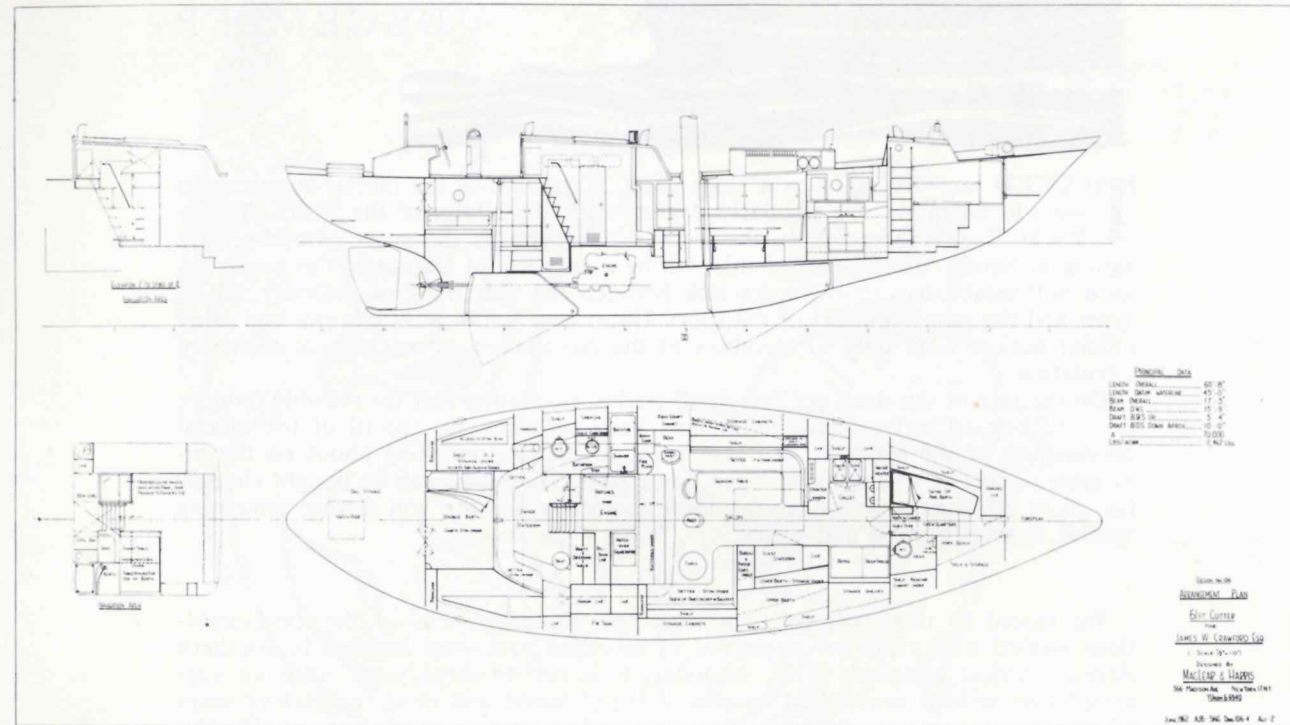


A 'SINGLE-STICK' SCHOONER



61 FOOT CUTTER FOR AROUND THE WORLD CRUISING

Owner:
James W. Crawford, Sarasota, Florida.

Designer:
MacLear & Harris, 366, Madison Avenue, New York 17, New York.

Principal Data:

L.O.A.	60 ft. 7 in.
L.W.L.	45 ft. 0 in.
Beam, Overall	17 ft. 2 in.
Beam, D.W.L.	15 ft. 9 in.
Draft, Boards up	5 ft. 4 in.
Draft, Boards down	7 ft. 10 in.
Displacement	70,000 lb.

Engineering:
Engine: Caterpillar D311 Diesel. 75 h.p. at 2,400 r.p.m. maximum; 50 h.p. at 2,000 r.p.m. continuous.
Reduction Gear: 2½ to 1. Fuel: 1,120 gallons. Water: 623 gallons.

It is infrequently that a man who has gone around the world in a sailing yacht orders a custom boat designed on his return. James W. Crawford, who passed through Durban and Cape Town in the schooner *Dirigo II* a couple of years ago, is such a man, and it is therefore particularly interesting to note the kind of boat that he has requested, for a projected cruise around Cape Horn.

Angantyr, as she will be called, is a 61-ft. cutter with a mast stepped well aft at the midship point. Her owner, whose circumnavigation was made in the topmast gaff rigged schooner, *Dirigo II*, and who has for a long time owned the ketch *Lady Patty*, calls *Angantyr*, a "one masted schooner".

The mast was stepped aft for several reasons. First, to reduce the size of the mainsail and provide a divided rig in a craft with only one spar. Secondly, midships is near

the widest point of the vessel and therefore the mast can be more easily stayed. Thirdly, a mast stepped this far aft is in a drier and quieter portion of the craft, where there is less pitching motion and where halyards can be handled more easily.

The tandem centreboards permit the boat to be given zero helm, weather helm or lee helm. They can be trimmed to balance under various sail arrangements and on various points of sailing. With the forward board down and the after board up, the craft is expected to be able to tack with the staysail alone. The reason for the balanced rudder is that it will (1) give a greater steering force with less effort from the helmsman, and (2) will permit the craft to heave to under power without any forward motion. The large propeller, driven through a 2½-to-one gearing, will provide a large flow of water over this relatively large rudder, thus keeping the vessel's stern so that the bow will remain head to wind, again with the help of the forward board in a down position.

Another unusual feature of this design is that the two centreboards are extremely strong, being made of two-inch steel plate. The centreboard trunk is also of two-inch thickness of centreboard trunks, it was deemed worth while since it would permit the vessel to be grounded rather severely without doing damage to either the trunk or the boards. Furthermore the craft needs ballast down low and the weight of steel replaces the weight that would otherwise have to be there in the form of lead. Incidentally, the enormous strength in the centreboards and centreboard trunks will permit the craft to anchor in shallow, sheltered water by simply lowering the boards on the bottom. This will probably be more of a stunt than of practical value.

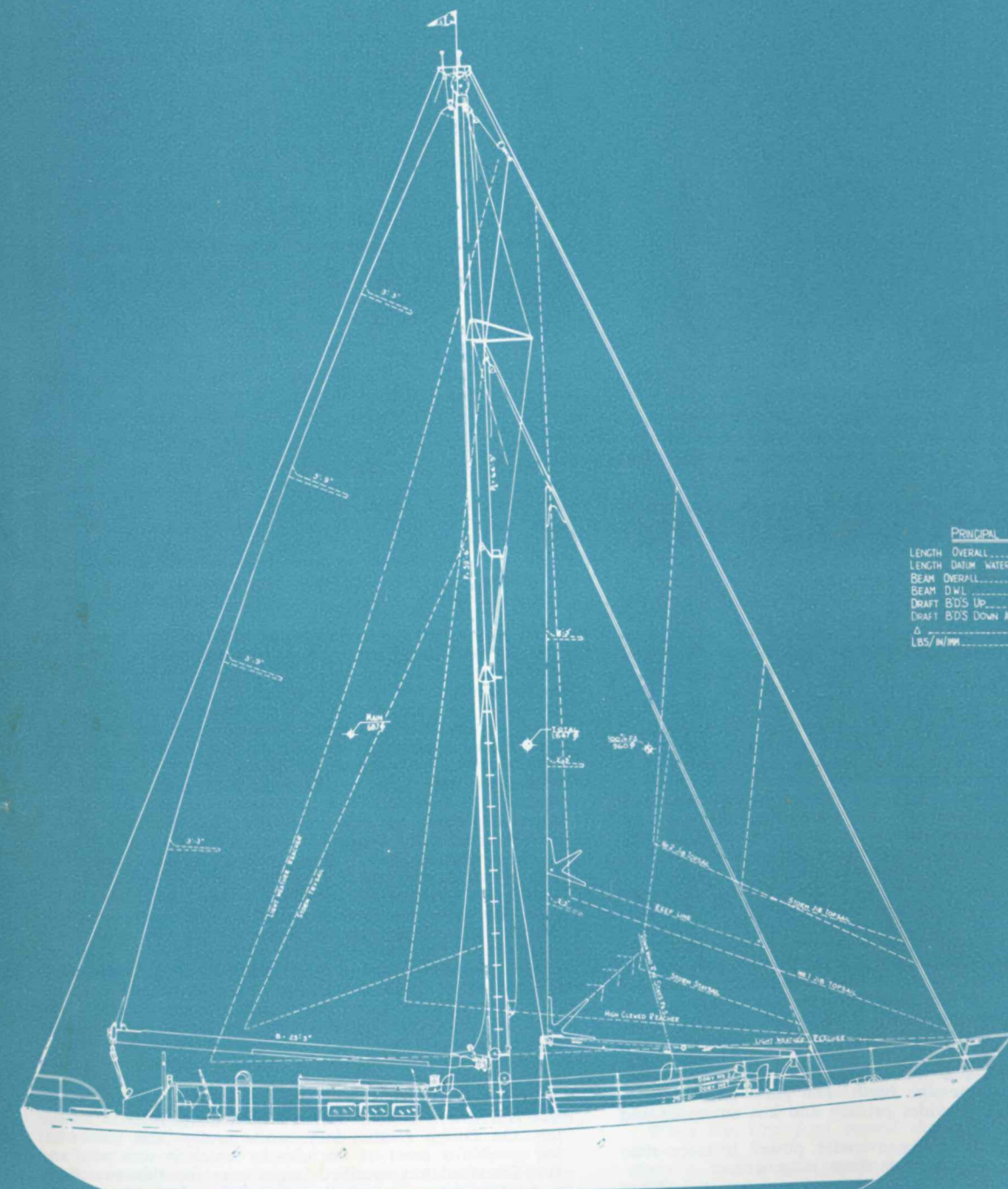
Since the craft draws only 5 ft. 4 in. the heavy boards in the lowered position will also have a stabilising effect and stiffen the boat. The steel hull was built at Abeking & Rasmussen, Germany, and then she was shipped to U.S. and finished by the owner.

(Continued on page 30)

SAIL LIST										PENDANTS	
SAIL	WT. LBS.	TYPE	SIZE	FOOT	UPPER	FEET	AREA	COMMENTS	Mat	Sec	HEAD
MAINSAIL	12-00	SAC	A	56-8	59-6	55-0	930	TO BE HITE CUT	WE	5-2	None
STAYSAIL	12-00	SAC	A	16-7	59-6	55-0	292		WE	5-2	None
HEAD CLIMB REACHER	12-00	SAC	B	34-9	62-3	55-2	100		WE	1-6	None
NO 1 JIB TOPSAIL	12-00	SAC	A	25-3	51-8	45-0	505		WE	3-0	3-9
NO 2 JIB TOPSAIL	12-00	SAC	B	18-3	59-4	22-2	190		WE	7-6	25-0
STORM STAYSAIL	12-00	SAC	A	10-9	18-9	14-3	76		WE	3-2	20-3
STORM TETSAIL	12-00	SAC	A	16-0	26-0	34-6	189		WE	14-6	None
LIGHTWEIGHT REACHER	6-00	NVL	B	42-4	62-9	60-6	1325		WE	2-5	None
SPINNAKERE	12-00	NVL	C	C	C	A	NAV	CROSS CUT			
STORM SPINNAKERE	4-00	NVL	C	30-6	44-8	34-6	346	TO BE HITE CUT			
TWO/THIRDS TOPSAIL	4-00	NVL	B	26-0	42-0	26-3	310	TO BE HITE CUT			
STORM JIB TOPSAIL	12-00	SAC	A	10-9	18-9	14-3	76		WE	7-6	35-3

- GENERAL NOTES
1. WEIGHT OF MATERIAL IS GIVEN FOR THE U.S. STAND. WITH 20%.
 2. ALL BUTTER PROVIDE TO BE OFFSET TYPE WITH LIGHT LEE.
 3. ALL SAILS, STAYS, TACKS, TO HAVE BLUE HEAD, RED TACK AND GREEN CLIMB PATCHES.
 4. ALL SAILS TO BE HANDED AT HEAD WITH SAIL NAME, BOAT NAME AND YEAR.
 5. SAIL RAILS TO BE STITCHED & HANDED IN THREE PLACES, SIMILAR TO RAILS.
 6. ALL HEAD SAIL HOOKS TO BE SIDE POOL TYPE, OPENING TO WIND.
 7. EXTRA HEAVY TACKING ON ALL HANES & SLIDES. SEIZING ON LUFF.
 8. SLIDES TO BE WIRE COVERED.
 9. RATTENS TO BE 200 LB. TANNED AND HANDED.

DATE	ALTERATIONS

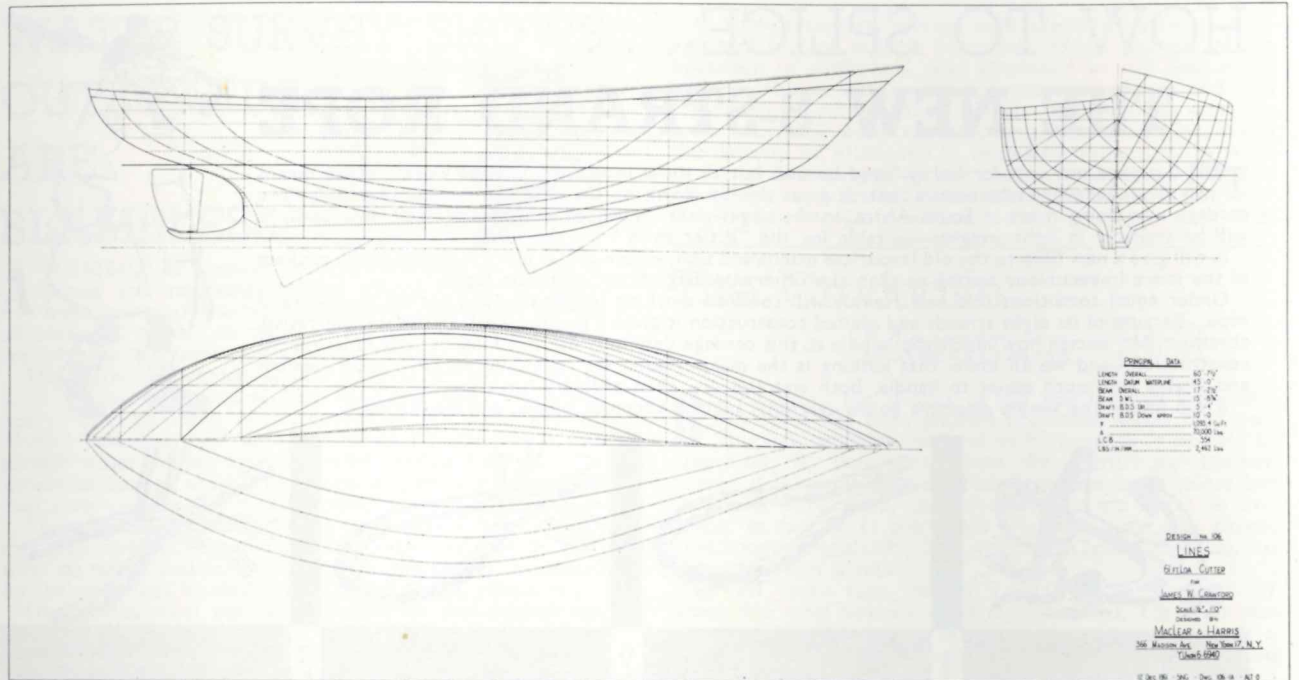


PRINCIPAL DATA

LENGTH OVERALL	60'-8"
LENGTH DATUM WATERLINE	45'-0"
BEAM OVERALL	17'-5"
BEAM D.W.L.	15'-9"
DRAFT BDS UP	5'-4"
DRAFT BDS DOWN APPROX.	10'-0"
Δ	70,000
LBS/M/WM	2,462 lbs.

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DESIGN No 106
SAIL PLAN
61 FT. CUTTER
FOR
JAMES W. CRAWFORD
SCALE 3/8" = 1'-0"
MACLEAR & HARRIS
366 Madison Ave. New York 17, N.Y.
JUNE 1961 KEH-FRM-SNG DWG 106-6 ALT-F



Jim Crawford's new ship has a very sweet and balanced set of lines, with a canoe stern seldom seen on Yankee yachts, but broad and beamy with a hollow entrance at the waterlines. The bow is much less likely to induce pitching in a head sea than the more common spoon-bow, although it has ample reserve buoyancy. It would be very difficult, however, to drive such a balanced hull at $1.4 \times \sqrt[3]{LWL}$ and above, before the wind, which her owner often managed to do with his previous ship.

and have to spend much of her time lying to her own anchor rather than to a mooring, stout chain and heavy ground tackle becomes far more important. For this reason the craft has two anchors of 212 lb. each as well as the usual light Danforths and "lunch hooks".

The owner required that the capstan be strong enough to pull up 30 fathoms of chain, hanging straight down.

Hull

The craft has a canoe stern because double-enders can heave to stern to the wind better than transom-sterned vessels. Also they tend to be better steers off the wind and in quartering seas, states Jim Crawford. The balanced rudder, besides having the advantages already listed, has another point in its favour. On a boat of this size, the wheel, hard-over to hard-over, might need three turns, but for *Anganty* they are only two. This could cause a very stiff wheel that is hard to turn because of the large force and poor mechanical advantage afforded the helmsman, but in the case of the balanced rudder, the forward part of the blade helps the helmsman put the rudder over because of the counterbalancing area ahead of the rudder stock. It was estimated that with two turns hard-over to hard-over, and aid from the water force, a helmsman could keep the craft on course more easily without spinning the wheel. In other words, one or two spokes of the wheel would give the boat considerably more rudder angle than is customary on a craft of this size.

The large aperture for the propeller has several purposes: one is that a boat with as long a lateral plane as *Angantyr* has, and with two centre-boards placed far apart, would (a) tend to remain on a straight course, (b) be slow in stays and (c) have a large turning radius. The cut-away skeg relieves these tendencies, permitting the stern to swing freely in answer to the rudder.

Another reason for the larger aperture is that a propeller operates more efficiently with free water and no obstruction before or aft of it. Since *Angantyr* will go on long voyages and will sometimes cross calm portions of the ocean and will always want to maintain a speed of more than 5 knots, it is anticipated that she will use her engine for extended periods. It was decided, because of this, to increase the efficiency of the propeller by first

making it large and by permitting it to operate in free water. The relatively large reduction gear of $2\frac{1}{2}$ to one makes possible a large propeller which is efficient under power. A custom-built Hyde type with three blades will feather under sail.

The Caterpillar diesel was chosen for its reliability and semi-heavy duty characteristics and quiet operation and clean exhaust gases. It will be easily accessible under the floorboards in the main cabin, and can be pulled out through a large hatch which forms the frame for the skylight, forward of the mast.

Angantyr is a compromise between the cumbersome boats that make most circumnavigations and the modern ocean racers that seldom seem to go on cruises of more than a few months. In summary, she is a beamy and powerful craft intended for round-the-world sailing and civilised year-round living for the owner and his family.

JIM CRAWFORD (right) owner of this fine steel ship, specially sent her plans to S.A. Yachting because so much original thinking went into her. Apart from his hard-driving circumnavigation in *Dirigo II* he has sailed in just about all the world's great ocean races, so his conception of a tough cruiser must command great respect. Her designer is an old ocean-racing and cruising companion, while the firm of Maclear and Harris are also catamaran specialists. Harris has written a standard textbook on multi-hulled craft. (See also "A Dream Come True", page 34.)

When Jim Crawford passed through our ports he took three young South Africans with him as crew and gave them a magnificent entrée to top-flight American ocean racing. Bjorn Johannsen has just got back to Cape Town after many adventures, and Jan Lello is still sailing out of Newport, California, in the super light-displacement racer Ichiban, while studying at a local college, thanks to the sponsorship of Dr. Stephen Royce, another member of the Pacific Coast ocean-racing fraternity.