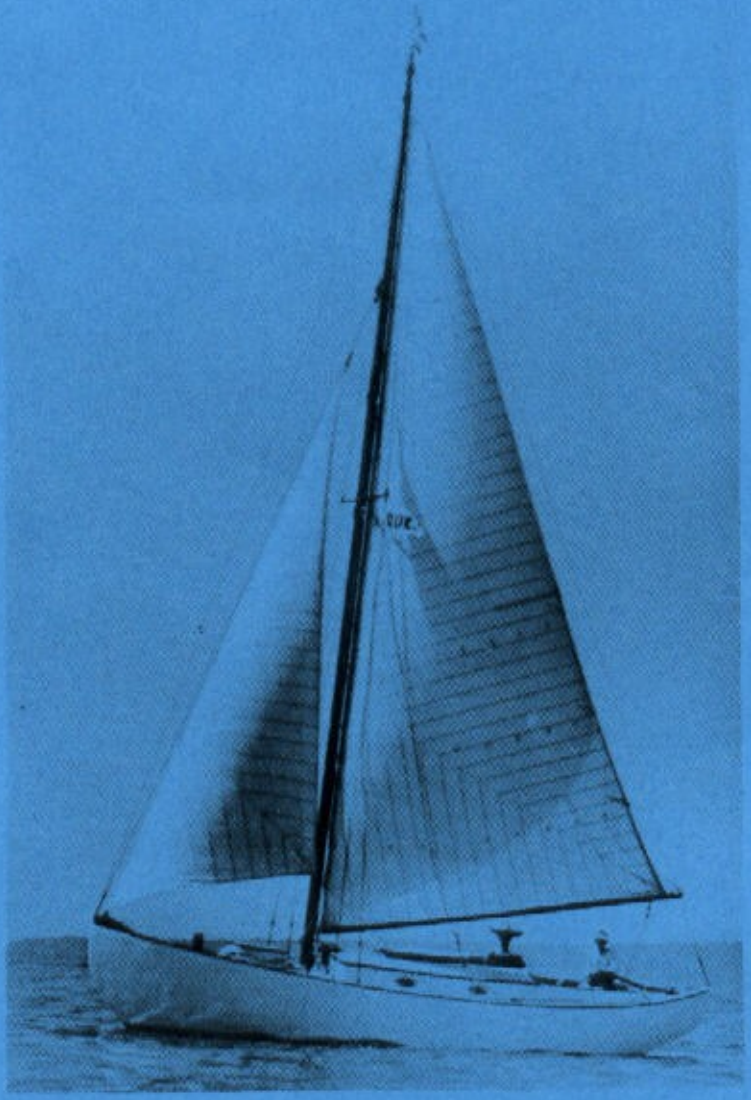
THE HARRISON BUTLER ASSOCIATION



"Quest"

NEWSLETTER NO: 30 WINTER 1989

The Crag
St Mawes

November 1989

Dear Members,

I began my letter last month but have lost the draft so must start again, however, the lapse of time has generated more news.

I've just heard from Camilla that she'd had a 'phone call from Alessandro, from Whangarei, in New Zealand where he'd arrived on 29th October. She said he was in very good spirits. I had the pleasure of a visit from him in August when he came to take leave of Camilla and me before flying to Tahiti to rejoin **JARDINE** after a gap of about fifteen months while he was ill. It was a great joy to see him again, recovered, and luckily, I had the idea to suggest that he take a medical certificate with him to explain why **JARDINE** had outstayed her welcome in the island with the risk of incurring a fine of £9000. It worked and Alessandro was granted a further extension until October. When the time came to leave, he island-hopped to the end of the chain and made his departure from the last island. I think he must have made a good passage and I shall hear later when he writes. He plans to remain in Whangarei for several months while he makes further modifications to the boat in the light of his oceanic experiences. I think he's discovered that sitting on the deck with his feet in a hole is not the most comfortable way of sailing round the world and I suspect that the next time we see **JARDINE** she will have a more conventional cockpit. He says he feels very much at home in Whangarei because the river is so like the Hamble. How nice that the Hamble feels like home. Incidentally, my father held the view that one is much more likely to be swept overboard from a too shallow cockpit than the boat is to be pooped. I'm sure Alessandro would appreciate letters from his friends and the address will be in the Supplement.

I've heard on the grape-vine that Geoff Taylor has set off from Gibraltar, heading for Grenada. His plan had been to help a friend to sail his boat from Gibraltar to New Zealand so perhaps that's what he's doing.

The "Flavour of the Month" is **Vindilis**: the design, not the boat. She is a canoe-stern sloop of 4.7 tons T.M., and two have been built. **DILYS** was built in an orchard in Kent, by Lt Cdr Vernon Nicholson (who by his second marriage became step-grandfather to Penny Richardson). She was beautifully built but there was a wealth of oak on board, including the planking, as I mentioned in the film and this resulted in her floating well below her marks and she is not nearly as fast as she should be - certainly not as fast as her New Zealand-born sister **QUEST** whose picture appears on the cover. When last heard of, **DILYS** was somewhere in the Orkneys. It would be good to have her back in the fleet. Look out for her.

QUEST was built in New Zealand as a stemhead sloop. She was sailed to Australia not so very many years ago and was sold to Kathy Veel and somewhere along the line she has sprouted a bowsprit. News of her comes fairly regularly from Kathy and her last letter written on July 3rd is very interesting as you may read from the excerpt which follows.

'.....we spent a pleasant though rainy week aboard **QUEST** just after New Year at Pittwater (an estuary about 15 miles north of Sydney) in company with my parents in their yacht. Our weather here has been appalling as far as sailing and boat maintenance go. Since early December there have been only three or four rain-free weekends. In fact, there's now a joke: 'What happens in Sydney after two days of rain?' Answer: 'Monday!' As a consequence, we've sailed very little and I'm afraid **QUEST**'s varnish has looked better than it does at present. The ground everywhere is muddy and sodden, and mould grows everywhere.

'Just before Christmas Jeff and I were sailing off Sydney discussing a furling headsail -whether to get one sooner or later - when the decision was suddenly made for us. The very worn and patchy No.1 genoa split and as the No.2 was as bad, I did get the furler, with an excellent and very fast new sail. So far, I'm pleased with it although the extra weight and windage aloft is more noticeable than I'd expected.

'I've been fairly involved with racing in various forms this year. I joined the Short Handed Sailing Association, a very interesting group of sailors specialising in single-handed and two-handed sailing. Many of the members own fast high-tech mono- and multihulls and some aspire to do the next **BOC** race. They have very interesting forum type meetings and there are some members with traditional boats. **QUEST** has been sailing in their Winter Series -six races with a handicapped short-haul division - of coastal passage races. We came third in the first race and actually beat some larger, more modern boats around the course. As Jeff is not really interested in racing, my crew has been a girlfriend, Ros Lewis. Ros is a very competent sailor and has skippered her own yacht (now sold) twice in the Sydney-Hobart race, and we have really been enjoying ourselves.....

'As well as this, I've been invited to join a new division for traditional yachts for a series of harbour races next summer. Last week was a meeting held by Bill Gale, one of the great characters of Sydney boatbuilding. He owns a gaffer called RANGER designed and built by his father in 1933. RANGER was the first of eight built to the design which is now a Sydney harbour Classic. The meeting was great fun. Bill had asked everyone to bring a photograph of their boat and we all spoke about our boats. It was a great chance to talk about your father to an interested audience. We discussed metacentric design for some time although few people knew your father's work in that area. All agreed that **QUEST** is a very special little boat. It strikes me that compared with her contemporaries (e.g. RANGER) her design is very advanced - most local boats from that era tend to be straight stemmed transom stern gaffers, in contrast to **QUEST**'s fine entry and graceful lines. It should be a lot of fun racing with them all. As in the Short-Handed series, **QUEST** will be the only boat with a woman skipper.

'On that note, the other project which I'm now very involved with is an all-girl campaign for the next Sydney-Hobart race. We have engaged an agent to arrange full sponsorship and the responses have been very positive although nothing concrete has yet emerged - but it's early yet. We aim to be a really competitive team and have gathered some very talented and motivated people. We feel that it's no good turning out a poor or even mediocre performance, so the boat we are looking for will be a very modern lightweight high-tech IOR boat. We have sailed together several times this season in a variety of high performance yachts and our teamwork is getting better all the time. It's a change to be dashing about at over 10 knots and setting spinnakers in 30 knot gusty winds. We are gaining confidence in ourselves and, more importantly, in each other. It's so different having a crew of 10, and only having to concentrate on your own particular job. We have been following the Maiden Great Britain Whitbread campaign with great interest. Unbelievably, we'll be the first all-girl Sydney-Hobart crew in 13 years.

'So, as you can see, things are pretty hectic - and only a few months ago I was worrying about becoming too complacent about sailing. (I have found that if I don't have a challenge, I very quickly start to lose confidence in myself - fear of becoming a fair-weather sailor I guess. After all, if you're not in a race or on a passage somewhere, you don't choose to go out in bad weather and, in my case, start to become afraid of it.)

'I think I've mentioned that we did catch up with **JASLIA** and her owner, John Gordon. That was a while ago however, and we NEVER see her out sailing. I do hear now and then from Don Marshall. He is still travelling and has been at Hamilton Island, a ritzy resort in the Barrier Reef for a year or so, working. He may well have moved on now that the cyclone season has ended.'

What a welter of activity going on in your life, Kathy! I do wish you the very best of luck - crowned with success - in the Sydney- Hobart race. I thoroughly agree with what you say about losing confidence if you are too long away from sailing. A sort of disuse atrophy sets in. I look forward to hearing all about your experiences in the race so that we may all know how you get on.

Two H.B. boats are about to be built: an **Omega** for Bob and Margaret Lamb, to be built at the college in Oulton Broad and a **Khamseen A.**, to be built by a new member, Roy Aldworth, for himself and his wife, Sonia. They live at Tideford which is on my route so I shall be able to make a slight detour to see how work progresses. How many journeys will she take?

Very recently, I followed up an advertisement for an H.B. boat, 25' with a fantail counter, built in 1952. She had to be one of the very old designs but why was one being used in 1952 and why not via me? The answer came in the letter accompanying the photocopy of her registration certificate which said that the hull had been built by Mr E Cove of Salcombe and she had been completed by Uphams of Brixham. Whenever my father put in to Salcombe, he called on Edgar Cove to see how he was getting on with building a boat to his "Russia" design (another boat was built in Russia to the same design). My father's last visit was in 1939 and she was still unfinished but I think she was on the stocks in about 1929 so 'built in 1952'is a trifle misleading. She, **FREIGA**, must hold the record among H.B. boats for longevity on the stocks. I was told that a Welsh brewery was interested in buying her and putting her on display as a show-piece - and T.H.B. a near tee-totaller! And what a waste. I was told that if the brewery did buy her they might be persuaded to commission her,

Several boats have changed hands and while there is joy in the hearts of their new owners, for the vendors there must be a degree of anguish whatever the reason for selling. Boats - wooden ones anyway - are almost human and it is like parting with a friend and a friend of long-standing in many cases. My father once said that he could never share his boat: it would be like sharing his wife. Luckily, the H.B.A. doesn't need to lose the " Past owners" and, with luck, gains the new owners. The Supplement to the List of Members shews how successful we have been. Each shewing of the film has resulted in a trickle of new members. It has been shewn three times in just over a year but I doubt if we can hope for so much publicity in the future.

I thought that as we are a Corporate member of the Solent Protection Society you might like to know what its functions are so we are enclosing the latest bulletin.

In May, I went for a few days to Yorkshire with a Gardening Group and one of the places we visited was Riveaulx Abbey. As we stood looking down along the nave, the sun was high on the starboard bow and the time was about 1400hrs BST. I was puzzled: the " East" end of the abbey was facing pretty well due South. All was explained by a tablet which had an east-facing arrow labelled : Ecclesiastical North! Beware, all ye who are navigated by clerics.

I have a request to make of all our medical/surgical members: please will each of you send me a list of what you think an H.B. boat's medical chest should contain? It will be very interesting to analyse your choices and make a composite list to go in the next newsletter.

I've had a restful summer season having delegated the organizing of our social functions to others. John Lesh arranged a very enjoyable Meet for us in the Beaulieu River, with Supper at the Royal Southampton Y.C. at which there were about 36 members and friends. There were but three H.B. boats: **ARDGLASS, CARACOLE and PERADVENTURE**, none of which I had seen for ages. Peter Mather and I shipped aboard **ANDANTE** II as John's crew and we had a very

entertaining weekend including a contretemps with a mooring warp when John exhibited masterly restraint and aplomb. "Charlie Makepeace" had come on board earlier and cooked us a monumental breakfast and later, when we had re-secured **ANDANTE**, she drove us back to Lymington where I had left my car.

One new member had ordered a taxi for 9.0 p.m. to pick her up after the supper but she had to leave on an empty stomach as food had not by then appeared. However, she wrote afterwards to say how very much she had enjoyed herself and meeting us all: such is the magic of the H.B.A.!

The Laying-up Supper at Woodbridge , arranged for us by Peter Mather, was another very enjoyable occasion and was equally well attended - and with more H.B. boats present. It was our first East Coast venture but I doubt if it will be our last. The setting at the Bull was more formal than any of our previous Suppers with the large E-shaped table white-clothed with alternate white and blue napkins. Mine host, who is also the Commodore of the Woodbridge C.C., spoke a few words of welcome to us and I replied and passed on a message of greetings to members from Alessandro who had written from Tahiti. I brought them up to date on the **JARDINE** saga. Now, we have even more news. Formality extended no further than that. It would have been nice to have had more room for mingling but one can't have everything and both Peter and John can be well satisfied with the results of their labours. For my part, I am more than content with the results of their labours while I just enjoyed myself with no responsibilities. Thank you both, very much: I'm most grateful.

On the following day, some of us had lunch at the pub at Ramsholt, some going by road and others by boat. Peter Mather and I were on board **DESTINA** by courtesy of Peter Benstead and Sue Phelps, We went to the river mouth before turning back to Ramsholt and I was very interested to see what lay beyond what I used to see from the window of the train on my way to and from school all those years ago.

The boats gathered in the marina were **JUNE**, **KELANA**, **DESTINA** and **KEEPSAKE**, with **ELGRIS** still ashore (but now in the water again). Peter and I were particularly glad to see **KEEPSAKE** because we have worked hard to get her into the Association for several years. At last we wore down Mac McKinney's resistance - or inertia - and he is now a member. I had last seen **KEEPSAKE** and Mac in Wivenhoe in 1981 Or probably earlier.

I had the additional pleasure of spending the weekend with Ruth and Peter, giving me plenty of time to talk to members, both old and new, including Ruth and Peter. I do hope that many of you will come to the A.G.M. on 24th February. Please give me as much notice as possible as it helps with the catering.

On 24th October, I was scheduled to go across to Falmouth to talk to the Royal Cornwall Y.C. about T.H B. and his boats and I had planned to catch the last ferry from St Mawes. Michael Wilson had promised to drive me home. My plans came to naught because a gale - more than a gale - intervened and the ferries didn't run. Michael came over on the King Harry ferry, further up the river but when we arrived back there, we found that it had not risked the last crossing and we had to go the long way round, via Truro. I found it reassuring that people laughed from time to time but it would be helpful if one could be at the receiving end as well as the talking end so that one could know what it sounds like. Michael and Joan and I had a wild drive back with rain sheeting horizontally. I came in to the cottage and found no electricity so was glad to have been out all the evening. Going to bed seemed the most sensible thing to do and I listened to the roar of the wind in the trees and bethought me of Tim and his family being tossed across to France in one of those car ferries with no draught to speak of. They returned the next weekend in almost such another gale, none the worse.

At the moment, the Treasurer has no burgees in stock. We have to find a new supplier as the present one can now make flags only in a type of material which is unacceptable as it has the appearance of rather thick and

inferior underwear. Peter is researching other sources. I myselk am doing some preliminary research into the possibility of having a West Country Meet next June or July for consideration at the A.G.M. Falmouth springs to mind as a suitable venue. Think about sailing to the West instead of to France. Perhaps the Scillies beckon and you can take in Falmouth en route in either direction. We haven't had a Meet down here since 1974.

I wonder what I've forgotten? At 2.30 a.m. I'm not likely to remember, so I'll not take up any more space but leave the field clear for Peter.

My best wishes for whatever the season is in your part of the world and, please, give me a reminder if I haven't sent you things which I should perhaps have done: I'm very fallable. Meanwhile,

Greetings from your friendly neighbour President,

Joan.

P.S. There had to be something: The little sketch of Clemens boatshed was among my father's collection of boat photographs and I think was sent to my parents on a Christmas card. It is, of course the shed where several H.B. boats were built including three Yonnes: **YONNE**, **PRIDE II** (now **YARINYA**) and **MISCHIEF III**. I haven't my terms of reference here and cannot remember if **SABRINA** was built there or at Feltham's yard nearby, or elsewhere.

P.P.S. A night's sleep has called to mind the List of Members. I don't think I made mistakes with the addresses this time but I did go astray with some telephone numbers and I apologise for these. I was not responsible for one page having been put in back to front. One of the pages went astray also in the Newsletter and again I am not guilty. Over to you, Peter!

EDITORIAL NOTE. Joan's "went astray" comment was the result of my trying to be too clever! In the contribution on **ELGRIS**, in the middle of the general narrative, I inserted plans and photographs with appropriate comments so that at first glance it appeared as if the pages were out of order. It is an effect which is difficult to achieve when one is restricted to uniform type.

A SCENE ON THE CAMBER, PORTSMOUTH.

CORRESPONDENCE

c/o Austral Yachts Ltd.
40-46 Herckius Street,
WHANGAREI,
New Zealand.

5.11.89.

Dear Joan,

I can finally breathe with relief after having accomplished my plans so far and get out of the traps that could prevent me from sailing any further -

I eventually settled things with the French Customs, after countless trips to their offices, and got my clearance, along with **JARDINE**'s official papers, on the 23rd of September, about the same time that I suppose you must have worked out the Laying-up Supper as scheduled -

On that same day I sailed from the port of Papeete to the nearby island of Moorea, no more than a 25 miles walk, and in the fresh quarterly trades I got back again to the reality of sailing -

I did work out some repairs and a general overhaul when at anchor in the reef protected lagoon of Tahiti and among the countless minor jobs, I fixed a rotten crosstree and a badly worn out topmast stay, this last at the point where it was worked through the block sheave on the end of the bowsprit, and that, if overlooked, could have easily meant the loss of the topmast -

So subtle and tricky can be the ways of the sea -

I layed four days in Moorea and visited Cook's Bay and Opouohu Bay (where W.Robinson of **SVAAP** (?) used to moor her, I think), both of them deeply indented into the coast and first approaches for me, under sail, through the passes on the coral reef -

It turned out to be much easier than I expected because on the high volcanic islands the current through these passes is not so determining as it is on the atoll type of islands, where the sea beating on the weather side of the atoll can at times cause some overflowing into the lagoon and a correspondent fast ebbing through the leeward passes -

At clearing out from Tahiti I already planned to sail along the chain of islands of French Polynesia but time and a certain urge I felt did not allow me for long stays and a more peculiar exploration of the rather off hand and more secluded places -

So far I was happy enough with some fleeting views of the more celebrated ones -

I sailed at 0800 on September 27th from the island of Moorea, bound to the next lying island of Huahine, some 80 miles on a northwesterly course -
As I had quite a useful run sailing the previous distance between Tahiti and Mooree at over 7 knots, I did expect the Trades to be regular and strong enough on this trip too and that I could drop my hook in protected waters before nightfall -

And this, as usual, proved wrong - In the early afternoon the wind gradually becalmed and I realised I was not going to make it - So, by nightfall, I did heave-to at some 15 miles from Huahine - The wind did eventually pipe up through the night but not as much as the seas that were very confused and quite steep -

I had a faint oncoming of seasickness and once more wondered what is forcing us to go to sea -

I got over this "horizontally", that is hitting the bunk as soon as the riding light was in its place -

The settling was altogether quite uncomfortable as **JARDINE** rode the seas at an angle and I would say that her puffed out waterlines forward, quite a visible mark from wrong lofting, did effectively encourage her rather wild jerking -

I think that crafts of the past like the Brixham trawlers or most of the pilot cutters, were so renowned for their kindliness, especially when hove-to, because their bellies were primarily shaped after this particular requirement - They had been evolved by craftsmen in conjunction with the actual experience of the professionals who would use them, fishermen, pilots and watermen on the whole -

These crafts, built mainly for coastal work yet in offshore sea conditions, were likely to stay still at sea for most of their working time, that is not moving or moving around very little and not very fast, fishermen fishing and pilots waiting for vessels - and as their lines were perfect for that purpose even though they produced poor performers to windward and likely to develop strong weather helm - that is, full, deep bodies forward, which carried their centre of buoyancy quite forward too, and wide, flat sections aft to counteract pitching -

I think that the pilot cutters, on average, were more compromised types with finer sterns for better sailing performances but still they retained their bulk well forward of amidships - **JOLIE BRISE** must be one of the first of this sort and the first **DYARCHY** with her marked finess at the stern, does even better represent the compromise type -

So, I make a long story short, it is true that with our yachts with fine forefoots and substantial volume aft of amidship, but still closing to fine waterlines at the stern, we have better performances moving to windward but they certainly are poorer models when compared to the working ones of the past when hove-to, because the area of leverage between the bows and the centre of buoyancy is far greater in such a sailing yacht with her centre of flotation well aft, than in the working crafts that, having their centre of flotation well forward, tended to follow the up and downhill of the riding seas without shooting their bows into the air -

That is, first moral of the story, sailing yachts of this type are better compromised and developed in order to move for most of their time at sea, rather than staying still, and when given fine bows they are reasonably comfortable performers to windward -

They also can be driven harder to windward than the working type, provided they are given very efficient working canvas forward with a lot of lifting action - They are in fact easily suffer early from excessive power forward well before any exaggerated heeling takes place but they can be made reasonably comfortable beating to windward with the right set of sail, even if never as comfortable as a scaled down working model - The very finess at the bows comes also to advantage when hove-to as it will soften the lift forward and thus reduce pitching to an acceptable if not the utmost degree of comfort - This peculiar type of shape I have seen evolved in your father's later designs - Albert Strange also did draw very fine forebodies and markedly wider afterbodies but he kept closer to the traditional model and in comparing the average lines set by the two amateurs, flatter sections and deeper forefoots and forward buttocks are clearly seen in the Strange outline - Not so balanced perhaps but it seems to me that the gain of balance definitely affects the comfort in those circumstances when you really need it to the highest degree, that is beating to windward -

I could also observe that a balanced design with cut away forefoot but wide and deep after sections tends to be quite stiff on the helm and here I do not mean weather helm but the actual liveliness of the tiller and response ability to changes of course -

It is true that this shape tends to achieve balance but it also quite reduces the arm between the steering action of the rudder and that probably theoretically unforgiveable but nonetheless existing average shifting area of the centre of turning more or less about the core of the belly -

In a seaway this has the undesirable effect of very slow correction of course especially under self-steering gear and reaching in a severe sea, when the longish bows mostly feel the deviation caused by the oncoming seas - It seems to me that weather helm is not only a matter of yaw angle of the tiller but also in actual heaviness of its handling - you can have a very unbalanced boat and need to steer her with a lot of rudder trim but still with a reasonably light tiller - or you can have another shape of hull that takes only a few degrees of helm to be kept on course but far more tiring to steer through marked heaviness and limited responsiveness at the helm, which latter I can better describe as lack of "feel" -

Odd as it sounds but, within the limits of exaggeration, the unbalanced hull under self-steering gear can follow a much straighter course than the balanced model - That is because it is true that the balanced model tends to follow a straight course on its own but, oddness in itself, it follows it in the wrong direction when a sea intervened to separate it, and it then takes quite a long time for her to recover the intended course - So far I observed that the virtue of the balanced hull really shows off when running - Poor model as it is reaching and a compromised one for windward work, it gets its own back when running - More than once I left **JARDINE** dressed with rather more canvas than an unbalanced model could have stood and always in following seas - Her quite unique ability in running so often saved me the trouble of reefing and this I particularly appreciated at night - I think that running ability is a very desirable quality in an ocean cruiser when the only way to safety in a stormy open ocean is running - And running for life - I can well remember the damage I sustained off the Portugal coast under storm canvas and just reaching forward - I did not actually heave-to in proper fashion, which I believe is properly done when the boat drifts to leeward and slightly aft at the same time, crossways if I can say, thus leaving the eddies to the windward sector and giving to the seas rather than standing up - As I was not hove-to this way I cannot say whether it would have worked out successfully, it probably would, but it eventually comes to a point when I am sure that you have to switch to running to save dear life and probably as fast as you can, with some sail set and accurate hand steering - This is certainly how I am going to work it out if caught in similar or even severest circumstances -

It is in this light that the balanced model would compensate for the points one can be rather critical about -

The second moral of the story, and a personal one, is that poor **JARDINE** has at present a bit of the worst of the two models discussed, having puffed bows, main body well aft along with her very fine after ends - such as can be a bad formula for heaving-to I can now recognise in her shape - you get them all to be uncomfortable - very cutaway forefoot that turns to good liveliness of her forward ends (further enhanced by the unduly added volume), long arm between these lifting forces and her centre of buoyancy so well aft, to end with her fine vee sections aft that coupled with the lack of buoyancy of her small transom and her extra heavy solid spars, make her a real prize-winner at pitching - Not a good formula for beating as well for, again, the extra fullness forward enhances pitching, thus slowing her down, this coupled with increased wave resistance fore and aft that definitely puts the cherry over the cream -

I finally got quite fed up with this behaviour but here in New Zealand I am going to open her guts and hollow her and the quite radical expression might suggest to you the sort of major work I am planning to do to get her right -

To return to my cruising account, I eventually dropped the hook at Rare,

Huahine's main harbour, the following morning and laid there until the 3rd of October by which time I decided I had seen quite enough of French Polynesia -

Next trip was from Huahine to Raiatea, a short one of 30 odd miles but perhaps amusing to tell on account of its circumstances -

I was quite ready to go early in the morning of the 3rd of September, when I realised it was Tuesday -

Now, I had always been hampered by that saying that bewares the sailor from sailing on Tuesday and Friday and, by the way, it rests also on the shoulders of the promised; this anyway not having been my case so far -

It was nonetheless a saying my father used to utter with sincere belief - I quite honestly could not see any points that could prevent me from sailing that morning - The boat was shipshape and the breeze was right and that was what I needed -

So it was that I sailed out of the shelter of the bay and through the pass and found a gentle breeze nothing like the usual Trades, but these tend to be sleepy in the morning especially in the lee of the islands -

It turned out to be a rather tiring passage because the wind was light and eventually it nearly died out with the proposed landfall a sheet's length away - I was so determined at doing it before nightfall, somewhat still hooked to the saying as I was, that I pumped quite hard at the oars with a falling sun and the pass maybe three miles away -

I got in front of the pass, reefs either side, relying only on oar power and with the darkness closing in -

Adding to this, the pass had no leading lights and there was some outflowing current - Had I given up, darness would find me dangerously close to the reef so I kept puffing at it and made it through at last, with the feeling of having accomplished something great -

I was just heading into the inner lagoon of Raiatea, quite large in that particular spot, when darkness was almost complete but I no longer worried that much because even if darkness was somewhere above and ashore, I was getting deeper across the lagoon watching the echo-sounder all the time and ready to let go in the first suitable place of reasonable depth -

Apparently my logic hit with that of these sailing grounds for as I was picking up speed from a land breeze in good 15 fathoms I came to a definite standstill, with ominous audible crunching, against a coral bank and with absolutely no early warning from the echo-sounder - I was so mystified that some time passed before I took down all plain sail -

As I realised afterwards, the rise of the bottom was so steep that the presence of the reef, at night, was totally unpredictable with just the aid of the echo-sounder -

This was an advantage in coming off anyway, which I did rowing out the bower and heaving on it by hand as unfortunately I hadn't got any winch handles for the last 10,000 miles and one I previously made out of wood did fail miserably at the first attempt -

We got through Tuesday anyway - There is nothing much more to say until the final clearing from Bora-Bora a few miles up and probably the most secure of them all and certainly one of the most traded in the tourist industry -

I was very happy to leave at last and head towards New Zealand and would you believe that I sailed on Friday! Not that I looked for it but circumstances just worked it out as before -

This has been a trouble-free passage and I carried out my navigation successfully, this time, I must say, relying on let's not say poor but certainly bare-to-the-basic navigational equipment - No radio for true signals but a sufficiently reliable wrist watch, no nautical almanac of the current year but

a subsidiary previous set of tables for working out the sun hour angle and declination only and not a really useful set of lamps that I somehow managed to replace with one of the conventional power lamps -

Not the proper way of going out to sea you might say, but one related to some temporary circumstances - I was a bit spellbound by the sight of the first albatross as I approached the higher southern latitudes; it likes a sort of penguin with huge wings and it is quite funny seen that way because it has not got any sort of quickness on the whole, not in the body which he rarely moves nor in the flight which actually gives one the impression of a mere floating through even if in subtle mastery of the wind - sort of great cutter, let's say, but one able to weather the most severe storms -

The passage has been very fast and averaged at well over 6 knots to anchoring - Considering the one day becalmed shortly after leaving and another day spoiled in making my landfall I might think that it was one of the best runs that a small vessel covered with a total of 2300 miles at 148 miles a day -

I only went through one half blow with some close-reefed windward work and no failures apart from the broken glass of a lamp flown about by a nasty knock-down and the liferaft that gave it up on the same night, sneaking out of its bag and leaving this well fastened to the deck as a reminder of its contents - This can add up to the always alive polemics about liferafts and surely must be one of the funniest -

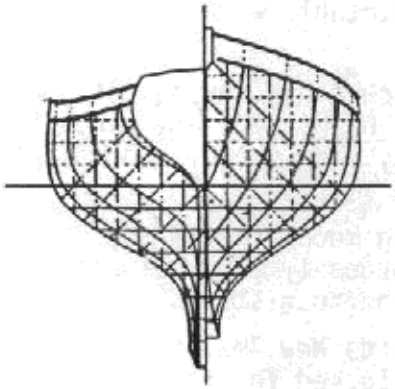
I like New Zealand and I settled things quite fast down here - I found a very good sort of yard, here at Austral Yachts, that will handle my needs should I ask for their help, yet leave me doing my work by myself - We already unstepped the mast and soon I am going to split and hollow it and then make it in a single stick, thus getting away from the housing topmast - Later on I will have her hauled out on the hard and take most of her planking off, along with the middle and forward parts of the accomodation - I'll then get at the frames forward for reshaping along the lines as originally shown - Some work will go on deck too with moving the after end of the coachroof one beam aft and rebuilding the cockpit coamings to a curved shape right to the end of the cabin, this all to be finished with local teak in the cockpit area -

It all will take some effort but I will certainly be more than ever pleased with her after all the alterations will have been carried out -

I hope this long letter was an easy reading and my English comprehensible enough to be useful in filling up the next Newsletter - With the best wishes for the oncoming year.

Sincerely,

Alessandro.



"Because of her finer waterlines and perfect balance she should have greater ability in running." - THB.

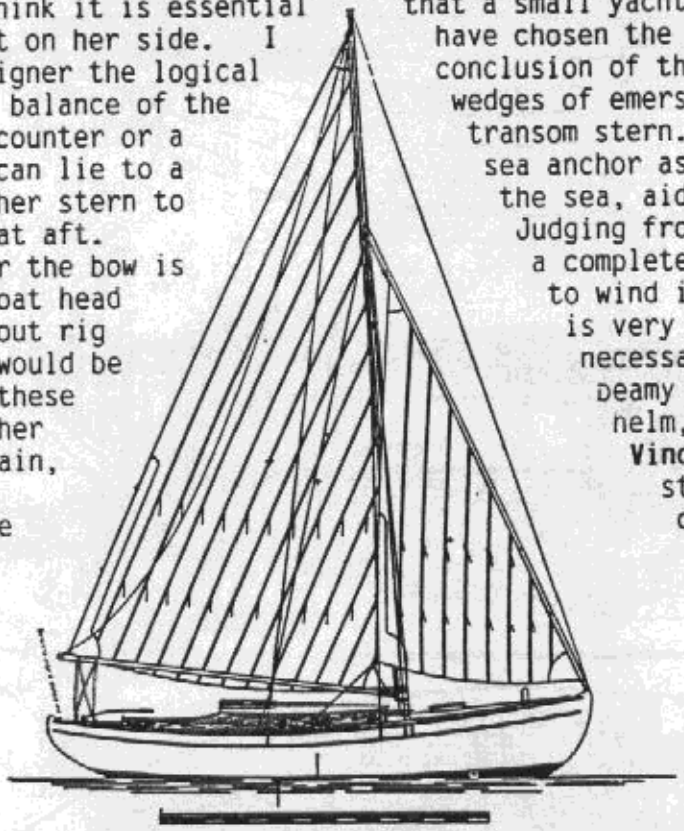
V I N D I L I S, 5 tons.

A Small Single-handed Cruiser Design

By

T. Harrison Butler

In this design I have tried to get as much comfort and capacity for keeping the sea, as is possible on a waterline of 20ft. The beam of 7ft.6ins. is, I think, about correct: more would tend to make the yacht "loggy " and might introduce undesirable tendencies; less would be incompatible with the necessary cabin space space; and although it would produce a yacht with sweeter actions at sea, there would be less power, and the angle of heel would be greater. I think it is essential that a small yacht shall sail on her bottom, and not on her side. I have chosen the canoe stern because it is to a designer the logical conclusion of the after body, and gives a better balance of the wedges of emersion and immersion than either a counter or a transom stern. Also a canoe-sterned yacht can lie to a sea anchor astern, and her high bow will keep her stern to the sea, aided perhaps by a small jib sheeted flat aft. Judging from what one reads, a sea anchor over the bow is a complete "wash out," and if it keeps the boat head to wind it endangers the rudder.

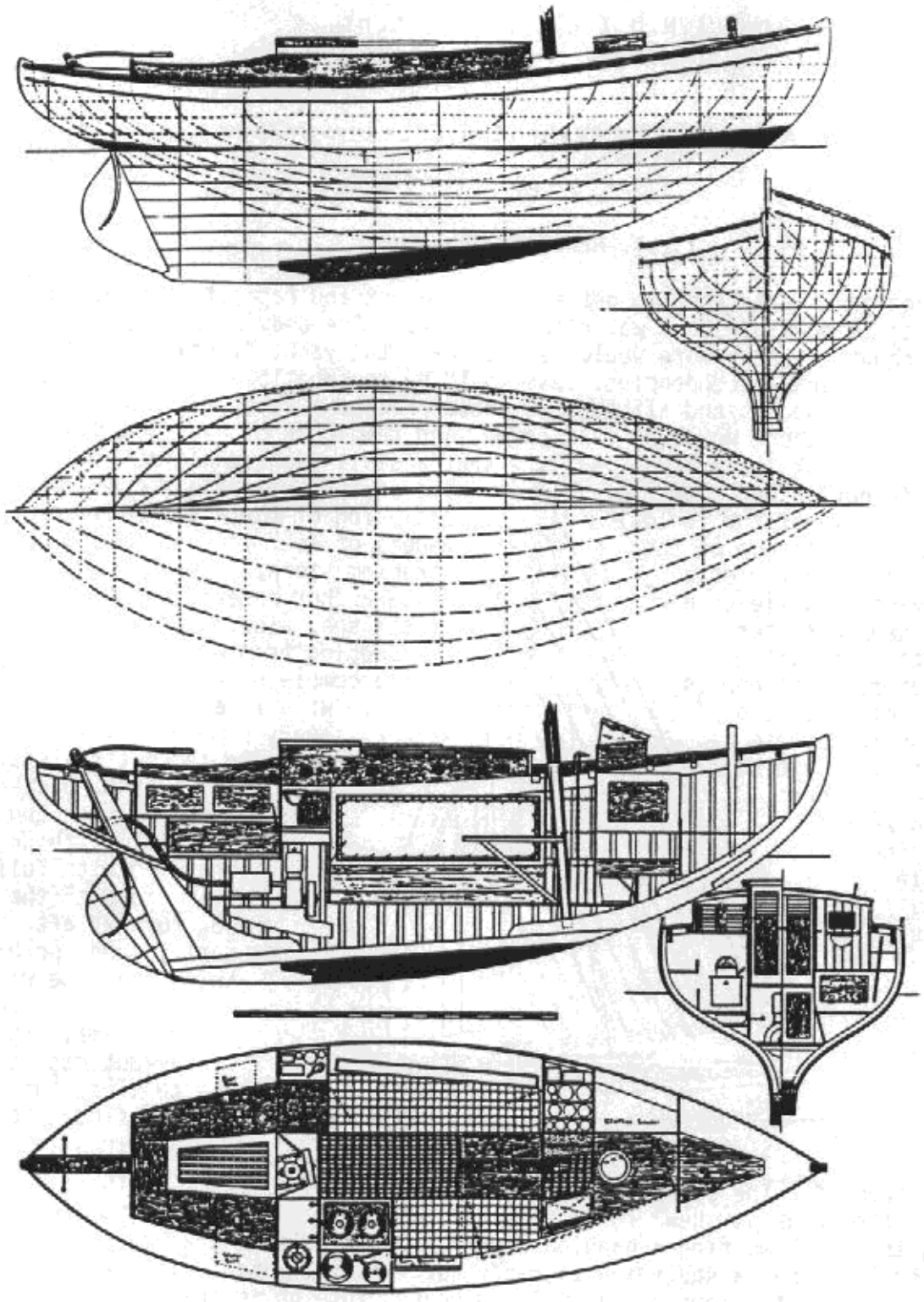


The knockabout rig is very simple. I do not think that it would be necessary to reef the stay-sail, because these beamy yachts tend to carry strongish weather helm, and even with two reefs in the main, **Vindilis** will, I think, balance in a strong wind with full staysail. The cutter rig with the mast about a foot further aft would be equally good, perhaps better. I think that she will heave-to with a reef in the staysail, and the main furled.

The lay-out has been designed to sleep two, but a third can find a berth on the cabin sole.

Starting from aft: the cockpit has lockers under the side decks. The tanks are under the seats as shewn in dotted lines, and aft of these are two lockers. Entering the cabin we find a hanging locker for oilskins to starboard, and here the riding light has a shelf and is ready for immediate use. To port is a table and over it the compass; a small cupboard close up to the side holds bottles, brushes, and other oddments. Under the table is a clothes locker. Next to starboard is the galley, with stowage behind the stove for pots and pans. Under the galley is a pull-out wash basin. In front of the galley there is a turn-down chart caseand table of ample size. The starboard bunk is for'ard of this so that chart work can be done even when two others are occupying the bunks. There is also always a seat here when both bunks are in use. Forward to port is the food locker with three shelves. Over the galley is a pantry for plates, etc. If the yacht were cutter rigged the galley and the food cupboard could be transposed. Between the food locker and the mast there is a self-stowing chain locker.

In the fo'c'sle there is the guest's clothes locker to port, and in the fore-peak there is ample room for shelves for the side-lights and other articles. There is ample room aft for any of the usual types of engine.



VINDILIS

Dimensions: LOA 25ft., LWL 20ft., Beam 7ft.6ins., Draught 4ft.
Displacement: 3.57 tons (Lead keel 1.2 tons).
Sail Area: Mainsail 220 sq.ft., Foresail 80 sq.ft., Total 300 sq.ft.

Yachting Monthly Series - **The Other Man's Boat**

No.50 - **DILYS**, 5 tons

An Owner-built Tabloid Boat with Many Features

After three-and-a-half years of almost continuous work single-handed, with only occasional outside assistance, a 5 ton canoe-sterned sloop has been launched by her owner at Rye in Sussex. **Dilys** was built to plans supplied by Dr. T. Harrison Butler, which were published in the Yachting Monthly for December, 1931, under the name Vindilis.

Her owner, Lieut.-Commander V.E.B.Nicholson, R.N. (retd.), has built her almost unaided in his orchard at Wittersham, which is six miles from Rye harbour.

The work put into **Dilys** is of a very high standard, and the finish equal to that of the best yacht yards. Although she is only a 5 - tonner, there has been a great deal of labour involved in obtaining such a standard, and Commander Nicholson tells me that if he were to build a similar boat again he could reduce the time of building to about 18 months. Because of the time taken in finishing the craft, the oak originally used for the frames, deadwoods and other parts was inclined to move - as newly-sawn oak always will unless secured almost at once - and one or two of the warped frames and part of the stem have had to be renewed.

A half-model was made from the plans, and the drawings laid down full scale, between October, 1933, and April, 1934, by which time the original frames, keel, floors, stem, stern knee and moulds were made. By August, 1934, the lead keel was laid and the frames, floors, stem, sternpost and horn timber set up, and the planking was started almost immediately. The planking is beautifully fastened with copper rooves, each one being countersunk and dowelled so carefully that when I inspected the ship not one fastening showed.

The deck beams, deck planking and deck fittings, together with the watertight cockpit, were in place by March, 1936, and the cabin interior fittings and panelling and the engine installation and mechanical details were completed last December.

The last things to be made were the spars and rigging, and the completed ship was launched in May.

At various stages of the building the work appeared to be almost complete, and Commander Nicholson told me that there was a time when he hoped to have the ship finished and afloat towards the end of the summer of 1935. The amount of detail work, however, necessary to complete her, occupied so much time that summer passed into winter and another summer came round with the little ship still in her workshop in the orchard.

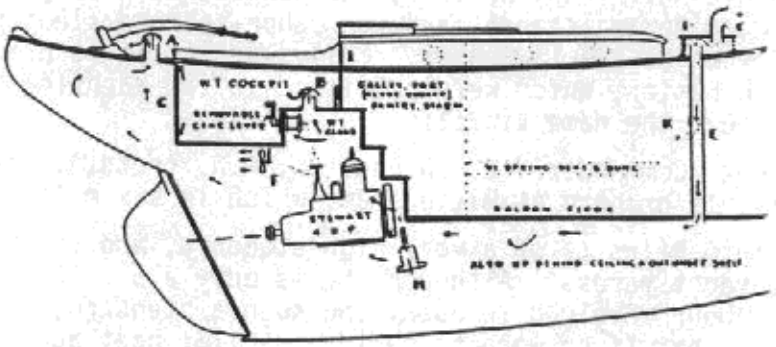
Because of the replacements necessary and the number of special fittings and mechanical details made, the total cost has worked out at rather more than £100 a ton. It is interesting to note how this made up, and the figures that Commander Nicholson has supplied are as follow:

Hull - £182.14s. 6d.....Fittings - £56. 6s. 2d.....Rigging - £23.15s.10d. Sails and spars - £61. 0. 0d.....Cabin Upholstery - £14.15s. 3d.....Engine and mechanical details - £134. 6s. 3d.....Labour expenses over 3½ years - £58.12s. 6d.....Miscellaneous expenses - £17.10s. od.....**Total** - £549, 0s. 6d.

The labour expenses of £58.12s. 6d. represent casual labour called in from time to time to assist in special work. These figures represent, therefore, the cost only of the materials and fittings which have been used in the ship. Had **Dilys** been built at a yacht yard and the labour charged for in the usual way it would be interesting to estimate what the total cost would have been.

The interior lay-out as planned by Dr. Harrison Butler was altered slightly to meet special requirements. The interior is attractively finished in oiled

oak, with egg-shell blue panelling and dark blue upholstery. The oiled oak of the floorboards, bulkheads and fittings is not so dark as teak and gives the cabin a pleasing and light effect. There are two Pullman type spring berths in the saloon, with the galley and pantry aft and toilet and clothes lockers in the forepeak. The berths fold to make comfortable settees with backs by day, and the table is also removable and stows when out of use alongside the mast.



VENTILATION SYSTEM ABOARD DILYS:

A Mushroom extractor ventilator.
B 2 ditto on cockpit seats under side decks.
C Dorade type cowl ventilator.
D Water trap.
E Ventilating shaft.
F Fan driven by flexible shaft from engine.
G Watertight locker door.
H Simpson Lawrence Vortex bilge pump driven by handle in cockpit.
I Engine instrument panel on bulkhead.
K Damper in ventilator shaft to deflect air flow into cabin when desired.

Ventilation has been arranged with some care, and from the diagram it will be seen how a Dorade type ventilator by the mast takes air through a shaft underneath the comparatively airtight floorboards, and is driven up through a ventilator in the after deck by a four-bladed wooden fan run off the engine. When the engine is running there is a very noticeable draught coming out from the after ventilator. A shutter in the shaft at the fore end of the cabin will direct the air flow straight into the cabin if desired, so that in bad weather, with everything battened down, plenty of fresh air can be drawn down below without spray.

A Vortex rotary pump situated under the floorboards forward of the engine is driven through double bevel gears by a removable handle on the shaft which comes up to the bridge deck.

The 4 h.p. Stuart Turner engine, installed under the cockpit floor offset to starboard, is particularly quiet running, as two Burgess silencers effectively damp out the sound of the two-stroke exhaust. On the instrument panel let into the cabin bulkhead are the engine revolution indicator, cooling water thermometer, stern tube thermometer and various switches. The thermometer indicator for the stern bearing will show at once if the latter is becoming overheated - a convenience which all owners of motors will appreciate.

By means of aeroplane controls the petrol is turned on and off and the carburetter flooded, and, with the self-starter button close to hand, the helmsman can start the engine almost at once without leaving the tiller.

The engine has a closed fresh water cooling circuit, so that no sea water is pumped through the cylinder jackets. A 3 gallon water tank in the after locker leads to the cylinder, and thence through 5/8 in. copper piping along the outside of the garboards on each side and back to the tank. This has been found adequate for cooling the engine, and one of its advantages is that the engine can be run for any length of time while the boat is aground or in a mud berth without the danger of drawing mud into the jackets.

In a locker on the port side of the main engine is one of the minute Stuart Turner generating sets, which supplies electric light for the cabin lamps, the navigation lights and the "engine-room" lighting. This little popper exhausts into the main exhaust line, thus running more quietly than these small generat-

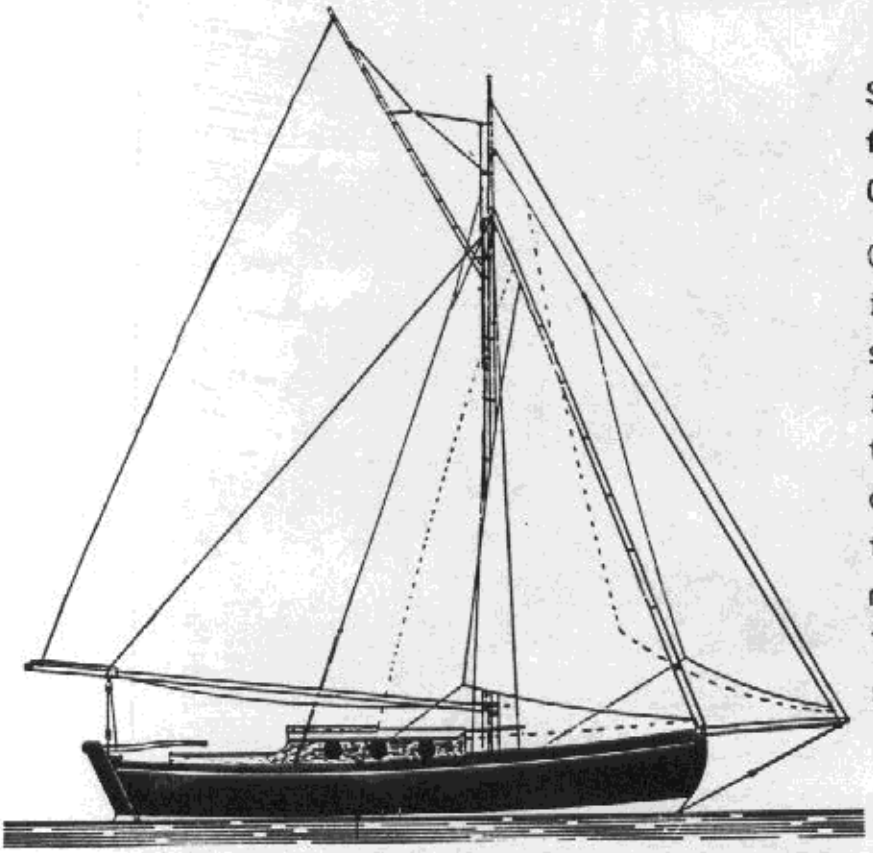
ing sets usually do.

Owing to the thickness of the oak planking and heavy sawn frame construction, and the number of extra fittings and mechanical details added to the ship, her displacement is rather more than that designed - probably in the region of 4¼ tons.

When launched she floated 3in. down by the stern, but with a little ballast forward she trims about 2in. below her marks fore and aft. As this design has ample freeboard, this should, if anything, be to her advantage.

DILYS is an attractive little ship for two persons, and I think the owner is wise in arranging her for that number and no more. In her way she is the most completely equipped tabloid cruiser that I have ever had the pleasure of inspecting.

Yachting Monthly
July 1937.



Suggested SAIL PLAN for the CARDBOARD MODEL YACHT.

Given that the L.W.L. is 18ft.(72 mm on the sail plan drawing) it is a simple matter with the aid of a pocket calculator to interpolate the actual dimensions of mast, spars and sails. The scale of 1in. to 1ft. should then be applied.

FOR SALE

Name	Area	Location	Design
GARLEFFAN(Raised topsides)	North-West		Zyklon-Z.4

Tony Clare, 5,Brockley Avenue, New Brighton, Merseyside.051-639-1862.

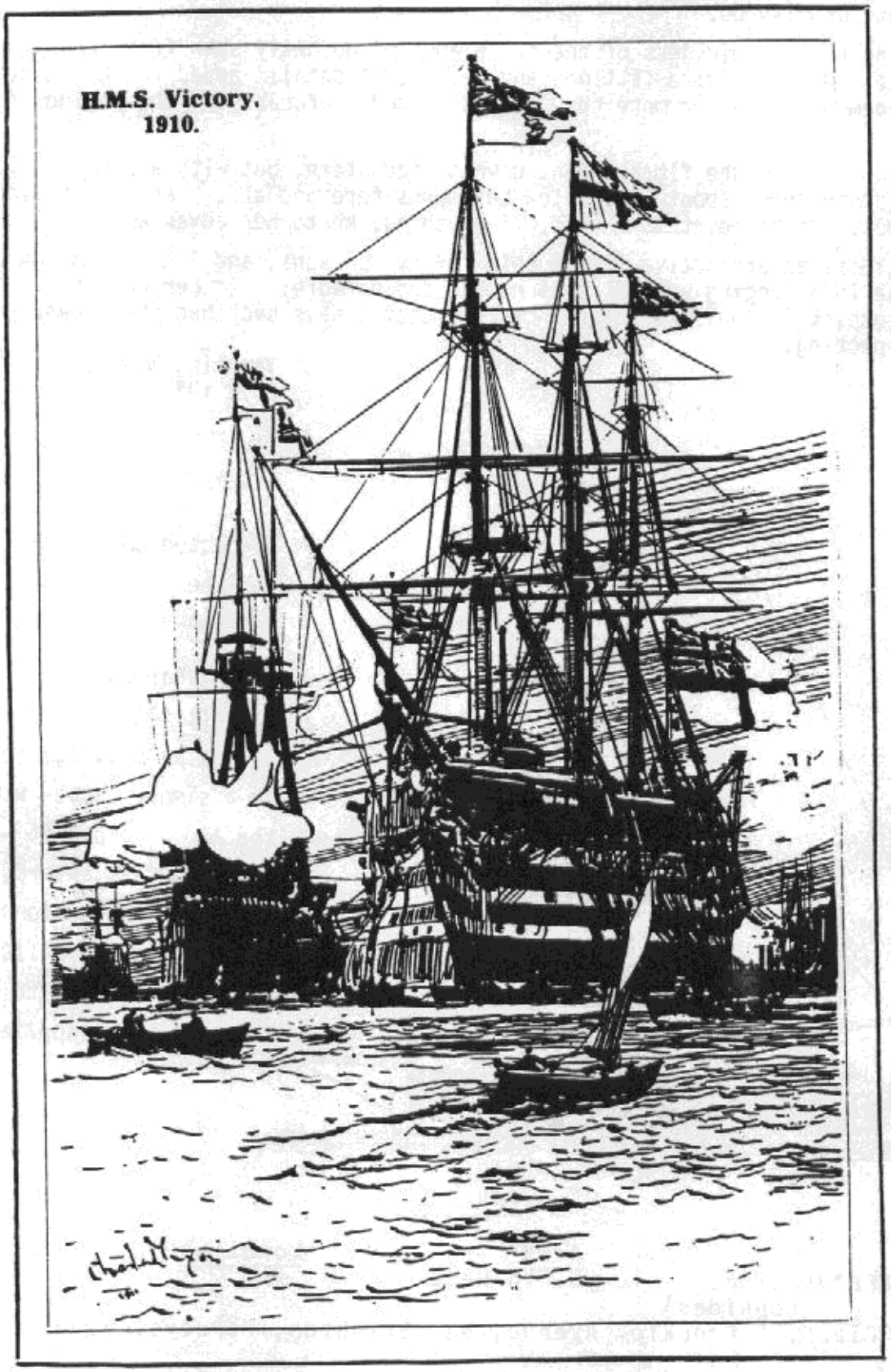
ZELLÉE	East Coast	Pin Mill/ Woolverstone	"

John Scott, Malt Cottage, Lamb Corner, Dedham, Colchester, Essex. 0206-322203

ZENOCRATE	Solent	Hamble River	"

John & Mike Atwell, The Dolphin, High Street, Old Bursledon, Hants. 042-121-3336.

(I have been given a price for **ZELLÉE** but as there are three boats on offer it seems only fair to indicate **POA** to owner). Ed.



An Early Metacentroid !

Drawn by Charles Dixon, R.I.

C H R I S T M A S 1 5 8 9

With Christmas insinuating itself into our lives earlier and earlier each year, so that lights, trees and decorations appear, at least in commercial establishments, in November (and may then be cleared away on Christmas Eve to make room for the January sales), it may be opportune to mention an account from Hakluyt's **Voyages** written by'the excellent mathematician and engineer' Edward Wright, of a passage home from the Azores precisely four hundred years ago as these words are written. The crew of **Victory** (Captain Lister)* were

> delighted to think what a merry Christmas they should keep in England with their share of the prizes. But so it fell out [says Mr Wright], that we kept a cold Christmas with the bishop and his clerks,

by which, of course, he meant the rocks to the west of the Scilly Islands.

Their allowance of drink, which was small enough before' became smaller still, 'and that oftentimes cold water, and scarce sweet.' They encountered an east wind and 'were constrained to beat the sea till the wind should prove fair.' They ate hailstones 'with more pleasure than if they had been the sweetest comfits;' they suspended 'napkins and clouts' to wring out the rain-water, they had no patience to wait for it to pass through the fabric; they 'licked with their tongues, like dogs' the boards under their feet. Dreaming about a 'stream of clear water in England,' they recalled the times they had thought it miserable to have to drink water instead of beer or wine 'and now would have thought themselves happy if they could have gotten such good liquor.' In short, they had such a wretched time that they 'vowed if ever they returned safe home, they would never go to sea any more,' rather like the owner of the yacht **Baby Roo** who wrote in the RCC Journal for 1951 'my mind was made up, finally and irrevocably: at whatsoever loss I would get rid of the boat at the very first port and never go to sea again.'

But of course things improved as they often do and no doubt most of them did go to sea again. **Victory** met a ship and obtained form her 'two or three tuns of wine' (no water mentioned) and off they went towards Plymouth. Yet, partly by 'not making sufficient use of the wind,' and partly 'by mistaking the land' they were driven so much to leeward that they could not double Rame Head. So it was back to Falmouth, where, as a small sum added to the foot of the account, as H.W.Tilman used to say, they went aground in the harbour. 'But as the tide was out and the bottom soft, no hurt was done.' What a sail...

* Two centuries before Nelson's **Victory**.

P.W.Hasler.

How to Build a Cardboard Model Yacht

By

T. Harrison Butler

We may conveniently divide models into actual model yachts and models of yachts. The former are specially designed, constructed and rigged to give the best results in actual sailing, and are generally built to fit a definite racing class. These boats have simple practical sails and gear, and their lines are drawn to suit the exceptional conditions of model sailing. The model of a yacht aspires to be an authentic copy of a real craft reduced to any convenient scale, and may reproduce every detail of the larger ship's gear and fittings.

Mr Hardey Simpson has contributed to THE YACHTING MONTHLY a most admirable series of articles upon the construction of models by the orthodox methods. A study of these chapters shows that it needs a craftsman to produce a really good result, and that a set of special tools and a workshop are necessary. For the benefit of those who are not skilled workmen, and who possess neither the tools nor the workshop, I propose to describe a method which produces a satisfactory result.

A miniature yacht has certain definite uses. The amateur designer, especially the beginner, can express his lines in solid form, and a study of the model may suggest valuable modifications in the design. As an example, a beamy boat on paper may appear to have excessive sheer, but the model may show that the sheer is just right. The reverse may equally well be the case.

Again, who ever builds a small yacht without wishing that some details of the accomodation or gear had been slightly different? "Of course the cabin ought to have been a foot further aft," was the remark the owner of a yacht recently built made to me last year. (1915!) If the prospective builder construct a model, he can work out all the details of accomodation and gear on a suitable scale, and can at once see how best to plan his cockpit, cabin and forecastle; and the most suitable positions for his cleats and other items of gear will be evident. Again, if an engine be included in the plans, it is not difficult to make a scale model of the engine in cardboard and wood, and determine the best position for it to occupy.

All this can be done in paper and cardboard: not only can a miniature yacht be made by an intelligent person, but a real model can be turned out, which will probably compete with the most expensive vessel made of wood. The best models cost £20 or more, the cardboard boat not half as many shillings.

If the work be carried out in an ordinary living-room, it will be well to use an old drawing board to work on. The tools required are two pairs of pliers, some strong scissors, a good knife, a whetstone, a drill, a fretsaw, and a few files and some sandpaper.

The necessary materials are cardboard, paper, seccotine, a tin tobacco box, a cigar box, some dust shot, beeswax, paint and varnish. The ordinary white cardboard upon which photographs are mounted will serve our purpose well. There is a glazed paper made with parallel lines about three-quarters of an inch apart, used by drapers and tailors to wrap up goods in. This paper is very suitable, and the lines save a lot of trouble in cutting it up into strips.

All the work must be carried out with the most absolute accuracy. The material does not lend itself to correction, and is unkind to the slipshod worker.

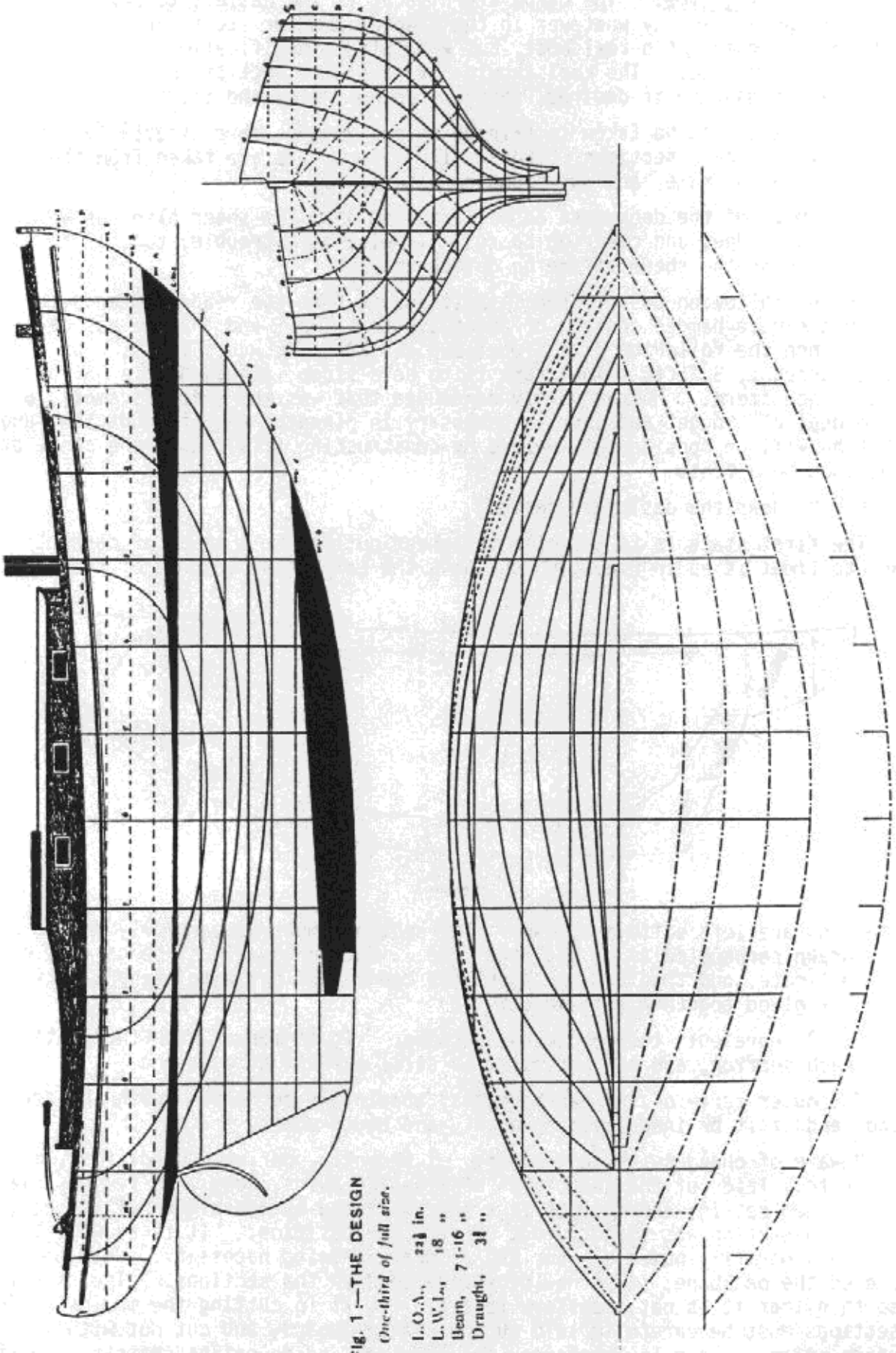


Fig. 1.—THE DESIGN

One-third of full size.

L.O.A., 22½ in.
L.W.L., 18 "
Beam, 7 1-16 "
Draught, 3¼ "

A paper model can be made of any design; but the method is best adapted to the cruising type. The canoe stern yacht is the easiest to build, but there is no difficulty whatever in the case of counter sterns or square sterns. I have not tried a fin keel boat, but with slight modifications a good result should be achieved. The keel should have a square section, but a rounded keel can be managed if desired, though I do not recommend it.

Great care must be taken in fairing up the design, more especially with regard to the keel sections, because all measurements are taken from the bottom of each frame, and not from the waterline.

The crown of the deck must be well defined upon the sheer plan, as well as the rail edge, and covering board. It will save trouble, too, if the lower edge of the sheer strake be dotted in.

In the following description I shall assume that the reader intends to order a single-hamded cruiser of about 3.5 tons T.M., and that he has decided upon the following dimensions: L.O.A., 23ft.; L.W.L., 18ft.; beam, 7ft.; draught, 3.75ft. The craft is to be a sloop, and to have a "Strange" type canoe stern. He has wisely concluded that, as the space is small, a good deal of thought and care is necessary in planning the accomodation, and that he will be considerably helped by constructing it all upon the scale of one inch to a foot.

Fig.1 shows the design suggested.

The first stage is to transfer the sheer outline to a sheet of cardboard and to treat it as in Fig.2, which shows the completed backbone of the model.

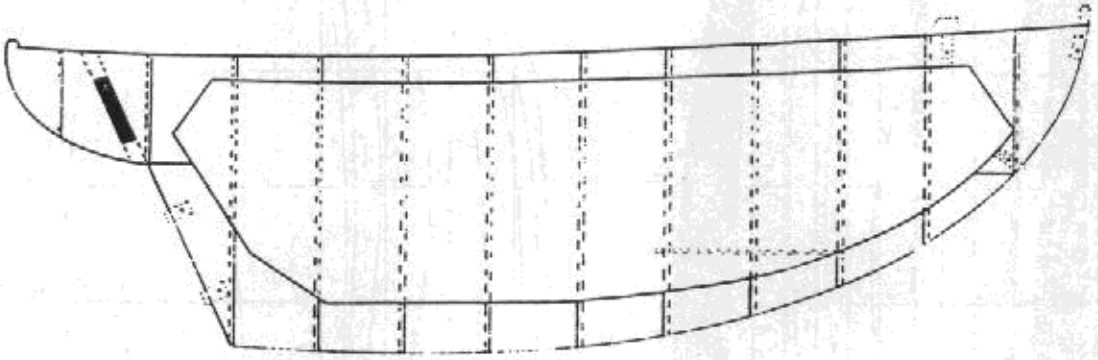


FIG. 2.

The ends are left solid as shown. The sections must be carefully marked off, and drawn perpendicular to the waterline. This process must be carried out in duplicate, and then the two backbones can be cut out with a sharp knife, and finally glued together with secotine.

Fig,2 represents the completed backbone. It is marked with the stations for each section, and the waterline is still evident at each end.

The outer curve of the backbone must **absolutely** correspond with the drawing, and if it be inaccurate scrap it, and begin again.

Beware of changes in the weather. I recently, during a hard frost, most accurately laid out the sheer-plan of a design 20ins. long. A few days later a thaw had set in, and my waterline had increased by one-eighth of an inch, and each station was slightly out of its true position. It is as well to choose a normally humid day for the accurate drawing necessary. Having completed the backbone, it is now necessary to draw the sections. The skin is so thin that it is not necessary to allow for it in cutting the moulds. The sections must be carefully laid out on the cardboard, and cut out with the sharp knife. Then lay them upon the drawing, and do not be satisified until the two **absolutely** correspond. You will pay dearly for any carelessness, and will find that "the lazy man takes most pains!" Each section must be made in duplicate. Now remove the centre of each section in the manner shown in Fig.3. A slot is cut above and below, the exact width of the thickness of the

backbone. The depth of the slots corresponds to the depth of the backbone above and below, and they must be carefully cut. The two halves of the section are now glued together, and the frame ready to be placed in position on the backbone. It is necessary to be most accurate in drawing the deck curve, otherwise it will be impossible to lay the deck later on.

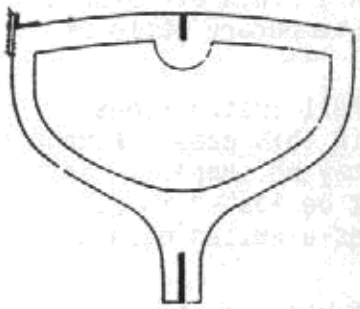


FIG. 3.

It is better to use a thin cardboard and double it than to use thick board. The thick is difficult to cut, and is not so rigid as the double layer.

It is not advisable to space the frames much further than an inch and a half, although I have found little difficulty up to two inches.

The sections, when completed, can be stuck on the backbone and squared up with two right-angled gussets. The boat is not yet rigid, but becomes much more so after the next stage, which consists in gluing on the covering board. This is shown in Fig.4. It is placed in position and tied down to each frame with strong cotton thread till the seccotine has set. Glue will do just as well, but seccotine is far more convenient, and equally, if not more, efficient.

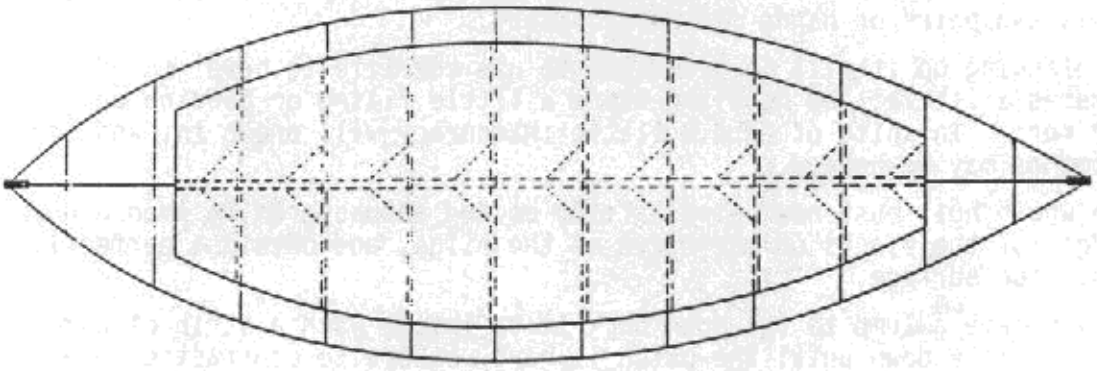


FIG. 4.

We must now fit the rudder pintles, the gammon-iron and the bowsprit heel housing, also the bobstay attachment. All these fittings are best made from a tin tobacco box. Fig.5 illustrates some of them.

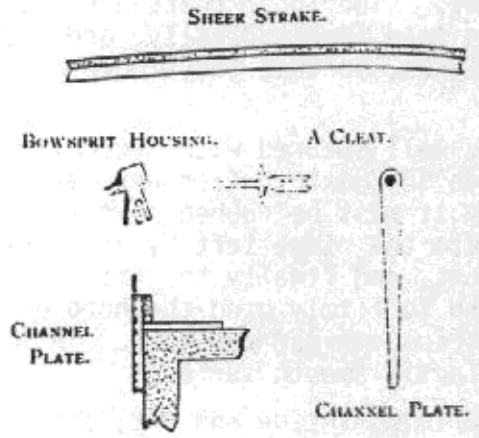


FIG. 5.

The next stage is to fit the sheer-strake and rail. The sheer-strake can be cut from the sheer-plan as regards depth, but the length between sections must be taken from the half-breadth plan, to allow for the curve.

The rail must be cut at the same time and glued inside the sheer-strake with seccotine. When all is hard the sheer-strake can be fixed in its place. The rabbet formed by the rail will be glued down hard to the covering board, making a firm, tight job. The whole will be lashed up with thread till dry. The strake must be chamfered off fore and aft to bear squarely against stem and stern pieces, and avoid any hollow. The angle can be fortified with an angle-piece made of cardboard half cut through and bent. The whole appearance of the model depends upon its sheer. No trouble must be spared in shaping the upper edge of the sheer strake and the rail piece, which together form the bulwark. When the sheer-strakes are in place two pieces of wood must be lashed to two frames to support the model when it is

inverted for planking. The rail edge must not be dented or rounded off, because the sharp edge cannot be restored.

The ship is now ready for planking up, but before this is done the chain plates must be fitted for main and back stays. These are cut out of tin, and bent under the sheer-strake and turned up inside. They must be let into the sheer-strake, which can be strengthened inside with a piece of cardboard, and then bedded in seccotine, and kept in place with a temporary strip of paper.

The ordinary text books upon boat building contain full instructions as to the correct way of shaping or spiling the planks, but in this case a template can be cut in paper and fitted, and from it the plank may be shaped. In any case the work must be carefully done. Each plank must be lashed in place with twine till the seccotine sets, otherwise it becomes a nuisance in the sandpapering stage.

When the first three or four planks are on, the mast step or steps must be fitted. A square piece of cardboard is notched to fit across two frames, and a square hole is cut to receive the heel of the mast. This hole must be correctly placed and centred accurately.

Now complete the planking down to the keel edge, and finally cut a strip of cardboard to close in the bottom of the keel, and fix in place.

The last few planks have to be held **in situ** till the seccotine sets, and for this two pairs of hands may be necessary.

In planking up it will be necessary to use the file to bevel the fore and aft frames a little, and here and there a little filing or padding up may be called for. In spite of care a little inaccuracy will creep in, and small adjustments may be needed.

The whole hull must now be well filed up and sandpapered to smooth down the edges of the planks on the cirve of the bilge, and obtain a perfectly smooth, true surface.

If you have a lump to rub down back it up inside with a strip of cardboard, and do not file down until the patch is hard, otherwise contraction may make the lump more evident.

If the frames are spaced more than 1 in. it is wise to put a bent frame into each bay, made of strips of cardboard about 3.5 mm. wide. These must be held in place till the secotine sets. It is perhaps better to fit these before the garboard strakes are added.

The hull must now receive three coats of paper. The inner coats are diagonally laid across each other, the final coat is laid longitudinally, and each longitudinal piece must be shaped as were the planks, so that they touch but do not overlap.

Strips pf paper are cut from the ruled sheet, well smeared with seccotine and firmly rubbed down. Each piece should touch the next; but in any case there must be no overlap. When the coat is dry it must be rubbed down with sandpaper, especial care being taken to obliterate the ridge left by an overlap. When all is smooth stick on the second coat, and finally the third. The strips must be taken round the stem and stern to firmly bind the hood ends to the stem and stern timbers. The diagonal strips embrace the keel. A final rub down with sandpaper should give a perfectly smooth surface.

The model should receive a coat of good oil priming inside and out, and it is then ready for ballasting.

The exact weight of the boat will be already known from the calculations which have been made from the design.

The model must be weighed, and a correct allowance made for the deck, spars, sails, and especially for the coats of paint, which weigh heavily in proportion to the weight of the hull. Each coat weighs about half an ounce or more when rubbed down.

In the model we are considering the weights will be much as follows:

Weight of hull	13 oz.	
First coat of paint ...	1 "	
Ballast	36 "	
Wax	2½ "	
Total without deck, etc.	52½ "	= 3lbs.4½ oz.
Final weight of model with sails,etc.		4lbs.1 oz.
Calculated weight		4lbs.2 oz.

To ballast, weigh out 36 ounces of dust shot, float the model in a bath, and fill the keel with the shot, mostly amidships, till the model floats parallel to its designed waterline. Some beeswax must now be melted, some of the shot removed and warmed, and then the wax must be poured into the keel. Some more shot is added, and all is welded together into a solid mass. A little shot has been left over for trimming. A new flotation is made, and the shot finally welded in with wax. It is well to fit a sheer of cardboard over the ballast, which is joggled over the frames and well glued in with seccotine. If this is done the model can be turned over with confidence that the ballast will not become displaced.

The time has now come to fit the cockpit and cabin top. This is all constructed of cardboard. The cockpit is made complete with seats, and placed in position, the upper backbone being cut away where necessary. The sides of the cabin top are joggled over the timbers and brought up flush with the cockpit. These sides butt up against the covering board, which was previously cut to leave an opening of the correct shape and size. A second cabin top side is cut, which includes the cockpit coaming as well. This is glued alongside, and beds down upon the side decks. A second strip is placed across the back of the cockpit, and beds down upon the after deck. Thus the sides of the cabin top and the cockpit are formed of two layers of cardboard. Windows can be cut in the outer layer of the cabin top, and, if desired, a smaller opening can be made in the inner layer, forming a ledge in which glass can be placed. The glass will be covered by a frame of cardboard.

Deck beams will now be fitted for the cabin top, and the deck laid and papered. A companion and skylight can be fitted if desired, and imitation doors will be a shipshape addition. Before the cabin top is fitted the necessary ring bolts for sheet leads, etc., must be screwed into small pieces of wood glued under the deck.

Tin cleats can be fitted to the side of the cockpit by enclosing their bases between the two layers of cardboard. The points come through two slits, and are bent over into cleat form. The cabin top cleats are similarly bedded under a strip of cardboard glued along the after edge on each side of the companion.

The mast partners can now be fitted, and after them the bitts for the halliards. These are best made of wood, and well secured to a deck beam.

A king plank will now be glued in place, and the mast hole made and reinforced on the underside and above by a neat ring of cardboard.

We can now complete the deck. It is well to place longitudinal struts between the deck beams to support the deck. The deck is finally papered.

If the model have a transom stern there will be no difficulty with the rudder. Cut the transom of cigar-box wood, larger than the finished transom, to allow for the bevel. Carefully draw the designed transom upon the wood, and then with a file laid along the sections file up the bevel. This is an easy job.

The rudder in a counter or canoe-sterned yacht will give more trouble. When the first three or four planks have been placed in position cut out the

pieces of backbone along the line of the sternpost. The part shown black in Fig.2 has already been removed, and the upper and lower parts slightly nicked before the sections were placed in position. Into the space fit a square-sectioned piece of wood bored for the rudder head. Doctors get samples of drugs in tubes enclosed in suitable pieces of wood. (Do they still?) The lower end of the rudder trunk must be thoroughly bedded in wax after the planks have been fitted, and the whole area must be well painted inside and out. The rudder pintles shown in the drawing need only be used for a transom stern. In other types it is only necessary to fit a metal heel piece with a hole in it to take a pin in the heel of the rudder. The rudder must be fitted before the keel is papered up. The deck must now be painted, first with wood white paint, and finally with enamel.

The outside needs several coats of good paint, each well rubbed down with sandpaper, and finally with pumice powder. A final coat of varnish completes the model. The cabin top and cockpit should be painted to represent teak.

The rigging is interesting. The gaff jaws are made of tin, on the hinged principle. The side pieces, which hinge to the jaws, are rivetted to the gaff with copper wire. The standing rigging can be made of picture frame wire, which can be spliced and served exacylt like wire rope. This is good practice for real wire splicing.

The sails are troublesome. It is difficult to make them set well. They should be roped like real sails, and have eyelet holes worked for the lacings, mast hoops, and for the reef lacing.

The final result is in appearance almost exactly like a model made of wood.

I shall be glad to give any further information to anyone who desires to try the method, to whom I again say, **be accurate.** It saves time.

TABLE OF OFFSETS.

Section	0	1	2	3	4	5	6	7	8	9	10	10a	11
Heights to Covering Bd.	2 29/32	2 11/16	2 1/2	2 5/16	2 5/16	2 1/4	1 31/32	1 15/16	1 15/16	2	2 3/4	2 3/4	2 3/4
Depths to Keel	-	1 13/32	2 1/4	2 9/32	3 1/8	3 9/32	3 23/32	3 3/4	3 23/32	3 9/32	-	-	-
W.L. E	13/16	1 11/16	-	-	-	-	-	-	-	-	-	-	-
" D	3/4	1 25/32	2 9/32	2 5/8	3 1/16	3 1/4	-	-	-	-	2 1/4	1 7/8	1 5/8
" C	10/16	1 7/8	2 1/4	2 9/32	3 5/32	3 1/4	3 5/8	3 7/16	3 7/8	2 3/32	2	1 15/16	1 5/32
" B	1/2	1 13/32	2 1/4	2 1/8	3 3/32	3 1/4	3 5/16	3 1/8	3 1/4	2 1/8	1 3/4	1 5/16	1 1/32
" A	6/16	1 3/32	2 3/32	2 3/4	2 7/8	3 1/8	3 11/32	3 1/8	3 1/4	2 1/8	1 5/8	1/4	-
" LWL	-	31/32	1 13/16	2 1/4	3 1/32	3 1/16	3 13/32	3 1/16	2 15/16	1 15/16	-	-	-
" 1	-	5/8	1 15/32	2 5/16	2 23/32	3 1/32	3 1/4	2 1/8	2 1/16	1 5/8	-	-	-
" 2	-	3/16	1 1/16	1 7/32	2 1/16	2 1/4	2 11/32	2 5/16	1 1/4	1/2	-	-	-
" 3	-	-	13/32	1 3/32	1 1/4	1 11/16	1 7/8	1 1/8	7/8	5/8	-	-	-
" 4	-	-	1/4	7/16	27/32	15/16	29/32	15/32	11/32	1/4	-	-	-
" 5	-	-	-	1/4	15/32	13/32	1/2	3/16	5/32	1/8	-	-	-
" 6	-	-	-	-	5/32	3/16	3/16	1/16	1/16	1/16	-	-	-

Sections spaced, 1.8 in.; Waterlines spaced, 0.5 in.; Rake of sternpost, 65°; Height of covering board at stem, 3½ in.; Height of covering board at stern, 2⅜ in.; Forward overhang, 1½ in.; After overhang, 3 in.

I enclose a table of offsets which will help those who desire to build from the example given, but may not be sufficiently good draughtsmen to construct a design for themselves. The design is one of a good little cruiser, but is rather too beamy for a successful model yacht. It will be noted that ratio of ballast to hull is 0.58, but if the cockpit and deck house were omitted, it could be increased to 0.6. The boat is absolutely self-righting, the extreme lightness of the construction giving immense stability. At the same time the model is exceedingly strong.

T.H.B. April, 1916.

(Unfortunately, a sail plan was not included with these instructions. However, the lines and dimensions are very close to those of **FLEETWING** ex **SEAGULL** with the addition of a canoe stern. Therefore, I have taken the liberty of reproducing her sail plan on another page. All the drawings are easily photocopied by those not wishing to mutilate their Newsletter. - Ed.)