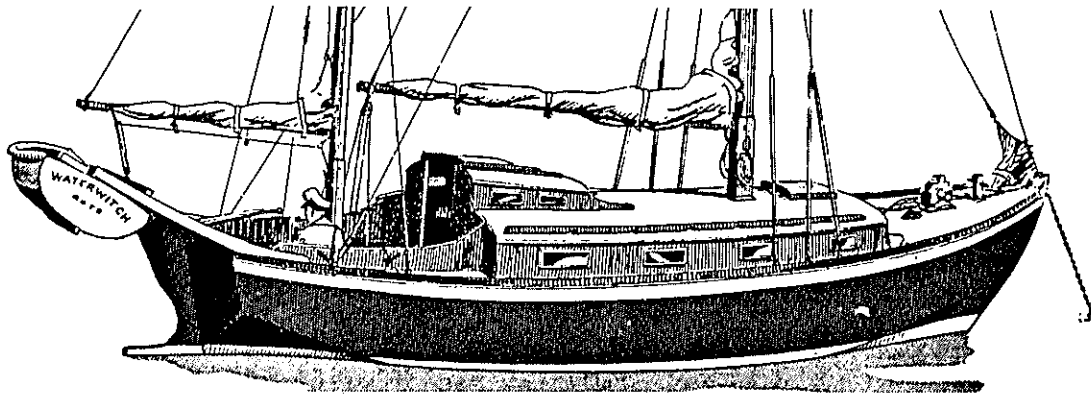


# YACHTING MONTHLY

# WATERWITCH



Two versions of YACHTING MONTHLY sponsored design for amateur construction

SINCE the Eventide 18/24ft plywood chine sloop with bilge keels was introduced in 1957, this design has become the most popular of the YACHTING MONTHLY Build-Yourself series of plans. Many boats have been built by readers at home and in various parts of the world, and one of them, *Borer Bee*, proved the seagoing ability of the type by being sailed 9,000 miles by her owner-builder in 1959 from Singapore to Emsworth, Hampshire. Yet over and over again we have been asked whether we could produce for amateur construction plans for a boat very similar to the *Eventide* but a size larger—large enough for five, or even at a pinch six, berths.

For the man with a family of three children who needed a friend to come along and help handle the ship, or two couples who wanted to take a friend or two with them when they went cruising, the *Eventide*, only 24ft LOA and 8ft beam, did not have quite enough room. We have had requests, too, from readers who built their *Eventide* and wrote something like this: 'It all seemed so easy once we had started and everything so to speak fell into place that now I feel competent to tackle a larger boat.'

Many people who once build a boat at home have no qualms about tackling something much larger. On the whole they find the work is much the same; the parts

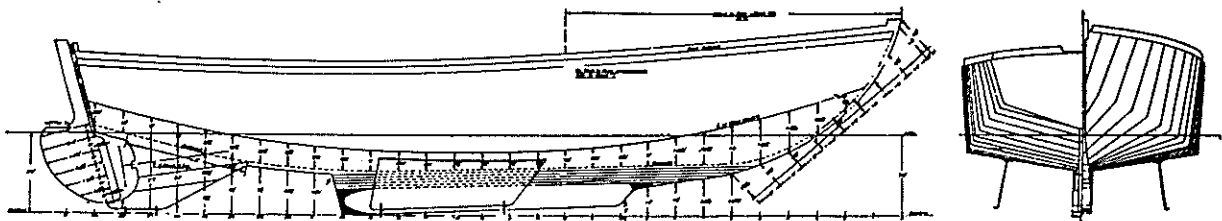
are merely larger and more numerous and need that much extra labour. In YACHTING MONTHLY we have published stories of ocean cruises in yachts which have been built in back gardens; amongst them the voyages of *Larapinta*, 36ft ketch, which the Mounseys sailed from Sydney to London; *Outward Bound*, the Caldwell's 45ft ketch, Sydney to the West Indies; *Diddikai*, the 36ft ketch built by the Wilds and sailed from Cape Town to Cowes; and Jerry Trowbridge's 36ft ketch *White Seal*, which he built of steel in Johannesburg and then sailed round the world.

Broadly speaking, requests have come from two groups

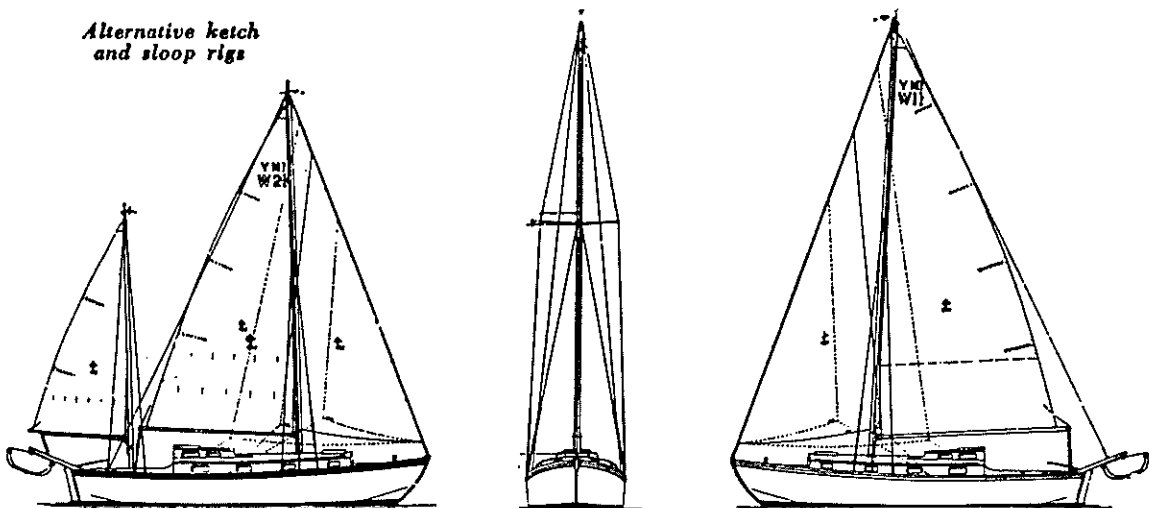
### APPROXIMATE DIMENSIONS

|                          |                               |
|--------------------------|-------------------------------|
| LOA .....                | 30ft 0in                      |
| LWL .....                | 26ft 0in                      |
| Beam (at deck) .....     | 8ft 6in                       |
| (at chines) .....        | 8ft 1in                       |
| Draught Mk I .....       | 3ft 3in                       |
| Mk II .....              | 2ft 6in                       |
| Ballast Mk I .....       | approx 3300lb                 |
| Mk II .....              | 2000lb                        |
| Displacement Mk I .....  | 9500lb                        |
| Thames Measurement ..... | 8 tons                        |
| Sail area, Rig K .....   | 390 sq.ft.                    |
| Rig S .....              | 410 sq.ft.                    |
| Designer .....           | Maurice Griffiths, A.R.I.N.A. |

Elevation and body plan of Mk I with bilge keels



Alternative ketch and sloop rigs

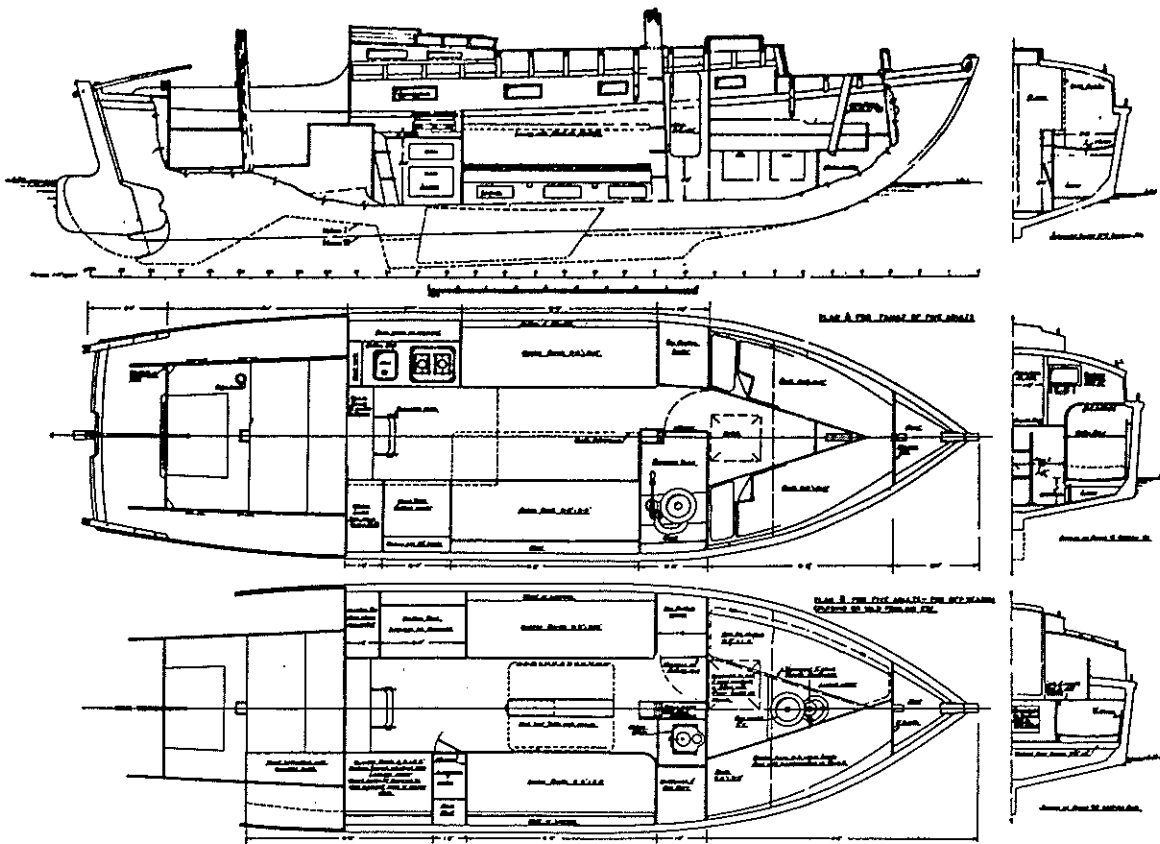
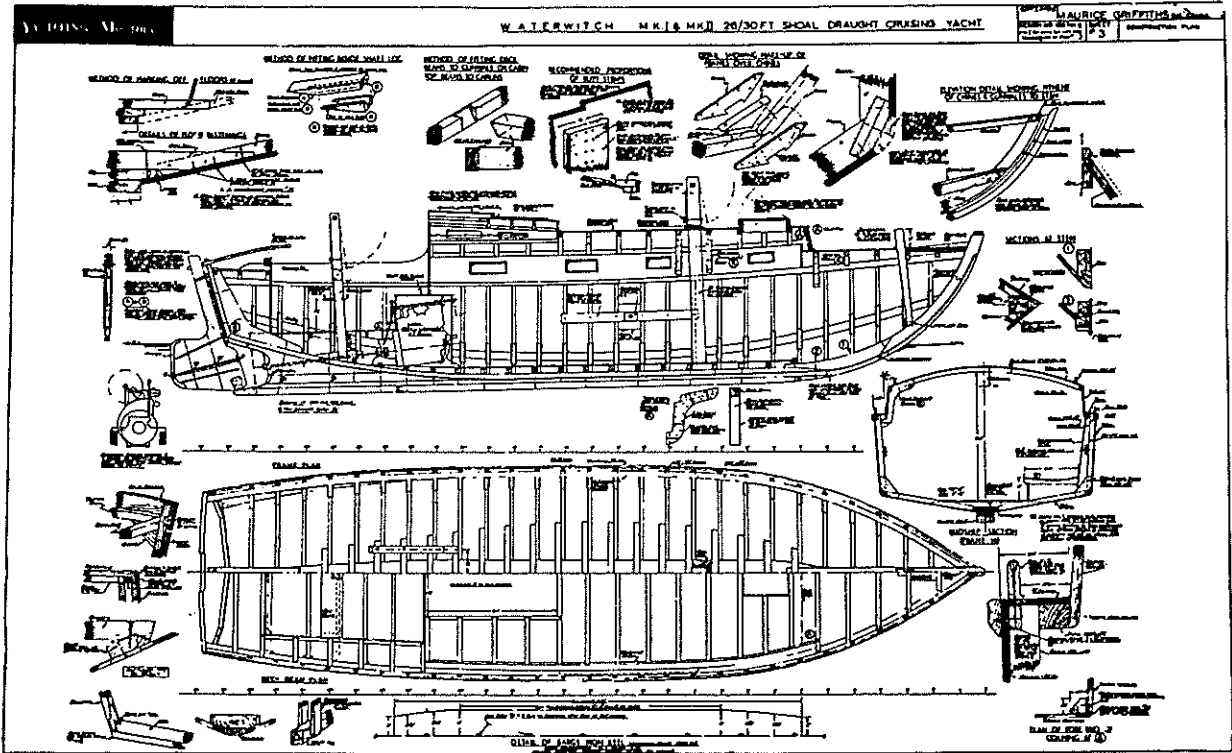


of readers. First, there were those who asked in effect: 'Make her exactly like a blown-up *Eventide*, big enough to sleep five and carry a dinghy. After all, a design only 18ft WL without any modifications which has sailed home from Singapore is a plenty good enough seaboot for most of us family sailo.s!' Then the other group who said: 'The little old barge yacht that Tredwen introduced to yachting was the cheapest to build for the accommodation it gave and the easiest of any cruising type for the amateur. She was as handy as a top, would sail anywhere and, what is more, could moor anywhere, and will sit upright on hard or soft mud. Could we not have a design for a small barge?'

Correspondence with many readers and discussions with amateur builders resulted in a general specification

being drawn up which we thought would meet most of the requests of the greatest number. We say 'most of ... the greatest number' because our experience has shown that whatever design is produced almost every owner will want just something different from the original plan in the arrangement of the galley or the heads, the whole layout below decks, the arrangement of the cockpit seats, the rig, or even the overall dimensions of the boat! No two yachtmen's ideas of what they want are exactly alike.

Towards the end of September, 1960, work was started on the design, and through the months that followed, sometimes at night and regularly over each week-end, the details have been worked out and the plans prepared step by step. The result is the new YACHTING MONTHLY



**Waterwitch** with a chine hull like the smaller *Eventide* designed for plywood planking and amateur construction, 30ft overall and 8ft 6in beam.

With the hull standardised there are two variations in keel profile, designed to meet the requirements of both groups of builders. **Waterwitch** (Mk I) has all those characteristics of the *Eventide* that have recommended the smaller boat to so many sailing men and their families. With an iron ballast keel on the centreline of just over one ton and bilge keels of mild steel plate, she is designed not only to carry her canvas in a blow without sailing on her ear like a narrow deep-keel yacht, but to recover herself—should it ever happen—if a hard squall or a big breaking sea lays her over until her mast and sails are in the water.

But yachts of this stable shallow-draught form are not by any means easy to lay flat. As *Borer Bee* proved in the worst of the gales she encountered on her long voyage home with canvas stowed and lying a-hull, or lying a-try under a storm-sail, the boat sidled to leeward on the face of each advancing sea, and the breaking crest could not get hold of her. This ability to ride on the tops of the seas and move with them, instead of deep in their sides like a half-tide rock, is one of the reasons why this shoal-draught, buoyant and comparatively light displacement type of boat can face such heavy weather off shore and not suffer structural damage.

**Waterwitch** (Mk II) could be described as a modern, improved, barge yacht. Her hull is identical to the Mark I, except for a longer and shallower outside iron keel or shoe of 1,200lb and some inside ballast, a broader, shallower rudder, again semi-balanced, a draught of 2ft, and leeboards.

We use the term modern barge yacht with emphasis here because **Waterwitch** (Mk II) is intended to be a distinct advance on the little barge yachts that used to be built thirty or forty years ago. Older readers of *YACHTING MONTHLY* will no doubt recall the great personality of E. B. Tredwen, who introduced the first miniature barge yachts on the Crouch at the turn of the century. Tredwen was an individualist who did not follow the run of ordinary yachtsmen but saw the unlimited joys to be got from a really shallow-draught cruising boat in the days when his friends thought all yachts should have deep keels to make them safe, and knew nothing of the little creeks and harbours where their long-legged yachts could not venture. Tredwen practised what he preached, and built himself a number of his little barges at Woodbridge.

In his tiny *Venus* (25ft by 7ft, 4 tons T M and under 2 tons displacement) he sailed in the North Sea and the Baltic; he cruised to Berwick-on-Tweed and back to Burnham-on-Crouch in *Nan* (29ft by 8ft 6in, 8 tons T M, built in 1904 and still with us), and with his last barge, the 14 ton *Pearl* (35ft by 10ft), he cruised down Channel to the West Country, showing that his barges could make long sea passages.

More than anyone else, Tredwen proved by his own example what an excellent boat for cruising in and out of all sorts of places a small barge yacht could be. Yet in assessing his impact on shallow-draught yacht design it is worth considering that most of his little barge yachts were built to carry no ballast whatever. And so far as we have been able to discover no Tredwen barge yacht has been known to capsize (that is, to fall over on her side and sink) or drown any member of her crew.

Nevertheless, in designing the barge version of **Waterwitch** with leeboards, one essential we have been at great pains to achieve is a barge yacht which can recover from a complete knock-down. In other words, should a violent squall catch **Waterwitch** (Mk II) and lay her flat with the mainsail in the water, like her Mark I sister, she should be able to recover herself and not stay capsized and so fill up and founder.

For this reason, unlike the flat-bottomed unballasted Tredwen barge, **Waterwitch** has a calculated rise to her floor and an adequate outside iron keel in addition to inside ballast. This so-called barge version, in fact, has a considerable grip of the water with appreciable weight or displacement, and provided the skipper handles his leeboards as a barge skipper should (the plans include advice on their proper use) he, and indeed his family, need have no fear of the stability of their little ship. **Waterwitch** (Mk II) in fact has been designed as a thoroughly safe boat with all the advantages and charms of a small barge yacht.

By presenting these plans at a purely nominal price, The Eventide Owners Association hopes to make it possible for the amateur with very limited capital available now to have the benefit of carefully worked out architect's drawings, from which he can take his time in building a boat for himself and his family. Without such sponsorship it would be quite uneconomical for any naval architect to supply complete sets of plans at such a price.

Readers who enjoy the benefits may like to know that

were a yacht designer commissioned to prepare a similar set of fully detailed plans for a client, together with a full schedule of timber and fastenings, his charge would be in the region of about £1500. Offered later as a stock design the charge would be from about £250 for each set of plans. But the Eventide Owners Association is not in business with any intention of undercutting yacht designers' current fee scales: we offer plans of types of boats for amateur building which could not normally be commissioned from the designers of this country, and at a price which makes the design available to readers who could not otherwise afford the services of their own architect.

The topsides and bottom are designed to be planked with marine-ply. Experienced builders, however, might prefer normal carvel planking of 1in mahogany, iroko or larch, or glued-strip planking, according to their own capabilities. The hull is strongly framed throughout so as to withstand the strains of grounding on a hard shore in bad weather. For the semi-professional builder who intends to plank with orthodox 1in planks, frames are spaced every 12in, making an exceedingly strong hull. For  $\frac{1}{2}$ in plywood topside and bottom planking alternate frames can be omitted, spacing them at 24in centres. The hull has been designed to be built on the frames which are all numbered. This means that the frames are set up ready to take the chines, gunwales and planking, and so take the place of moulds.

The mere size of this boat presents no insuperable difficulty to the amateur builder if he has the space, and for this a shed or a wire mesh polythene tent not less than 36ft by 12ft 6in inside will just about do. Anyone who has built an *Eventide* would find no additional problems in building **Waterwitch**, provided he can call in occasional help to handle the heavier parts like the keel, hog, chines and transom. A copy of *Building Chine Boats* by Michael Verney (the Eventide Owners Association) which includes instructions for building the **Waterwitch** among others, and should be on hand for guidance, is available by post.

Because she is a chine boat with straight sides, **Waterwitch** has considerably more space inside her hull than any normal round-bilge boat of the same overall measurements. In this boat at least twenty variations are possible in the accommodation layout alone, with the galley, the oilskin and dry clothes lockers, the berths and the lavatory arranged in different positions to suit each owner's own ideas. But two alternative plans are given, A and B both practical and well tried; one with a family bias, the other with out-of-season cruising, fishing, duck shooting in mind; for a boat of the size and type of **Waterwitch** is ideal for such sport. Hence the space given to a heating stove and guns and tackle.

The recurrent question—How many people could possibly sleep aboard?—is a matter for family experience and co-operation. There are berths for five adults in both layout plans, while two more could, if they wish, sleep under an awning in the 6ft 1in cockpit. The locker under the after deck is some 6ft wide inside and Junior (or the spaniel) might be happy enough here. Only fond parents can say whether the youngest will willingly treat the dinghy hoisted at the stern davits as an exciting bedroom! For those wanting a *centre cockpit layout* an additional drawing (Sheet 6C) is available. This is a general arrangement plan with built-up topsides forward, two berths in the fo'c's'le, toilet, saloon with double-berth dinette and galley opposite, centre cockpit with shelter and wheel steering, and two berth cabin with toilet aft, sleeping six in all.

The engine shown in the plans is a twin-cylinder air-cooled diesel for hand or electric starting as preferred. It would give a speed of about 6 knots with a consumption of roughly  $\frac{1}{2}$  gallon per hour at 1s 6d to 2s a gallon for fuel. An air-cooled engine, although not so quiet as a water-cooled unit, has certain advantages in a boat which might spend much of her time in muddy or very shallow waters or cruising during winter frosts. There is space, however, to fit one of a wide variety of engines suitable for boats of this size.

The partially balanced rudders in both Mk I and Mk II are designed to be effective even when the boat is sailing in only a few feet of water, or when the yacht's bottom needs a scrub. This rudder will also take most of the weight off the helm, which was an objectionable feature of so many small shoal-draught yachts in the past. The top of the blade is made to form a step to enable a swimmer to climb aboard without difficulty.

Of the two rigs shown Rig K, the ketch, is designed for both Mk I and Mk II, and will appeal to the family man. It is the rig recommended for Mk II, for under this divided rig she will handle under almost any combination of sails—all three, foresail and mizzen, foresail and main, or main alone—and nice balance on the helm would be gained by altering the depth of the leeboard to suit the trim. With this rig, too, there would rarely be any neces-

sity to put in a reef, and roller reefing fittings for it are not therefore considered necessary.

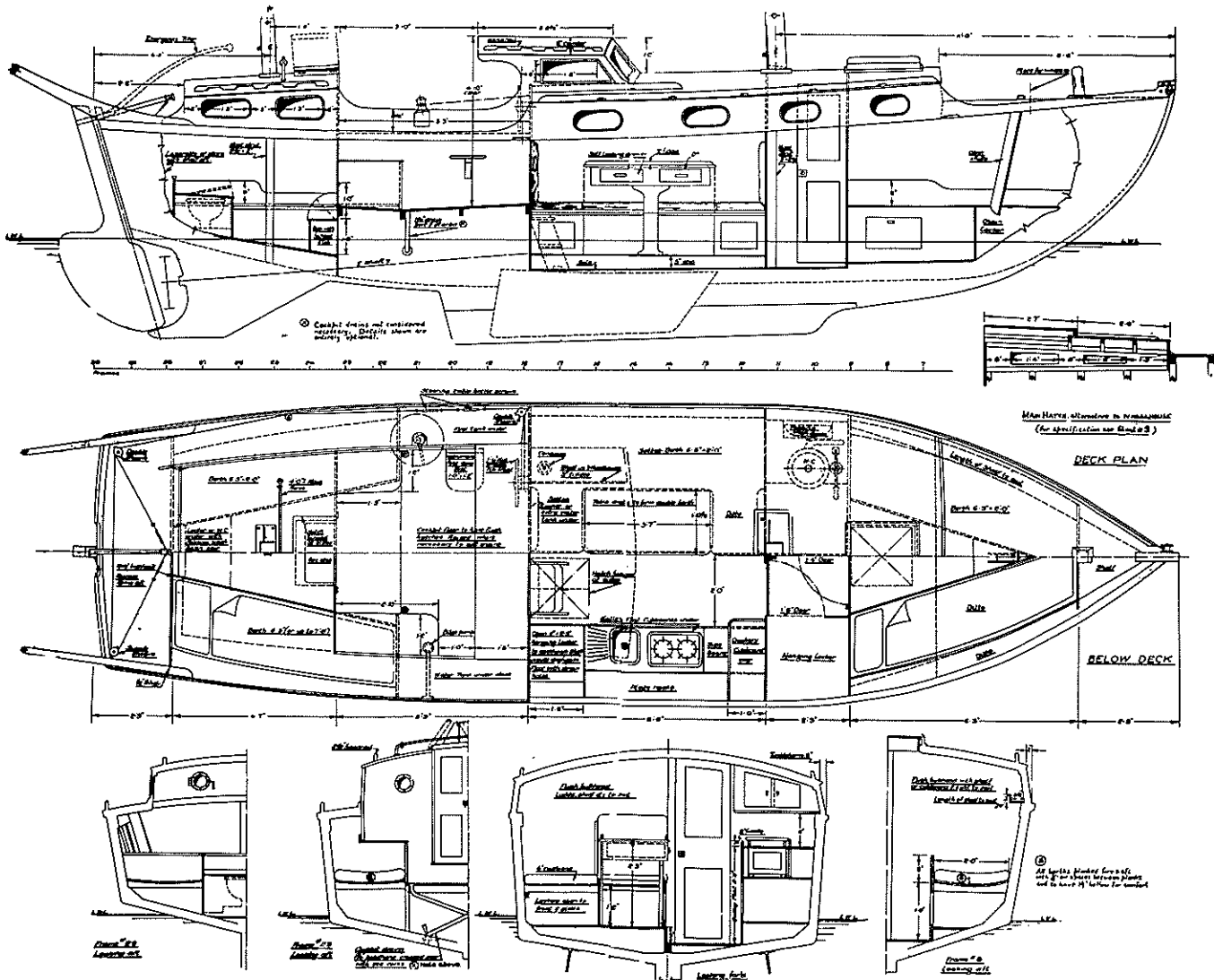
Rig S, the masthead sloop, is somewhat closer-winded and a fine alternative rig for the bilge keel version Mk I.

Each set of plans consists of six detailed sheets and a schedule of building materials and fastenings which the builder will find a helpful guide in ordering. The amount of data included in these plans for the amateur builder

can be gauged from parts of those reproduced here.

Like the Eventide, the Waterwitch has proved a very fine and safe seaboat during a number of offshore cruises. Accounts of the cruises of *Iota*, a home-built Mk II with leeboards, in the Pacific appeared in *YACHTING MONTHLY* in January and February 1963 ('This Dream Came True' by S. A. Simpson) and April 1964 ('In the Wake of Cap'n Cook').

## WATERWITCH Centre Cockpit



For builders requiring an alternative version to the WATERWITCH Mk I & II previously listed, the CENTRE COCKPIT version provides a craft offering wheel steering from a central position offering better protection for the helmsman in adverse weather conditions as the cabin roof is extended over to form a wheel house.

The centre cockpit can be self draining. Accommodation for six in 3 cabins is provided, with 2 single berths 6ft 3ins x 24ins in the fore cabin, which has a door to divide it from the main cabin. The heads and hanging locker forming a division between these two cabins of 2ft 3ins.

The main cabin with the galley to starboard has a dinnett incorporating a drop table to form a double berth to port. The aft cabin accommodates two single berths 6ft 3ins or up to 7ft x 24ins if required, in addition provision is made for a second toilet if desired. This version of the Waterwitch is ketch rigged with standard Bilgekeels.

The Waterwitch has proved to be a really sturdy sea boat, and since its inception has been built by amateur boatbuilders worldwide. Some of the more adventurous owners have made long ocean passages. Amongst the most notable must be the circumnavigation by Jeff and Frankie Clarkson in *Pilecap*, the voyages of Pat Rogers in *Shamwarie* from South Africa to Brazil and onwards, and *Iota's* voyages in the South Seas and the Coral Sea off Australia's Queensland coast made by S.A.Simpson.