for approximately three months. Near the oakum shop would be a pitch oven. Pitch was used almost exclusively for caulking decks in these big schooners (and as a substitute for chewing gum). On the exterior of the hull the bottom seams were finished off with Portland cement. About the waterline they were finished with white-lead putty. The caulking of hulls with cement would have been unthinkable in Britain (and probably in Scandinavia) at the time, and yet it worked perfectly well for many years in these huge American schooners.

The caulking mallets had slots cut in each head, producing a clear, ringing note when the mallet was used. There were two reasons for this, one aesthetic and one practical. Since each mallet was cut a little differently, each produced an individual note and thus a whole succession of notes and combinations came from the slipway when caulking was going forward. The practical reason for the slots was that the dull thud of the mallet on the iron, very close to the head

and for hour after hour, would have been quite intolerable - indeed, perhaps even dangerous - to the men employed in the work. So the mallet was cut to produce a pleasant sound in use and one which did not damage the ears of its user, even though he might swing the mallet for twelve hours a day, for days on end. Nevertheless, many caulkers became deaf in their later years.

Tom Perkins goes on to describe the final stages of the hull-building process:

From working chaos we return to the upper deck, now planked and ready for the caulkers. The planks had been made from pitch pine and the centre "king plank" was about seven or eight inches in width, while the remainder were about six inches or so. Laying began from the centreline king plank, butts on the beams and from the waterway port and starboard, until one plank's width was left. Into this was hammered a "shutter plank" to spring the decking tightly together. It was then fastened with galvanised cut nails on to the beams.

An English naval officer once said that if the shipwrights took more care over the planking, they would not need to hammer old rope into the seams to



keep the water out. He was a well educated man but he sadly lacked any vestige of common sense!

Caulking would proceed as before with the decking - a span of seven or eight planks' widths - to ensure against undue lateral spread as the caulking forced the thread tightly into the seams.

"Paying up" was done by pot and ladle, a more sophisticated method than "rolling in" (as below the waterline). Pouring was fast work. Bearing in mind the deck shear and inclination, the ladle "hand" needed to be able to pour clearly and in a straight line, which was difficult work in rainy weather when the pitch would blow and spit bubbles, forming a potential leak in the decking. Surplus pitch was scraped off the seams.

One of the lesser known tools of the caulking trade was a "log of heat". This was an iron bar with a ball at each end which was put into the fire until red hot, and then placed into the pitch to keep it hot in the journey to the caulkers. (This tool soon became "loggerhead", and the term is still used today in describing two people who cannot agree!)

Now our new schooner would at last start looking like a vessel. Her decks would be smoothed off to a smooth, cambered surface and the planking on the outside finished with planes and adzes. Then she would be ready for caulking; that is, sealing the seams between the planks (still spoken of as "seams" - a thousand years after they had ceased to be sewn) with oakum - hemp fibre held in position with tar on the outside. Caulking was an extremely important process, not only because it rendered the vessel extremely watertight, but also because by squeezing the planks together tightly and holding them in tension once it was wet and had expanded, it added to the rigidity and strength of the vessel. During caulking, it was important to allow for expansion of the planks when wetted. If you did not, serious damage could occur. Tom Perkins pictures the caulking process vividly:

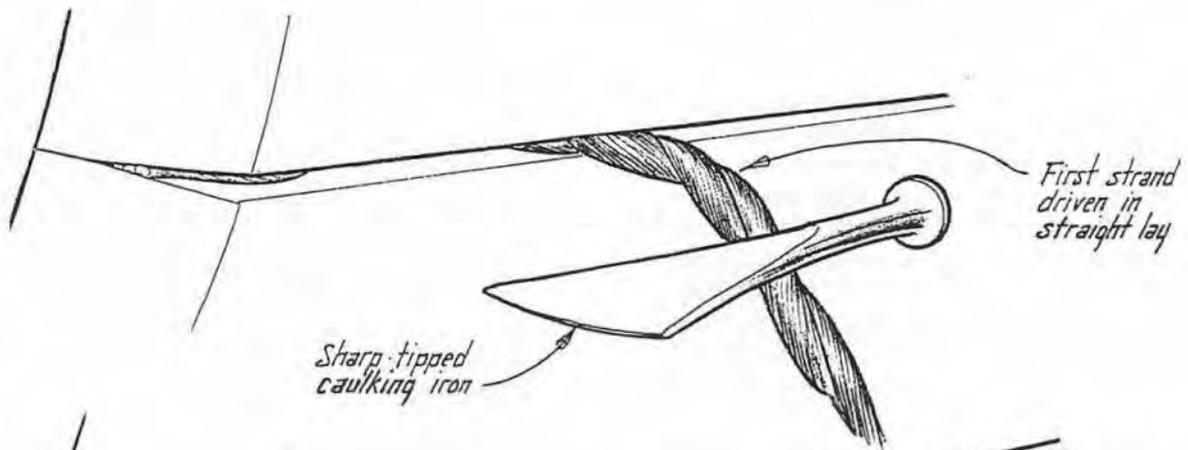
Outside, the planking was faired by hand planing, to give a smooth finish to the seams, and caulking would begin. Caulking was a task of monotonous repetition. Shipwrights could always caulk, everyone had the necessary gear, but some yards employed wood caulkers as a gang, something like a sub contract, and this led to a special breed of worker, with plenty of stamina and an ability to overcome such a mundane task. Before work began, the pitch, in block form, was broken up by hammering and put into a special pot of traditional shape with a large bow handle. Standing on a grid with a

wood-and-shavings fire underneath, the pots would be dotted down the slipway local to each caulker's workplace. Ladles would be cleaned of the melting tar, the residue of the previous day's work. Around the fires, sitting on box stools (which housed their mallets and irons) caulkers would be unpackaging oakum in long skeins from the hundredweight bales. Quickly and adeptly, the skein would be teased across the thigh (covered by canvas or a leather patch) and rolled into a thread of uniform thickness, forming a ball of manageable size. Stockholm tar (pinewood tar, obtainable traditionally from Finland and shipped through Stockholm until 1765, by which time the name had become attached to it for ever) was the preservative used in oakum and it permeated even the skin with a dark brown staining.

As soon as sufficient oakum for a morning was rolled, the caulker would start laying a thread into the garboard seam - and so on, up to the turn of bilge - usually working a ship of about seven or eight planks (widthwise) so as to prevent the plank next to the first to be caulked tightening by undue final caulking pressure. The seam, it will be remembered, had deliberately been made wedge-shaped, an ideal shape to effect transverse tension if the caulking was not gradual in its advance up the hull.

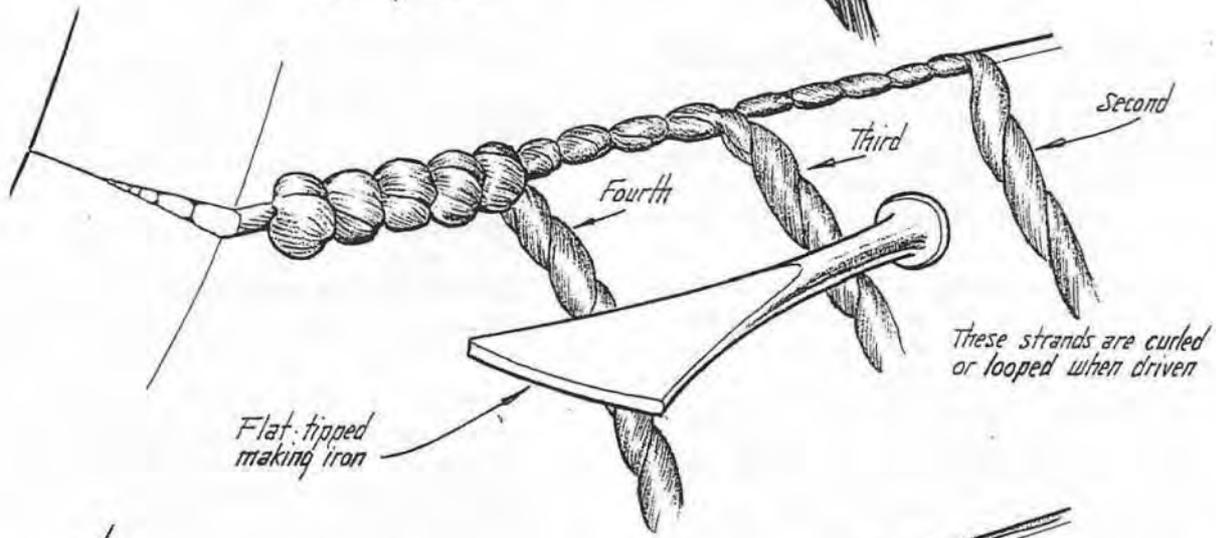
*Caulking the oakum was the job of the making-iron or caulking iron; driving it was the job of the mallet - and what a tool that was! Most mallets were hand-made, starting with a 4 x 4" block of African oak or equivalent timber such as best English oak or box wood, or even *lignum vitae* - about fifteen inches long. The block was divided into three parts - two cylindrical striking blocks, or pods, and a head that carried a handle eighteen inches long and about 1 1/4" in diameter. The cylindrical striking face was bound in an iron ring of external size of about two inches. The head that took the handle was traditionally shaped, slots in the cylindrical striking were to give a musical swish to the mallet when used, and become resilient to a blow, rather than dead, when striking the caulking iron. The metal rings on the cylindrical parts were wrapped around with oakum to hold fast when driven on. Two clenched copper nails each side of the handle in the head prevented overall cleavage or splitting. Handles were tapered to allow knocking up through the head, to be stowed at the day's end in the caulker's boxes.*

The caulking continued up the hull, oakum driven home with mallet and irons, a spike iron



First strand driven in straight lay

Sharp-tipped caulking iron



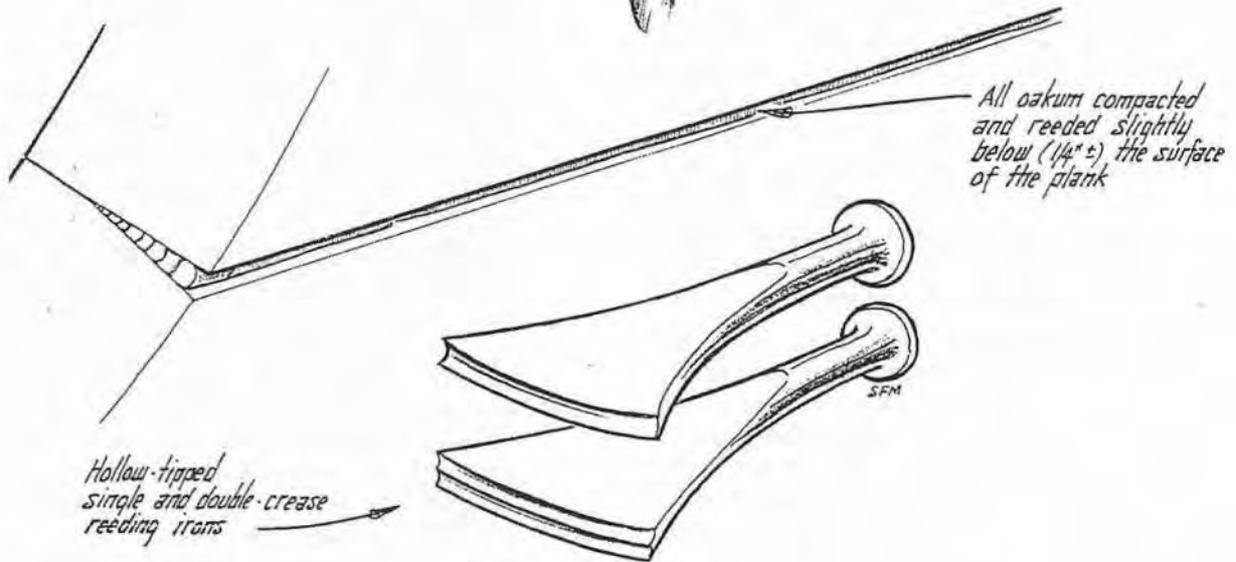
Second

Third

Fourth

These strands are curled or looped when driven

Flat-tipped making iron



All oakum compacted and reeded slightly below (1/4" ±) the surface of the plank

Hollow-tipped single and double-crease reeding irons

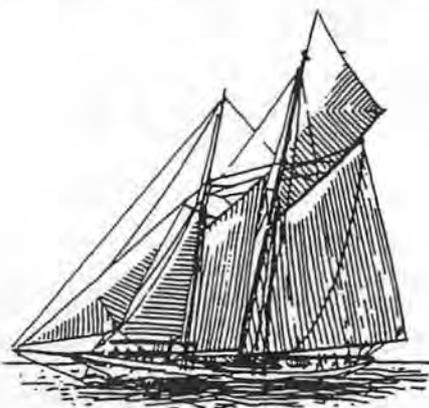
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being driven into the seam to gauge density, then the dressing iron to compact, and a reeding iron to give a parallel appearance of dressed reeds. The bottom thread would be only a straight lay in the bottom of the seam; number two or three or four would be looped in by the forefinger and iron to widen the lay of the thread to fill the seam wholly. Caulking was finished at the outside of the seam after reeding and molten pitch was rolled on by mops or brushes to fill the seam proud, and scraped off when hardened, leaving a watertight joint.

"Paying up" was the operation with the mops, and it was a messy job since rolling in - the art of putting pitch up "under" - covered the slipway, and the caulker with pitch, especially in hot summer. Pitch that fell across the back of the hand could be dissolved by benzene, but not before a gigantic blister, yellow in colour, had formed. Many caulkers had surface burns to the face and neck, especially when the regular "payers up" were sick or away from work. Boots stuck to the floor, and smoke was in abundance from the fires and boiling pitch. Hades was more acceptable!

This has been a brief description of caulking the English and American trading vessels at the turn of the century, 1895-1920. The information was gleaned mainly from *Evolution of the Wooden Ship*, by Basil Greenhill, published in England; and from *Wooden Shipbuilding*, published by the *Rudder* magazine in America in 1919.



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Saga of the SUNFLOW 1

by Frank Marchant

Frank follows his previous article on his period of ownership of the steam launch TI-TU, with an account of TI-TU's successor, SUNFLOW 1, a craft destined for a watery grave.

Some years ago my old farmer friend Col Pruden, my brother Lawrie and myself were sailing south from Jurien Bay in Lawrie's gaff-rigged motor sailer ENDEAVOUR, a 28 foot ex fishing boat.

Just astern of our anchorage at Lancelin was a sturdy looking planked crayfishing craft, sitting quite nicely on the mooring. I had a lot of time to look at this craft – and that was the start.

I found the owner's address, and duly wrote and made an offer on the boat. In due course he rang me, though he was not very impressed with my offer. (He spoke with a cultured Oxford voice.) Nevertheless, we fixed a meeting place in Perth, there and then.

On meeting, he was dressed like a destitute fisherman, and his first words cheered me no end. They were: "I've got to find a cheaper hotel. The one I am using wants \$4.00 per day for bed and breakfast!" My reaction was, you beauty, he's broke!

During the time I was waiting for him to contact me again to further the arrangements for the sale, I went back to Lancelin several times, mainly to check on any debts my Oxford friend may have had on the town. A Lancelin businessman helped me in this regard and gave details of two debts totalling \$36.00 – which I

duly cleared. My friend and I then travelled to Lancelin together to check the boat over.

SUNFLOWER was built by Bill Longley, of Fremantle, who was known for his well-built working boats – all of which were given the name of flowers. Her engine was a large Lister air-cooled diesel, which now refused to start. After some time fooling with this, still nothing happened, so in frustration he threw the spanners into the bilge and the screwdrivers overboard! In steely silence we then went ashore and carried on back to Perth, where he got out of the car shouting that he wouldn't let me have her anyhow! I waved and left him.

Next evening he was back on the phone, letting me know that he would accept my offer. I said I would send a deposit of so much, but he wanted more. This was nevertheless reasonable, and SUNFLOWER was free of debt, so the deal was struck.

I then spent some weeks worrying whether he had sold it to another person. (If you get the idea I did not trust him you are right, and I didn't forget to deduct the debt I had paid from the sale price of the boat!)

The next job was to get the boat to South of Perth Yacht Club. I asked Lawrie to come up and escort me down – and just as well! I had persuaded the Lister to start, however in ten minutes it had pumped every bit of oil outside the engine! Lawrie then took me in tow with ENDEAVOUR. We made Fremantle harbour in due course.

Approaching the traffic bridge we then realised we would have to lower SUNFLOWER's (now SUNFLOW's) mast, necessitating the release of the forestay, a rusty piece of gear. While unscrewing it with a spanner, the shackle disintegrated, letting the 30' x 8" mast fall with a tremendous crash onto the "telephone box", the

steering cabin – in which Col's son, Bob was steering. He dashed out quicker than an exocet missile, and could only be calmed down with a can of beer!

My hope was that no one had seen this un-seamanlike mishap. No way! It had occurred just as we were passing Blue Funnel Line's CENTAUR, which was busy embarking passengers for one of her Singapore trips. Among the passengers were two of our



SUNFLOW in her original configuration, as SUNFLOWER.



SOPYC friends, John and his wife, together with a group of members who were seeing them off. They had all seen the whole event!

The remains of the "telephone box" were duly removed, as well as the wandoo deck. The Lister was then taken to the local agents for a complete overhaul to as-new condition. The hull was taken to Coleman's Boat Builders, located where Pier 21 now stands. The Coleman brothers were extremely helpful and efficient: they fabricated a cabin outline with battens, and adjusted them until the structure blended with the hull. The hull also required re-caulking. For this they employed an Italian – another proficient man. He walked around the hull, caulking as he went, the whole job taking about two hours!

SUNFLOW was then run down the slipway and moored to the wharf. I was obviously worried about the amount of water that began coming in through the planks. Norm Coleman, the boss, claimed that in an hour and a half she would take up and be quite dry. This was indeed the case, and in the following years she never did take any water.

Eventually we went back to the yacht club, the mast was stepped, a new mainsail purchased, and the engine was put back in position and connected to the shaft, etc. As it turned out, this engine was the best marine motor I have had – it was virtually vibration-free, reliable and very powerful. (The Club would later often ask me to take SUNFLOW out to act as escort for ocean yacht races. The yachtees were always pleased to see us hovering around just in case they had a problem.)

We had set SUNFLOW up for cruising – gas stove, fridge, ice box, bunks, etc. Our first long trip was to Busselton and it went very well. My three brothers also joined me for this run: Lou down from Darwin with the 40' ketch WINDFALL, Les's Maurice Griffith design 40' ketch, and Lawrie with the unstoppable ENDEAVOUR. (SUNFLOW was 32' overall.)

Not too long after, while manoeuvring SUNFLOW off the Rottneet jetty I had to hurriedly switch the engine off as water was getting close to an intake – obviously we were very close to foundering! I immediately fired a flare, got the crew into lifejackets and waited on the stern. A small launch presently came up to us and a very amateur crew cleverly informed us that we couldn't be towed! I told him that even a Fremantle tug boat couldn't do that!

I was holding my Honda generator when SUNFLOW went down, stern first – the weight of the generator ensuring that I hit the bottom before the boat! After surfacing, I swam to the launch, climbed on board and assessed my worldly possessions – namely, a pair of black shorts! Nothing else. We were then put on board the concrete launch SEON whose crew took command, fed us, gave us a hot shower and made cabins available. The Rottneet Ranger, Len Granger, then came over and was a great help.

The insurance company duly sent a salvage boat over with a supposed salvage expert on board. SUNFLOW was sitting in the middle of the large sand patch, undamaged and upright, the mast just jutting out of the water. The salvage craft did not have any



SUNFLOW 1, on her trial run. With her 6-cylinder Lister running at 700 r/min, she could achieve 8 knots.



salvage equipment aboard except an airpump, but with no petrol for it. Neither were there any 44 gallon drums, which are essential for raising a sunken hull. Len kindly tracked down some of these from the island.

My son Kim arrived a short time later in his 12' Mercury-powered dinghy, which was put to use getting fuel from shore so the that pump could be used to give buoyancy to the drums. At this time the Department of Transport vessel VIGILANT also arrived on the scene offering help where necessary and gathering any flotsam that had floated up from the hull.

I had a large coil of silver pliable rope on board SUNFLOW. This was then fetched and cut into lengths and used to secure the drums to the hull. Air was then pumped into the drums and the hull was lifted almost to the surface. The salvager then immediately

departed, leaving SUNFLOW completely adrift! The tide caught her and swept her over to a nearby reef, where great damage was inflicted on the hull (which had been unmarked until then).

A crewmember of VIGILANT rang me at home that evening to advise me that my craft was now listed as a complete wreck. He also mentioned very quietly that had the salvage job been done properly I would still have that vessel! I already knew this; the last remark merely confirmed it!

I will finish on a happier note. SUNFLOW was insured and I very soon became the owner of SUNFLOW II, a roomy 35-foot launch in which we have had many enjoyable weekends and weeks. (I still however miss Sunflow I.)

AN INVITATION

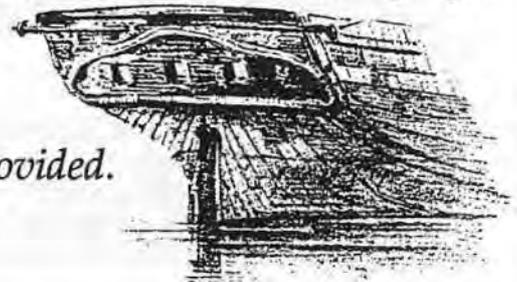
At 6.30 pm, on Monday, November 13, Graeme Henderson, Director of the WA Maritime Museum, will be speaking on the future directions of the Maritime Museum, as well as discussing the possibilities for co-operative ventures with the Maritime Heritage Association.

If you have any concerns on these or related matters, then please make every effort to attend. Non members of the Association are welcome.

Venue: The Leeuwin Sail Training Foundation, B-Shed, Victoria Quay, Fremantle.



Refreshments will be provided.





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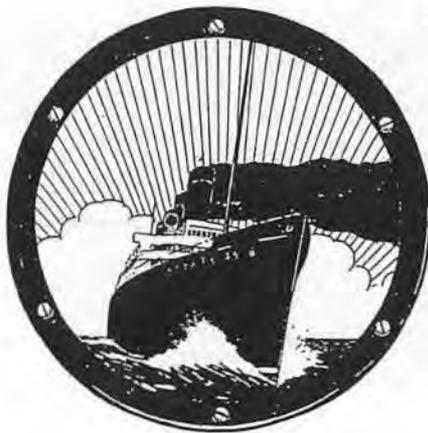
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Whaling

Whaling was at its peak during the period 1820-60. In 1846, some 900 vessels were operating worldwide, 700 of which were American. The US fishing industry alone employed some 70 000 souls. The romance of whaling had captured the imagination of countless youngsters - who eventually found that there was precious little romance associated with it, and far less profit. What profits were made went to owners and officers.

Two brothers shipped from Martha's Vinyard, an island near Nantucket, New England, in 1850. On their return four years later, one had \$2 for his share of the voyage; the other had fared a little better, with the princely sum of \$41 - of which, \$3 was profit from the voyage and the remainder for washing the captain's clothes!

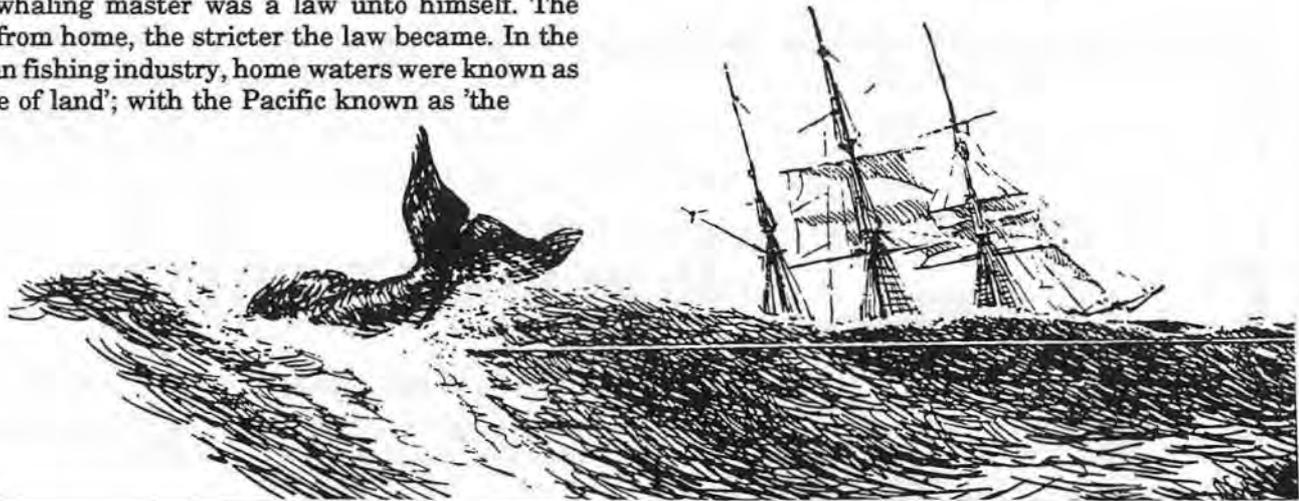
The whaling master was a law unto himself. The further from home, the stricter the law became. In the American fishing industry, home waters were known as 'this side of land'; with the Pacific known as 'the

other side of land'. The old captains used to say: "This side of land I have my owners, but on the other side of land I am God Almighty"!

The principal whaling ports, and also by far the most famous, were the American ports of Nantucket, Fairhaven, New London, Sag Harbor and, of course - the pride of them all - New Bedford.

...That girl who fair would choose a mate
who'd never in fondness fail her,
may thank her lucky stars if fate
should splice her to a sailor.

Barry Hicks



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