SINGLE-HANDED CRUISING

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BY THE SAME AUTHOR

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SINGLE-HANDED CRUISING

BY

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"THE CORINTHIAN YACHTSMAN'S HANDBOOK," "IN TIDAL WATERS,"
"CRUISING HINTS," "SEAMANSHIP FOR SMALL YACHTS,"
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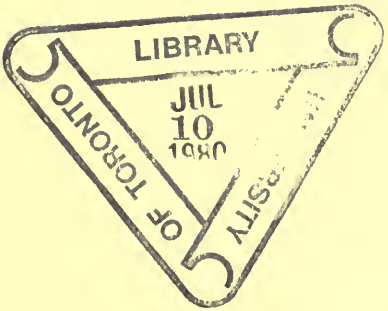

PREFACE

THESE articles originally appeared in the pages of the *Yachting World*, and I am indebted to the proprietors for permission to reprint them in this form. The matter has been rearranged and revised, and being based upon many years' practical experience of single-handed sailing, will, I hope, be acceptable to those who, either from choice or necessity, make a practice of cruising alone. Of the four thousand or more yachts whose names appear in Lloyd's Register, quite a considerable proportion are small craft used for the most part for week-end cruising, and single-handed sailing is a proposition that the owner of a week-ender cannot afford altogether to ignore. To be dependent upon the assistance of friends, who may leave one in the lurch at the eleventh hour, is a miserable business that can only be avoided by having a yacht which one is capable of handling alone. The ideal arrangement is to have a vessel of sufficient size to accommodate one or two guests and yet not too large to be sailed single-handed at a pinch. In this little book I have endeavoured to give a few hints on the equipment and handling of such a craft, which, it may be remarked, can, in the absence of paid hands, be maintained at comparatively small cost.

F. B. C.

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Folding Plan, facing page 22.

SINGLE-HANDED CRUISING

CHAPTER I

INTRODUCTION

SINGLE-HANDED cruising is usually considered by those who have not practised it as too lonely to be enjoyable, and so, no doubt, it is under certain conditions. To sail round the world alone, as did Captain Slocum and Captain Voss, must be a dreary business, and if all single-handed cruising were of that character it would attract very few sailing men. But the majority of those who sail alone make comparatively short passages, and when they bring up at night usually find company awaiting them either ashore or afloat. I have done a good deal of single-handed sailing at different times and never found it in the least lonely; but, then, my trips have generally been made in more or less familiar waters, and I could rely upon meeting friends at almost every port I visited. More often than not I sailed in company with some other yacht, or yachts, and that is the most enjoyable form of cruising that I know. One has all the pleasure of handling one's craft alone during the day and at the end of the journey one can associate with one's friends and talk over the incidents of the passage. Some of the most delightful little cruises that I can remember were of this nature, but there were also others undertaken quite alone to which I look back with fond recollection.

I am quite prepared to admit that when sailing alone fine weather is essential to complete enjoyment. When strong winds and rough seas are experienced, the work is apt to be unduly heavy if the craft is of any size, whilst it is most difficult under such conditions to obtain proper meals. When, tired and hungry, one finds oneself many miles from port with the shades of night closing in, one is apt to feel a trifle lonely and wonder if the game

be worth the playing, but such experiences are fortunately few and far between. Moreover, they soon fade from the memory, and when, after a good sleep in port, the single-hander turns out to find the sun shining, the past discomfort is forgotten, and he thinks rather of his success in having brought his little vessel safely to port under trying conditions. Given fine weather and a nice breeze, and it is roses all the way, as the saying goes. One's time is pleasantly divided between handling the yacht and navigating her to best advantage, to say nothing of attending to the domestic economy of the boat. The fact is, the single-handed yachtsman simply has not time to feel lonely, as from the moment he turns out in the morning until he goes to bed at night his attention is engaged upon something or other. Little jobs like scrubbing decks, cleaning the cabin, and cooking take a big slice out of the day, and no man busily employed is likely to suffer from ennui.

Let us pause for a moment to consider an average day's work in the course of a single-handed cruise round the coast. The yachtsman, awakened probably by the strong sunlight streaming through the cabin doors, turns out at, say, seven o'clock. He climbs on deck and takes down the riding light before going overboard for a swim. After a brisk towelling he puts on the kettle to boil whilst he dresses. Then he makes himself a cup of tea and fills a pipe, and it may be remarked incidentally that no pipe tastes so sweet as that after a bathe in the early morning. The real business of the day commences with deck-scrubbing, to be followed by a little brass-cleaning. If he happen to be jealous of the appearance of his craft he will also wipe over all bright teak fittings and the topsides with a chamois leather damped with fresh water. Before preparing breakfast the bedding and blankets will be put outside to air, the bedding on the cabin-top and the blankets hung over the boom. Then breakfast has to be prepared and eaten, and after the meal the things must be washed up and put away and the cabin swept out and tidied. Even then the preliminary work of the day is not quite completed, as there still remain the cabin lamp and riding light to clean and fill in readiness for the following night, for no methodical owner would leave them dirty.

By the time he is ready to get under way the hands of the clock will probably point to half-past nine, or even ten, but if the weather be fine he may be able to take it easy for a few hours when clear of the anchorage. Should the wind be ahead he will have to stick at the helm, but when the yacht is reaching the tiller can often be lashed. It depends a good deal on the type of boat, however, whether she can be trusted to sail herself. If she has a fairly long straight keel a yacht will sail steadily on a reach for quite long periods. My old 7-tonner *Seabird* was a craft of that type, and under such conditions she would sail herself for hours on end with scarcely any supervision. Given a boat of this type, fine summer weather, and a nice reaching breeze, and you have single-handed sailing *in excelsis*. You may even lounge in a deck-chair with pipe and book, just casting a glance around every now and then to see that your course is clear. People will tell you that reading when under way alone is a most reprehensible practice, and they will no doubt point to the fate of the poet Shelley, who was drowned whilst thus occupied. But Shelley, I believe, was sailing an open boat, which is a very different thing to a heavily ballasted decked yacht. Anyhow, most men who cruise alone read when under way, I think, and provided one keeps an eye lifting for other craft, I don't think much harm is likely to come from it. It is wise, however, to exercise a certain amount of discrimination in the selection of one's literature. It would not be altogether prudent, for instance, to read a novel with an enthralling plot, as one might become completely absorbed in it. What one wants is something that can be put down or taken up at any moment, a book such as Stevenson's letters, Pepys's Diary or Boswell's Johnson. In this manner the day will pass very pleasantly, and the interest will, of course, be varied by picking up buoys and other marks incidental to navigation. Lunch will be taken under way, but, if possible, a port should be made by teatime, as the wind has a way of petering out in the early evening in fine summer weather. After tea the yachtsman can take a stroll ashore and at the same time replenish the larder. Preparing and eating one's dinner and washing up afterwards usually accounts for a considerable portion of the evening, when one has to do everything, and then

plans for the following day's trip must be made, courses worked out, and pilotage notes jotted down. It is even more important for the single-hander to be well prepared in this respect than for an owner who sails with a crew, as the former might find it impossible to leave the helm when in a critical position. Everything likely to be wanted should be carefully prepared, notes being made on a slate which should be hung up in the well within reach of the tiller. In the same manner the chart, or portion of it covering the waters sailed, should be ready to hand. The owner thus prepared will be ready for any emergency that may present itself.

CHAPTER II

THE QUESTION OF SIZE

It is astonishing how the ideas of yachtsmen vary with regard to the size of craft most suitable for single-handed work, the tonnage of the boat selected often being in inverse ratio to the size of the man. Thus we find little spare men sailing yachts big enough to accommodate a fair-sized family, whilst big stout men confine their well-developed carcases in little slips of vessels that look more suited to the Round Pond at Kensington than to the open sea. In selecting a boat for single-handed sailing the yachtsman should exercise a little discrimination in his choice, keeping in view the sort of cruising he intends to practise. If it is his intention merely to jog round the coast from port to port, a comparatively small yacht will be quite big enough for the job, and it is absurd to go in for a craft larger than necessary. If, on the other hand, he proposes to make long trips across open water, it is desirable that his yacht should be of sufficient size to keep the sea in any weather likely to be encountered.

So far as I know, the largest craft ever sailed single-handed by an amateur yachtsman was the yawl *Lady Harvey*. In that vessel Mr. Frank Cowper cruised for some years, circumnavigating the British Isles and exploring *en route* practically every river and creek round the coast. I remember the old *Lady Harvey* well, and she was certainly a lump of a boat for one man to handle for months on end. Built at Dover so long ago as 1867, she measured 29 tons T.M., her principal dimensions, as given in Lloyd's Register, being: Length between perpendiculars, 44 feet; beam, 13·4 feet; and depth, 7 feet. Her draft, I believe, was about 6 feet, and she was rigged as a yawl. Mr. Cowper, when he owned *Lady Harvey*, was collecting data for his well-known series of cruising guides, "Sailing Tours," and his trip was therefore more or less a voyage of exploration.

Although snugly rigged, *Lady Harvey* must have been a handful at times for a light man of something under ten stone, but Mr. Cowper seems to have completed his cruise without experiencing any serious difficulty. Another yacht owned subsequently by Mr. Cowper was not much smaller than *Lady Harvey* and even older. I refer to the 24-ton yawl *Zayda*, which was built in 1859. Her length between perpendiculars was 45 feet 9 inches, and her beam 11 feet 3 inches. Speaking from memory, I should say that her sail area was rather larger than that of *Lady Harvey*, and her owner must have experienced some little difficulty in setting her mainsail. The anchor work in both of these yachts was very heavy for a single man, particularly one of the physique of Mr. Cowper, who, also, if he will forgive my saying so, was no longer in the first flush of youth. It is difficult to imagine what can have induced him to go in for single-handers of such size, as craft of half the tonnage would have served his purpose equally well and have been infinitely easier to handle. To my mind the best boat "Jack-all-alone" ever owned was *Undine* (now known as *Singora*) which he designed and built himself. Even she was on the large side for single-handed work, measuring 18 tons T.M., but she was ketch-rigged and of a more modern and handy type than *Lady Harvey* and *Zayda*. Having once cruised in such a craft as *Undine*, it strikes me as amazing that Mr. Cowper should ever have bought a yacht like *Zayda*, which must, I think, be included in the category of what the yacht hand is pleased to term "old tore-outs."

In considering the question of the most suitable size of yacht, it must be remembered that it is not merely the labour of handling the vessel that has to be taken into account. There is also the matter of keeping her clean and in a state of general efficiency to be reckoned with. A yacht of the tonnage of *Lady Harvey* or *Zayda* as a rule carries two paid hands, or a man and boy at least, who will have the assistance of the owner and his friends in sailing her. Now, when the owner dispenses with the assistance of a professional crew and has no amateurs to help him, how is he going to sail the boat and also keep her in a smart and efficient state? It simply can't be done, and it seems to me that if a man elects to sail a craft of that size single-handed he

must either neglect her or else spend most of his time in cleaning work. To pass most of the day under way and yet keep a yacht of some 30 tons in decent condition, is, I contend, beyond the powers of one man, and that is probably why neither *Lady Harvey* nor *Zayda* was particularly smart in appearance. But Mr. Cowper, I should say, does not care a tinker's D about mere appearance. Having a fancy for big boats, he gratified his desires in that respect and let what is somewhat vulgarly termed the "spit and polish" side of the question go hang. Personally, if I had the same ideas as regards size, I should be inclined to take a leaf out of the book of the fishermen and paint the spars, blocks, and decks and dress the sails.

One can get a good idea as to the amount of work there is to be done in a 20-tonner from the pages of "Down Channel," which, by the way, is one of the most fascinating and instructive yachting books ever published. The author, the late Mr. R. T. McMullen, narrates his experience of sailing alone in his yawl *Orion*, which he brought home to the Thames from Cherbourg. He was away cruising with his usual crew of two paid hands and the men complained bitterly of the hard work. Their behaviour became so mutinous that Mr. McMullen had to discharge them at Cherbourg. Then, to demonstrate that their complaints were not justified, he determined to sail the yacht home alone and carry out all the work that the men would have had to do in the ordinary course of their duties. Mr. McMullen gives in his book a detailed account of the work, which is most interesting, but far too long to quote here. As an instance, however, of the amount of labour involved, it may be mentioned that it took him eleven hours to get the yacht under way and clear of the harbour. A portion of the time was spent in attending to the domestic economy of the yacht and in preparing his meals. "If asked to give a strict account of my time," he writes, "it would not be possible, but one or two suggestions will go far to make it clear. Many things require to be held; you have to go and fix them, return to your own work, and then back to release them again. There is plenty of that in handling the mainsail. All ropes, after temporary use, were coiled down in their places." It must be said that *Orion* was equipped with far heavier canvas

and gear than it is customary to use in yachts nowadays, and Mr. McMullen was a little man of not much more than nine stone in weight. An experience of this nature once in a lifetime may be all very well, but nobody could make a practice of doing such work, and if a man habitually sails a craft of from 20 to 30 tons single-handed it is, I think, pretty obvious that something must be neglected. This particular trip from Cherbourg to the Thames was undertaken more from necessity than choice, but Mr. McMullen was a very keen single-handed sailor and made notable cruises. The boats he had specially built for single-handed work ranged in size from *Leo*, 2¾ tons, to *Procyon*, 7 tons, and I doubt whether he would have advocated anything much larger than the latter for the purpose.

A large craft not only entails undue labour but also makes for unnecessary expense, both of which it is desirable to avoid. If it is the intention to use the boat merely for week-end trips and pottering round the coast, a craft of 4 or 5 tons should be of ample size for the purpose and would afford sufficient comfort below decks to satisfy the owner's wants, provided that she had adequate headroom. To be compelled to sit huddled up in the cabin, even for a week-end, is intolerable, and for that reason no boat with much less than 4 feet 6 inches headroom should be thought of. In choosing a yacht the factor of physical strength must not be overlooked, as a craft that a strong man can handle with comfort may speedily tire out anyone of slighter build. It is not, however, so much the size of the boat that must be considered in this respect as the area of the sails and weight of the ground tackle. There are those who will tell you that these factors are not of much importance, as lack of strength on the part of the owner can be compensated for by the use of more powerful purchases on halyards and sheets and the employment of an adequate windlass for the cable. But with that view I do not see eye to eye. The more mechanical power employed the longer it takes to do the job, and in single-handed work speed is often of the first importance. When getting the vessel under way, for instance, one cannot be at both ends of the yacht at once, and in preparing to leave a crowded anchorage, with a strong tide running, delay may spell disaster. It must be remembered

that it is necessary to sight the anchor before the boat can be got under perfect control, and in practice this means that as soon as the anchor has been broken out of the ground the chain must be cast off the drum of the windlass and hauled in hand over hand. There simply isn't time to use mechanical power for the purpose. One's presence is urgently needed at the tiller and mainsheet, and if one got the chain in slowly with the aid of a windlass, the yacht would probably be athwart some other craft long ere the anchor was sighted. An anchor weighing some 40 lbs. on the end of a $\frac{3}{8}$-inch chain is quite heavy enough for a man of average physique to " fist " up, and if one has to use much heavier ground tackle than that it will mean bringing up on the outskirts of the anchorage, probably a long way from a landing causeway.

The question of sail area must be viewed in a rather different light than it would be in the case of a yacht manned by a strong crew. In the latter instance the area can be considered as a whole, but the single-hander must look to the size of the individual sails. The main point he has to decide is the area of the largest sail he can handle efficiently and without undue strain. Although light winds for the most part obtain during the summer months, it would not be wise to base one's calculations solely on such weather, as a strong wind might prove overpowering. The single-hander has but himself to depend upon and if caught in a breeze is obliged to " stick it out." It is all very well in theory to talk glibly about heaving to and going below for a rest, but the yachtsman who confines his sailing to trips round the coast seldom has sufficient offing to do so with safety. He therefore has no alternative but to plug on until he makes a port or finds shelter under a weather shore. In considering the question of sail area he should for this reason keep in hand a certain reserve of strength.

The mainsail, being the most important, will naturally claim first attention, and rightly so, as the area of the other sails is largely dependent upon its size. In dealing with this question I cannot do better, perhaps, than give my own experience in the 7-tonner *Seabird* that I formerly used for single-handed work. When I bought her she was rigged as a sloop with a mainboom

27 feet in length and a foresail of, so far as I remember, something like 180 square feet. I suppose I can describe myself as a man of average physique, being rather more than twelve stone in weight, and I must confess that *Seabird* under her sloop rig made me very tired indeed in strong winds. To make matters worse she was a sharp-sterned boat and the boom-end 6 feet outboard. I sailed her in that trim for some time, but an experience I had one day when caught in a breeze convinced me that a little curtailment of the sail area was desirable. I got caught out in the Wallet in some dirty weather that necessitated reefing, and soon found that what was difficult in the river was next door to impossible in a seaway. There was a "certain liveliness" about *Seabird* in rough water that rendered it far from easy to maintain one's foothold on deck. Indeed, she kicked up her heels like a colt in a paddock, and it was perhaps somewhat imprudent to stand on the rudder-head whilst vainly endeavouring to tie the last few reef-points. Anyhow, I suddenly found myself hanging on to the boom-end with my feet alternately dangling in space and diving under water, what time the boat did her best to shake me off. Neither by training nor inclination am I a gymnast, and I shall never forget the horrible scramble I had to get back on board. From that moment the sloop rig was doomed so far as *Seabird* was concerned, and I sailed her straight back to Burnham for alteration. The modification made in her rig was quite simple. I had 6 feet lopped off her boom and the mainsail cut down to fit, whilst the big single headsail gave place to foresail and jib. The alteration was a complete success, for although something was sacrificed in the way of speed, the enhanced comfort and ease in handling were ample compensation. The reduced boom measured 21 feet, the end being plumb with the sternpost, and I am inclined to think that that is about the limit in length that the average yachtsman will care to handle alone in a breeze.

If the yacht is of a size to require more sail to drive her a two-masted rig may perhaps be desirable. But I make the suggestion with all reserve, having a prejudice against such rigs for quite small craft. Far better, in my opinion, would it be to content oneself with a rather smaller yacht than to patronise the doubtful

virtues of, say, the yawl rig with its complication of gear. The yawl rig, to my mind, is quite out of place in any vessel of less than 20 tons measurement. One can, however, imagine circumstances that would almost compel a man to have a boat a good deal larger than he would require for his own personal accommodation. There is, for instance, the married man who does not care to leave his wife and children at home whilst he goes cruising. For such a yachtsman the first consideration must be internal accommodation, as he has to provide sleeping berths for his passengers, and it is quite likely that the craft may be of 12 or 15 tons, requiring a sail area of 1,000 or 1,200 square feet. It would be beyond his strength to handle alone such a spread of canvas in a cutter rig, and so he must split it up into "penny numbers," so to speak. In such a case the yawl or ketch rig becomes almost a necessity, but I shall have more to say on that point when I come to discuss the question of rigs. Although it is possible to split up the sail area into sails of a workable size, the anchor difficulty in a large boat still remains, and anyone who sails single-handed a yacht that requires an anchor and chain of such weight as to call for the employment of a windlass, should never take up a berth in a crowded anchorage unless he has a mooring to ride to.

To buy a yacht larger than is necessary for the work for which it is proposed to use her savours somewhat of extravagance, and if it is the single-handed yachtsman's intention to confine his cruising for the most part to week-end sailing round the coast, the main point to consider is that of personal comfort. For that sort of work a little craft of 2 or 3 tons will do as well as one of 5 or 6 tons, provided that she is of good design and has sufficient displacement to afford the necesary headroom in the cabin. I do not suggest that such a vessel is fit to make a coastwise passage in a summer gale, but when such conditions of weather obtain the yachtsman will be well advised to stay in port, even if his boat be as large as 6 tons. There are those whose conversation would lead you to suppose that they enjoy nothing better than a bad "dusting" in a small yacht, but it will usually be found that they are novices who have had no practical experience of really heavy weather. Most yachtsmen sooner or later

get caught out in a blow and have to "face the music," but I have yet to meet the man who deliberately courts bad weather.

It is astonishing what a lot of pleasure can be derived from the smallest of cruisers, and what a deal of ground can be covered in them in the course of a summer, but it is essential that the boat should be of suitable type and design. Of the score of boats that I have owned my favourite was the 2-ton canoe yacht *Snipe*, and I still regret the day when I was tempted by a fat price to part with her. I picked her up when she was four years old for a mere song from a man who had acquired a big yacht. I cruised in *Snipe* for three years with the utmost pleasure and satisfaction, and then a friend, who had fallen in love with her, offered me almost twice as much as I had paid for the boat, and I parted with her. Built by Pengelly and Gore at Teignmouth in 1895, *Snipe's* principal dimensions were: Length, 18 feet; beam, 6 feet; and draught, 3 feet 6 inches. With 13 cwts. of iron on her keel and a like quantity in the form of pigs inside, she was as stiff as the proverbial church under a sloop rig of moderate area, whilst, thanks to her generous freeboard, she had ample headroom in the cabin to sit upright on a bunk of moderate height. *Snipe's* cabin accommodation was remarkable for a boat of her size, and two persons could live on board quite comfortably for weeks on end. On either side of the cabin was a folding cot, which let down over the sofa for sleeping purposes, and when folded back to the side of the boat during the day contained all the bedding and blankets, which were protected from damp by a sheet of Willesden canvas. At the fore end of the cabin was a small table, and on the floor a Turkey rug. The fo'castle was divided from the cabin by dark blue curtains, held back by broad red ribbons, whilst a red silk shade subdued the light from a gimballed lamp fixed to the mast. It was the snuggest and homeliest little cabin imaginable, and I have often had less comfortable quarters in a 5-tonner. *Snipe* was of true canoe form—that is to say, without overhang either fore or aft—and she was a little man in heavy weather. The boat was inclined to be wet in rough water, but what small craft that travels is not under such conditions? It was, however, only the foredeck that the water invaded, and it ran off harmlessly along the waterways.

Beating to windward in rough water, she sloshed through it in the most convincing style and never failed to come about when the helm was put down. Since I sold her nearly twenty years ago *Snipe* has only changed hands once, which would suggest that her later owners have found her as satisfactory as I did. Although now twenty-four years old, the boat is, I believe, still quite sound and tight, and the last time I saw her she looked as smart as ever. But she has been fortunate in her owners, and has always been well kept up. Messrs. Pengelly and Gore would appear to have been particularly happy in their small cruisers, as another of their creations, *Lady Frances*, is an equally good little ship. She is a trifle larger than *Snipe* and has a transom stern, whilst her beam is greater in proportion to her length. Her cabin is positively palatial for a 3-tonner, and she has quite a useful turn of speed.

In single-handed sailing one has to combine the rôles of helmsman and crew, consequently when the yacht is put about one must look after the helm and also work the headsail sheets. This is quite easy to do, but it is essential that one has sufficient time in which to do it. For this reason the modern yacht with a short keel and her deadwoods cut away is not always the best type of single-hander, as she is far too quick in stays. What one wants is a craft that comes round slowly, but surely, so that the tiller may be lashed down and the headsail sheets tended comfortably whilst the yacht is coming round. To secure this quality a certain length of keel is necessary and the forefoot must not be unduly cut away. The long keel, moreover, makes for steadiness on the helm, and such a boat will often sail herself with tiller lashed for quite a long time. In the book he published on his voyage round the world Captain Slocum stated that the *Spray* would sail herself for days together, and with steady trade winds there seems no reason to doubt the statement. In our home waters the wind is seldom perfectly steady, and a yacht with her tiller lashed will generally call for a certain amount of supervision, but in my old *Seabird* I frequently cooked and ate my dinner whilst she reached along with the tiller lashed. It is also desirable that the yacht should be easy to get about on, or, in other words, should have sufficient beam to prevent her

heeling to a great angle. A boat that sails much on her side is most uncomfortable for single-handed sailing, as she is difficult to get about in, both on deck and down below. As reefing is heavy work when undertaken single-handed, the boat should be stiffer than would be considered necessary in the case of a craft carrying a full complement of hands. Qualities such as I have referred to do not make for speed, but safety and comfort are, I think, of greater importance than fast passages, and the cruising man, as a rule, is not obsessed with a lust for speed.

CHAPTER III

THE QUESTION OF TYPE

Hitherto I have for the most part confined my remarks to the question of the most suitable size for single-handed work, but a few words must also be said on the subject of type. A yacht eminently desirable in one district may be quite unsuitable in another, as much must depend upon local conditions. If there is ample water at all states of tide the yachtsman will have far more scope for the selection of his boat than will be the case if his anchorage be a tidal one, as in such circumstances a craft of light draught that will take the ground is almost a necessity. Take for example such a district as Southend. For a keel yacht of average draught there is water only for about two hours on either side of high water, whilst at low tide the boats have to lie on a bottom composed of comparatively hard sand with a coating of mud. The mud is not of sufficient depth to enable a yacht's keel to cut in, and a keel yacht of ordinary type must lie on her bilge. Now, if one kept there a keel yacht of, say, 5 tons, drawing from 4 to 5 feet of water, it would be possible to leave or return to one's moorings only during a period of about four hours at the top of the tide. The remainder of one's time would be passed with the boat in a particularly uncomfortable position—that is to say, with a heavy list.

It would, of course, be possible to get away for a cruise on Saturday afternoon and return the following day when the tide served, but that would be only on alternate week-ends. Even when the conditions were thus favourable for a week-end trip, there would always be the haunting fear of missing the tide back to mar one's pleasure. When the tide did not serve, one would have to rest content with a short sail of some three hours' duration in the immediate neighbourhood of one's moorings. It will

be seen therefore that when such local conditions obtain the yachtsman has but little choice in the matter. He must go in for a boat of light draught which will render his moorings available for perhaps three or four hours longer.

A yacht of very light draught will not sail decently to windward without the extraneous aid of a centre-plate, or lee-boards, to give her the necessary lateral resistance. Lee-boards may be eliminated from our calculations, I think, as they are seldom used in any craft but barges, and are neither so efficient nor handy as a centre-plate. Personally, I do not care for centre-plates in anything larger than a dinghy, as in a cabin yacht they are apt to spoil the internal accommodation, and in other ways are often the source of trouble. Any plate large enough to be efficient must, when housed, rise above the level of the floorboards, and the case is horribly in one's way. One can make the best of it by fitting a table on the case, but there is no getting away from the fact that the presence of the case interferes sadly with one's leg room. A centre-plate, moreover, must to a certain extent be a source of weakness, for it stands to reason that a long slot cannot be cut in a yacht's keel without some sacrifice of strength. This, however, can be compensated for by giving the vessel a wider keel, and when buying a centre-plate craft it is advisable to make sure that the keel is of ample width to afford the requisite strength. That centre-plate cases are apt to leak many owners have found to their cost, and yet it should not be beyond the ingenuity of a designer to fit a centre-plate case in a cabin yacht in such a manner that it will not work. The most satisfactory method from the point of view of strength is to secure the ends of the case to stout posts fitted between the keelson and cabin-top beams. This method was employed in Mr. H. W. Stout's *Erl King* and the case never leaked a drop, but it must be admitted that the posts were rather in the way, and they were certainly not sightly.

One of the main objections to a centre-plate in yachts of any size is that stones are apt to work up into the case and jamb the plate so that it cannot be lowered when desired. In such circumstances the owner not infrequently adds to the trouble by trying to force the plate down with heavy blows, thereby jambing

it more securely. Now, this trouble is caused solely by the case being too narrow, and can easily be avoided by an ingenious designer. Mr. Howard Messer got over the difficulty very cleverly when designing his 8-tonner *Skate*. He made the case much wider than is customary and reduced the opening at the bottom to normal width by means of an iron shoe. The plate thus passed out through the bottom of the boat through a slot of just sufficient width to take it, but inside the case there was a space of perhaps an inch on either side of the plate. Any stones that found their way into the case could only be very small ones, and these were soon washed aft and fell out through a hole made for the purpose at the after end of the slot. If this method be adopted, a plate will never jamb in its case, unless, of course, it is badly buckled.

Another objection is the liability of the hoisting lanyard to carry away, a mishap that places the owner in a very awkward predicament. With the plate hanging some 7 or 8 feet below the yacht from a single bolt, the boat is quite unmanageable, and as it is almost impossible to guide the plate back into its case by means of a rope passed under the boat, she will probably have to be slipped or hoisted with a crane ere the trouble can be rectified. For some unaccountable reason the lanyard in the majority of cases is of wire rope, spliced through a hole in the top of the plate, and is out of sight. In course of time the splice rusts and breaks at the nip without the slightest warning. A galvanised iron chain is, in my opinion, far preferable, as it will last for years; but even if a chain be used for the purpose it is advisable to remove the top of the case, say once every season, to examine the condition of the shackle that secures the chain to the plate. A minor objection to a centre-plate is that water squirts up through the lanyard hole in the case when beating to windward in rough water. This can be prevented by plugging the hole with a rag or a handful of cotton waste, but this precaution is usually forgotten until after the mischief has been done. Still, if one has to keep a yacht at a port where there is a lack of water a craft with a centre-plate will be found the most convenient, and as I have pointed out, many of the objections to such a fitment can be circumvented. A centre-plate boat,

however, does not make a very good single-hander, as she is apt to be wild on her helm and is usually too quick in stays to enable one to handle the headsail sheets comfortably whilst she is going about, at any rate, if she be cutter rigged. Should tidal considerations compel one to use a centre-plate boat for single-handed work, I think it would be wise to have her rigged as a sloop in order to reduce the sheet work to a minimum. There is a moment when a yacht is in stays when a headsail sheet can be hauled in and belayed with one hand, but one cannot very well handle two pairs of sheets at once. In the case of a cutter the jib can be handled comfortably before there is any weight of wind in the sail, but the yacht will be full on the new tack ere attention can be turned to the foresail. It will therefore be necessary to release the tiller and use both hands to get the sheet in. The average centre-plate craft, being very quick on her helm, would probably fly up into the wind again whilst the helmsman tended the foresheet, and it is within the bounds of possibility that she might get into irons. I think, therefore, that under the circumstances I should go in for a sloop, but she should not be of more than 4 tons measurement or the single headsail would be unduly large.

In selecting a yacht for single-handed cruising the desiderata may, I think, be summarised as follows: First, she should have good initial stability, so that she would not sail much on her side. Secondly, she should be steady on her helm, so that the tiller may be lashed whilst the helmsman goes forward to do anything that may be necessary. Thirdly, she should be very stiff, so that reefing the mainsail would seldom be necessary. Fourthly, she should be so rigged that nearly all of the sail area is inboard and consequently easy to handle, and, finally, the accommodation below decks should afford reasonable comfort. If, in addition to these qualities, the yacht possesses a good turn of speed, so much the better, but, in my opinion, speed should be the last consideration of the single-handed yachtsman. The qualities I have mentioned will in combination probably produce a rather slow boat, but the man who elects to sail alone is seldom obsessed by a lust for speed, and asks for little more than safety and comfort. Before leaving the question of the selection of a single-hander, it

may be as well to consider briefly a few types and their suitability or otherwise for the work.

When it is remembered that lifeboats and other small craft which have to battle with heavy seas are almost invariably built with sharp sterns, it is obvious that such a feature must possess advantages that are considered of particular value. But it by no means follows that what is a virtue in a boat designed for a special purpose will be a desirable feature in a craft used for work of a different nature. Ships' lifeboats, as their name indicates, are carried solely for the purpose of saving the lives of passengers and crew in the event of shipwreck. Such a disaster might happen when the vessel was a thousand miles from anywhere, and starvation is a contingency that must be taken into consideration in addition to that of drowning. It is essential, therefore, that a lifeboat should be capable of making a port in practically any weather. As ships' boats have not sufficient natural draught and are not as a rule fitted with centre-plates, it may be assumed that their designers recognise the impracticability of trying to make heavily laden small boats go to windward in bad weather. That particular point of sailing is therefore ignored and they concentrate their efforts upon the production of a boat that will run safely and well before a heavy following sea. Experience has taught them that the canoe form of stern is exceedingly well adapted to such conditions, as it seems to divide the following sea and there is less tendency to broach to. The long straight keel, moreover, makes for steadiness on the helm, and the type is probably the best that could be devised for the purpose.

But a small yacht designed for week-end sailing is quite a different proposition. The owner might sail for years without being compelled to run before a heavy following sea to a port of refuge, and it seems absurd to adopt a special feature in view of a contingency that in all probability will never occur, unless it can be done without sacrifice in other directions. But that is not the case. The best two small cruisers I ever owned had canoe sterns, but, all the same, I am inclined to think they would have been better boats with sterns of another form. It is particularly important in a single-hander that there should be plenty

of deck room aft, and that is lacking in canoe yachts, which in consequence are, if cutter or sloop rigged, most uncomfortable and difficult to reef, owing to the insecure foothold their after decks afford. With a sharp stern, complications arise both as regards the steering and the arrangement of the mainsheet blocks. The cockpit must be situated some little distance from the sternpost, and this entails the use of a very long tiller. If a mainhorse be employed for the lower mainsheet block, its presence will prevent the tiller being put over very far, a defect that may impair the handiness of the yacht. In the absence of a horse it is most difficult to arrange the purchase of the mainsheet effectively in a boat that has no counter. Then, again, there is a certain loss of stability with a canoe stern and locker space is curtailed. Of late years a good many so-called canoe yachts have been produced with overhanging sharp sterns, but such a stern is in effect a counter, and I do not think such boats can be rightly described as "canoe yachts." For ocean-going cruisers a canoe stern is unquestionably a desirable feature, as such a vessel has to take the weather as it comes and it is possible that she may have to run many miles before a heavy following sea. Lieutenant Donald Haig's *Ran*, for example, represents as fine a type of small ocean-going cruiser as one could wish for, and has proved herself a splendid seaboat in many long trips to and from Norway and to the Bay of Biscay. Built on the lines of a Norwegian fishery lifeboat, she is fit to go practically anywhere and in almost any weather, but she would be wasted if used for pottering round the coast.

I am not particularly fond of small barge yachts for single-handed or any other form of sailing, as I have no confidence in their capabilities in rough water. A properly designed keel yacht is practically uncapsizable, as the more she heels the greater is the leverage of her outside ballast. But a barge yacht retains her stability only to a certain angle of heel and then it entirely disappears. This, to my mind, is a source of danger that should not be present in any cruising boat. The high freeboard and great windage of the barge yacht must also be detrimental to her weatherliness in strong winds and rough water, particularly as she has nothing but a small leeboard to hold her to the wind.

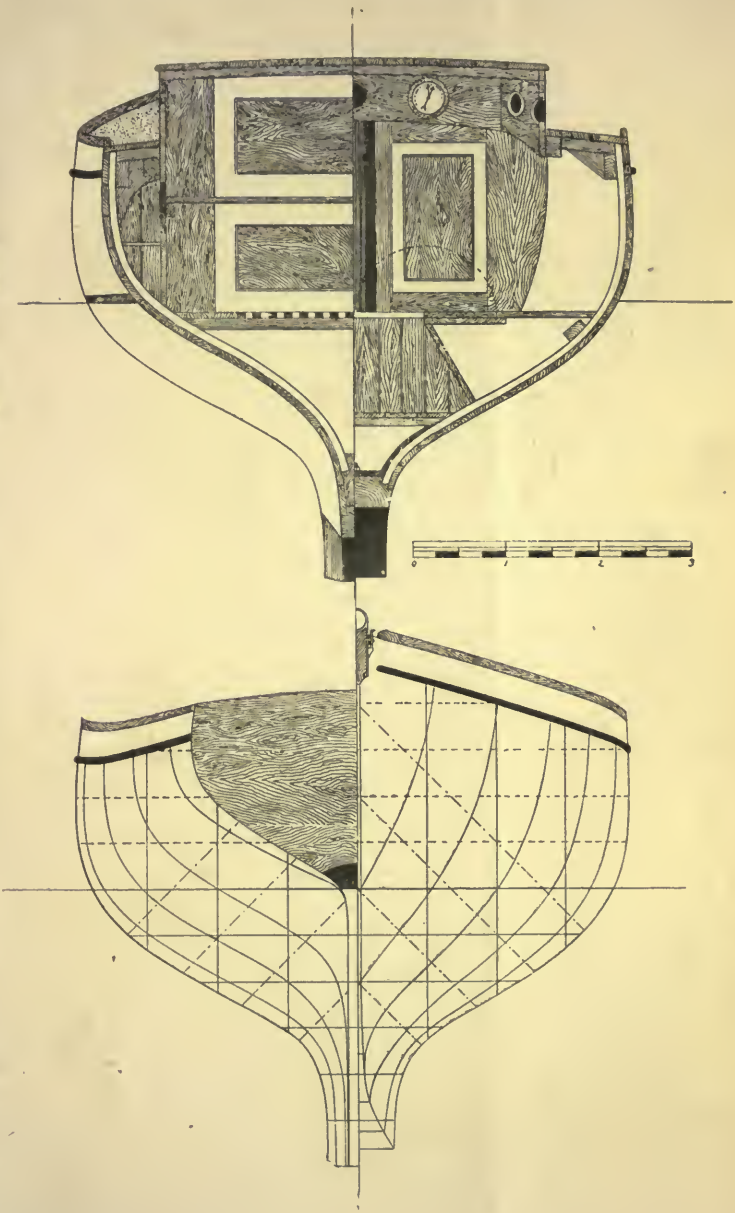
I must confess, however, that I have had little practical experience of this type of yacht, my impressions having been derived for the most part from watching their behaviour from the deck of my own craft. There is one yacht of modified barge type, however, that has often impressed me. I refer to *Skate*, which was designed and built by Mr. Howard Messer and is now owned by Mr. Manning Prentice. Instead of being flat-bottomed like the true barge she has a broad **V** section which seems very effective. Fitted with a centre-plate, the boat is extremely handy and will beat to windward under either mainsail or foresail alone. Being of similar type to the small yacht in which Mr. Thomas Fleming Day crossed the Atlantic some years ago, her sea-going qualities are beyond dispute, and it may be mentioned that *Skate* herself has several times crossed the North Sea.

CHAPTER IV

DESIRABLE FEATURES AND OTHERWISE

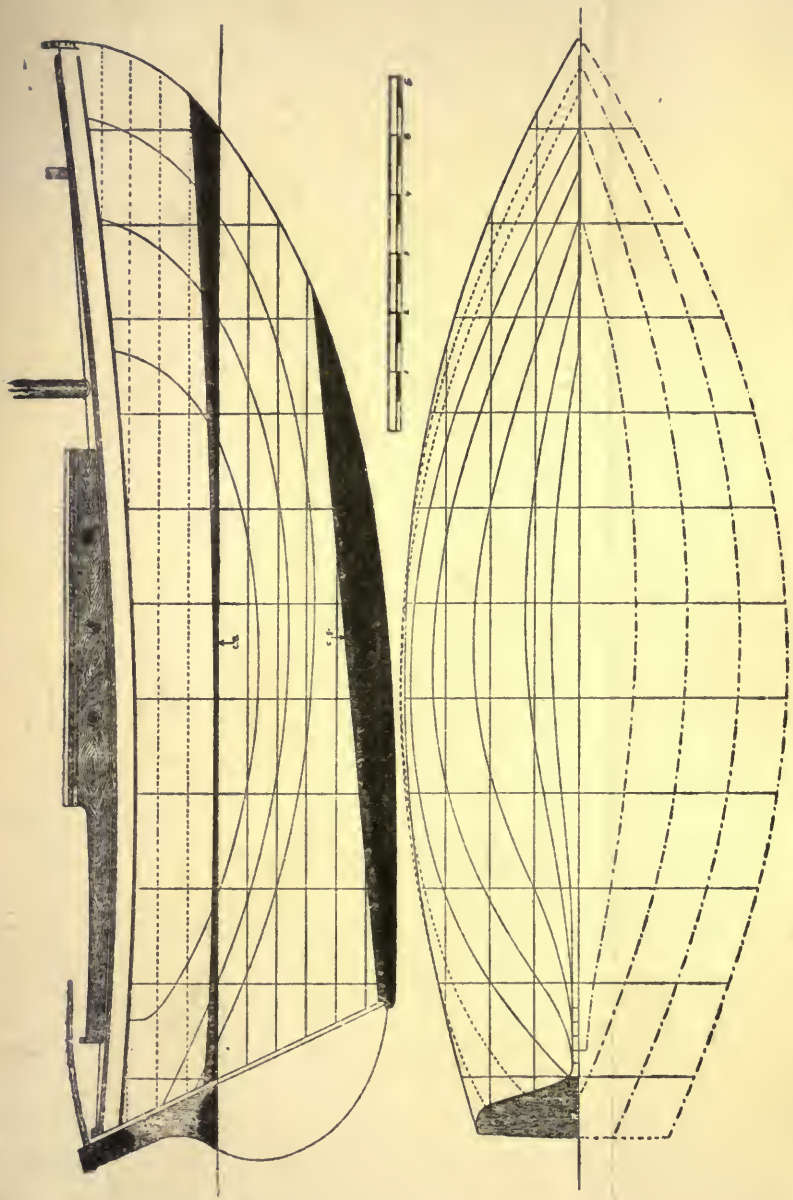
I, LIKE many other sailing men, have long searched in vain for the ideal small single-hander, but I think I have at last found her, or rather her lines, in a back number of the *Yachting Monthly*. She is a perfect love of a boat, and when my ship comes home, I shall be tempted to have her built. That is, of course, if I still remain in the same frame of mind; but yachtsmen's fancies as regards boats are as changeable as the seasons, and what seems desirable to-day may be the reverse to-morrow. The design I am in love with for the moment comes from the board of that enthusiastic yachtsman, Dr. T. Harrison Butler, and was published in the *Yachting Monthly* of November, 1915. I am indebted to Dr. Butler for permission to reproduce the lines, which should make an exceedingly pretty and comfortable little cruiser. The boat has a very nice sheer and a bow that reminds me of the excellent small cruisers designed by Mr. J. Pain Clark. The underwater lines suggest weatherliness, and with a good length of keel she should be very steady on her helm. Her principal dimensions are: Length over all, 18 feet 6 inches; L.W.L., 16 feet; beam, 6 feet; and draught, 3 feet. Her displacement is 1·8 tons, and with an iron keel of ·71 ton she should be stiff under her sloop rig of 200 square feet in area.

Of course, the boat is very small, but it is astonishing what a lot of fun one can have even in a "tabloid" cruiser. She strikes me as being just the thing for knocking about in the estuaries and creeks of the East Coast at week-ends, whilst a trip up to Lowestoft would be quite within her capabilities in any ordinary summer weather. Dr. Butler has given the boat a very snug sail plan, but in that I think he is right, for it is a mistake to over-canvas a boat intended for single-handed work. As far as can be judged from the sail plan the foresail is fitted with



ON BUTLER.

Between pages 24 and 25.



SINGLE HANDED CRUISER DESIGNED BY T. HARRISON BUTLER.

SINGLE-HANDED CRUISER DESIGNED BY T. HARRISON BUTLER.
SAIL PLAN.

SINGLE-HANDED CRUISER DESIGNED BY T. HARRISON BUTLER.
ALTERNATIVE SAIL PLAN.

the Wykeham-Martin furling gear, one of the best shipmates I ever sailed with. I have used the gear on the headsails of several of my boats, and it has never yet "sold me a pup." To be able to set or furl a headsail practically instantaneously is a great boon to the single-hander, and no man who sails alone should be without the gear. Dr. Butler has designed the boat with a Laws lifting cabin-top, an extremely clever device for increasing

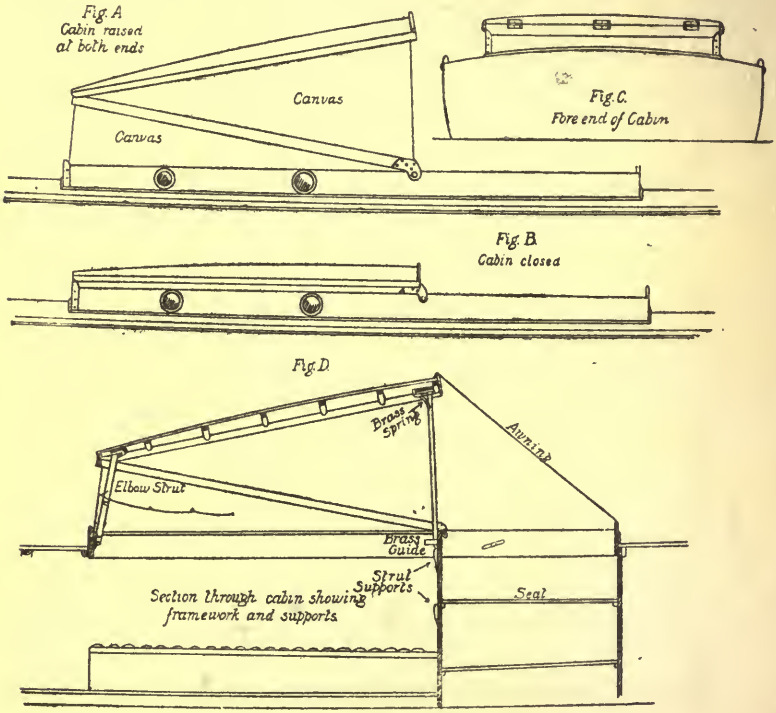


FIG 1.—THE LAWS LIFTING CABIN-TOP.

the headroom of small boats (Fig. 1). As I know from personal experience, it is a gadget that works as well in practice as it looks on paper. Dr. Butler does not state what the headroom would be in his cabin, but as far as I can judge from the drawings it would be something like 5 feet with the cabin-top raised, which is ample for comfort. A special feature of this little cruiser is that the side seats in the cabin have a double top, so that the

upper parts can be hinged over to meet, thus forming a flat floor on a level with that of the cockpit. The idea is that one or two mattresses could be spread on the floor for sleeping purposes. I do not, however, quite see the advantage of this scheme, as mattresses are awkward things to stow away in the daytime, and I should prefer to fit fo'castle cots like I had in my little *Snipe*. I always found them most comfortable and convenient, and they can be folded back to the sides of the yacht during the day with all the blankets and bedding inside. Dr. Butler suggests making a small well aft on one side of the rudder, covered by a hatchway, to accommodate an outboard motor, and this strikes me as a particularly happy idea. An Evinrude would drive a little ship like this at quite a respectable speed, and it possesses the advantages of being fool-proof and comparatively cheap to buy.

There are always out-classed racing boats in the market which are for the most part offered at a very low price in comparison with what they cost to build, and men are sometimes tempted to buy them with the idea of conversion into cruisers. At any time this is a somewhat doubtful policy, but when the boat is wanted for single-handed work it is the greatest mistake in the world, as the type is quite unsuitable. Most raters have very short keels and very long overhangs, which are most undesirable features in a single-hander, and they also carry a deal of sail One could, of course, have the sail area reduced, but if the boat is of sufficient size to afford decent cabin accommodation a certain amount of canvas will be necessary to drive her, and that amount will probably be more than one man can conveniently handle. Some of the old 24-footers have been converted into cruisers, but the cabin is very small in comparison with the size of the boat, for such craft have not as a rule very much beam or depth. They are, in fact, like the sailor's pudding—all ends—and most of the space is wasted. Boats built under the International Rule would probably lend themselves better to conversion, as they have far more displacement, but nothing smaller than 7 metres rating would be of much use for the purpose, and a craft of that size requires a good deal of sail even for cruising. An ex-24-footer at about £50 sounds cheap, but it is possible to

spend a deal of money in the process of conversion, and in the end she may prove more costly than a decent little cruiser would have done. Years ago my brother bought one of these boats and converted her, but by the time he had finished she had cost him not far short of £200, and the result was not altogether satisfactory. Boats of that type are far too quick in stays and unsteady on the helm for single-handed work, and lacking initial stability are uncomfortable to sail. Moreover, when converted, they are apt to be very wet, as the weight of the cabin-top and fittings and a quantity of cruising gear has the effect of reducing the freeboard. Personally, I do not believe in converting boats of any description, as one can spend an unconscionable amount of money at the game with very poor results. Some men, however, seem to have a mania for tinkering about with old boats and nothing will cure them but bitter experience.

I am now going to preach what most yachtsmen will, I fear, consider rank heresy. My advice to the owner who contemplates working his craft single-handed is to concentrate his attention upon the saving of unnecessary labour and let mere appearance go hang. I do not mean to suggest that he should keep his vessel in a slovenly inefficient state, but merely that he should eschew such pomps and vanities as white sails, white decks, glistening brass work, and other "yachty" conceits of a like nature. It seems to me that if you elect to go cruising alone in a craft of from 5 to 10 tons Thames measurement, the picturesque side of the sport must be eliminated from your programme, for what spare time you are likely to have will be fully occupied in keeping your vessel clean and habitable below decks and in attending to the necessary domestic economy. And after all, one does not keep a yacht for other people to look at and admire, but for use, and her appearance concerns nobody but the owner. All the same, it would be horrible to think that your boat looked dirty and uncared for, and what the single-hander should aim at is to fit her out in such a manner that she will always look clean and tidy and yet need scarcely any work to keep her so. At a first glance this may appear a difficult matter, but it is not so in reality. It is merely a question of selecting suitable materials at the start.

Now, let us briefly consider this question. What are the items of a yacht's equipment that call for much work to keep them nice? In the first place there is the bright work, by which I mean varnished wood, spars, blocks, etc. When fitting out all this has to be scraped clean before new varnish can be applied, and anyone who has done the job will bear me out that it is a particularly tedious and laborious process. And when all the old varnish has been removed and the wood rubbed down with glass paper and several coats of fresh varnish applied, the trouble is by no means at an end, for the bright work will require constant attention throughout the summer. Sea water leaves a deposit of salt on the varnish, imparting a bloom that is most unsightly and destructive if not removed, and so the bright work has to be wiped over with a chamois leather and fresh water every day, whilst in the middle of the season a new coat of varnish will be necessary to smarten it up. I am prepared to admit that nothing looks nicer than a varnished teak cabin-top, coamings, well lockers, and covering board, but when one has to keep it all in trim oneself, is the game worth the candle? Personally, I do not think it is. By substituting paint for varnish the boat will have a clean, workmanlike appearance, and if she does not look very "yachty," well, call her a boat and have done with it. Then, again, consider the question of brass fittings. To keep them bright you must clean them every day, a dirty, finicking job at which one's gorge rises after a time. Galvanised iron is cheaper to buy than brass, is stronger, and requires no cleaning. It is, to my mind, far more suitable for a short-handed boat for everything except chain and runner plates. These, I think, should be of phosphor bronze and painted, as galvanised iron plates have a way of rusting on the under side, with the result that the appearance of the topsides is marred by unsightly streaks of rust. Curiously enough, galvanised iron is almost universally employed for chainplates, and one sees these hideous stains on yachts that are otherwise extremely smartly kept. I suppose the idea is to obtain great strength, but such fittings can be made quite strong enough of some rust-resisting metal by making them a trifle heavier.

Tanned and dressed sails are now far more commonly used

in small cruisers than they were ten years ago, and owners who adopt them seldom regret it. White canvas is quite unsuitable for small yachts that are used for the most part for week-end sailing, as one cannot depend upon a caretaker to dry them thoroughly before coating them. I remember years ago arriving at Burnham late one Sunday night in the rain, and it was still raining the next morning when I had to return to town. I left the boat in charge of a strange waterman, to whom I gave most particular instructions about drying the sails, including the spinnaker, which I left out in the well, so that it should not escape his notice. When I rejoined the boat the following week I found that the sails had all been stowed and coated in a damp state and were badly mildewed, whilst the spinnaker had been bundled into the sail locker sopping wet. It was still far from dry and simply one mass of mildew. An experience of that sort soon converts one to the use of dressed sails, which relieve one from all anxiety and save no end of trouble. Sail coats are not required, and in that connection I would remark that nothing is more irksome than having to put on sail covers when stowing away after a long passage. And dressed sails are far from unsightly. If dressed with oil and red ochre they have a nice red-brown tint that is distinctly picturesque. The only objection that I can see to dressing the sails is that it makes them rather heavier, which is a disadvantage when it comes to wooing a light and fickle air, but the benefits derived from them are so great that one is content to put up with that.

Nothing looks smarter than a nice deck of narrow planks shaped to the contour of the yacht and set off with teak covering board and king plank, but to my mind they are out of place in a small single-hander, as they require much care and attention to keep them nice. Moreover, the decks of a small yacht are seldom very thick, and they soon begin to open and leak. It is far better to cover the decks with linoleum, which, if well laid, looks very neat, and will keep them perfectly tight. If the owner does not care to go to the expense of covering the decks with linoleum they can be kept tight by paint, but personally I prefer linoleum, which, although rather expensive to lay, will last for years.

To fit out a yacht on these lines calls for a good deal of courage on the part of the owner, whose friends will tell him that it is a shame to cover up good wood with paint. I only know one owner who has gone the whole hog in this respect, and that is Mr. Arthur Briscoe, who paints the decks, spars, blocks, and fittings of his fine 20-ton cutter *Golden Vanity*. He uses a shade of buff for the purpose, which looks extremely well; in fact, at a few yards' distance one could not tell that they were not varnished. Mr. Briscoe has his reward when it comes to fitting out. All he has to do is to apply a coat of paint and the yacht is ready for the season. Few men get better value out of their boats than he, for he lives aboard for the greater part of the year and cruises all round the coast and across the Channel and the North Sea, in search of subjects for his brush, for, as most people know, he is a very clever marine painter.

There is a tendency nowadays to build quite small cruisers with flush decks, and they undoubtedly look very smart and pretty. Nothing, indeed, could look nicer and more "yachty" than a flush deck laid in narrow planks following the contour of the boat and set off with teak waterways. But it is possible to sacrifice too much to mere appearance, and I personally do not believe in flush decks for any craft under about 12 or 15 tons Thames measurement. For single-handed work they strike me as particularly undesirable, as they do not afford a sufficiently secure foothold in rough weather. And it must be remembered that the nature of the decks is likely to have a certain amount of influence upon the type of the yacht, for in the absence of a coach roof the necessary headroom can only be obtained in a comparatively deep boat. Yachts with a deep midship section and considerable rise of floor are apt to lack initial stability, and the result is a craft that sails at an excessive angle of heel in which it is difficult to get about. I am, of course, referring only to quite small boats of, say, 5 or 6 tons measurement; when one comes to larger vessels, flush decks are a different proposition.

My chief objection to flush decks in little boats is that they are not conducive to comfort. To secure sufficient headroom the floorboards must be placed almost on the keelson, with the result that the cabin floor and sofas are unduly narrow. This

lack of floor space is most inconvenient, particularly if the table is of the type that is stepped in the keelson, as one cannot get one's feet round it. The sofa bunks, too, are not wide enough to sleep upon with any degree of comfort, and the lockers beneath them are rendered useless by the presence of bilge water, which collects in the lee locker when the yacht is heeled in a breeze. When the boat is put about the bilge water swishes across the floor and makes the cabin damp. Another disadvantage is the lack of light and difficulty of ventilation. With this form of deck the only light that reaches the cabin comes through a small skylight glazed with thick ribbed or frosted glass, and it is consequently rather of the "dim religious order." The skylight, moreover, is the sole means of ventilation, and even in fine weather it is totally inadequate for the purpose. When it rains, the skylight must be shut to keep the cabin dry and the atmosphere below decks is then apt to become intolerable after an hour or two. These small skylights almost invariably leak; why, I cannot say, for there seems no reason why a small skylight should not be made as tight as a large one. A leaky skylight is a constant source of annoyance, not only when it rains but also when under way in rough weather. It is quite astonishing how much water will find its way through a skylight when a yacht is beating to windward in a strong breeze and lumpy sea, and nothing is so comfortless as a wet cabin at night after a "dusting" at sea all day. One owner I know sought to avoid the inconveniences of a skylight by doing without one altogether. To light the cabin he had three circular pieces of thick plate glass let in the deck, but the result was not satisfactory, as the cabin was always dark and the atmosphere below thick enough to hang one's hat on.

On these little flush-deck cruisers one almost invariably finds what is termed a self-draining cockpit, but more often than not they let the water in instead of out. I have known several owners of boats thus fitted who make a practice of plugging the discharge pipe with a cork when beating to windward. This trouble can, of course, be prevented by inserting a valve in the discharge pipe, but in my experience these valves soon get out of order. As the floor of the cockpit must be above

the water-line it is necessary to have a very shallow cockpit, and the helmsman gets practically no protection from the weather. Then, again, the seats are on the same level as the deck, or nearly so, and surrounded by a coaming of only a few inches in height. This is most uncomfortable, as there is nothing to rest one's back against. To sit to leeward in anything of a breeze is impossible, and if one sits to windward, when working through a crowded anchorage, one cannot see. In a single-handed craft it is essential that there should be plenty of deck room so that the helmsman can run forward quickly should the occasion arise. Now, at first sight one would think that the flush deck afforded more space to work upon than would be the case if it were broken up by a cabin-top. But in practice that is not so, for one cannot walk upon a skylight, and the side decks are usually more or less encumbered with spare spars, sweeps, etc.

Personally I prefer a cabin-top and deep well for small cruisers used for week-end sailing and coastwise trips. A small yacht thus fitted usually has far better accommodation than one with a flush deck, and the desired headroom can be obtained with less draught of water. As it is not necessary to fit the floorboards so low, one can have a cabin floor and bunks of serviceable width, whilst glazed scuttles in the coamings give plenty of light and air. The deep well affords ample protection from the weather and tends to keep one warm and dry. It is possible, moreover, to fit fine roomy lockers all round the well, and these will be found most useful and convenient. With a self-draining cockpit, on the other hand, it is only possible to have one locker beneath it, and although it may be roomy it is most awkward to get at. As a rule, one has to first remove the companion ladder and then grope about in the dark for anything that may be wanted, and out of pure cussedness the particular article required is sure to be right at the bottom. Any water that may invade the foredeck when beating to windward is broken by the fore end of the cabin-top and runs off harmlessly along the waterways. As the cabin-top is free from gear, one has a clear path to the foredeck, and in heavy weather the coaming affords a secure foothold. The most comfortable cruiser I ever owned was the 7-tonner *Seabird*,

which had a very large well. There was sufficient room in it for a small deck chair, which I found infinitely more comfortable in fine weather than the seats on the lockers. There was also sufficient room for this chair in the cabin, and I could sit at the table and work as comfortably as I could in my library at home. By the way, a man who has literary work to do will find a yacht an excellent place in which to do it, as there is nothing to disturb him. I myself carry a small portable typewriter on board, and with its assistance have turned out no end of "copy" afloat. An unusual feature about *Seabird's* cabin was two large plate-glass windows in the after bulkhead, placed on either side of the cabin doors. These made the cabin very light and cheerful, and being fitted with curtains, the windows certainly gave it a homely appearance. The sofas, which had upholstered backs, were wide and about the same height as an ordinary chair. The floor was unusually wide for a craft of her size and covered with a Turkey rug. Externally *Seabird* may not have been particularly beautiful, but her cabin was delightfully homely and comfortable.

CHAPTER V

THE RIG QUESTION

THE question of rig is one of considerable importance to the single-handed sailor, but I must confess that I approach the subject with some little diffidence. Most yachtsmen hold strong views on the matter of rig and are apt to regard anyone who differs from them as little better than an ass. But I have often noticed that those who are most prejudiced in favour of a particular rig are men who have had very little practical experience of any other, the opinions they hold being for the most part based upon mere theory. Having knocked about in small yachts for more years than I care to think of, I have sailed under most of the fore-and-aft rigs in common use, and any prejudice I may have in favour of a particular rig I honestly believe to be founded upon practice rather than theory. It must be remembered that, in considering the question from the view-point of single-handed work, the predominant factor is the physical strength of the man who sails the boat. I think it may be accepted as a truism that the more the sail area is split up the greater will be the loss of power, speed, and weatherliness, and if this be the case it is obviously the best policy to have as few sails as possible. But should the yacht be of a size to call for a considerable area of canvas, it becomes necessary to so divide it that no one sail will place too great a tax upon the yachtsman's strength. Keeping that principle before us, let us now consider the advantages or otherwise of the various rigs commonly used in small yachts.

We will start with the sloop rig as being the one with the fewest sails, for I think single-sail rigs, such as the balance lug and the una, may be altogether eliminated as quite unsuitable for any cruising boat. The sloop rig possesses the merit of being delightfully simple, the only gear required being main, peak, and foresail halyards and a topping-lift. It is a particularly

easy rig to handle and, *ceteris paribus*, is faster and more weatherly than that of the cutter. It is not, however, without its disadvantages. When the mainsail of a boat with a single headsail is reefed it is often necessary to change the foresail for a smaller one in order to restore the balance, and she cannot be hove to like a cutter whilst the change is being effected. When the foresail is lowered the boat will take up a berth practically head to wind. In this position she will pitch violently into the seas, her boom meanwhile banging wildly from side to side and threatening every moment to carry away some of the gear. As the forestay, leading to the end of the bowsprit, is out of reach, one has nothing to hold on to and the heaving foredeck offers but a precarious foothold. From time to time the vessel will gather sternway, and the rudder being forced over, she will sheer almost broadside on to wind and sea. Then she will come to again with a rush, and the hapless wight on the foredeck will probably be well soused with spray. All this is very disconcerting to the yachtsman engaged in shifting the foresail, and long ere the job is completed he will have grave doubts as to the suitability of the sloop rig for single-handed work. Of course, shifting the foresail of a sloop in the comparatively smooth waters of an estuary is seldom attended by any discomfort or danger, but if it is the intention to make sea passages it would be folly to ignore the possibility of having to shift the sail in a heavy sea. As a rule, when the foresail of a sloop is changed it is after the second reef in the mainsail has been taken, which means heavy weather, and a big single headsail is the very devil to handle alone in a hard wind and wild sea.

But, perhaps, the most serious disadvantage of the rig is the disastrous consequences that may follow the loss of the bowsprit. In nine cases out of ten a bowsprit when carried away breaks at the gammon iron, and in a cutter such an accident is not of much moment. But when a sloop loses her bowsprit it takes the forestay with it and the mast is left without any support forward. Should the sea be rough—and in all probability it would be—there would be a grave risk of the mast and all the vessel's top-hamper going over the side. An accident of this nature happened to a yacht owned by a friend of mine some years ago when off the

Naze and she almost went ashore. As it was blowing the best part of a gale of wind at the time the yacht, had she struck, would almost certainly have broken up, but a tug got hold of her in the nick of time and towed her into Harwich. But my friend, who was uninsured, lost all his gear and had to meet a heavy claim for salvage. I need hardly say that he now holds a very poor opinion of the sloop rig. Another yacht I know—a 5-ton sloop—was dismasted in the Raysand Channel under very similar circumstances, and her owner also had to pay a considerable sum in salvage to the smacksmen who rescued him and his boat. It may be remarked that the big single headsail of the sloop rig is always a source of danger in a seaway, for, should a sea be shipped in the sail, it is odds on the bowsprit being carried away.

The troubles to which I have referred can, however, be prevented by the exercise of a little ingenuity, and the rig is an extremely handy one for little cruisers of 3 or 4 tons measurement. In my *Seabird*, which was a sloop when I bought her, I rigged a preventer forestay and set it up to the heel of the bowsprit with a tackle. This would have held the mast securely in the event of the bowsprit being carried away and was not in the least in the way. When the yacht was in stays the foresail blew across this inner forestay, which served a useful purpose in keeping the sheets clear of the cleats, etc., on the mast. It was also very convenient for holding on to when working on the foredeck in heavy weather. The working foresail was fitted with the Wykeham-Martin furling gear and could be rolled up by merely hauling on a line. When making a passage I made a practice of carrying the small foresail stopped along the bowsprit, and as the boat was fitted with double foresail gear I could set the smaller sail before rolling up the large working one. This sounds like a complication of gear, but in reality it was not so, as the only extra was a pair of sheets. Both foresails were hooked on to the traveller (the tack of the smaller sail being hooked on first) and the second foresail halyard also served for the spinnaker. In practice this proved a most satisfactory arrangement, for when it became necessary to shift the foresail, all one had to do was to heave the yacht to and set the smaller sail to leeward of the big one. When the small sail was sheeted

home the big one could be rolled up and left *in situ*. Having discovered how to make a sloop both safe and convenient, I should not now think of having any other rig for a cruiser that did not require more than, say, 100 square feet of headsail, but I think that is about the limit in area that can be handled comfortably in a single headsail.

For craft ranging in size from 4 to 7 tons I can imagine nothing better for single-handed work than a snugly-rigged cutter. The boom-end should be plumb with the taffrail so that the bee-blocks are within easy reach for reefing. The bowsprit should be as short as is practicable and the foresail not unduly large, as there is no sail in a fore-and-aft rigged vessel so pressing. For the sake of convenience both jib and foresail should be fitted with the Wykeham-Martin furling gear, and the foresail should have at least one row of reef-points. One advantage that the cutter possesses over the sloop is that it is not so often necessary to shift headsails. When a single reef is taken in the mainsail the average cutter will still carry her working headsails without lee helm, and when the second reef is pulled down the foresail can at a pinch be stowed and the yacht sailed under mainsail and jib. Mind you, I do not wish to suggest that this is a good policy as a general rule, or even the proper thing to do, but there are times when the single-handed yachtsman feels disinclined to tackle the job of shifting jibs, and it is very convenient to be able to lower the foresail and continue under mainsail and jib. He may, for instance, be within a mile or two of his port and not think it worth while to make the change for such a short distance. It must be remembered that it is not merely the labour of shifting jibs he has to consider, but also the possibility of getting the second jib wet. Again, it is very convenient to be able to lower the foresail in a sudden squall, for, as I have remarked, it is a most pressing sail and stowing it is about the equivalent of taking a reef in the mainsail. With a whole mainsail and no foresail the yacht would probably be a bit hard-headed, but by stowing the latter one can often nurse a boat through a squall which otherwise would call for a reefed mainsail. It must not be overlooked, however, that the absence of the foresail will have the effect of reducing the yacht's

speed and weatherliness, and if one has a considerable distance to go it will pay to shift jibs and, if necessary, reef the foresail to restore the balance after the mainsail has been reefed. In case of need, say, for instance, if the bowsprit be carried away, a cutter can be sailed under mainsail and foresail, but if there is any choice in the matter it is better in most yachts to stow the foresail rather than the jib.

However effective the yawl rig may be for large yachts, I do not believe in it for small craft. For the life of me I can see no single advantage in having a tiny little mizzen stuck on, or near, the taffrail, and it is a mystery to me why so many men remain faithful to it. I have owned several small yawls in my time and have always damned the mizzen heartily. It is invariably the first sail to shake when on a wind, and can, as a rule, only be made to stand by pinning in the boom practically amidships. Under such conditions the sail is a hindrance rather than a help. Reaching and running the mizzen will, of course, draw all right, but if its area were added to the mainsail it would be far more effective. There are those who will tell you that if caught out in heavy weather in a yawl the mainsail can be stowed and the yacht sailed under mizzen and one of the headsails, but I have yet to see the small yawl that can be relied upon to handle under such sail in heavy weather. A yawl will no doubt reach under mizzen and headsails provided that the wind be not more than two points forward of the beam, but she would probably do that under headsails alone, and so there is not much in it. Close-hauled she would not point " for nuts " —as we used to say in our school-days—and as for going about—well, if anyone wants to try the experiment in rough water I sincerely hope it will not be attempted within a hundred yard of any boat of mine. I have seen small yawls get into serious trouble in trying monkey tricks of that sort in crowded anchorages, boats, moreover, that I know to be quite handy when sailed in a sensible manner.

Apart from its inefficiency, there is no more troublesome sail in a yacht than the mizzen of a yawl. Being for the most part outboard the sail is extremely awkward to set and stow. And what is the usual result ? The owner bends the sail when he

starts for a cruise and does not unbend it again until he returns home. When at anchor or in port he tops the boom up and down the mast and stows the sail on the spars. Being left uncoated it in course of time gets very dirty and completely spoils the appearance of the yacht when under way. And the set of the sail is also impaired owing to portions of it being alternately wet and dry, for it must be remembered that when stowed on the mast and left uncoated the part of the sail that forms the outer skin is bound to get damp with dew, even in fine weather, whilst the inner portion may be quite dry. I believe the popularity of the yawl rig is more often than not due to the fact that the little stick of a mizzen mast makes a good flagstaff on which to carry a club ensign when under way, and to those who have a fancy for flying flags this feature perhaps makes a strong appeal. Personally, I am not particularly amenable to the ornamental in boats and am apt to look with a somewhat jaundiced eye upon fads and fancies that have no practical value behind them. For single-handed sailing the yawl rig is, I think, particularly undesirable, as the mizzen makes for more gear and more work. The sail is apt to make a boat hard-headed, particularly if she be of the old-fashioned straight stemmed type, and it requires quite a lot of handling. In such boats it is usually necessary to slack away the mizzen sheet handsomely before the vessel will pay off, and it is also desirable, if the yacht be at all unhandy, to haul in the sheet to assist her when going about. The mainsail, jib, and foresail of a cutter supply the single-handed sailor with quite as much occupation as he wants, and the addition of a mizzen is a nuisance. In this form of sailing simplicity, I am sure, is the royal road to success, and no gear should be found in a single-handed cruiser that is not absolutely essential.

Although two-masted rigs are, I think, a mistake for small yachts, particularly for craft intended for single-handed work, there may be circumstances which compel the yachtsman to adopt such a rig. He may, for instance, wish to take with him on his travels his wife and children, and to accommodate them, must have a vessel of some size. Although not alone, it is quite possible that his passengers may not be able to give him any assistance in sailing the yacht, in which case he would to all

intents and purposes be single-handed. Many ladies who accompany their husbands on yachting cruises are expert yachtswomen and able to undertake their share of the work, but, on the other hand, there are many who prefer to figure merely as passengers, so far as sailing the vessel goes, and concentrate their energies upon the domestic department. And those of the latter category must not be viewed in the light of shirkers, as a lady who undertakes the cooking and other duties below decks fairly "works her passage." The boat required to accommodate a family party must be a fairly large one, as a sleeping cabin will be needed in addition to the saloon and fo'castle. This accommodation cannot be obtained in a craft of less than 12 or 15 tons Thames measurement, which would be a lump of a boat for one man to handle alone under a cutter rig. If the owner wishes to avoid making a labour of pleasure he must adopt a rig of which the individual sails are comparatively small in area so that his physical strength will not be unduly taxed. In such circumstances a two-masted rig can hardly be avoided.

If I had to select a yacht for such work my choice would fall upon a ketch, but she should be a real ketch and not a bastard yawl. If circumstances compelled me to abandon my principles and split up the sail area into penny numbers, I would go the whole hog, as they say, and have a ketch with a mizzen of really serviceable size. I would have the area of the mizzen about two-thirds that of the mainsail, and the mast stepped as far inboard as practicable. There would then be some chance of the vessel working to windward under mizzen and headsails in heavy weather. Such a yacht would, perhaps, not be very fast, but she would, I think, be easy to handle and fit to go practically anywhere, if of decent design. The mainboom would not be more than 20 feet in length, and the mainsail could be handled comfortably by any man of ordinary physique, and with the whole length of the mainboom inboard reefing would be a simple matter. The mizzen-boom would, of course, extend a few feet beyond the taffrail, but I should get over any difficulties in the way of reefing by the use of a roller-reefing gear. The jib of my ideal family cruiser would be set upon a short bowsprit and fitted with the Wykeham-Martin furling gear, and I would have a small gipsy

winch on the mast to which any rope could be led when an extra heavy pull was required. If the passengers undertook the cooking and other domestic work a yacht of this size and type could be sailed very comfortably single-handed, particularly if the owner received a little assistance when weighing the anchor. If the children were young, as they probably would be, it might be advisable to run life-lines right round the yacht in stanchions to keep them from falling overboard, and as a further precaution they should be made to wear Kapok waistcoats, which would keep them afloat should they fall "into the ditch." A ketch with a big mizzen such as I suggest would seldom require reefing, as she could be sailed under either mainsail and headsails or under mizzen and jib. If caught out in really heavy weather a small thimble-headed trysail could be set on the mizzen, and she would then ride to a sea anchor until the cows came home—provided, of course, that she had sufficient searoom under her lee. The sail area would be rather small for light summer breezes, but topsails could be set on both main and mizzen as is done in many of the North Sea smacks.

A rig that is now very fashionable for small racing yachts is the Bermudian, which, by the way, is often erroneously termed the "Maconi" rig, and it is possible that it may be introduced for cruising purposes in the future. I have never yet seen it in a cruising boat, but it has proved so successful in racing craft that it is sure to be tried for cruising sooner or later. In this rig the mainsail is very similar to a gunter lug, but the feature of the Bermudian rig is that no yard is employed on the sail. The mainsail is triangular and set upon a very long mast, a single halyard being used to hoist the head of the sail to the masthead. It is claimed that by dispensing with a yard a certain saving in weight and windage is effected, and experience has proved that it is the fastest rig that has yet been tried in small racing boats such as those that race in the Solent district. Having but one halyard on the mainsail it is a delightfully simple rig and very convenient for reefing, particularly when a roller reefing gear is employed. It would seem, therefore, a very suitable one for single-handed work, but I am inclined to think that in practice it would not be found altogether free from disadvantage. Al-

though the absence of a yard or gaff may save a certain amount of weight and windage aloft in light weather when whole sail can be carried, I doubt whether that would be the case in strong winds when the mainsail was reefed. The enormously long masthead would in such circumstances be a disadvantage rather than a benefit, as it would hold a great deal of wind and the weight would not be conducive to comfort in a rough sea. It must be remembered that very few owners of cruising craft care to go to the expense of a hollow mast, and the weight of a solid spar of such length would be considerable. The frequency with which these Bermudian masts have been carried away in racing yachts would suggest that they are far from reliable, probably on account of the difficulty of staying such a long spar effectively. Now, the man who sails alone cannot afford to run the risk of being dismasted at sea, and until the Bermudian rig has earned a better name for reliability I think the single-handed cruiser will be well advised to let it alone. It is a far more serious matter for him to lose his mast than it is for the racing man, as the latter is seldom far from a port, and in case of need can obtain the assistance of other competitors in the race. The single-handed yachtsman might, however, find himself in an awkward predicament if his mast went over the side. He might be many miles from a port, and if lucky enough to get a tow it would in all probability be a salvage job that might cost him a pretty penny. It is not wise, therefore, to adopt for single-handed work any rig that has a reputation for unreliability, no matter how attractive it may be in other respects.

CHAPTER VI

AN EXAMPLE OF INGENUITY

THOSE who make a practice of sailing alone seem to be somewhat divided in their opinions as to the best way in which to equip a small cruiser for the work. The majority, I should say, are in favour of simplicity in the matter of gear and endeavour to reduce the number of ropes to a minimum. There are those, however, who adopt every conceivable labour-saving appliance they can think of, but I am inclined to think that they usually find most of the gadgets employed more bother than they are worth. I doubt whether anyone has gone to such lengths in that respect as did the late Lord Dufferin in his little cruiser *Lady Hermione*, which was a veritable box of tricks. Most of the fitments he adopted were extremely ingenious, whilst some were certainly useful. The handy little Dufferin winch, for instance, is still used in small yachts and something very like it is often found in large racing craft.

As this famous little cruiser was in many respects an extremely interesting craft, I make no excuse for extracting from the Badminton Library book on Yachting the description of her written by Mr. James McFerran, or, at any rate, such portions of it as deal with the fittings.

"*The Lady Hermione* is a yawl-rigged yacht built by Forrest and Son of Wivenhoe to the order of her owner. She is 22 feet 9 inches long between perpendiculars, 4 feet 2 inches in depth, has a beam of 7 feet 3 inches, and a registered tonnage of 4 tons. She is built with mild-steel frames, galvanised so as to resist the corrosive action of sea-water—a mode of construction which has recently been adopted for torpedo-boats—and is sheathed with East Indian teak and coppered. A novel feature in the hull of so small a boat is its division into water-tight compartments by transverse and longitudinal bulkheads, composed of galvanised

steel plates riveted to the steel frames. These bulkheads form a large forward compartment, two compartments on each side of the cabin, and a compartment at the stern, thus rendering the vessel watertight as long as they remain intact.

"On deck, forward and aft, are hatchways, which give entrance to the bow and stern compartments respectively. The hatches to these openings, which are kept constantly closed at sea, are fastened down with strong gun-metal screws fitted with butterfly nuts, the screws being fastened to the deck and made to fold down on it with a joint when not in use. The coamings to the hatchways, as well as the inner edges of the hatchways themselves, are lined with indiarubber, so as to render the covers perfectly water-tight. Access to the side compartments is obtained by means of manholes opening from the cabin, and covered with steel plates screwed into the bulkhead. In the event of the yacht shipping water, it is removed by a pump leading through the deck near to the cockpit and within easy reach of the steerman's hand. The cover of the pump works on a hinge and lies flush with the deck when closed. The pump-handle is made to ship and unship at will and is in the form of a lever, which renders the operation of pumping more easy than in the ordinary form of pump usually employed in small boats.

"Stepping on board the *Lady Hermione*, the visitor, however much he is accustomed to yachts, is struck by the number and apparent complication of the contrivances which meet his eye, the interior of the vessel looking, as a witty naval officer once observed on being shown over her, 'something like the inside of a clock'; but after a few explanations the usefulness and practical efficiency of the various devices become evident. The principle which has been adhered to throughout in the rigging and fittings is that all operations connected with the handling and management of the boat shall be performed by one person without the application of any considerable physical force. It has been laid down as a *sine qua non* that everything shall work perfectly in all weathers and under all conditions of wind and sea. The result of the owner's ingenuity is that the sails can be hoisted and lowered, the sheets attended to, the anchor let go and weighed, and the tiller fixed and kept fixed in any

desired position without the necessity of the one person who composes the crew leaving the cockpit. The arrangements for carrying out these objects will now be described in detail.

"The first contrivance that claims attention is that for keeping the rudder fixed at any desired angle. . . . On the deck aft, about a couple of feet in advance of the rudderhead, are fitted two brass stanchions. These support a brass bar which on its lower side is indented with notches similar to the teeth of a saw and of a depth of about half an inch. On the tiller there is fitted a brass tube or cylinder made so as to slide backwards and forwards within a limit of some 8 or 10 inches and bearing on its upper surface a triangular fin of brass. When it is desired to fix the tiller in any particular position, the cylinder is instantaneously slipped back until the fin catches one of the notches of the bar, and the tiller is thus securely fixed. The tiller is unlocked by simply flicking forward the cylinder with the hand, the locking and unlocking being done in a second. The toothed brass bar, it may be mentioned, is curved so that the fin may fit into any desired notch, no matter at what an angle it may be desired to fix the rudder. The cockpit of the yacht being somewhat small, it was found that when there was a lady passenger on board the movement of the tiller interfered with her comfort, and in order to obviate this difficulty a steering wheel has recently been fixed on the top of the cabin immediately in front of where the helmsman stands. When the wheel is used a short tiller is employed, with steel tackles leading from it through pulleys and fairleads to the wheel itself. The axis of the wheel carries a brass cap fitted with a screw, by half a turn of which the steering appartus can be locked or unlocked, and the helm fixed in any position. If it is desired at any time to substitute steering with the tiller for steering with the wheel the process is very simple. A brass handle of the requisite length and bearing a cylinder and fin as above described is screwed on to the short tiller, and the tiller ropes are cast off, the whole operation being performed in a few seconds. The wheel—the stand for which slides into brass grooves on the cabin-top—can also be unshipped and stowed out of the way in a very short time."

Many forms of tiller grip have been adopted by single-handed yachtsmen, but Lord Dufferin's method strikes me as by far the most simple and efficient of any I have seen or read of, although it could not be used conveniently in every boat. The indented brass bar must, of course, be curved in order that the brass fin on the tiller may engage at every angle of the tiller. A certain amount of deck-room between the rudderhead and after-coaming of the well is therefore necessary, and this would not be available in many transom-sterned yachts. But for a boat with sufficient deck-room aft the idea strikes me as altogether excellent.

Getting a yacht under way single-handed is often something of a problem on account of the physical impossibility of being at both ends of the vessel at once. In the absence of any special gear frequent journeys between tiller and anchor chain are sometimes necessary. When one is young and active this does not matter very much, but when one is no longer in the first flush of youth exercise of this nature is not viewed with favour. The late Lord Dufferin got over the difficulty in a very ingenious manner in *Lady Hermione*, the fitments he devised enabling him to let go or raise the Martin patent anchor without leaving the cockpit. The fittings are described in the Badminton volume as follows:

"The anchor when stowed rests upon two crescent-shaped supports, which project from the bulwarks just forward of the main rigging. These supports are fixed to a bar or tumbler lying close to the inside of the bulwark, and arranged so as to turn on its axis. Fixed to the tumbler inboard there is a small bar, which fits into a socket attached to the covering board. On the socket is a trigger from which a line leads along the inside of the bulwarks to within easy reach of the cockpit. By pulling this line the socket is made to revolve so as to release the arm; the weight of the anchor forces the tumbler to turn on its axis, bringing down with it the crescent-shaped supports, and the anchor falls into the sea.

". . . The chain cable runs out through the hawse-pipe in the bow, and across the hawse-hole a strong steel plate or compressor, with a notch cut in it to fit the links of the cable,

runs in grooves. By pulling a line which leads to the cockpit this compressor is drawn over the hawse-hole, and the cable is thus effectually snubbed. When the anchor has to be got up or it is required to let out more chain, the compressor can be drawn back by another line, which also leads to the cockpit.

"Equally as ingenious as the means of letting go the anchor is the machinery employed for weighing it. The windlass used is an ordinary yacht's windlass, except that on its outer end on its starboard side it carries a cogged wheel. Close alongside the windlass there rises from the deck a spindle cut with an endless screw, the threads of which take the teeth of the cogged wheel. This spindle runs through the deck and has at its lower extremity a cogged wheel fitting into another cogged wheel attached to a shaft, which runs aft on bearings in the ceiling of the cabin to the cockpit. At the cockpit end it is furnished with a large wheel, on turning which the motion is communicated through the shaft and a system of cog-wheels to the Archimedian screw rising up through the deck forward, and this screw in its turn revolves the windlass, and the anchor comes merrily home. The slack of the chain as it comes in drops perpendicularly through the hawse-pipe to the chain-locker below and requires no attention or handling. The machinery for getting the anchor possesses great power, and even when the anchor has a tight hold of the bottom, the wheel in the cockpit can be turned almost with one finger. The wheel is made to ship and unship, and when not in use is hung up to the side of the cabin."

It would appear to have been Lord Dufferin's desire to work *Lady Hermione* entirely from the well, and with that object in view practically all the gear was so arranged as to be within easy reach of the helmsman. The only operation that could not be performed from the well was fishing and catting the anchor, which entailed a journey forward to hook on the Spanish burton by which the anchor was raised. Every halyard and sheet in the yacht led to the well, the leads being very neatly arranged. At the foot of each mast was a brass fairlead containing a number of sheaves through which the halyards were led to belaying-pin racks in the well, the falls being stowed in boxes containing a number of compartments made to receive them. Each halyard

was passed through a hole in the pin-rack before being belayed to keep it clear of its neighbour, and each belaying pin had the name of the rope for which it was intended engraved on a small brass plate to prevent confusion.

To reduce labour to a minimum Lord Dufferin devised a particularly handy little winch, of which a number was used in various parts of the vessel. These ratchet winches were made to ship into grooves on the deck so that they could be moved about from place to place as required. No fewer than ten were to be found in *Lady Hermione*. Two were placed on deck on each side of the cockpit for the headsail sheets, four on the cabin-top for the halyards, and two on the deck forward of the cabin-top for general purposes. The winches were worked with ratchet handles, to which were attached strong steel springs to ensure the ratchets biting in the cogs. They were remarkably powerful for their size and took up but little room.

In order to prevent the sheets fouling the deck fittings forward, brass guards were placed over every projection, and to reduce the risk of falling overboard a steel wire life-line was run round the vessel, above the rail, in stanchions. On the fore side of the mast of *Lady Hermione* was fitted a ladder made of steel wire with wooden treads. This extended from deck to cross-trees, being set up with rigging screws. To keep his lordship's feet warm in cold weather a charcoal stove was placed beneath the cockpit floor, whilst to keep off the sun on hot days a large umbrella was fitted over the cockpit in a socket. A spirit compass (and binnacle) was placed on the cabin-top, whilst a 10-foot Berthon dinghy was carried inside the cabin. Brass crutches on the rail were used for carrying spars when at sea and supporting the mainboom when at anchor. As a precaution against bad weather a hatch was provided to cover the cockpit. This hatch was in sections which were hinged together, its two halves being also hinged to the backs of the seats in the cockpit on either side. When in position the hatch covered the entire cockpit with the exception of a small circular opening left for the helmsman. This circular opening could also be closed if desired by means of a wooden hinged cover made for the purpose. As Lord Dufferin used the yacht for day sailing only, no berths or

seats were fitted in the cabin, the only furniture being cupboards and racks for stowing a few necessary articles.

If I have devoted a good deal of space to a description of *Lady Hermione* it is because the fitments and arrangements of the vessel were so extraordinarily ingenious. It must not be assumed, however, that I think such a multitude of fittings necessary or even desirable for single-handed sailing, and I frankly admit that my interest in the yacht and her equipment is for the most part academic. If I found myself the owner of a craft like *Lady Hermione* I should be appalled at the complication of gear, and I feel pretty certain I should soon develop the trait possessed by Davies, the hero of Mr. Erskine Childers' fine novel, " The Riddle of the Sands," namely, a fancy for dumping things over the side. Lord Dufferin fitted his craft with all the running gear found in a large yacht, and an idea of the quantity of gear can be gleaned from the fact that there were no fewer than ten fairlead sheaves placed at the foot of the mainmast for leading ropes aft to the helmsman. And, in addition, there was all the mizzen gear to be taken into account. It is not perhaps altogether surprising that his lordship should have found it necessary to label the various ropes to prevent confusion. The thing that tickles me most, however, is the umbrella. Surely Lord Dufferin was the only sailorman who ever put to sea with an umbrella, with the possible exception of Robinson Crusoe. Still, if a man has a fancy to go yachting with an umbrella, why shouldn't he ?

Lord Dufferin was by no means singular in having his halyards led aft to the well, as it is quite a common practice in single-handers. Personal experience has, however, taught me that very little advantage is to be derived from it. In theory it is no doubt an excellent proposition to be able to set or lower the mainsail without leaving the well, but, unfortunately, theory and practice do not always walk hand in hand. When I bought the little canoe-yacht *Snipe* the main and peak halyards and topping-lift led aft through sheaves at the foot of the mast, but I soon came to the conclusion that the practice was a mistake and abandoned it for the following reasons: In the first place I found it next door to impossible to set the mainsail decently,

as with the halyard falls leading over a breast-high cabin-top one could not get a fair pull on them. I have no doubt I could have set the luff sufficiently taut if I had put my foot against the bulkhead to secure additional leverage, but had I done so my foot would probably have gone through into the cabin. When it came to lowering the mainsail, the extra friction of the fairleads prevented the sail coming down with its own weight. This entailed climbing on to the cabin-top to assist it, thus nullifying the advantage that should have been derived from having the halyards belayed aft. In the case of the foresail the system is even more impracticable. If there be any weight in the wind when setting the sail it will take charge, and slatting with great violence may imperil the bowsprit and masthead. In such circumstances it will be impossible to set it properly, even if it does not get foul of something—say the bowsprit bitts or anchor stock—which would necessitate a journey along the deck to clear the sail. If one attempts to lower the sail from the well, it is almost certain to blow overboard.

But even if the disadvantages I have pointed out could be eliminated, is there any real benefit to be derived from leading the halyards aft? I think not. When getting under way it is necessary to go forward to break out the anchor, and it seems to me that it is a positive disadvantage having to run aft to set the sails after the anchor has been sighted. Even Lord Dufferin, with all his complicated machinery, failed to devise any means of fishing and catting the anchor other than by hand, which entailed a journey forward. When bringing up, too, one must go forward to let go the anchor, and so here, again, it is more convenient to have the halyards belayed on or near the mast. When arguing this point with men who believe in leading the halyards aft for single-handed work, I have often been met with the remark that it is a great convenience to be able to lower the peak if caught in a bad squall when running before the wind without leaving the tiller. So, no doubt, it is in theory; but in practice you can't do it. Every experienced yachtsman knows that the peak of the mainsail will hardly ever come down without assistance when the vessel is before the wind, and for that reason it is customary to fit a peak downhaul—a rope lead-

ing from the gaff-end to the boom. In most yachts you will find this downhaul secured to the boom within a few feet of the clew of the mainsail, and ere it can be reached the boom must be hauled in almost amidships, which is just what one would not wish to do in a bad squall. If the downhaul is attached to the boom near the gooseneck, as it should be, the single-handed yachtsman must leave the tiller to get at it. Finally, the main and headsail sheets are quite sufficient ropes to have lying about in the well of a small craft without the addition of the coils of three halyard falls and the topping-lift. It may also be remarked that leading the halyards aft means more rope, which makes for additional expense, whilst the constant chafing on the edge of the cabin-top does not add to the beauty of the latter.

Wherever the halyards are led it is essential that the ropes should be belayed in a very handy manner so that they may be cast off at a moment's notice. Cleats on the mast are, to my mind, an abomination, and pins in a spider-band are not much better. The best arrangement that I know is a fife-rail with good strong pins that are not placed unduly close together. The rail should be fitted just abaft the mast and bolted through a strong deck beam or otherwise the strain of the halyards may lift the deck. I think it better to place the fiferail abaft the mast rather than forward of it, as in the latter position it is apt to foul the headsail sheets. Failing a fiferail such as I suggest, two short pin-racks, one on each side of the mast, can be used, although they will be more likely to foul the headsail sheets than would a single pin-rack abaft the mast.

CHAPTER VII

WIRE RUNNING GEAR

HAVING decided upon the type and rig of one's boat, the next point for consideration is that of equipment. It will be obvious to anyone who contemplates sailing alone that with only one pair of hands to do the work anything calculated to save undue labour is to be desired. The spars and gear, for instance, should be as light as possible compatible with safety and special care should be taken to ensure all gear running freely. At any time a halyard that will not render freely through the blocks is an intolerable nuisance, but when one has to do things in a hurry, as is often the case with the single-hander, a jambed halyard might easily lead to serious trouble. It would be difficult to imagine a more awkward predicament than to find oneself charging into a crowded harbour—say Lowestoft at regatta time —with a jambed peak halyard. It behoves the single-handed sailor, therefore, to keep his running gear in a state of efficiency if he would avoid such incidents. Light spars save labour, but comparatively few owners of small cruising yachts care to indulge in such luxuries as hollow spars. Bamboo spars, however, are very good substitutes for hollow ones and quite inexpensive to buy. They are very strong and if properly whipped are as reliable as solid grown spars. A bamboo boom in particular is well worth having, as it robs gybing of half its terrors. If the boom does not exceed, say, 20 feet in length, a straight stout bamboo will not be difficult to obtain and will make a fine spar. It should be whipped between every joint to prevent splitting and the whipping should be varnished to keep it tight. It is also a good plan to drill a tiny hole between each joint as a further preventative against splitting. The idea of this is to allow the pent-up air to escape, for it is said that the splitting of bamboo is mainly caused by the air inside expanding under the heat

of the sun. Whether there is anything in the theory I do not know, but I have often noticed that bamboo spars thus treated seldom split. The only objection that can be raised against the use of bamboo spars is that there is a certain amount of difficulty in attaching the fittings, such as reefing blocks, etc., but a satisfactory job can usually be made of it by the use of rivets combined with lashings of copper wire. The ends of the spar should, of course, be blocked with wood. Should the spar show any tendency to whip under strain the trouble can be remedied by fishing the bamboo with wood battens. Personally, I do not particularly care for bamboo masts in any but small day boats, as all the halyard blocks have to be attached by means of strops, which makes rather a clumsy-looking masthead, but for such spars as the boom and gaff of a small cruiser it is quite satisfactory.

As I have already pointed out, it is of the first importance that the running gear of a single-handed yacht should render through the blocks with great freedom, and this desideratum can best be attained by the use of flexible wire rope. Wire running gear has long been used for racing purposes, but there still exists a certain amount of prejudice against its use in cruising craft. I think the chief reason why some cruising men fight shy of it is that it is extremely difficult to repair in the event of its carrying away, but that is a contingency that is never likely to happen if the gear be kept in a state of efficiency. The strength of the best flexible extra plough steel rope, such as is used for yachting purposes, is enormous, having a breaking strain of something like 120 tons per square inch. As it is the custom to use in small boats wire of much larger size than is really necessary, the halyards are capable of withstanding strains far greater than could ever be put upon them by fair means, and although I have now used wire running gear for a good many years I have yet to experience a broken halyard. There are two reasons why it is wise to use stouter wire than necessary in small yachts. First, because it is far more convenient to handle, and secondly, because it is less liable to corrode. Wire rope in very small sizes is easily attacked by rust on account of the strands being composed of very fine wire. For a little cruiser of only 3 tons T.M. I should not think of using flexible wire of less than $\frac{5}{8}$-inch circumference

for halyards, although rope of that size would be quite strong enough for a craft of twice the tonnage. It will be seen, therefore, that the risk of carrying away wire running gear in a small yacht is practically non-existent. It may cost rather more in the first place, but as it has a considerably longer life than manila rope it is more economical in the long run.

There are two great advantages in wire rope for halyards. First, that it has practically no stretch, and secondly, that its efficiency is not in any way influenced by the weather. With manila halyards one has constantly to set up the sails to keep them from sagging as the rope stretches, but when wire is used they will remain perfectly set all day. Manila rope is also apt to swell and kink on wet days, and unless the blocks are of generous proportions, the halyards will jamb and the sail will only be got down after an exhausting struggle, what time the boat, left to her own devices, may get foul of some other craft. With wire halyards the mainsail can be relied upon to come down by its own weight, for wet or fine the halyard will render freely through the blocks. It is, of course, necessary to use rope purchases in conjunction with wire halyards, but when the sails are set the rope is nearly all on deck, and a yacht with wire gear consequently has a very neat appearance when under way. The blocks used for wire gear should be of metal and fitted with patent sheaves of large diameter. The best blocks I know for the purpose are the Burnham blocks, as supplied by Messrs. Henry Hughes and Son (Figs. 2 and 3). They are made of phosphor-bronze and very light, neat, and strong. The large sheaves run on roller bearings, which can be very easily oiled, as the shell of the block is perforated. Metal blocks should be well oiled with good cycle oil, and if a little attention in this respect be bestowed upon them occasionally they will always run sweetly.

Good flexible wire rope, if properly cared for, will last for five seasons at least, whilst manila rope is usually no longer trustworthy after a couple of years' use. The best way to preserve wire rope from the ravages of rust is to rub it over with tallow periodically. If this be done, say once a month during the season, it will add years to the life of the gear. When the wire

shows signs of rust it should be condemned, as it is difficult to judge to what extent the rust has penetrated. When the gear is made the splices should be liberally coated with tallow and then parcelled and served, the serving being finally varnished to keep out the damp. The eye containing the thimble should be treated in a similar manner, as otherwise wet would be apt to collect between the wire and the thimble and encourage rust. If manila halyards be used they should be renewed every two years, as it is desirable in a single-handed boat that the gear should be beyond suspicion. At the end of the first season the splices should be drawn and the rope turned end for end. In

Fig. 2.

Fig. 3.

The Burnham Block.

effect this will be almost as good as renewing the rope, for the fall of a halyard has practically no strain thrown upon it, whilst the standing part gets pulled out of shape and becomes thin with use. But the owner who has a liking for efficiency combined with economy will certainly use flexible wire gear in his boat, no matter how small she may be.

When rigging a yacht with flexible wire running gear the purchases, which, of course, are of rope, should be so arranged that they are almost chock-a-block when the sails are set. If properly arranged there will be practically no rope to stretch, and a sail that has been perfectly set in the morning will still be standing well in the evening. With a view to prolonging the

life of the wire, all sharp nips should be avoided and the sheaves of the blocks should be of large size. Although I personally do not care about leading the halyards aft in a single-handed boat, I am quite prepared to admit that it is largely a matter of individual fancy, and the practice is quite common in small craft. It will be gathered from my previous remarks on this subject that I consider the main objections to belaying the halyards in the well are—first, that the additional friction of the fair-lead sheaves is apt to prevent the halyards from rendering freely, with the result that the mainsail will not always come down without assistance. Secondly, that as the anchor work demands one's presence forward, both when getting under way and bringing up, it is inconvenient to have the halyards made fast at the other end of the vessel. Although there is no getting away from the latter objection, the former can be mitigated to a certain extent by the use of wire halyards, which run through the blocks with far greater freedom and certainty than those made of manila rope.

As I have already pointed out, it is customary in small yachts to use far stouter wire rope for halyards than is actually necessary, as the very small sizes are uncomfortable to handle and liable to rust. The rope used in a 4-tonner, for instance, would be nearly as stout as that for a vessel of twice the tonnage, although more purchase would be required in the latter case to set the larger and heavier sails. For yachts ranging in size from 3 to 7 tons Thames measurement, wire rope of $\frac{5}{8}$-inch circumference will suffice for any of the halyards, although it would perhaps be prudent to increase the size to $\frac{3}{4}$ inch for the main halyards in craft of from 5 to 7 tons when there is but a single part. The purchase is usually fitted at the end of the halyard, the relative lengths of halyard and purchase being carefully calculated in order to bring the blocks of the purchase quite close together when the sails are set. If there were much drift of manila rope, of which the purchase is composed, the purchase would stretch and much of the benefit accruing from the use of wire halyards would be lost.

The main halyard of a small yacht will be a single part of wire leading from the gaff, up through a sheave or block at the mast-

head, and then shackled to the upper block of the purchase. When the sail is down this purchase block will be close to the masthead block of the halyard. But when the sail is set it will come down to within a few inches of the lower block of the purchase, so that practically the whole halyard in use is composed of wire which will not stretch to any appreciable extent. In the case of a little craft of 3 or 4 tons measurement a whip purchase would be sufficient to supply the necessary power to set the sail, but it is better to use a two-block or gun-tackle purchase, for the following reason: If a whip purchase, with the standing part hooked to the deck, be used the fall will lead downwards. As the upper block has to come down to within a foot or two of the deck to set the sail properly, it is obvious that it will be impossible to pull on it with any power. By the use of two blocks, with the standing part made fast to the lower one, the fall of the purchase will lead upwards, enabling one to use one's strength with advantage. Practically any single-part halyard can be arranged in this manner, and if it is decided to belay the halyards in the well the falls of the purchases will lead very conveniently from the lower blocks across the deck, or cabin-top, as the case may be.

A double-part main halyard is rove through blocks on either side of the masthead and through a block on the gaff. On one end is placed a purchase of similar character to that I have just described, whilst the other end of the wire has a thimble spliced into it. To this thimble is attached a length of manila rope. When the sail is down both ends of the wire are at the masthead, and the method employed in setting the sail is as follows: By means of the manila rope, referred to above, haul down the end of the wire and secure the thimble to a hook in the deck. This will raise the throat of the sail about half-way to its allotted position and the purchase will do the rest. A two-block peak halyard would have the standing part attached to the masthead and lead through a block on the gaff and up through another on the masthead to its purchase. The peak halyard should not be attached to the gaff direct, but to a wire sling, in order to distribute the strain. A single-part halyard can have its standing part shackled to the sling, but in the case of a two-part halyard

the gaff block would be attached to the wire sling. For the sake of appearance, the sling can be covered with leather or canvas, and to prevent chafe the halyard shackle should be a long, narrow one carrying a sheave on the pin.

It is obviously not of much use to employ flexible wire rigging if the luff ropes of the sails are of hemp, but, fortunately, wire has now almost superseded hemp for the luff ropes of yacht sails. Some people object to the use of wire for this purpose on the grounds that it is apt to rust and break, but if the sails are properly cared for and always dried before being coated I do not think trouble in that direction is likely to arise. I have used sails with wire luff ropes for a good many years past, and in my experience the wire lasts as long as the sails. Before leaving this subject of wire running gear it will perhaps be as well to repeat that the only wire that should ever be used for the purpose is the best extra plough steel, which is enormously strong and if properly cared for will last for five seasons or even longer. If half an hour or so be devoted to the blocks and gear, say, once a month, the halyards will always run sweetly and go on from season to season without showing signs of rust.

CHAPTER VIII

GEAR AND FITMENTS

SHOULD the owner who intends to sail alone desire to use rope running gear he will be well advised to have it rather stouter than customary for a craft of that size and sail area. To carry away gear in any vessel is annoying and troublesome, but in the case of a single-hander it might be a serious matter. The rope used should be either of the best four-strand white yacht manila or of four-strand Italian hemp lightly tarred. Personally, I prefer the latter, as it is slightly stronger than manila, more tractable in wet weather, and rather cheaper. It does not, perhaps, look quite so smart and "yachty" as good white manila, but the difference in appearance is so small as to be a negligible quantity even to the most fastidious owner. Although, as I say, it is desirable to have stouter running gear than usual in order that the risk of breakage may be as far as possible eliminated, it is not necessary to go to extremes in that respect.

As a rough guide, I would suggest running gear of the following sizes, the measurements stated being the circumference of the rope: For yachts up to 4 tons Thames measurement the halyards and sheets can be of 1½ inches, from 4 to 7 tons 1¾ inches, and from 7 to 10 tons 2 inches. For yachts up to 5 tons the purchases could be of 1-inch rope, and for craft ranging in size from 5 to 10 tons of 1¼ inches. The sizes I give can only be considered as approximate, for some yachts are heavier on their gear than others. The stiffer the boat the stronger the gear required may be regarded as an axiom, for it is obvious that a vessel possessing great stability will throw far more stress upon her gear than one of light displacement that is easily driven. No man who cruises single-handed should trust his running gear—if of manila—for more than a couple of seasons. The use of halyards and sheets of doubtful soundness is foolish, as it tends to shake one's con-

fidence in bad weather and may get one into serious trouble. At the conclusion of the first season every halyard should be turned end for end. Comparatively little strain is thrown upon the fall of a halyard, and reversing the rope is in practice almost the equivalent of reeving new gear.

Metal blocks are quite unsuitable for rope gear, as the edges are apt to chafe the rope. The blocks should be of wood with internal strops and patent sheaves, and I would particularly impress upon the owner of a single-hander who uses rope running gear the extreme importance of having blocks of ample size. In wet weather manila rope has a tendency to swell, and if the blocks are only just large enough to take the rope when dry, trouble is sure to ensue when it rains. I have known cases in which it has been necessary to go aloft to cut the halyards ere the mainsail could be lowered, and I have personally experienced a good deal of trouble at times in getting sails down owing to the halyards having swollen. Nothing is more disconcerting to a man sailing alone than to find his sails will not come down when he wants to bring up, particularly if he should happen to be taking up a berth in a harbour or crowded anchorage. If, when buying a boat, it is found that the blocks are unduly small, it will be wise to scrap the lot and buy a new set of suitable size. If the blocks are just one size larger than absolutely necessary for the ropes no trouble will ever be experienced from swollen halyards, and comfort and safety should always be the first considerations. Blocks with internal strops of metal are rather expensive, and owners who have an eye to economy may prefer to buy unstropped blocks, but whatever kind are purchased they should be fitted with patent sheaves. Selvagee strops of wire are quite easy to make, and when covered with leather or painted canvas have a very neat appearance. To make a selvagee strop, drive two big nails into a stout board at a distance apart determined by the size of the required strop. Then secure the end of a length of wire to one of the nails and bind tightly round both nails. When a sufficient thickness has been obtained, seize the strop at intervals with thin wire to keep it in shape and withdraw the nails. The strop should then be coated with tallow, wrapped round with a strip of canvas, and finally covered with

leather sewn on in a wet state. Leather, it may be mentioned, stretches when wet and shrinks when dry, and if sewn on to the strop when wet it will be a nice tight fit when it dries. If the strop is to be covered with canvas, the latter should receive several coats of white paint. Velure, by the way, is particularly suitable for the purpose, as it is extremely elastic and not so liable to crack and flake off as ordinary paint. Strops made of tarred hemp are, in my opinion, a mistake, as they stretch and allow the block to fall out unless the seizings are frequently attended to. Selvagee strops of wire, on the other hand, are very strong and do not stretch to any appreciable extent, and if covered as I suggest will last for years.

The form of mainsheet employed must depend a good deal upon the type of yacht. If the boat has a counter, a double-ended mainsheet leading through quarter-blocks can be used, and it is certainly an advantage being able to work either end. One cannot lay down any hard and fast rule as to the amount of purchase required, as it will depend upon the area of the mainsail and weight of the boom. For most yachts of from 5 to 10 tons, canvassed for single-handed work, a double block on the boom, and a single in the centre of the counter, or travelling on a short horse, will give ample power if the ends of the sheet are led through quarter-blocks. For yachts of less than 5 tons so much power will not be necessary and a single block can be substituted for the double one on the boom. With only a single block on the boom, however, a double-ended mainsheet will not be practicable, and the best method is to secure the standing part of the sheet to the upper block, and lead the fall through a bull's-eye fairlead stropped to the becket of the lower block. This will give a neat lead, and enable one to put plenty of power on to the sheet when hauling in the boom. Many small yachts, particularly those with transom sterns, are fitted with a main horse, but the lead of the sheet is apt to impede the movement of the tiller, unless the fall is made fast with a hitch round the other parts of the sheet, which is rather inconvenient. In a yacht with a canoe stern, the arrangement of the mainsheet is usually a matter of some difficulty. Neither a horse nor quarter-blocks are quite satisfactory, as either will impede the

action of the tiller and prevent the helm from being put over as far as it should be. In my 7-tonner *Seabird* I got over the difficulty by the use of an oval-shaped iron hoop bolted to the sternpost. The tiller worked inside of this hoop, which, being within a few inches of the rudderhead, allowed plenty of play for the tiller. In effect it was a miniature horse, the lower main-sheet block having about a foot of travel ere it was pulled up by an iron collar shrunk on to the hoop in such a position as to prevent the block traveller from getting foul. This fitting, I admit, was rather unsightly, but eminently practical. In my little canoe-yacht *Snipe* there was a main horse just abaft the well coaming which answered fairly well, but as the horse restricted the movements of the tiller the boat required a good deal of water in which to come round.

In these days of small headsails, double sheets are seldom required in small cutter-rigged yachts, but the foresail of a sloop of 6 or 7 tons measurement is too large to be conveniently handled with single sheets. The old-fashioned method in such cases was to lead the sheets through two single blocks attached to the clew of the sail, the standing parts of the sheets being secured to eye-bolts in the deck. Even with double sheets of this nature the single-handed owner will at times find it hard work to sheet the sail home, and when the breeze is fresh he may wish for additional purchase. But the more purchase employed the greater will be the friction, and in light and moderate winds too much purchase is a nuisance, as the sheets do not draw clear. This entails frequent journeys forward to overhaul them, which is particularly trying when working up a narrow river. In a case of this sort what is wanted is an emergency purchase that need not be brought into operation unless required.

An emergency purchase on a foresail sheet can be very simply fitted. The standing part of the sheet, instead of being made fast to the eyebolt in the deck, should be passed through the eye and attached to a block through which a whip can be rove. The block should be protected by means of a collar of rubber, placed between the block and the eyebolt, whilst the fall of the whip purchase should be led aft and belayed within easy reach of the well. Let us suppose that we are on a broad reach and

wish to haul our wind. To get in the foresail sheet would, if the breeze be fresh, call for the exercise of considerable power, but by hauling on the fall of the whip purchase the sail can be trimmed with very little labour. When going about on to the other tack we first let go the whip purchase and the block flies forward to the eyebolt, being protected from damage by the rubber collar, which acts as a buffer. Then we cast off the sheet. A whip purchase on the sheet arranged as I suggest will lie flat on the deck and not be in the way. It is always there when wanted and need not be used in light weather. In my opinion, blocks on the clew of a headsail are a mistake, as they are apt to foul and are, moreover, unpleasant things to have banging about one's head when working on the foredeck. It is far better to use lignum vitæ bull's eyes secured to the clew by means of a rope strop. The sheet will always render freely through them and they are less likely to foul than blocks.

In a single-handed yacht the reef-tackle should always be kept on the boom ready for immediate use, and at least two earings rove. The textbooks will tell you that the proper way to secure the earing, after a reef has been hauled down, is by means of a racking round the boom and earing. This may be all very well in the case of a large yacht with a professional crew, but the average amateur would not take the trouble to do it. So far as I can remember, I have never seen a reef-earing secured in that manner in a small yacht. The usual practice seems to be to take a few turns round the boom with the earing, and then secure it with a hitch of some sort or other. Sometimes the hitch employed is of doubtful security, and more than once I have seen mainsails torn owing to the reef-earing getting adrift. By far the best way to my mind is to have a couple of strong cleats fitted on the underside of the boom, to which the earings can be made fast. To make the earing fast direct to a cleat is far quicker and, I venture to think, a more secure method than any other, but, of course, it would not be practicable in big yachts, as in the case of a large sail, the earing would probably slack up whilst it was being belayed. In small craft of, say, 4 or 5 tons, I have never experienced any difficulty in belaying the earing to a cleat after the reef-cringle has been well boused down by means of the tackle. Most mainsails have three rows

of reef points and, consequently, three reef-earings, but two cleats will be ample. Should it be necessary to take down the third reef, the earing of the first reef can be cast off to make room for the third earing.

Wire rope is now universally used for standing rigging, and gives but little trouble if properly cared for. If greased with tallow, or periodically varnished, it will last for many years without showing any signs of rust. As soon as rust makes its appearance the wire should be condemned, as it will not be trustworthy for much longer. Personally, I do not care about rigging screws, as it is so difficult to get the tension on the shrouds even, and I prefer wire lanyards to anything else. These lanyards, being constantly wet and dry, should, however, be renewed every year, as they are liable to rust. If the main halyard be hooked on to the chain-plate and well set up, the lanyard can be rove by hand. As there is a certain amount of stretch in wire, it may be necessary to take up a little slack after a few weeks' use, but when the initial stretch has been taken up, the lanyards will need no further attention throughout the season. There are no parts of a yacht's rigging so liable to deterioration as the bowsprit shrouds and bobstay, as they are constantly wet and dry. If frequently greased with tallow the bowsprit shrouds will have a longer life, but a wire bobstay is a hopeless proposition. If it is a standing bobstay, the best material is a rod of phosphor-bronze, and, failing that, the best substitute is galvanised chain.

Manila rope, although commonly used for sheets, is not in my opinion the best material for the purpose, as it is apt to get hard and intractable when wet. Italian hemp, lightly tarred, is to my mind far better, as it is always soft and pliable when wet. It is, I believe, slightly stronger than manila, weight for weight, and is, or, at any rate, used to be, rather cheaper. Of late years a new kind of rope known as string rope has made its appearance, and is very popular in racing yachts for mainsheets. It is extremely strong and yet soft and pliable, and the only objection to it is that it costs something like half a crown a pound. It is essential that the blocks for the mainsheet should be large in proportion to the size of the sheet, or otherwise the rope will not render freely in wet weather.

CHAPTER IX

REEFING GEARS

Of late years several patent reefing gears have been placed on the market, but they all work on much the same principle, the difference between them being for the most part in matters of detail. All these gears operate on the window-blind principle—that is to say, the sail is rolled up round the boom. The difference between them lies in the method employed in operating the boom. The Turner is, I think, the oldest of the patent reefing

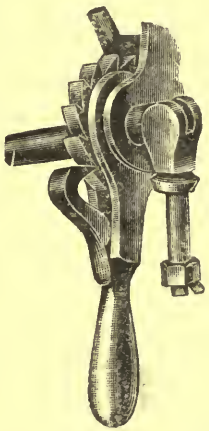


Fig. 4.—Turner Reefing Gear.

gears, or at any rate the oldest of those which have obtained any vogue. In the Turner gear the boom is made to revolve by means of a small ratchet winch placed at the goose-neck end (Fig. 4). It will be obvious that when this method of reefing is used, some steps must be taken to prevent the mainsheet and topping lift winding up with the sail. This difficulty is overcome in all these reefing gears by much the same means. On the outboard end of the boom is a strong metal plate, which is

free to revolve upon a spindle driven into the spar. This plate has a couple of beckets to which the topping lift and mainsheet can be attached. When one or more blocks are carried on the boom for the mainsheet, they are attached to strong metal claw rings of considerably larger diameter than the boom. These claw rings are in appearance something like a pair of callipers with the points just open. The points, or claws, carry rollers of lignum vitæ to prevent them chafing the sail, whilst the lower portion of the fitting is drilled to take the block shackle. When reefing, the boom is free to revolve and wind up the sail inside the claw rings, the sail, of course, travelling between the claws which grip the boom. The Woodnutt gear is on much the same principle, except that the boom is operated by means of a worm

Fig. 5.—Woodnutt Reefing Gear.

gear, which, in my opinion, is an improvement upon the ratchet principle of the Turner gear (Fig. 5). These patent gears are, however, merely refinements of a method that has long been in vogue in coasters and pilot boats, the winches and worm gears taking the place of tackles, endless chains, and other more primitive means of revolving the boom.

The opinions of small yacht owners as to the advantages of roller reefing gears are somewhat divided. Some men who make a practice of single-handed sailing swear by them, whilst others, I am afraid, often swear *at* them. I, personally, have had a good deal of practical experience of the Turner gear, and have always found it work admirably, although I must confess that I do not nowadays find these patent gears so attractive as I

used to, at any rate in cruising craft. But if I no longer regard them with the same favour that I did in years gone by, it is not because they have proved in any way deficient, but simply because I fail to see the necessity for such a refinement, which, after all, is a complication that one can well do without. But when it comes to racing it is another matter, as the possession of a roller boom may make all the difference between winning and losing. In strong winds one can always carry more sail with checked sheets than one can on a beat, but in the absence of a roller boom one must limit the sail area to what can be carried effectively on the wind. If, however, the yacht is fitted with patent reefing gear, it is possible to carry a whole mainsail on the run and roll down a reef just before coming on the wind, a feature that gives one a considerable advantage. Some years ago I was racing in a class of restricted open 17-footers, my principal opponent being the famous Giles-designed *Frolic*, which could always beat my boat in any weather. Once, however, thanks to my roller reefing gear, I caught her napping. It was a wild day when we started, all of us well reefed, and after a hard run *Frolic*, as usual, led round the lower mark. Then the wind began to ease off, and shaking out my reef I went to the front and beat *Frolic* handsomely. My success was solely due to the reefing gear. *Frolic* was not only without a roller boom, but the disadvantage under which she laboured was increased by the fact of her owners having made fast the halyard of her lug high up the yard in order to make the reefed sail stand better. To shake out a reef would have entailed lowering the sail, and so she was in a hopeless position. That was the only time I ever succeeded in beating *Frolic*, but my Turner gear paid for itself in that one race.

Provided that they are correctly fitted and receive proper attention, these roller reefing gears seldom give trouble. To obtain the best results the boom should be of the same diameter throughout its length, and should have a slot cut in it to receive the foot of the mainsail, which must be roped for the purpose. The foot-rope beds down into the slot, and after the foot of the sail has been well stretched out it is laced to the boom by separate seizings. It is desirable that the boom, when the sail is set,

should be as nearly as possible at right angles to the mast, as otherwise the sail would have a tendency to come away from the mast when the boom was revolved. When but a single claw-ring is used it is customary to connect it to the topping-lift-plate at the boom-end by means of a metal rod, the object being to prevent the ring from sliding along the boom when the latter is squared off. If two claw-rings are necessary, they are best kept in place by means of a line leading from the topping-lift-plate to each of the claw-rings in turn and finally to the mast, to which the end can be made fast after the line has been hauled taut. It is important that the line should be secured to the mast and not to the boom or tack of the sail, for if the line be made fast to the boom or sail the claw-rings and topping-lift will be wound up with the sail when reefing. I used a line of this nature in my 17-footer *Coryphée*, and it answered admirably when made fast in the proper place, but whenever the waterman aired the sail he invariably transferred the line from the mast to the boom. On one or two occasions when I failed to notice the alteration I wound up the claw-rings with the sail and had some trouble in clearing them again. It is advisable, therefore, to keep an eye on this line if the yacht is left in the care of a waterman.

It is a mistake to attempt to fit a roller reefing gear to a boom not specially made for it. If the spar be not of the same diameter throughout, the sail will not roll up evenly, and in course of time will be stretched out of shape. It is essential that the foot of the sail be very tightly laced so that it cannot slip round the boom when the latter is revolved. If the spar has a slot to take the foot no trouble will be experienced, or failing that the sail can be laced to a length of thin wire rope seized to the boom at short intervals. To ensure efficient working, both the ratchet winch and the topping-lift-plate should be kept well oiled. If these little points receive due attention a roller gear will give perfect satisfaction, but having the boom at right angles to the mast brings it unpleasantly close to the helmsman's head, to say nothing of being rather unsightly. Another objection is that when the mainsail is reefed the foot is apt to hold water, an undesirable feature in a small craft.

Of late years the practice of lacing the foot of the mainsail to the boom has become almost general, but personally I prefer the old-fashioned sail with a loose foot. The latter is infinitely less trouble to reef and in many ways a far more handy sail. When a laced mainsail is reefed one has to pull the points down to the boom to tie them, often a troublesome job when there is wind in the sail. When the foot is loose, however, one has merely to roll up the portion of the sail that has been reefed and tie the points round it, which can be done quickly and neatly, as there is no strain on the points. With a laced foot, moreover, one is debarred from tricing up the tack, a convenient method of temporarily shortening sail. To be able to trice up the tack of the mainsail is very useful to the single-hander, for when seeking a berth in a crowded anchorage it is essential that he should have an unimpeded view ahead. With a laced foot to the mainsail, or with a roller boom, he is unable to do so, and that is one reason why I should hesitate to recommend roller reefing gear for single-handed work. After all, it does not take very long to pull down a reef when the tackle is ready for use on the boom, particularly with a loose-footed mainsail. As soon as the reef cringle has been hauled down and the earing secured, the peak may be hoisted again. The tack can be got down and the points tied at one's leisure, as the yacht will be under control as soon as the peak has been hoisted. In practice there is not so much time saved by the use of a roller boom as one might think, but where the patent gear undoubtedly scores is that the sail can be reefed or unreefed without hauling the boom inboard. A great turn that when racing, but there is not a deal in it when one is cruising and not pressed for time.

Some time ago Captain Du Boulay wrote to the *Yachting Monthly* complaining rather bitterly of what he termed a systematic attack upon the roller jib which he invented many years since. Although, so far as I am concerned, there has been nothing in the nature of a "systematic attack," I must plead guilty to having criticised this form of headsail adversely in my books and elsewhere, but my remarks were based solely upon my practical experience of roller headsails. When I read Captain Du Boulay's letter, however, I learnt that I had done

him an injustice, as the fitment I have so freely criticised was not his invention, but merely a feeble imitation. My chief objections to the roller headsail were that the rolling line had a tendency to slip over the flange of the drum and jam, thus preventing the sail from being rolled up, whilst the friction of the roller at the foot of the stay caused the latter to rust and carry away. Now, Captain Du Boulay seems to have discovered these defects years ago, and took steps to remedy them. In the letter to which I have referred he illustrates the little fitments he introduced to perfect his invention. These take the form of a guard and fairlead fitted at the foot of the stay, and a short

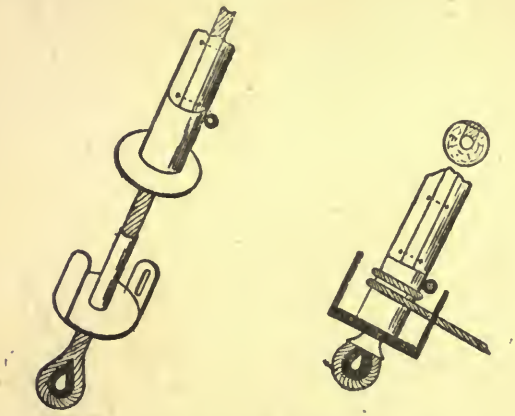


Fig. 6.—Captain Du Boulay's Roller Jib Fittings.

piece of brass tube with a bell mouth which is driven down over the splice to form a bearing for the roller, and thus eliminate the possibility of the latter being chafed (Fig. 6).

Captain Du Boulay states that he has never seen a roller foresail fitted on the bare wire since the first few years after the invention appeared, and he adds that if men use open and unprotected drums in lieu of the one he describes it is their own fault. If Captain Du Boulay thinks that it is the universal practice to fit roller foresails with these special fitments I fear he is labouring under a misapprehension. It may be the custom at Bembridge and in the Solent, but from the fact that I have

never even seen them in the course of five-and-twenty years small yacht sailing in the Thames Estuary and on the East Coast, I think his method of fitting a roller foresail is far from common in these districts. Personally I have had a good many roller foresails at different times, but they have invariably been fitted on the bare wire, and the drums have not been provided with either protectors or fairleads. The fact is, this invention was not patented, and anybody has been free to make use of it. Many firms of shipwrights make the gear to order, and, provided the roller revolves, do not trouble about refinements. Still, in attributing to Captain Du Boulay the invention of such roller foresails as I have used I think I have done him an injustice, for it is evident that they were merely imperfect imitations. One can see at a glance that the fittings described in his letter would, to a large extent, obviate the main objections urged against these foresails, and I, who have so often criticised the roller foresail in books and elsewhere, think it only fair to him to give this explanation. At the same time, I cannot say that I am altogether converted to the roller foresail, as I dislike a sail that cannot be removed and stowed away when the yacht is at moorings. In my experience a sail that is furled on a roller and left exposed to the weather throughout the season is apt to lose its shape, and is also liable to rot. Moreover, in a very few weeks the leach, which, of course, is outside when the sail is rolled up, gets dirty. A foresail with a sort of mourning band round it is unsightly and quite spoils the appearance of a yacht when under way. For small racing boats, however, it is a most valuable contrivance, particularly when accompanied by a roller boom, as I have often pointed out.

Although the ordinary roller foresail does not appeal to me for use in cruising craft, I have a very high opinion of the patent furling gear invented by Mr. R. F. Wykeham-Martin, which I have used for a number of years with the greatest satisfaction. When Mr. Wykeham-Martin first introduced this fitment he very kindly sent me a set to try, and I very soon realised that it was one of the most useful contrivances ever devised for the single-hander. It possesses most of the best features of an ordinary roller gear, and as there is no roller employed the sail can be

unbent and stowed away in the usual manner. It is most simple in operation, and at the same time eminently practical. The gear comprises two small fitments, one for the head of the sail and the other, which carries the rolling line, for the tack (Fig. 7).

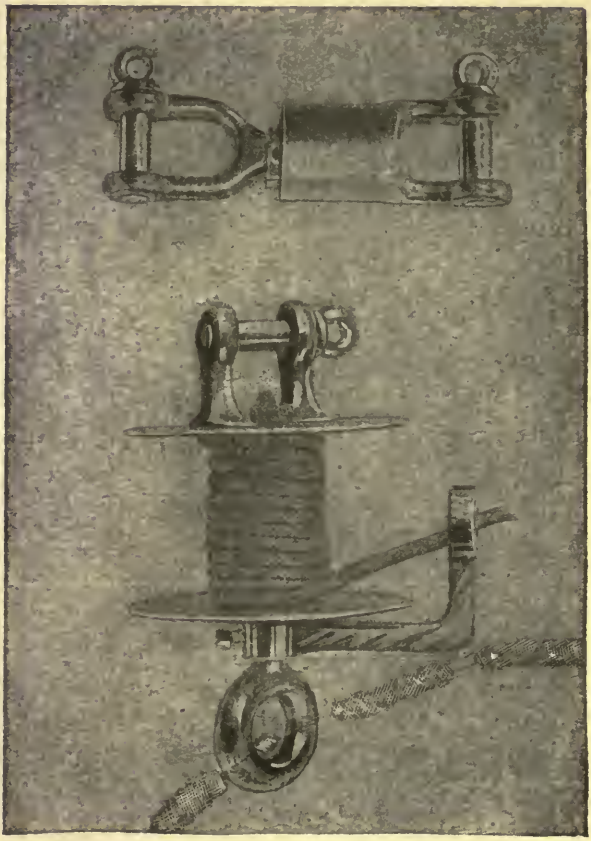


Fig. 7.—Wykeham-Martin Furling Gear.

They are fitted with ball bearings, and when one hauls on the line the sail rolls up round its own luff rope. With this gear it is almost impossible for the rolling line to slip over the flange of the drum, as the fairlead is part of the fitting and so arranged as to prevent any possible fouling of the line. An excellent

feature of the Wykeham-Martin gear is that it can be used on any triangular sail, such as a jib, foresail, jib-topsail, spinnaker or thimble-headed mizzen, and can be transferred from one sail to another, as it is merely a matter of unscrewing a couple of shackle pins. To be able to roll up or furl a headsail in a moment without leaving the helm is the greatest boon to a single-handed sailor, as it enormously facilitates such operations as getting under way or bringing up.

Unfortunately the gear, when attached to an ordinary headsail, cannot be used for reefing purposes. I understand, however, that if a chain be used in lieu of the usual wire rope on the luff of the sail, reefing with the Wykeham-Martin gear is a practicable proposition, although I have not yet had an opportunity of experimenting in that direction myself. But even if the gear cannot be used for reefing, one might have two sets, and the small jib could be bent to a special halyard and carried rolled up. Then, if it became necessary to shift jibs in the course of a passage, it could be done in a moment, as one would merely have to haul on the rolling line of one sail and on the sheet of the other.

CHAPTER X

EQUIPMENT

As it is a physical impossibility for a man to be at both ends of a yacht at one and the same time it is obvious that the single-handed sailor must have at his disposal some means of securing the helm so that he may go forward when his presence is required there. Many expedients have been devised to secure this end, and it may be remarked that it is not always the most complicated and costly that is the most successful. Personally, I have found a small jam cleat on the tiller, in conjunction with lines leading from the quarters of the yacht, sufficient for the purpose, and such an arrangement certainly possesses the advantage of extreme simplicity. I would not go so far as to suggest that it is infallible, for occasionally I have known the tiller line to get adrift from the cleat, but when that has happened it could usually be attributed to carelessness in making it fast. A turn can be snatched round the cleat with a tiller line in a moment, and cast free again just as quickly, whilst the cost of a small jam cleat and a few feet of line is a negligible quantity. A jam cleat, however, is not easily secured to a metal tiller, and so my method is only practicable when the tiller is of wood. A heavy iron tiller should not, however, be used in a craft intended for single-handed work, particularly if she has a raking sternpost, as the sheer weight of the tiller will cause it to fall to leeward and the yacht may be put about when such an operation is neither desired nor intended. My little *Arrow* originally had a tiller of that type, and it proved such an unmitigated nuisance that it was scrapped and replaced by one of hard wood, which was nicer to handle and infinitely more efficient in every way.

Although I have not personally owned a single-hander thus fitted, I think a steering wheel would be a most desirable fitment in such a vessel. By merely slipping a becket over one of the

spokes the wheel could be locked in almost any desired position in a moment. When steering wheels were first introduced in small yachts they were of somewhat primitive designs, usually taking the form of a wheel and drum, to which lines were led from a short tiller. Such wheels were very slow in action and had a good deal of back-lash, features that rendered them far from satisfactory. Steering a lively little boat before a heavy following sea with a wheel of that nature must have been something of a nightmare, and it is not altogether surprising that practical yachtsmen should have regarded them askance. Of late years, however, wheel-steering gears for small yachts have been vastly improved, and there are now several on the market that are quick in action, free from back-lash, and as sensitive to the touch as a tiller. In some of these gears, a toothed quadrant is mounted on the rudder-head and actuated by a pinion, whilst in others a short tiller is employed in conjunction with a rack and pinion gear. A good example of the latter is that which Mr. Wykeham-Martin devised for his little cruiser *White Moth* (Fig. 8). This has since been patented and placed on the market. I cannot do better than give Mr. Wykeham-Martin's own description of the gear: " This steering-gear can be fitted to yachts which have either a raking or vertical rudder post, and to yachts with rudder posts fitted through the counter, or hung on the transom outboard. Also the wheel-shaft can be set out of the centre line of the vessel, as may be required for a ketch or yawl-rigged craft, in which the mizzen or other obstruction would be in the way of the wheel-shaft. The gear consists of a toothed steel rack running on brass slides in a galvanised steel frame. On the underside of the rack there is fitted a bracket containing a sleeve with universal joint. This sleeve is attached to the tiller so that the tiller can be moved freely, and turn in the frame in any direction. The rack engages with a steel-toothed pinion, keyed to the wheel-shaft, the rotation of which causes the rack to traverse and carry over the tiller. The frame carrying the rack is mounted on two galvanised cast iron pedestals, and there are two plummer blocks, one bolted to the frame and the other blocked up and bolted to the deck. This gear can be fitted to yachts without difficulty, and no alterations

are necessary, with the exception that a new short wrought-iron tiller is generally required. A jamming screw can be fitted to the top cover of the plummer block nearest the wheel in such a manner that a turn of this will temporarily fix the wheel in any position."

The simplest way of locking the helm in any desired position is probably by the use of a pin-rack, but I cannot say that I have found that method altogether successful. When one is

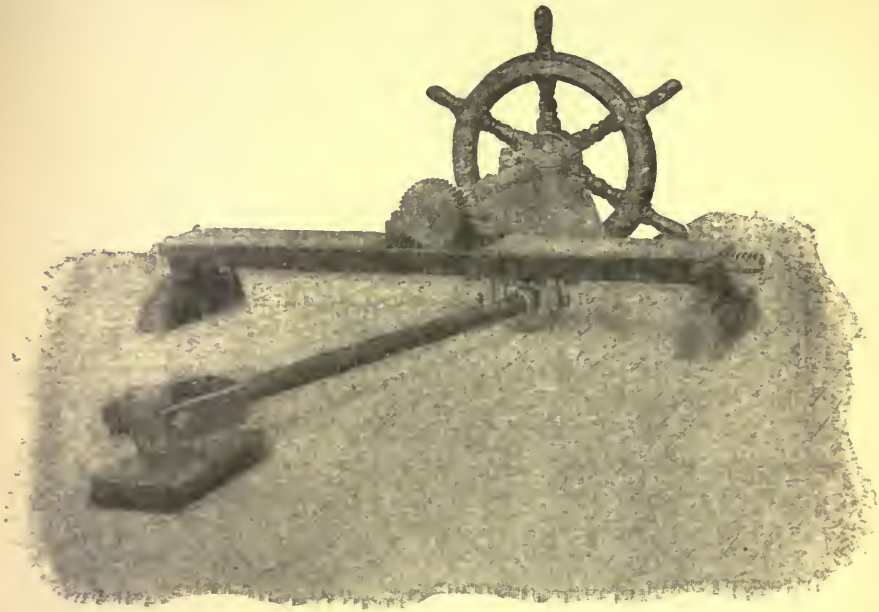


FIG. 8.—WYKEHAM-MARTIN STEERING WHEEL.

dependent upon holes drilled in a rack several inches apart one cannot obtain that nice adjustment of the helm that is necessary if the craft is to be left to sail herself. A loose pin, moreover, has a way of getting mislaid, and it is within the bounds of possibility that it may have found a resting-place in the bilge of the yacht when urgently wanted. To an owner who does not mind going to a certain amount of expense I would certainly recommend a steering wheel, which can be locked either by

slipping a becket over one of the spokes or by means of a jamming screw. Steering a yacht in strong winds is very much easier work when a wheel is used than it is with a tiller, and the former does not take up so much space. One of the most ingenious devices for locking the tiller of a single-hander was that used by the late Lord Dufferin in *Lady Hermione* which I described in detail in a previous chapter. A simple but eminently practical method of fixing the tiller of a small boat was that devised by the late Mr. G. Umfreville Laws for the famous 18-footer *My Lady Dainty*, which he designed in 1898 for Mr. S. N. Griffiths. The tiller was made of bamboo, and fitting inside it was a sliding rod with a knob at the end. A hole was drilled right through both bamboo and sliding rod, and through this a line leading from one quarter of the boat to the other was rove. When the sliding rod was pushed right home the line rendered through the hole, thus leaving the tiller free. When it was desired to lock the helm the knob on the end of the sliding rod was pulled out a trifle, thereby jamming the line and securely locking the tiller. By pushing back the knob the helm was free once more. This simple arrangement answered admirably, and was, I believe, in use in the boat for a considerable portion of her career. The Stringer patent tiller grip works on a very similar principle, but the line is locked by means of a lever attached to the upper side of the tiller.

Some men who sail alone are not content with a tiller-locking device, but think it necessary to fit steering lines in their yachts. These lines are led through small blocks attached to the rail stanchions and bowsprit bitts so that the tiller can be controlled from practically any part of the boat. Many years ago I rigged steering lines of this nature in one of my boats, but soon discarded them. I found that they were much in the way, and of doubtful value, as a slight kink prevented the line from rendering through the blocks. As the lines were constantly wet on account of their being so close to the rail they frequently developed kinks and consequently were seldom in proper working order. It is quite likely, however, that much better results could be obtained by the use of flexible wire rope, which would not be affected by damp, and which would lie closer to the deck when not in use.

But to my mind fitments of this nature are more bother than they are worth, and I would sooner keep my decks clear of such unnecessary obstructions.

In a craft intended for single-handed sailing it is desirable that the sheet cleats should be of a convenient type and placed within easy reach of the helmsman. I have always found wooden jam cleats quite satisfactory for the purpose and they possess the advantages of being neat and quite inexpensive. With these cleats it is only necessary to take one turn with the sheet, and as they lie close up to the coaming they are far less likely to tear the seat out of one's trousers than the ordinary type of metal cleat which stands out about 2 inches. In a single-hander the headsail sheets should never be belayed on deck, as in such a position they are awkward to get at and apt to fly forward when cast off the cleat. The best plan is to lead the sheets through fairlead holes cut in the coamings of the cockpit to the cleats, which should be placed, say, a foot further aft. If a knot be tied in the end of the rope the sheet cannot possibly get adrift and will always be ready to hand. This, no doubt, is a small matter, but it must be remembered that it is only by attention to details that all-round comfort and efficiency can be secured.

Of course, the ideal arrangement would be a fitment that would automatically grip and hold the sheet, and many years ago I invented and patented such an appliance. It took the form of a small brass box in which was fitted a sort of pawl slung from the top of the box. In appearance it was not unlike a small edition of a penny mousetrap. The pawl rested on the rope in such a manner that the latter would render freely through the box in one direction, but was gripped and firmly held as soon as any strain was placed upon it from the other. The theory was that one would merely have to haul in the sheet as far as desired and then let go, when it would be automatically held by the fitment. To free the sheet the pawl was thrown back by means of a small lever fitted to it for the purpose. Unfortunately, theory and practice do not always walk hand in hand, and so it was with my patent sheet grip. When the rope was new the pawl gripped it bravely, but when the sheet began to

wear smooth the appliance sometimes failed to hold the sheet securely, and so I abandoned it. The original model I still keep on my writing table as a letter-weight, where it stands as an object lesson of wasted ingenuity. A far more simple and better idea is that incorporated in the patent sheet grip marketed by Messrs. Woodnutt and Co. This takes the form of a short metal tube or cylinder, with a V-shaped slot cut in the upper-side. It serves the dual purpose of fairlead and cleat. After the sheet has been hauled in the rope is pulled upwards and automatically jams in the slot, the fall hanging loosely over the side of the fitment. To free the sheet it is merely necessary to jerk it out of the slot and it then renders freely through the

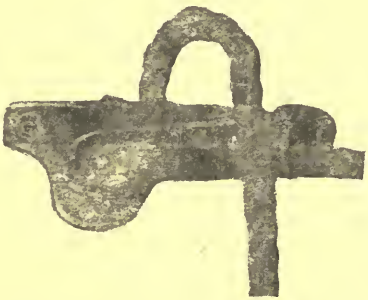


Fig. 9.—Woodnutt's Sheet Grip.

fitting. The Woodnutt jam cleat is made to attach to the inside of the coaming and if desired can be procured with a sheave to reduce the labour of hauling in the sheet (Fig. 9).

The heaviest job one has to tackle when sailing alone is that of getting the anchor, and even in a small cruiser of no more than 4 tons some form of windlass is desirable. In a craft as small as that a windlass is not often wanted to get the anchor, but there are occasions when it will save the owner really heavy work. When, for instance, the anchor has a firm grip in stiff clay a windlass is a boon, or should one have the misfortune to get aground on a falling tide it may make all the difference between getting off and remaining ashore for hours. In selecting a windlass for a small single-hander it must not be forgotten that quick delivery is a matter of the first importance, as, when

getting under way from a crowded anchorage, with a strong tide under the yacht, the anchor must be sighted without delay, or the vessel may be athwarthawse some other craft ere she can be got under control. No yacht can be expected to handle with an anchor, and perhaps five or six fathoms of chain hanging from her bow. When the anchor leaves the ground, it must be drawn to the surface as quickly as possible, for until it is there, the yacht has to be left more or less to her own devices. Many small yacht windlasses yield plenty of power, but give extremely slow delivery and for that reason can only be used just for breaking the anchor out of the ground. When the anchor has left its bed it must be "fisted" up hand over hand. It is essential

FIG. 10.—WINDLASS.

therefore that the windlass should be of a type that allows of the chain being cast off the drum, or, in other words, it must have the drum placed on the outside. In my 7-tonner *Seabird* I had a very powerful windlass, but as the drum was fitted between the bitts the chain could not be cast off, and it was the source of much annoyance and hard work. When I wanted to sight the anchor quickly I had either to haul the chain over the drum with the pawl thrown back or else pull the chain up from in front of the windlass, with the result that the chain fell in a heap on top of the windlass, and required a deal of clearing and overhauling afterwards. Now, when the drum is on the outside, one can snatch a couple of turns of chain round it, just to break out the anchor, and cast them off again in a

moment. Moreover, when the drum is outside, the windlass is always available for use in other directions. One can press it into service for setting up the bobstay, getting the last few inches on a halyard, warping, or any other job that calls for a little extra power. A capital little windlass of this description is made by Messrs. Tilling and Sons of Southampton. It is made of galvanised iron throughout, with the exception of an elm barrel, and is so compact that it only occupies a deck space of 6 inches by 8 inches (Fig. 10). It is, of course, very small, but should be man enough for any service likely to be required of it in a 4-tonner.

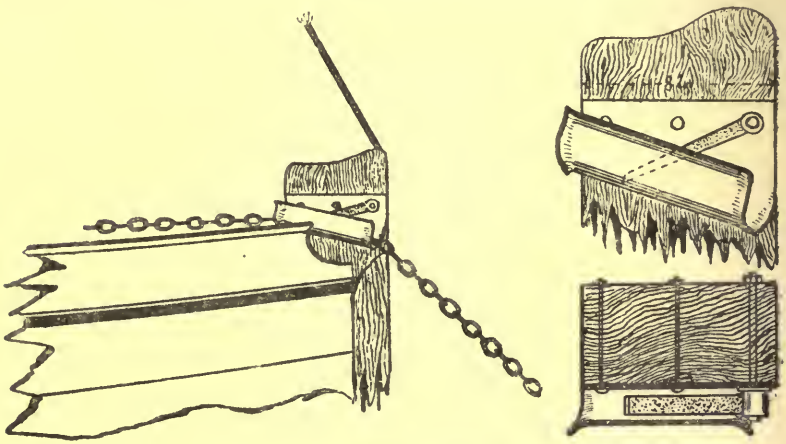


Fig. 11.—Worth's Chain Pawl.

Some years ago, I saw a very useful windlass in Mr. Claud Worth's well-known 21-ton ketch *Maud*. It was fitted to the mast and had two drums working independently of each other. One of the drums was used for the anchor chain, which, after passing over the windlass, fell straight down through the hawse-pipe and ranged itself in the chain-locker. Thanks to its central position, the windlass was available for innumerable jobs, and being fitted some feet from the deck, enabled the operator to use his weight and strength to best advantage. I believe this windlass was made by Messrs. Pascall Atkey and Son of Cowes. Single-handed yachtsmen who make a practice of getting their

anchor by hand would find a very useful fitment in the chain pawl devised by Mr. Worth years ago and fitted to his yacht *Foam* (Fig. 11). The pawl was fitted in a sort of open hawsepipe sloping towards the water. It was 1½ inches wide by ½ inch thick, the pin being a ⅞-inch bolt passed through the stemhead. The hawsepipe in which the pawl worked was made of ⅛-inch sheet iron and bolted to the starboard side of the stem. When the pawl was raised the chain was free to run through the pipe, but when the pawl was dropped it checked the chain from running out, although it could, of course, be hauled in. The fitment was most useful when sailing out the anchor, automatically gripping the chain when the strain came on it, and finally holding the cable when the yacht broke the anchor out of the ground. Mr. Worth in his splendid book "Yacht Cruising," states that after fitting the pawl they scarcely ever used the windlass for getting the anchor. It is a fitting that could be made by any smith at trivial cost and every single-hander should adopt it.

CHAPTER XI

ANCHORS

ANCHOR work in a single-hander is always rather heavy, as weight cannot be much reduced without some sacrifice of security. If a yacht is to ride safely in bad weather her ground tackle must be fairly heavy, although it is not necessary to go to extremes in that respect. The weight can be either in the anchor or the chain, and I personally prefer it in the latter. Provided that the anchor is well proportioned the actual weight is not of much importance, but if a light anchor be used, the chain should be a heavy one. A light chain is easily pulled out straight by a vessel riding to a strong wind, and should a sea strike her when her cable is taut several things may happen. First, she may begin to drag her anchor; secondly, she may break the chain; thirdly, she may ship the sea; and, fourthly, she may carry away the pawls of the windlass should she be riding to the drum instead of the bitts as she should be. A moment's thought will show how easily any of these contingencies might occur. Let us suppose that the yacht is riding head on to wind and sea in a gale of wind with her cable drawn out almost as straight as a rod of iron. Say that a wave 4 feet high comes along—what will happen? The depth of water will suddenly be increased to the extent of 4 feet, and ere the vessel can ride over the wave she must leap forward to accommodate her riding scope to the altered depth of water. She will make her bound forward precisely as the sea hits her, meeting the wave with tremendous force. If the chain and windlass are not very strong, one or the other may be carried away, or else the anchor will draw. Should the gear be of sufficient strength to withstand the impact, and the anchor hold, the sea will in all probability break on board. It will be seen, therefore, that the weight of the anchor has no bearing upon the contingencies I have mentioned. Now, if the weight be placed

in the chain, the cable will be too heavy to be drawn out straight and will hang in a festoon from yacht to anchor. When a big sea comes along, the heavy chain will act as a spring, enabling the vessel to ride safely and comfortably over the wave without shipping any water. These remarks apply, of course, to all yachts whether single-handed or otherwise. But let us consider the question for a moment from the single-hander's point of view alone. When the weight is in the chain, some benefit will be realised when getting under way, for as the cable comes home the weight is gradually reduced. Then, when the chain is all aboard, the yachtsman has a light anchor to deal with which can be fished without undue exertion. But when the chain is light, and the anchor heavy, the big job, that of lifting the anchor on board, is left until the end. By that time the yachtsman will have spent his strength in hauling the vessel up to her anchor against wind and tide, to say nothing of the labour of getting in the chain. As a final argument, I would remark that chains sometimes break, but anchors seldom or never do. Ergo, it is wise to have a stout cable in preference to a heavy anchor.

When I commenced boat sailing, more than twenty years ago, the anchors in use in small yachts were a shocking assortment. They were for the most part of the Admiralty pattern and a worse design could not well be imagined. Such anchors combined pretty well all the bad features it would be possible for an anchor to have. They were short in the shank, badly proportioned, unduly heavy, and had large spade-shaped flukes, calculated to foul the chain every time the vessel swung to the tide. So far as I remember, they had not a single redeeming feature, and the majority were only fit for the scrap-heap. Of late years, however, a marked improvement has been noticeable in the design of yacht anchors, and it is comparatively seldom that one sees a really bad one nowadays.

The best anchor with which I was ever shipmates was that I had in my 7-tonner *Seabird*, and, as I have never seen another quite like it, I think it must have been made specially to some previous owner's specification. *Seabird*, with a generous freeboard and drawing about 5 feet of water, was a craft that took a deal of holding, but, so far as I can remember, she never once

dragged her anchor all the time I owned her. And that anchor weighed but 32 lbs. Not a little of its holding power must, I think, be attributed to the heavy chain I used (7-16 inch). I was so impressed by the efficiency of this anchor that I took its measurements, but, unfortunately, I have since lost them. I remember, however, that the length of the shank was exactly twice the measurement of the chord. It had long, spidery arms, terminating in neat leaf-shaped flukes that were very sharp, and the stock was also long. I was often told that it was too thin, and would one day break or buckle, but it never did, although on more than one occasion, when brought up over a stiff clay bottom, I had difficulty in breaking it out with the aid of a powerful windlass. Although that particular anchor stands out in my memory as the best I ever owned, I have had many others that were quite satisfactory.

Many different forms of anchor have been patented and placed on the market, but I have yet to see one that holds as well as those of the ordinary type. From a yachting point of view, the only advantage to be derived from these patent anchors is that they have for the most part been specially designed to facilitate stowage, and those of the stockless variety certainly stow very nicely. Stockless anchors, in my experience, are unreliable in soft mud, such as one finds in the rivers and creeks of the East Coast. Some years ago I experimented with one to try and find out why it would not hold. By dragging the anchor through the mud on the foreshore, when the tide was out, I was able to watch its behaviour closely, and discovered that its failure to hold was due to the arms not being able to clear themselves. Instead of cutting into the mud they pushed it before them, with the result that a ball of mud formed on the arms, rendering the anchor of no more use for holding purposes than a stone. It occurred to me that this trait might be due to the light weight of the anchor, which prevented it from burying itself sufficiently deep in the mud, but, the other day, when discussing the matter with an old tramp skipper, I learnt that he had often experienced dragging with stockless anchors, when brought up in the Hoogli River, which has a bottom of soft mud. He told me, however, that these anchors hold a

ship splendidly in sand and, in fact, in practically anything but soft mud. The 12-tonner *Ran* formerly had a stockless anchor, weighing about a hundredweight, which housed in the hawsepipe, a delightful arrangement when accompanied by a powerful windlass, but the anchor proved so unreliable, in spite of its great weight, in East Coast anchorages, that it had to be scrapped in favour of one of the ordinary type.

One may cruise in small craft for years without being caught out in heavy weather, but, nevertheless, it is a contingency that cannot be altogether ignored, and the owner, if wise, will see that his vessel is properly equipped to cope with such a situation. No man in his senses would deliberately court bad weather when alone in a small cruiser, but when making a long passage it may overtake him when no port is near at hand. His best course is then to "face the music" as far from land as possible, as the seas will be longer and less dangerous in character than would be the case in shoal water. It is possible, however, that he may be caught napping whilst brought up in an open roadstead, and have to see it out at anchor. His safety will then depend upon the quality of his ground tackle. As I have already pointed out, a heavy chain makes for secure riding, but it is extremely doubtful whether any small yacht would have a cable sufficiently heavy to afford sufficient spring in a gale of wind. If a small yacht is to emerge triumphantly from such an ordeal, violent "snubbing" must be prevented. Snubbing is caused by a sea striking the yacht when her chain is nearly taut and the obvious remedy is to take steps to prevent the chain being pulled out straight.

This can be done by lowering a weight down the chain. The weight can be secured to the cable by means of a large shackle and lowered a few fathoms with a line. If a suitable weight is not available, the kedge can be used for the purpose. An owner who makes a practice of cruising round the coast, will, however, be well advised to include in his vessel's inventory a "Sentinel," an ingenious fitment devised by Mr. W. Etty Potter (Fig. 12). In appearance the "Sentinel" is merely a large hook with a handle on its back. It is secured to the weight by means of a shackle, and to the handle is attached a sort of tongue. When the weight

is borne by the handle the hook is open, but when it is carried by the hook the latter is automatically closed by the tongue. The weight is lifted by the handle of the "Sentinel" and the hook dropped over the chain. The moment the handle is released the hook locks itself on the chain, and the weight may be lowered a few fathoms by means of a handline attached to the lower shackle of the fitment. To unship the weight when it is no longer required one merely grasps the handle and lifts. The strain being thus removed from the hook the tongue falls back and the weight and fitting can be lifted off the chain. This is a great improvement on an ordinary shackle, as it will be readily imagined that it is not a pleasant job in heavy weather holding

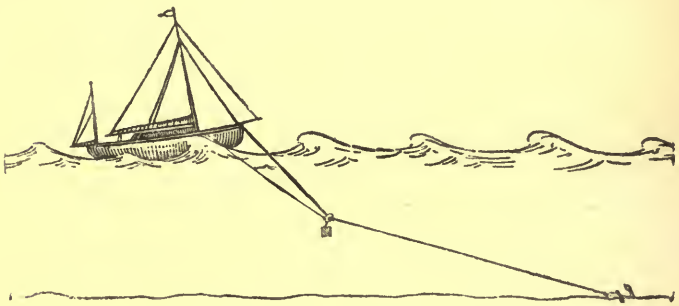


FIG. 12.—POTTER'S "SENTINEL."

a weight over the bow with one hand and screwing in a shackle pin with the other. Whilst thus occupied one might easily roll overboard, and there would also be some risk of the yacht's bow being damaged by the weight if the motion of the vessel were very violent. For the sake of convenience it would, perhaps, be advisable to carry a special weight for use with the "Sentinel," as it is not always an easy matter to sling a piece of ballast securely. What is wanted is a weight with a ring at the top such as one can often pick up for a shilling or two at a scrap dealer's yard. It has been suggested that the "Sentinel" might come unhitched from the chain, but I am quite sure that that could not happen whilst there was any strain on the cable. I don't think it could very well get adrift even in a calm, when the

chain was more or less "up and down," but if it did it would not matter, as under such conditions the weight would not be required. Even if it came off the chain, the weight would not be lost, as it could be hauled up by the handline. A weight in conjunction with one of Mr. Potter's "Sentinels" strikes me as being a far more practical proposition than a rubber cable buffer, as the latter "gives" but an inch or two. A buffer will no doubt ease the jar of a snub and prevent damage to the windlass or bitts, but I doubt very much it if would save the yacht from

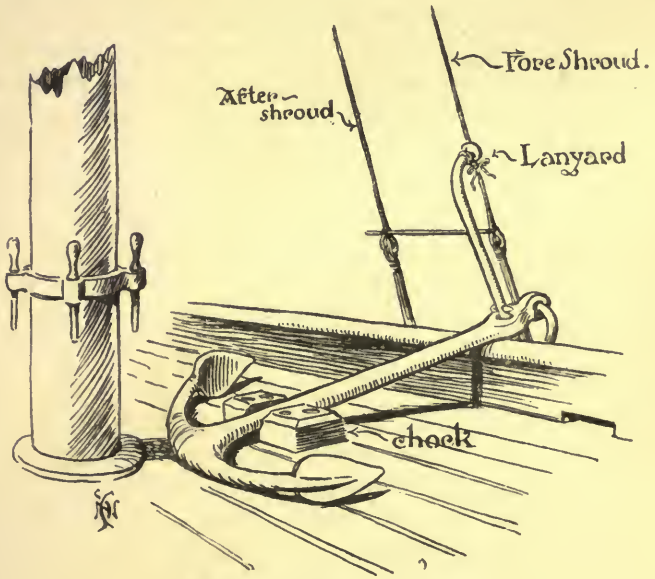


FIG. 13.—ANCHOR STOWAGE.

shipping a sea or starting her anchor. The weighted chain, on the other hand, would yield several feet and enable the vessel to ride over any sea in reason.

It is particularly important in a single-hander, that the bower anchor should be capable of being fished and stowed with expedition, as the helmsman cannot afford to be away from the tiller for very long, when getting away from a crowded anchorage. He not only wants to stow it quickly, but also in such a position that it will be ready to let go again at a moment's notice. I have

always found the following method very convenient and efficient. I have a chock screwed to the deck abreast of the foremost shroud, in a position determined by the length of the anchor. This chock is for the shank of the anchor to rest in (Fig. 13). Unless the anchor is sufficiently light to be handled with ease, an anchor burton should be fitted and it should have a large spring hook on the end. When getting under way the anchor is hove up to the stem head, and the burton, having been passed outside the bowsprit shroud, is hooked on to the ring. Two or three fathoms of cable are then slacked away, and the anchor, being then supported only by the burton, swings aft. It is then hauled up to the level of the rail and pulled inboard to be stowed with the shank resting in the wooden chock. The stock will then lie close to and up and down the fore-shroud, to which it is secured by a short line kept on the shroud for the purpose. If this line be so placed that it comes within an inch of the end of the stock, there will be no risk of the foresail or jib sheet getting foul of the stock. To prevent the deck being chafed by the flukes of the anchor, two plates of sheet brass can be nailed to the deck. When anchoring, the chain is cast loose from the bitts ready to run, the line on the shroud untied, and the anchor lifted and dropped overboard. This strikes me as a far better position for the anchor than on the nose of the yacht, where weight is undesirable, and one soon learns to remember that the anchor is there, so that there is very little risk of one tripping over it. In course of time one steps over the obstruction by intuition in much the same way that one goes upstairs in the dark in one's own house. Of course, in quite a small boat that does not require an anchor of much greater weight than 24 lbs. a burton would not be necessary, as the anchor could easily be lifted and passed outside the bowsprit shroud by hand.

CHAPTER XII

CABIN ARRANGEMENTS

THE majority of yachtsmen who go in for single-handed cruising seldom make any great departure from usual practice in the way of internal arrangement, and one generally finds in their craft the orthodox sofa-bunk on each side of the cabin. In this, perhaps, they are wise, as they may on occasion wish to take a friend away for a trip, and in the absence of a second bed there would be small comfort for either host or guest. Still, if it were the intention of the owner to sail alone always, there would be no object in having two bunks, and if one were dispensed with, the space could be disposed of to excellent advantage. For instance, if one of the bunks were removed, space would be afforded for a fine cooking galley, a useful pantry, and bookshelves of sufficient capacity to hold a small library. I once owned a little cruiser which measured but 18 feet 6 inches between perpendiculars, with a beam of 6 feet, which had only one bunk. The cabin was a regular " pill box," and two bunks would have been out of the question. But with a sofa on the starboard side for use as a seat and a folding cot to port, she was a jolly little craft for one person. At times I lived in her for two or three weeks on end quite comfortably, but that certainly was in the golden days of youth when one can sleep anywhere and on anything. Taking it all round, however, the cabin arrangement customary in small yachts, will be the best for single-handed work, and it is only in matters of detail that there is any call for modification.

From the single-hander's point of view, the position of the cooking galley is of particular importance. Many owners are very casual with regard to their cooking arrangements, and do not think a properly equipped galley worth bothering about. Such men as often as not make shift with a pair of Primus stoves in the fo'castle, a horrible arrangement that makes the whole

boat stink, if I may be permitted to use a good old Anglo-Saxon word. Mutton chops or the homely bloater cooked in the fo'castle will make the interior of a yacht reek for a week, for the smell clings to everything, and no self-respecting person would care to live and sleep in such an atmosphere. Moreover, could anything be more inconvenient than having the cooking stove so far from the tiller ? If one has to keep running backwards and forwards between stove and helm, either the cooking or the steering is likely to suffer, and in my experience it is usually the cooking. No, there is only one practicable place in a single-hander for the galley, and that is next to the cockpit. In the " Corinthian Yachtsman's Handbook " I described and illustrated my ideal galley, and I do not think it could be much improved upon from a single-hander's point of view, either as regards position or general design, provided, of course, that the cabin be of sufficient length to permit of some 2 feet 6 inches at the end of one of the bunks being given up to the purpose.

This galley is in the form of a large cupboard at the end of the bunk, with a shelf in the middle. The lower portion is devoted to cooking utensils, whilst the upper part contains a gimballed tray. On this tray are mounted a Primus stove for boiling, frying, and stewing, and a small oven-stove for baking. Above the stoves, within a few inches of the roof, is a plate-rack of thick brass wire netting. The whole of the compartment is lined with iron plates, stove-enamelled, as also is the tray upon which the stoves are mounted. To clean it after cooking all that is necessary is to wipe it over with a hot damp cloth. In addition to the main door opening into the cabin, there is a second door giving on to the cockpit so that cooking operations can be carried on either from the cabin or well. With such a galley the helmsman can cook in comfort without having to leave the tiller and, the stoves being gimballed, he can cook when the yacht is heeled in a breeze. This may seem a rather elaborate arrangement for one person, but it must be remembered that the single-hander when making a passage often has to stick at the tiller for many hours on end, and unless he can get decent meals at regular hours the game is not worth the playing. Should there not be sufficient space available for so completely equipped a galley, the oven-

stove might be dispensed with and a second Primus substituted or one could even make shift with a single Primus at a pinch, in which case the compartment need not be more than about a foot wide. It is particularly desirable that the stove should be gimballed, or otherwise cooking will be out of the question in anything of a breeze.

The outfit of cooking utensils should include a Welbank Boilerette, which to my mind is indispensable for single-handed work. It is a sort of stewpan surrounded by a water-jacket fitted with a safety valve. The cooking is done by steam under pressure, and the results are really astonishing. You may put in a tough old "rooster," and it will come out as tender as a spring chicken, and it is the finest cooker of an Irish stew ever invented. The main charm of it, however, is that once started it can be left almost indefinitely without attention, and one's dinner will cook itself. The only thing one has to watch is that the water does not all boil away. The week-end yachtsman can dine with satisfaction on Saturday nights off a steak brought down from town, but when one goes away cruising it is a different matter. One cannot as a rule procure a rump steak fit to eat in a country village, at least that has been my experience, and if one had chops every day one would be ashamed to look a sheep in the face. But with the aid of a boilerette one can prepare all kinds of toothsome dishes and, as I say, they cook themselves. Frying-pan cookery is all very well for a day or two, but it soon palls on one, and if the diet cannot be varied the yachtsman's cruising may be marred by his desire to make ports where he can rely upon getting a good dinner at a hotel. For use with a boilerette it is advisable to have a Primus fitted with a regulator which will enable a small flame to be kept going at even pressure for a considerable period without pumping up the stove. A mushroom ventilator should be fitted in the roof of the galley, to carry off the smell of cooking, and if the owner be wise he will make a practice of cooking from the well when the operation calls for the use of a frying-pan. His aim should be to keep the smell of cooking out of the cabin, and with that end in view he should see that the door of his galley is a close fit.

At the end of the other bunk, if there is room, there should be a small pantry in which the crockery can be stowed in compartments, to eliminate the risk of breakage. Messrs. Henry Hughes and Son stock a very neat pantry, which can be fitted to almost any small yacht's cabin by an amateur carpenter. The upper portion contains compartments for plates, cups and saucers, and a bread locker, the door lowering to form a table. The lower part comprises a cupboard containing five tin drawers for tea, sugar, butter, etc., and also a wire egg tray, meat tray, zinc drawer for knives and forks, and spaces for jampots, condensed milk, etc. Whoever was responsible for the design of this little pantry knew his business, for I do not see how it could be much improved upon. It contains everything that one wants in the most compact space, and, being beautifully finished with Cyprus panels and teak frames, it is quite a handsome piece of furniture.

One of the chief inconveniences experienced by the single-hander is that of getting his meals when under way. With the aid of a gimballed Primus stove and a Welbank Boilerette the cooking, as I have pointed out, presents but little difficulty, but unless the yacht be remarkably steady on her helm the owner will not care to leave her to her own devices whilst he retires to the cabin to eat. And so it comes about that he has his meal in the well and in the absence of a table puts up with a good deal of discomfort. His usual method of procedure is to put his plate and other things that he requires on the lee well seat, but this impromptu table is too far away to enable him to eat with comfort and also below the level of his knees. Moreover, it is quite possible that he may have to go about whilst the meal is in progress, an operation that will entail the removal of all the things to the opposite seat. Even when this has been done they will not be safe until the yacht is heeled on her new tack, and they must therefore be held whilst the vessel is in stays. It can be readily imagined that this is no easy matter when it is remembered that the yachtsman's hands are already fully occupied in holding over the tiller and tending the sheets. Sooner than put up with this inconvenience many men who sail alone prefer to do without a regular meal and merely stay the pangs

of hunger with a biscuit or stick of chocolate. This is "taking one's pleasure sadly" with a vengeance and not particularly wise either. One never knows when bad weather may overtake one and it is half the battle to be well fed. Years ago Captain Voss told me that he attributed much of the success of his wonderful single-handed voyage round the world in the dug-out canoe *Tilikum* to the fact that he always contrived to get a hot meal every six hours, and I believe he was right. It is therefore worth while to exercise a little ingenuity in devising the means of enjoying a meal in comfort whilst at the tiller.

All that is necessary to secure comfort and convenience in this direction is a suitable table. To keep two tables on board, one for the cabin and another for the well, would be a nuisance, and so the owner should set himself to design one that will serve equally well in either position. This should not present any great difficulty, but much will of course depend upon the yacht in which the table is to be used. Here is a suggestion that would, I think, be practicable in most small single-handers. When used in the cabin the table should be attached to the lining at the side of the yacht by hooks or angle-irons fitting in sockets, the other end being supported by legs attached to the top with hinges. These legs should jam in the angle formed by the floor and bunk riser. This form of table is quite satisfactory and will accommodate three people if necessary, one at each side and the other, who would be seated on the opposite sofa, at the end. The only objection to it is that the persons seated at the side have to sit more or less sideways, but that objection would not apply when the owner is alone, as he would naturally sit in the most comfortable place, namely, at the end. The top should be in two pieces hinged together to facilitate stowage. When used in the well, the table would be attached to the bulkhead, the legs jamming in the angle of the seats and bulkhead, or in chocks screwed to the seats if the adjustment of height required such a modification. The table should be surrounded by a deep coaming to prevent plates, etc., sliding off, and a circular hole could be made in one corner to hold a glass. I think a table of this description would answer the purpose admirably. When used in the well one could sit at it comfort-

ably on either side, and probably at the end also, and when in the cabin there would be a comfortable seat at the end. When not in use, the whole thing could be folded up and slung in straps attached to the side of the fo'castle, where it would be out of one's way. It may be said that such a table when fitted to the after bulkhead would block up the cabin doorway, but I do not think it would to any inconvenient extent. It must be remembered that the well seats in most small cruisers are rather high, which would necessitate the table being fixed fairly high up on the bulkhead. If one required to go into the cabin after the table had been placed in position, it would only be necessary to stoop and pass under the obstruction. My remarks do not, of course, apply to a shallow self-draining cockpit, but with a well of that nature it would be practically impossible to fit a table of any sort.

It is particularly desirable that a yachtsman who cruises alone should have a good light in his cabin, as in the absence of companions he is likely to read a good deal at night. I know of nothing better than a good paraffin lamp, which should have a wick an inch wide. In a small craft there is seldom, if ever, room for a hanging lamp, and so there is no alternative but to have one on a bracket, which must, of course, be gimballed. As a rule, it is possible to fit it to the mast, or bulkhead, and no better position could be found for a lamp. Being at the forward end of the cabin it is out of the way and not likely to get broken, whilst the position is ideal for reading in bed, a bad habit, perhaps, but none the less enjoyable for that. The worst of an oil lamp is that when one goes aboard at night one has to grope about in the dark ere a light can be obtained. This inconvenience could be avoided by having a little electric lamp, of, say, four candle-power, in addition to the oil lamp. It could be run from a Helleson battery stowed away in a locker and the switch could be fitted just inside the cabin door. When going on board after dark one could switch on the light before entering the cabin, and then light the oil lamp at one's leisure. If used only for this purpose, and in cases of emergency, the battery would last for many months and the whole arrangement could be fitted for about half a sovereign. An electric lamp such as I suggest

would be most useful when under way at night, as it could be switched on in a moment when it was necessary to refer to a chart or nautical almanac. As regards sleeping arrangements, there is nothing to beat the ordinary fo'castle cot composed of canvas stretched upon a rectangular frame of iron tubing. Such a cot is most comfortable, particularly when a horsehair mattress is used in conjunction with it, and can be folded back to the side of the yacht when not in use. The best feature, however, is that all the bedding and blankets can be stowed away in the cot out of sight. This is a great boon in a small cabin, as a large kit-bag is most confoundedly in the way. Some owners object to a cot of this nature in the cabin on the score of unsightliness, but by the exercise of a little ingenuity its presence can be completely hidden. The underside of the cot can be upholstered with similar material to that used for the sofa cushions, whilst the iron frame can be hidden by means of a polished teak frame. When folded back it will then have the appearance of an upholstered back to the sofa.

CHAPTER XIII

LIGHTS AND NAVIGATING INSTRUMENTS

NIGHT sailing is a contingency that must enter into the calculations of every single-handed yachtsman. Even if he confine his cruising to comparatively short coastwise trips from port to port, he can never rely upon making his appointed anchorage ere the shades of night close in. There is nothing more fickle than the wind—at any rate in this quarter of the globe—and the failure of the breeze often means missing a tide, with the result that the anchor must be dropped until the conditions become favourable again. It is essential, therefore, that every yacht, large or small, should be equipped with a proper set of lights. When one is alone, one cannot be perpetually leaving the tiller to trim and adjust lamps, and so they should be of the best quality and always kept filled and trimmed ready for immediate use. The coastwise cruiser uses his sidelights very seldom, and in consequence they are apt to be neglected. When wanted it is possible that they may require filling, and rather than take the trouble the yachtsman, if he has not far to go, as likely as not will elect to sail without lights. This is not only foolish but also illegal, as the Board of Trade regulations decree that they shall be carried between the hours of sunset and sunrise if the vessel is under way. The lamps a sailing vessel is required by law to carry when under way at night are as follows: On the starboard side a green light, and on the port side a red light, each showing an unbroken light over an arc of the horizon of ten points of the compass. They must be so fixed as to throw the light from right ahead to two points abaft the beam on their respective sides. The lights must be of such character as to be visible at a distance of at least two miles on a dark night with clear atmosphere. A white light must also be carried to show

over the stern when the yacht is being overtaken by another vessel. When at anchor, a yacht must show a white light visible all round the horizon for a distance of at least a mile.

Many owners seem to be under the impression that because their boats are small, the lamps should be small to match. Never was there a greater fallacy. If one give the matter a moment's thought it will be seen that the size of the lamps should be in inverse ratio to that of the yacht, for being fixed so close to the water they are not so readily seen as those of a big ship. I quite appreciate that large lamps are awkward things to stow in a small cruiser when not in use, but the prudent owner will put safety before convenience and get the best lamps that money can buy. When one recalls the tragedy of the ill-fated *Vesta* one is forced to the conclusion that sailing in small yachts after dark is a pastime attended by considerable risk; but, as I say, it cannot sometimes be avoided, and every care should be taken, therefore, to reduce the risk to a minimum by the use of efficient lights. It is now getting on for twenty years since my old friend George Beavis and his three companions were lost in the *Vesta*, but I still retain a clear recollection of the incidents connected with the fatality. The yacht, a particularly strongly built cutter, of some 10 tons T.M., was just concluding a highly successful cruise in the Channel with a little trip to the Orwell, when she was run down and sunk in the neighbourhood of the West Rocks by some vessel whose identity has never been revealed. It was a brilliant moonlight night, and *Vesta* was wooing a gentle breeze with a big spread of canvas, which included a large club-headed topsail of the old-fashioned type. This we learnt from the wreckage that was subsequently picked up. That she was run down by some large vessel was proved beyond doubt, as a portion of her deck and covering board was found literally cut in halves. Whether *Vesta* was carrying her lights will never be known with certainty, but in my own mind I feel confident that she was. George Beavis was far too good and experienced a seaman to be casual in that respect, even on a moonlit night. And they were particularly good lamps, and of far larger size than one usually sees in a small yacht.

Mr. Beavis's father offered a handsome reward for the discovery of the vessel that had run down the yacht, and although it was extensively advertised in the shipping papers, the reward was never claimed. It was suggested at the time that the ship that collided with *Vesta* was some big liner which had run over her without any of the crew being aware of the fact. Whether that would be possible I cannot say, but all the same, it is an uncomfortable reflection that small yachts may be run down and left to their fate by big steamers. Anyhow, the loss of *Vesta* with all hands on a brilliant summer's night stands out as a terrible warning to all small boat sailors to sail no more after dark than they are obliged, and to carry none but the best of lights to reduce the danger to a minimum.

Sidelights are carried in screens attached to the main rigging, and in the majority of small yachts, I should say, in a manner that does not conform with the regulations. The law says that they shall be so carried that the starboard light cannot be seen across the bow on the port side, and ***vice versa***, and in order to prevent the lights being seen across the bow it is ordained that the screens must project at least 3 feet forward from the light. How many 5-tonners have screens of such length, I wonder? Not many, I should say. But even if the screens are of regulation length it does not follow that they will fulfil the purpose for which they are designed. In the first place, the shrouds of small yachts usually come on the turn of the bow, thereby rendering it extremely difficult to fix the screens exactly parallel with the keel, even if chocks of wood be inserted between the screen and the foremost shroud. Then, again, when the yacht is on a wind the lee shrouds are quite slack, and there is a tendency for the screen attached to them to waggle about, permitting the light to show intermittingly across the bow. The most ingenious device I have seen for preventing this is one introduced some years ago by the late Mr. G. U. Laws. It takes the form of an iron rod with the ends bent back at right angles. The sidelight screens are attached to the bent-back ends, which are secured to the shrouds (Fig. 15). When in use the fitment is attached sufficiently high up to clear one's head when going

forward, and being a few inches away from the mast it does not interfere with lowering the mainsail.

The best and most convenient fuel for the lamps is, to my mind, paraffin, and it possesses the advantages of being cheap and procurable anywhere. The lamps should be of the "windproof" type, which have a glass cone inside (Fig. 15). The riding light should be fitted with a dioptric lens, but the lenses

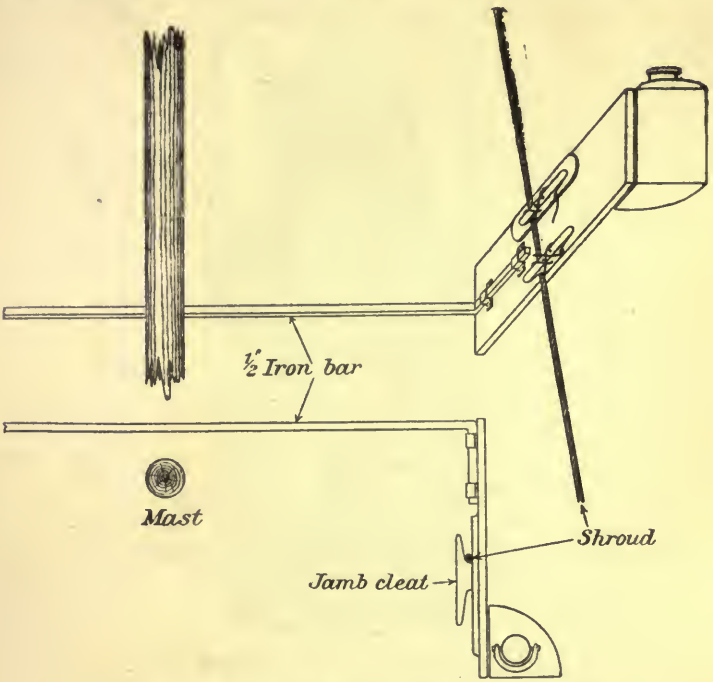


FIG. 14.—LAWS' SIDELIGHT SCREEN ATTACHMENT.

of the sidelights should be prismatic. The dioptric is the more powerful lens of the two, but is not suitable for the sidelights of fore-and-aft sailing craft, as, when such vessels are heeled, that particular form of lens has a tendency to throw the beam of light down on to the water. The windproof type of lamp can be obtained at almost any yacht chandler's, and is by far the most efficient I have ever seen. It will burn steadily in a gale of

wind, and I have never known one to be jolted out by the motion of the yacht. These lamps can be bought with plain lenses, but the dioptric and prismatic lenses are well worth the extra money.

It is particularly important in a small yacht to have a good compass, and in this connection it may be remarked that nothing

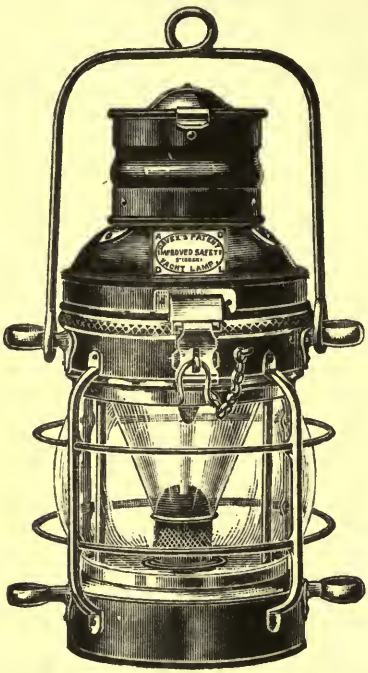


Fig. 15.—The Windproof Anchor Lamp.

but a spirit compass is of the slightest value. The motion of a small cruiser in a seaway is very lively, and the card of an ordinary compass oscillates so violently as to render it practically unreadable. The card of a spirit compass, on the other hand, floats in glycerine, which tends to make its movements very sluggish, and it is therefore little affected by the motion of the boat. If the owner buys a spirit compass of fair size he cannot go far wrong, but to procure a small binnacle that is

efficient is often a very difficult matter. The fault of most binnacles made for small yachts is that the lamp will not burn in a breeze; many, indeed, will not keep alight on a calm night. A binnacle lamp that goes out is a curse and instead of tinkering about with such a lamp and losing one's temper in the process it is better to scrap it and substitute a night light or piece of candle. Once, for my sins, I had one of these toy binnacles, and nothing I could think of would induce the wretched colza lamp to burn. It was in the boat when I bought her, and foolishly enough I did not test it until the compass was urgently wanted.

About ten minutes after I had lit it the lamp flickered and gave up the ghost, and although I tinkered about with the thing for the best part of an hour, I failed to effect a cure. In the end I took out the lamp and substituted a piece of candle, which I renewed from time to time. It was a fine night and we were bound from the Crouch to Lowestoft, and with only a gentle breeze the candle burnt bravely. My companion, who was seated in a corner of the well with his legs stretched out before him, soon dropped off to sleep and snored contentedly for several hours. When day broke I discovered that the candle grease had been steadily dripping from the bottom of the binnacle on to his feet, with the result that one of his boots supported a small mountain of white grease. He was awakened by my laughter, but, I regret to say, quite failed to appreciate the joke, possibly because he happened to be wearing a very nice pair of new brown boots. The moral of this little story is that if you have to make use of a night light or piece of candle in your binnacle lamp be careful to place something beneath it to catch the grease, for it might otherwise fall on your own shoes. I have had a good many binnacles in my time, but only one that I can remember as being really efficient. That particular one was of the Lifeboat pattern made by Henry Hughes and Son (Fig. 16), and had a paraffin lamp on its side fitted with a Barton burner. These burners, which have a little porcelain cup round the wick in lieu of a glass, are excellent, not only for binnacles but also for sidelights and other purposes. My Lifeboat binnacle lamp burnt

splendidly in any weather, and as the lamp had a glass front and was attached to the body of the binnacle with hinges, it could be turned back and used as a lantern if one wanted to refer to a chart or look at one's watch.

The implements required for navigating a yacht along the coast

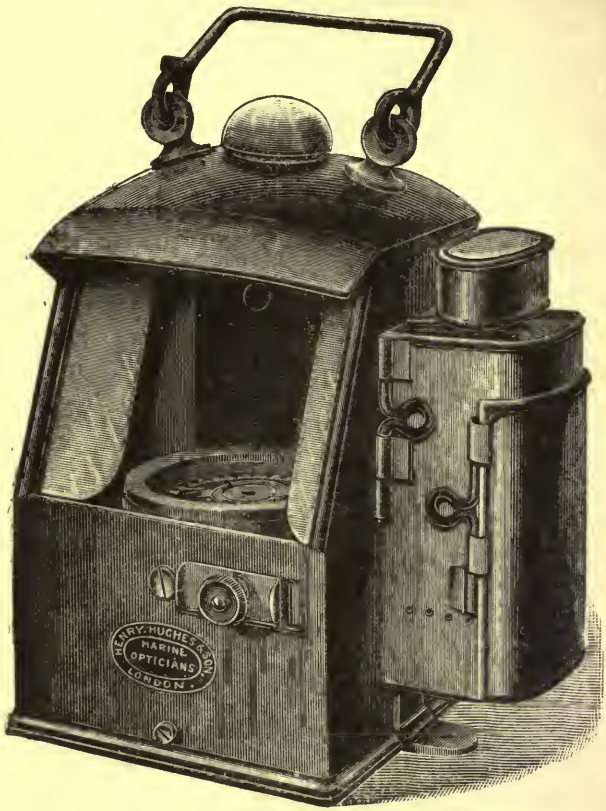


Fig. 16.—The Lifeboat Binnacle.

are neither numerous nor costly to buy. In addition to a good compass one needs but a lead and line, a few good charts with large scale plans of harbours, and a nautical almanac containing particulars of the buoys and lights. With these one can go practically anywhere round the coast, or across the Channel or

North Sea for that matter, provided that one is blessed with an average amount of common sense. A sextant is not needed to find out where you are when you can see through your glasses the ladies bathing from machines on Margate sands. Moreover, it is not easy to "shoot the sun" successfully when the boat is dancing about beneath your feet like a maritime Pavlova. Years ago a man I know went for a cruise down Channel in a 10-tonner with some friends, and as he was mugging up navigation with a view to taking a yacht owner's master's ticket, he took a sextant away with him. One morning, when they were passing Hastings, he brought it on deck to "shoot the sun," what time his admiring companions watched him with bated breath. Then he retired to the cabin to work out the position. After waiting for their lunch for something like two hours the rest of the party thought they would be justified in interrupting the labours of the budding Columbus and so went below. They found him surrounded by books and tables and sheets of paper covered with figures, which he tried to hide with a somewhat guilty air. For a long time he declined to satisfy their curiosity as to the yacht's position, but at length, mellowed by a good lunch, he yielded to their demands. "Well, the fact is," he said, "I think there must be something wrong with the sextant. I've worked it out most carefully, and according to my calculations we are bang in the middle of the Island of Madeira."

Nothing is more exasperating to use than a rolled chart, particularly when one is single-handed and wants to consult it whilst at the helm. Even when flat a big chart is awkward to handle under such conditions and the single-hander, if wise, will cut his charts up into sections and have a frame to put them in. A photographic printing frame of large size will answer admirably if the chart is cut in sections to fit it. The frame should be attached to the bulkhead in such a position that the chart can be easily seen when the owner is at the helm. If the frame is glazed the chart will not be spoilt by rain or spray. Another useful implement to carry in a small single-hander is a light sounding pole. When working up a narrow creek one has to

take soundings quickly and accurately and that is not easy to do with a lead when there is only one hand available to heave it with. A bamboo rod of about 7 feet in length can be worked comfortably with one hand and is much quicker to operate than the usual lead and line. The rod should be marked with a painted ring at every foot so that the sounding can be ascertained at a glance.

CHAPTER XIV

OCEAN CRUISING

HITHERTO I have confined my remarks to single-handed cruising in small craft round the coast, as the majority of men who sail alone are those who have but the week-ends and perhaps two or three weeks in the course of the summer to devote to the pastime. There are certainly a few adventurous spirits who cross wide seas to distant lands, often alone or with only a passenger as companion, as a glance through the records of the Royal Cruising Club will show. Owners who practise this form of single-handed cruising, however, are for the most part pastmasters of the game, and beyond the reach of any hints or advice that I can give them. Then, again, there have been men who have made extended single-handed voyages for professional purposes, such as Captain Voss and Captain Slocum, both of whom journeyed round the world alone. Even these professional practitioners can be divided into two classes, those who have a definite purpose of some utility in view and those who are out merely to create a public sensation. These latter as a rule select for the purpose something eccentric in the way of a craft. There was Captain Andrews, for instance, who years ago made trips across the Atlantic in small open boats, and, if my memory be not at fault, came to grief in the course of his last venture. Another even started to cross the Channel on a plank, but I forget what happened to him. Such trips as these do not appeal to the yachtsman in the least, for they serve no useful purpose, and cannot by the greatest stretch of the imagination be characterised as sport.

The trip round the world made some years ago by Captain Voss must, however, be placed in quite a different category, as it was undertaken with a specific object of considerable utility and must rank as one of the greatest nautical feats on record.

Captain Voss had invented an improved form of drogue, or sea-anchor, which he was anxious to exploit. It was his contention that, equipped with this drogue, almost any boat could go practically anywhere in any weather. In proof of his claim he decided to voyage round the world in the most unsuitable type of boat for the purpose that he could find. His choice ultimately fell upon *Tilikum*, an old dug-out canoe hewn from a cedar-tree by North American Indians some forty years previously. She was about 30 feet long with a beam of only 6 feet, her depth inside being 2 feet 6 inches. Captain Voss fitted a false keel and decked her all over, with the exception of a small cockpit. With a 14-inch coachroof the headroom of the tiny cabin was increased to 3 feet 8 inches, and she was rigged as a sort of three-masted schooner. Most yachtsmen would look aghast at such a vessel, and I, for one, should be sorry to have to sail her from the Crouch to Harwich. Yet in this old tramp Captain Voss spent something like four years, during which period he covered forty thousand miles of open ocean. In the course of his long and adventurous voyage he rode out sixteen great storms to his sea-anchor in safety. Captain Voss, a quiet, modest little man, whom I had the pleasure of meeting on several occasions, told me that although he at times encountered seas of 40 feet in height, the boat did not on any occasion ship as much as a bucketful of water.

To the uninitiated it may seem somewhat foolhardy to venture far from the land in a small yacht, but as a matter of fact it is by no means so dangerous as might be thought. When one gets away from shoal water the seas are big, but they are also for the most part regular. A small vessel is not too long to ride on the side of such a sea, and consequently will often make better weather of it than a craft many times her size. Provided that she can be kept end on, or almost so, to the seas, a little boat will live through almost any weather in mid-ocean, and it is only in shoal water that she is likely to be in serious danger. The late Mr. McMullen made some very interesting remarks in "Down Channel" on the subject of the character of waves, which should be read by every yachtsman. He draws attention to the folly of running for a port under one's lee when caught

out in bad weather, and quotes instances of smacks being lost in shoal water. "It is better to face the gale," he tells us, "however small the vessel, than to run for a lee shore. I am convinced that unless a small vessel, especially an open one, can be got into harbour before the sea becomes very heavy, there is more safety in keeping the deep water and in not attempting to approach the land at all where, owing to shallow water or currents, the sea will generally be found more dangerous."

Features that are desirable in a craft intended for short coastwise trips and estuary sailing may be just the reverse in a yacht used for long open water cruises. A large well, for instance, makes for comfort, and is appreciated by the yachtsman who confines his sailing to little passages from port to port when the weather is fine, but it would be a source of danger in a vessel that ventures far from the land. Long overhangs, too, are unsuitable for open water cruising, as they are inclined to slam, and boats of that type usually have their forward under-water body unduly cut away. A certain amount of forefoot is necessary to enable a yacht to lie hove to comfortably, and in that respect the old-fashioned craft with straight stems are far superior to the modern yachts, but they are not, of course, either so fast or handy. A small ocean-going cruiser should, I think, be something of a compromise between the two types, and should certainly not be extreme in any respect. As such a yacht is not likely to visit harbours or crowded anchorages very often, she may with advantage be rather larger than would be desirable if there were much anchor work to be done. A snugly rigged 10-tonner should not be beyond the capabilities of an amateur of fair experience, and a craft of that size can be depended upon to take care of herself a bit in bad weather. But be her size what it may, it is essential that her gear should be exceptionally strong and its condition beyond suspicion, for an owner cannot afford to take risks of carrying away gear when far from the land, and perhaps out of the track of other vessels. The inventory should include an ample supply of bo'sun's stores, so that any damage that may occur can be made good, or at any rate temporarily repaired, at sea. But it is not of much avail carrying the necessary materials if you do not know how

to use them, and so the owner of a small single-hander should not embark upon an extended cruise until he has made himself fairly proficient in marlinspike seamanship.

Every small yacht that goes cruising far from the land should carry drogue, or sea anchor. It may be kept on board for years without being wanted, but should the occasion arise it might be needed very urgently indeed. In heavy weather it is far safer and more comfortable to ride to a sea anchor than to be hove to, for the close-reefed sails of a small yacht are apt to be becalmed when the vessel is in the trough of a big sea, and it is usually necessary to place a man at the helm to control her when hove to. When the little craft is riding to a drogue the helm can be left with safety, and the single-handed sailor thus has an opportunity of getting some much-needed rest. And it is not only when caught out in heavy weather that the drogue can be usefully employed. It can be dropped over the stern to check the way of the boat when berthing alongside a quay and also to steady her when running before a high sea. Occasionally, too, one has to pick up a mooring in a strong wind with a weather-going tide, when the yacht carries far too much way even under bare poles. By towing the drogue astern, her way can be checked at will, and a difficult manœuvre is thereby rendered comparatively easy. The old-fashioned drogue, which consisted of a conical-shaped canvas bag sewn on to an iron ring, was a very awkward thing to stow in a small yacht, even when the ring was jointed to permit of its being folded, and that invented by Captain Voss is a vast improvement from the stowage point of view and also as regards general efficiency.

The canvas bag of the Voss sea-anchor is pyramidical in shape, the mouth being kept extended when in action by means of two cross-bars of hardwood bolted together in the centre. When not in use the bars may be folded up, and the canvas bag having been wrapped round them, the whole thing can be stowed in a neat case. The bag has a small hole at its apex to relieve the pressure of water on the canvas and steady the drogue. The riding warp is secured to the mouth of the drogue by means of a bridle, and a tripping line is attached to a becket at the apex end. A piece of lead of sufficient weight to sink the drogue

just below the surface is sewn to the canvas on one side near the mouth, and this also keeps the drogue from revolving when in use. The yacht should ride to the drogue on a scope of about eight fathoms. Captain Voss recommends that a small sail should be set aft to assist the vessel to ride steadily, the sail being sheeted hard in. In the case of a ketch or yawl a small mizzen can be set, but in a cutter or sloop a small storm jib must be used with the tack bent to the boom, or amidships on the counter, and the clew sheeted forward. Thus equipped a small yacht of good design should be able to ride through practically any weather with little, if any, attention from the crew.

The drogue can also be used with advantage when running before a high and dangerous sea. Under such conditions there is a risk of the yacht, when hurled forward by the scend of the sea, broaching to, and the drogue, if towed astern, can be employed to prevent this. When used for this purpose the drogue is towed, apex first, by the tripping line at a distance from the vessel of about 25 feet. Being capsized the drogue slips easily along the surface of the water, the balancing weight keeping it steady, thus eliminating the possibility of the warp and tripping line fouling each other. When a dangerous-looking sea overtakes the yacht the tripping line is slacked up when the sea is still some 30 feet distant. The drogue then comes into action and checks the vessel's way, with the result that the sea passes harmlessly beneath her. When the wave is well under the boat and the danger of her broaching to has passed, the drogue can be tripped again. By repeating the operation on the advent of every dangerous sea a small yacht can be run in safety to a port under her lee, which in the absence of a drogue would be a highly dangerous proceeding.

A sail that has returned to favour of late years, particularly in small sea-going cruisers, is the squaresail. A century ago, almost every fore-and-aft rigged vessel carried a large square-sail, but it was superseded in the 'fifties or early 'sixties by the spinnaker, a sail first introduced by the yacht *Sphinx*. For ordinary purposes the spinnaker is the more efficient running sail, provided that there are sufficient hands on board to handle it,

but for single-handed work the squaresail will be found more useful. When it comes to heavy weather there can be no comparison between the two, as the squaresail is easier to set and stow, and can be used without the mainsail. When running before a strong wind and high sea under a mainsail there is always a risk of an accidental gybe, however skilful the helmsman may be, and such a gybe usually brings disaster in its train. Running under similar conditions under a squaresail, with the mainsail stowed, is infinitely safer and more comfortable, for there is no boom to gybe, and there is also less tendency to broach to. As the squaresail can often be used with advantage in light and moderate winds, the sail should not be made of too heavy material, and it should be of fair size. The yard should be about four-fifths of the hoist of the mainsail in length, whilst the sail should have a row of reef points, whereby its area can if desired be reduced by about a third. The yard should have a wire sling to which the foresail halyard can be attached when setting. For convenience in setting the yard should also be shackled to the forestay. At one end of the yard there should be a thumbcleat, and at the other end a hole. One end of the head of the sail is secured to the yard by means of a rope grommet, and the other set up with a lacing spliced into the thimble of the sail and rove through the hole in the spar. The most convenient form of lacing for the head is a number of short lengths of hambro line attached to the eyelets. Although principally intended for use in heavy weather the squaresail can often be effectively employed in light winds in place of a spinnaker. When thus used, one clew should be pushed outboard by means of a pole with a spike on its end, which is passed through the cringle of the sail. The inboard end of the pole can be secured to the mast by means of a rope snotter, as in the case of a small boat's sprit. By adopting this method the effective area of the sail is considerably increased, and the squaresail will be almost as serviceable as a spinnaker and far more easy to handle.

CHAPTER XV

SEAMANSHIP—GETTING UNDER WAY

Whether one sails alone or with a full complement of hands the general principles of fore-and-aft seamanship must be adhered to, for to attempt to make any departure from recognised practice is to ask for trouble. But when one is solely dependent upon one's own pair of hands it is obvious that more time will be required to carry out the operations than would be the case if one had several assistants. In practice, therefore, the single-hander often has to employ rather different methods than would be adopted in a fully-manned vessel to obtain the same results, and a few hints on the handling of a small yacht, say a 5-tonner, when alone, may not be out of place. It cannot, however, be too clearly impressed upon the novice that as the action of wind and tide cannot be altered, no departure from the general principles of seamanship must be attempted; it is only in the method employed to secure a certain result that any latitude is permissible. As it is always best to commence at the very beginning of things, we will assume that the owner of such a craft has just boarded his vessel with the intention of setting out on a short cruise, and briefly consider the various operations he is likely to be called upon to carry out.

Even if he is only going away for a couple of days, the owner will have brought with him a certain quantity of provisions, and if he is wise, he will stow them away in their allotted places as soon as he gets on board. If he just dumps his supply of stores in the cabin, with the idea of stowing the things properly when under way, it is quite likely that they will be forgotten until he brings up again. Should this occur, it is not improbable that he will have to resort to a dustpan and brush to collect a considerable portion of his provisions, and in consequence have to go hungry for the remainder of the trip. It is, therefore, prudent

to form the habit of always stowing away food before getting under way. And it should be so stowed as to eliminate any risk of its subsequently getting adrift. I once had a lesson in that respect that I have never forgotten. I joined my boat one afternoon at Brightlingsea, and being anxious to save my daylight to Pin Mill, had a hasty tea and bundled the things anyhow into a locker. There was a fresh breeze against the tide which had knocked up a jabble of sea in the Wallet, and when I reached my destination I found a sorry state of affairs in the cabin. A large tin of condensed milk and a shilling pot of cream that I had opened for tea were standing on their heads in the locker, and had distributed their contents in the most impartial manner over everything in the locker, and also over the bunk cushion and Turkey rug on the floor. I don't think I have ever had a more loathsome job than cleaning up the filthy mess. I sacrificed in the process all the cotton waste on board, the tea cloths, and what newspapers I could find, to say nothing of the mop, and even after two hours' hard work the result was far from satisfactory. For days afterwards, I found traces of condensed milk, and everything I touched was sticky. I know of nothing more clinging than condensed milk of the sweetened variety, and ever since that unfortunate episode, I have made a point of always housing an opened tin in a jug before getting under way. Steps should also be taken to cover securely pots of jam and marmalade, which, if upset, will make nearly as much mess as condensed milk. With this end in view the parchment paper covers should be preserved when new pots are opened and tied on again before they are stowed away.

The dinghy should also receive attention before getting under way. There is seldom room on a 5-tonner's deck to carry a boat, and unless one has a collapsible dinghy it must be towed. In this connection, I would remark that it is folly to go cruising without a dinghy of some sort, for one never can tell when it may be urgently wanted. Moreover, it is a miserable state of affairs being without the means of going ashore when one puts into port. If the passage is likely to be a rough one, it is best to tow the boat on two short painters made fast to the yacht's quarters, as she will tow much steadier thus than if only one

long painter is used. A weight in the stern of the dinghy is also an aid to steadiness—the kedge will do very well if no other weight is available. A dinghy towed on a long painter is a nuisance, and even a source of danger, when the yacht is running before a following sea, as it has a way of charging down on to the yacht on the scend of a sea in the most alarming manner. Should it hit the counter, it is quite possible that the bow of the dinghy may be stove in, and then there is no alternative but to cut her adrift. With two short painters, even if the dinghy hit the yacht, the damage would not be serious, as the drift between yacht and dinghy would be insufficient to allow of the latter attaining any great momentum.

Having stowed away our stores and secured the dinghy, we can now see about getting the yacht under way. If the boat has white canvas the first thing to do is to remove the mainsail cover, which should be carefully folded up inside out, as it is taken off, so that it will be ready to put on again when bringing up. It is the usual practice to have one long lacing for the cover, but it is far more convenient to have it in a number of short lengths. Any form of lacing, however, is apt to be a nuisance, and I see no reason why some sort of patent clip should not be used instead. There is a certain little clip fastening used on ladies' blouses—the married reader who is occasionally asked by his wife to "do me up behind," will know quite well what I mean—and it seems to me that a similar fitment on a large scale would be just the thing. I believe they are known to drapers as "press studs," and if they could be obtained of sufficient size and strength they would be far more convenient and much neater than any lacing. The sail coat would, of course, have to be large enough for the edges to meet easily beneath the boom. Having removed the cover and stowed it away in its appointed place, the main and peak halyards can be shackled to the gaff, the mainsheet overhauled a few feet, and the boom topped, care being taken that the boom-crutch does not fall overboard in the process. Then the headsails can be bent on. If they are fitted with the Wykeham-Martin furling gear, as they should be in every single-hander, they can be hoisted furled, but if that useful fitment is not included in the yacht's equipment,

the jib and foresail should be sent up in stops. This is quite a simple matter. The sail is first spread out on deck and the clew pulled over until it just overlaps the luff rope. The sail is then rolled up neatly and secured at intervals of about 2 feet with rope yarns or thin seaming twine. When thus made up a headsail somewhat resembles an elongated sausage. When the sail is hoisted the sheets should be quite slack, otherwise the stops might be prematurely broken. For the same reason the purchase should not be used until the sail has been broken out. When both jib and foresail have been set in stops and the burgee hoisted, attention should be directed to the mainsail again. All the canvas tiers except that holding the bunt of the sail can now be removed and stowed away in the sail locker. Everything will then be in readiness for getting under way.

The method employed in getting the yacht under way will depend upon the direction of the wind and tide and also upon the position of any obstructions to sea room, such as vessels at anchor in the near vicinity. It may, however, be taken as a general rule that when the wind is forward of the beam the mainsail may be set before getting the anchor or slipping the mooring, as the case may be; but should the wind be on or abaft the beam, the ground tackle must be raised or slipped before making sail. If in the latter case the order were reversed the yacht would drive up over her anchor, rendering it impossible to break it out. Even when riding to a mooring it is unseamanlike to set the mainsail first when the wind is abaft the beam, as the topside paint of the yacht's bow might be badly scraped by the chain, and the boat would charge about all over the place. Moreover, slipping a mooring chain under great strain is attended by considerable risk to one's fingers. A yacht will show the same tendency to drive up over her anchor or mooring when the wind is on the beam, but with less force, and so it is not advisable to set the mainsail under such conditions unless there are exceptional circumstances to contend with. If, however, there is not much weight in the wind, and the mainsail will be wanted quickly to extricate the yacht from a tight place, the sail may be set with the peak lowered and the boom run right off.

The most convenient conditions for getting under way are

when the yacht is riding head to wind and tide to a mooring, as one can then set the mainsail first, and get the halyards coiled down before starting. We will therefore assume that such conditions obtain and proceed to get our vessel under way. First we set the mainsail, seeing that the gaff goes up at right angles to the mast, until the throat is almost in position. Then we belay the peak halyard for a moment whilst we "sweat" on the main until the luff of the sail is as taut as we can get it. Turning our attention to the peak once more we hoist it until the merest suggestion of a wrinkle appears in the throat of the sail, and then we belay it and proceed to coil down both halyards. In this connection it may be remarked that halyards, and, indeed, all ropes except those which are cable-laid, such as lead lines and some hemp warps, must be coiled "with the sun" or clockwise, otherwise they will kink and not render freely through the blocks when the sails are lowered. The coils of the halyards can be tucked behind the standing parts to secure them from being washed overboard when the yacht is under way. The headsails will already have been set, either in stops or furled with the Wykeham-Martin gear, and so we are now ready to leave the mooring. Taking a preliminary look round we notice that there is another craft brought up inconveniently close to us on the starboard hand, so we decide to cast to port, or in other words to fill on the starboard tack. First we stream the mooring buoy, passing it under the starboard bowsprit shroud clear of everything. Should the mooring happen to be belayed on the other bow, we must pass the buoy across the bow and under the bobstay. When streaming the buoy we keep the buoy-rope in hand, as we shall want it to assist the yacht to pay off. The mainsheet has been overhauled a few feet and belayed and the topping lift slacked up when the mainsail was set, so there is nothing left to do but to get away from the mooring. Grasping the buoy-rope firmly with the right hand we slip the chain with the left and then as the chain goes over the bow we haul vigorously on the buoy-rope as we walk aft. This will have the effect of canting the vessel's head in the desired direction, and when she begins to pay off nicely we let go the buoy-rope and break out the jib to windward.

Then we jump aft to the tiller, let the jib draw, and break out and sheet home the foresail. We are now under way with the yacht well in hand.

Had we been riding to an anchor instead of to a mooring we should have had to proceed in a rather different manner. Getting under way from an anchor when head to wind and tide is a quite simple matter in a fully manned vessel, as for a moment or two after the anchor leaves the ground the craft, drifting slower than the tide, will respond to the action of her rudder. When there is a man at the anchor chain and another at the helm the rudder can be put over as the anchor leaves the ground and the vessel's head will pay off in the desired direction. But when one is single-handed one must of necessity leave the tiller in order to break out the anchor, and by the time one gets back to the helm the vessel will have gathered sternway and, drifting as fast as the tide, will no longer answer to her helm. If there is plenty of sea room all round the yacht, the best method of procedure is, I think, to break out the anchor and make fast the chain temporarily. Then step aft to the tiller. By this time the yacht will have gathered sternway and with the mainsail slatting in the wind, will be driving astern faster than the tide. She can therefore be steered as desired, but as she is going astern the helm must be reversed. As we want to fill on the starboard tack we port the helm, break out the jib to starboard and belay the sheet. The yacht is now hove to on the starboard tack and we can go forward to haul in the rest of the chain and get the anchor on board. When this has been done we go aft again, let draw the jib and set the foresail.

Now, supposing that other vessels were brought up astern of us, or there was a mud flat near by, we could not with safety make use of sternway. Under such conditions one wants to go ahead rather than astern, and if there is sufficient wind to beat over the tide, the best way is to sail out the anchor. In view of the fact that the single-handed yachtsman cannot be at both helm and anchor chain at one and the same time, this would appear to be a somewhat difficult operation, but as a matter of fact it is quite simple. I have frequently practised it with great success in various single-handers that I have owned.

My method is as follows: I set mainsail and jib, sheeting the latter just a trifle a-weather. This causes the yacht to forge ahead until the anchor is nearly abeam. One can then pull her head round by hauling on the chain, and when she fills on the other tack she will sail right over the anchor. As she sails one rattles in the chain hand over hand until the vessel is over the anchor. Then one snatches a turn of the chain round the bitts and the yacht sails the anchor clean out of the ground. Then "fist up" a few fathoms of chain whilst the vessel still carries her way and dash aft and put her about, leaving the jib sheet belayed to windward. The yacht is then hove to on the other tack and the anchor can be stowed at leisure. The charm of this method is that the yacht is made to do all the heavy work herself, and going ahead all the time leaves the obstruction further and further astern.

Hitherto, in discussing the question of getting under way, we have assumed that the yacht lay in a more or less clear berth, but it is quite within the bounds of possibility that the single-handed yachtsman may at times find himself hemmed in on all sides by other craft. He would, when bringing up, naturally select a berth that would present no difficulties when getting under way, but other craft may come in and anchor near by later on, and so there is always a chance of being hemmed in, particularly when visiting a favourite anchorage. When one has a crew to assist in the handling of the boat it is by no means an easy matter to get clear of a crowded anchorage in a tideway, but when one is alone it is sometimes an extremely difficult, even dangerous, business. Still, to be penned up when one wants to make a passage is not to be thought of, and so one uses one's skill and judgment to best advantage and trusts to Providence to bring one through without mishap.

If the yacht is riding to a mooring the problem is much simplified, as the vessel can be swung in any desired direction, but should the tide be strong, the near presence of other craft may render it dangerous to attempt to beat out under mainsail and jib, as one might get athwart some other craft. Let us assume that the yacht is riding to a mooring head to wind and tide in a crowded anchorage. The safest method of getting her

under way would, I think, be as follows: Get the mainsail ready for hoisting, casting off all tiers except that holding the bunt and set up the topping lift. Then hoist the headsails in stops, or furled with the Wykeham-Martin gear. Now lead the mooring buoy-rope outside of everything so that it is all clear and belay it securely on the yacht's counter or stern. Now slip the mooring chain and let the vessel swing right round until she rides by the stern. The buoy-rope can then be cast off and the jib broken out. Run under the jib until clear water is reached, when the mainsail can be set, the yacht being luffed to facilitate the setting of the sail. Should there be other craft brought up very close astern a slight modification of this plan may be necessary, for it must be remembered that when riding to the end of the buoy-rope the mooring will probably have a very long scope. If the yachtsman has any doubt as to there being sufficient room for his vessel to swing clear of the craft astern he should, when the mooring chain has been slipped, run aft and haul vigorously on the buoy-rope, getting in as much of it as he can whilst his boat is swinging.

Should the yacht be riding to her anchor under similar circumstances the owner will find the position a very trying one. If the ground is clear of moorings the most seamanlike method of extricating the vessel would be by what is known as "dredging." To carry out this manœuvre the chain must be hove short until the anchor commences to drag. As the boat is moving slower than the tide she can be steered clear of obstructions astern. This method is often used by the Thames bargemen and I have occasionally watched barges with all their gear on deck being thus dredged through London Bridge. It is, however, rather a tedious operation to carry out single-handed, as the chain requires constant attention. As the depth of water varies so must the chain be hauled in or paid out to keep the anchor just trailing on the bottom. This necessitates constant journeys between tiller and chain, and as, moreover, one can never be sure in a strange anchorage that the ground is free from chains, it is better to resort to other methods if possible. Let us look round for a moment and consider our position. There is a craft brought up on either side of us and several others close astern. Our boat

is riding to her anchor head to wind and tide. It is obvious, that if we attempt to get away under mainsail we shall be in risk of fouling one or other of the vessels around us and so we decide to resort to other means. If the anchor is not too heavy to be broken out by hand, the simplest plan will be to get it over the stern. To do this we first heave short and then bend a warp on to the chain outside of the fairhead. This warp is then led outside and clear of everything to the counter, where it is securely belayed. The anchor chain can then be slacked away until the yacht rides stern first just by the warp. We then get up the anchor, break out the jib, and run between the vessels astern until we have sufficient room to luff up and set the mainsail. The only objection to this method is the trouble of carrying the anchor and chain forward afterwards, and there is also some risk of the topside being scraped by the chain when getting the anchor.

Another method would be to make use of the craft brought up alongside. The boat nearest to us is on our starboard side and so we decide to make use of her and swing our own vessel to port. With this end in view we first heave short and then run a warp off to the other craft. If there is anyone on board of her to cast off the warp when required, well and good; if not, we must use a very long warp and double it so that both ends can be made fast on our own yacht. The best plan will be to make fast one end of the warp on our counter, and then run it off to the other yacht and pass it round her shrouds, bringing the end back with us. By casting off one end we can get away when we please, but it is advisable to use a rope that is free from knots to avoid the possibility of its fouling. Having made these preliminary arrangements, we break out the anchor and rattle it up to the stemhead hand over fist. Then we jump aft and break out and belay the jib to starboard. By hauling on the warp we assist our craft to pay off to port, the helm being put over to port for sternway. When the boat has swung sufficiently far round for our purpose we slip one end of the warp, or request those on the other vessel to cast it off, as the case may be; let the jib draw and right the helm. When we have run clear of the vessels astern, we can set the mainsail at our leisure.

It is possible, however, that we may be so hemmed in that the only safe way of getting from our tight place is by warping clear ahead of all the other vessels brought up near us. This is likely to be a tedious and tiring business, but with patience it can be successfully accomplished, even when single-handed. The anchor chain is first hove short, and then the kedge-anchor on a long warp is carried out in the dinghy and dropped ahead. Having got the anchor, the yacht is hauled out to the kedge and the anchor dropped again. By repeating the operation time after time, we can extricate our craft from her hampered position, but, as I say, it is a very tiring and slow operation. It is one, moreover, that is not free from danger if carelessly carried out, and more than one single-handed yachtsman has lost his life whilst engaged in warping. Most small single-handed cruisers have diminutive dinghies quite unsuitable for laying out a heavy kedge and a little lack of care is sufficient to capsize the boat. Experienced men who should know better sometimes just dump a kedge and warp into the dinghy and row out as far as the length of warp permits. Then they stand up with the anchor and heave it overboard. Should the water be at all rough there is grave risk of the man going overboard with it, and when one is sailing alone one cannot afford to take such risks. In many cases this is not done from lack of knowledge, but from sheer laziness, and I am afraid that the most experienced men are not infrequently the most casual in this respect. The only safe way of laying out a heavy kedge with a small dinghy is to sling it over the stern by a line so that it can be slipped when required. The warp should be neatly coiled down in the dinghy so that it is free to run, the speed at which it runs out being controlled by one's foot as the dinghy is pulled away from the yacht. This method is absolutely safe and infinitely more seamanlike than some of the slap-dash performances one often sees.

The most favourable conditions for getting under way are when the wind is aft or on the beam, as in such circumstances one can slip the mooring or get the anchor before setting any canvas. A headsail can then be broken out, and the yacht run under it until clear water is reached. Should the wind be on the beam and of insufficient strength to enable the yacht to stem

the tide under headsails alone the mainsail can be set with the peak lowered before getting the anchor, but the boom should be run right off so that the sail holds but little wind. As soon as the anchor leaves the ground, or the mooring chain has been slipped, the peak can be hoisted and the mainsheet trimmed.

CHAPTER XVI

SEAMANSHIP—UNDER WAY

Now that we are under way, and have safely extricated our craft from her hampered berth, we can put her on her course. If we are on the wind and our course lies to leeward, we must bear up, and if necessary gybe. Should there be much weight in the wind we must gybe with care, or otherwise we may carry away some gear. When one is alone, and has to tend the runners in addition to the mainsheet, one cannot afford to let the boom come over as freely as one does when there are other hands to look after the runners. First one hauls in the mainsheet, luffing a trifle to eliminate the possibility of a premature gybe, and sets up the runner that will be the weather one after the boom has swung over. Then the other runner is cast off its cleat in readiness for the gybe. The helm can then be put up slowly until the boom swings over. As soon as the boom has gybed the mainsheet should be allowed to run freely. In a single-hander it is desirable that the runner falls should be long enough to be belayed well aft, so that they are within easy reach of the helmsman, as he will probably require to steady the helm with his knee whilst he tends the runners. To prevent turns appearing in the runner fall, one of the blocks should be swivelled, and the cleat to which the fall is led should be of the jamming variety.

Whether a topsail should be used in a single-handed boat or not is a matter of opinion. Some maintain that it is better to have a large mainsail and dispense with a topsail, but it seems to me a question that depends a good deal upon the size of the boat. As I have already pointed out, a mainsail with a boom of about 20 feet or 22 feet is about as large as one can handle comfortably alone, and such a sail in a yacht of more than 5 tons measurement would probably be insufficient to drive her in light winds. In such circumstances a topsail is very useful, and provided that the yard is not unduly long can be set without

much trouble. The head of the yard should be fitted with a thumb-cleat, and there should be another one for the halyard at a position determined by experiment. When bending the topsail to the yard the head of the sail should be secured by a rope grommet and the luff attached to the yard by a number of short laces. A long lacing is a bother to pass alone, and it is far better to have a short length of stuff at each eyelet. These can be tied with a reef-knot in a moment and cast off again with equal expedition. A shackle should be seized to the foot of the yard, and when the sail is sent aloft the halyard fall should be led through this shackle. This will have the effect of keeping the spar up-and-down the mast as it is hoisted. Before sending the topsail aloft the yacht should be brought on the wind, and one of the headsails backed to steady her on her helm. A topsail should always be sent up or lowered to windward of the mainsail, and the yacht should, therefore, be hove to on the tack which brings the topsail sheet on the weather side. When setting a topsail single-handed the most convenient plan is to make it up in stops along the yard. Then, when the yard has been mastheaded and the tack boused down, the sail can be broken out by hauling on the sheet.

It is quite possible that we may have to reef in the course of our cruise, and in this connection I would remark that it is prudent to shorten canvas in good time when single-handed. If one reefs on the first indication of approaching bad weather it can be done in comparative comfort, but if one hangs on to the whole mainsail until it becomes a matter of urgent necessity to reduce canvas, it may be a very difficult operation. The yacht should be first hove to with the foresail a-weather, and the topping lift set up. The main and peak halyards must then be slacked away sufficiently for the desired reef to be taken. It is also advisable to sheet the boom in hard, to prevent it kicking about whilst the sail is reefed. The great thing is to get the reef-earing hauled down and secured, for when that has been done the peak can, if necessary, be hoisted and the yacht got under control. The reefed portion of the sail can then be rolled up and the points tied at leisure. Should the sail have a laced foot the tack must be secured before hauling down the leach, and

it is most important that the leach cringle should be boused well down to the bee blocks. A few inches of slack might lead to the sail being torn at some of the points, as with this form of sail they have to be tied round the boom. If the cringle does not come right down to the bee block it should be lashed down with a tier or short length of rope. Care must be taken that the tackle is not tied up with the points, as in such circumstances it would not be readily available if wanted to take down the next reef. When shaking out a reef the points must be untied before the reef pendent is slacked away, or otherwise the sail may be torn.

It is probable that the yacht will require less headsail after the mainsail has been reefed, and in that case the jib must be shifted and a smaller one set in its place. On vessels carrying a full complement of hands it is customary to run the jib in to windward of the foresail, but when sailing alone I prefer to haul the foresail a-weather and take in the jib to leeward of it. In bad weather it is necessary to heave to in a single-hander when shifting jibs, and with the foresail hauled across the foredeck there is no room to work on the weather side, and I find it more comfortable to get the jib in on the lee side. If the working jib is fitted with the Wykeham-Martin gear it should, of course, be furled before it is taken in. The fittings should be left on the sail that is stowed, as they will not be wanted on a small storm jib. If the halyard is not of wire the small sail will not stand unless a span of wire be inserted between the head of the sail and the halyard block, as a long drift of rope halyard will soon stretch. It is seldom necessary to shift jibs when only one reef is taken in the mainsail, but when it is double-reefed it is usually better to set a smaller jib. The balance of the yacht could to a certain extent be restored by stowing the foresail, but if one has to go more than a mile or two it usually repays one to shift jibs, and it is certainly more seamanlike to do so.

Whether she be sailed single-handed or with a crew a yacht is steered in just the same way, but as these notes are for the most part intended for the novice, a few hints on helmsmanship may not be out of place. The prime test of a helmsman is his ability to get a vessel to windward. Very little skill is required

to sail a yacht with a fair wind, but it is only after considerable practice that one can get the best out of a boat when beating against wind and tide. The fault of the average novice lies in the direction of starving his vessel. He seems to think that the more he pins in the sheets and the closer to the wind he directs the yacht's bow the greater will be her progress to windward. Never was there a greater delusion. When sheets are hauled in as taut as muscle and weight can get them, and the craft is sailed with her canvas constantly lifting, her speed through the water is checked, and she is likely to make an unconscionable amount of leeway. She may appear to be pointing almost in the wind's eye, but she does not go where she looks. And the galling part of it all is, some old smack or barge, with sails bellying out like bags, may come sailing past the yacht as if the latter were brought up. I think the novice is often misled by watching other craft that may be beating to windward in company with him. He thinks they are holding a better wind and endeavours to make his little vessel point as high as they apparently do. When his sails begin to shake, he hauls in the sheets a little and repeats the process until he can get them in no further. But it is of no avail, for the more he pins in his boom the further he is left astern. Now, in all probability, the other yachts were not pointing any higher than his craft, and he has been misled by an optical illusion, for it is a curious fact that most yachts seem to point higher than one's own. The wise helmsman concentrates his attention upon his own boat, and refuses to be influenced by any others that may be in his near neighbourhood. In the first place, he cannot really judge how close to the wind they are sailing, and secondly, he cannot be sure that similar conditions obtain in both cases. It is quite possible for another vessel near by to have a more favourable wind, as in summer weather the breeze is very fickle. On several occasions I have seen two yachts sailing towards each other from exactly opposite directions, one free with spinnaker set, and the other reaching with wind abaft the beam. And they have continued thus until but a few yards divided them.

There are certainly modern racing yachts that will sail to windward with their booms pinned in almost amidships, but

such craft must be regarded in the light of exceptions that prove the rule. I am writing of small cruisers, and in my experience the majority of such yachts sail like pigs if their sails be sheeted too harshly. A small yacht with generous beam and displacement must be ramped along or she will sag away to leeward like a crab, and until a novice grasps that fact he will not get satisfactory service on a wind from his vessel. It is the practice of most beginners to steer by the burgee, which I do not think altogether wise, as a flag at the masthead does not always give a true indication of the direction of the wind. Far better results will be obtained by watching the sails, particularly the luff of the jib, which is not affected by any back eddies of wind. Personally, I like so to trim my sails that the jib will lift just before the mainsail, and then when I see the merest suggestion of tremor in the luff of the jib I know that I am sailing as close to the wind as I dare. But, of course, it is essential that the sails be correctly trimmed in the first place, and only patient experiment and experience will teach one to do it. It may be remarked in this connection, however, that there should always be 2 or 3 feet of slack in the mainsheet, and the jib, being a lifting sail, should not be sheeted right home. The foresail of a cutter or yawl can be sheeted rather flatter then either the mainsail or jib, but even that should not be pinned down to such an extent as to throw a back-draught on to the lee side of the mainsail. Much, of course, depends upon the lead of the headsail sheets, and one cannot be too careful that the fairleads are placed in their correct places. The wind is seldom, if ever, perfectly steady, and constantly varies in strength. In the harder puffs it is usually possible to luff a trifle, and the skilful helmsman will take advantage of these puffs to eat up to windward. In course of time, with practice and experience to guide him, the novice will learn to steer by the feel of the helm, and will, by intuition, snatch every yard to windward that is possible; but when he arrives at that stage he will be no longer a novice.

When staying his boat the novice is inclined to make two mistakes. He is apt to put his helm over too far and also to let his headsails fly too soon. As long as a headsail is drawing it is assisting to pull the yacht through the water, and what one

should aim at is to *sail* the boat round. It therefore follows that the sheets should not be released whilst the sails are doing useful work, but the moment the headsails begin to lift they should be let go. The tiller should be put over slowly and not too far at first, so that the vessel will make a wide sweep round, shooting up to windward as she does so. When a yacht is in stays there is a moment when the headsails hold no wind and can be hauled in and sheeted with one hand. That moment occurs when the clew of the jib has just cleared the forestay, and the sheet should be gathered in and belayed before any weight of wind gets into the sail. If the yacht is cutter-rigged one cannot, of course, handle both sails together whilst she is in stays, but the jib should always be attended to first. Should the yacht be unhandy and the water rough, it may be advisable to leave the foresail belayed to windward until the jib has been sheeted, as it will then assist to blow her head round, but in the absence of any such exceptional circumstances both headsails should be released at the same time. If beating up a river, or along the shore, in an unhandy boat, one should not stand in too close, but leave a margin for safety, in the event of the boat missing stays. Should this happen, it is unwise to fill on her again and make another attempt to stay, as she is almost certain to miss again, and in all probability go ashore. As soon as the yacht misses stays, wear her at once whilst you have room for the manœuvre. To do this, put the helm hard up, at the same time letting the boom run off. As she comes before the wind, rattle in the mainsheet to ease the strain of the gybe, as the boom will come over with great force. The runner that will be the lee one after the mainsail has gybed must, of course, be let go, and if possible the other one should be set up. But one has a busy time of it wearing a yacht single-handed in a strong breeze, and it may be physically impossible to handle both runners. It is essential, however, that the lee one be cast off, for otherwise damage may result. Failure to set up the weather runner is not likely to imperil the mast, even if one does not succeed in getting in much of the mainsheet, as the end of the boom will probably strike the water and thus ease the mast and gear of much of the strain.

Under ordinary conditions steering when running, or when on a broad reach, calls for no particular skill, as the helmsman has little more to do than keep the yacht steady on her course. Nevertheless, if the vessel is to attain her best speed it is essential that the sails should be correctly trimmed. Both mainsail and headsails should be given as much sheet as they can take with advantage; that is to say, the sails should be eased out and checked just short of the angle that would cause them to show signs of lifting. When running, the novice should not allow his craft to get much by the lee, as an unpremeditated gybe might produce disastrous results. Moreover, the speed of a yacht falls off considerably when she is by the lee, and even when cruising a keen owner likes to feel that his vessel is sailing her best. It nearly always pays one to gybe as soon as the wind begins to come over the lee quarter, and it is certainly no more than prudent for the inexperienced helmsman to do so.

Should there be any weight in the wind the utmost caution must be exercised when single-handed. The mainsheet should be first hauled in until the boom is well inboard and then belayed, the vessel being luffed a little to eliminate the risk of a premature gybe. The runner that will be the weather one after gybing should then be set up and the other one cast loose. All is then ready for the gybe, and the helm may be put up gradually until the sail swings over. As soon as the boom has swept across the deck the mainsheet should be allowed to run out freely until the boom is as far out as it will go without actually touching the shroud. When the mainsheet has been belayed the headsails can be passed over. I would specially warn the novice to keep clear of the mainsheet as the boom runs off, or he may become entangled in it and get hurt. R. L. Stevenson, in his fine novel "The Ebb Tide," makes a very pertinent remark in this connection that I cannot refrain from quoting. Captain Davis, it will be remembered, has just knocked down the unspeakable Huish to save him from being caught in the coils of the mainsheet, and Huish resents it. "Do you know you struck me?" said he.

"Do you know I saved your life?" returned the other, not deigning to look at him, his eyes travelling instead between the compass and the sails. "Where would you have been if that

boom had swung out and you bundled in the slack? No, sir, we'll have no more of you at the mainsheet. Seaport towns are full of mainsheetmen; they hop upon one leg, my son, what's left of them, and the rest are dead. Struck you, did I? Lucky for you I did."

When Stevenson wrote that he was, of course, referring to large vessels, but the mainsheet of even a 5-tonner is quite capable of giving one a nasty pinch. Another thing I would impress upon the tyro is the wisdom of belaying the mainsheet before the boom swings over, or at any rate taking a turn round a cleat or bollard with it. When gybing in a strong wind the boom comes over with tremendous force, and the sheet, if not belayed, may be drawn through one's hands.

Years ago a man I knew who made a practice of cruising single-handed in a 6-tonner had a very nasty experience of that kind when running down Channel. His vessel was of the old plank-on-edge type, very heavily sparred and carrying a large mainsail—far too large, in fact, for single-handed work. Whilst negotiating a heavy gybe he omitted to make the mainsheet fast and the rope was torn through his grasp, completely skinning the palms of his hands. As the result of this misadventure he was completely incapacitated, being unable to touch a rope without excruciating pain. All he could do was to hoist a signal of distress, which fortunately brought him assistance. But he paid dearly for his carelessness, being mulcted to a pretty tune in the way of salvage, and being unable to sail again for many months. In anything but a very light breeze the mainsheet of a yacht should always be made fast when gybing, and the man who omits to do so is sure to get into trouble some day. Gybing a small open boat, however, is quite a different proposition, for if the sail be checked in its course as it comes over, the boat will probably be capsized. By all means get in a few feet of the sheet if you can, but the moment the boom begins to come over let it run freely. In a strong wind it will come over very fast, but ere it reaches the full extent of its travel the end of the boom will strike the water and relieve the boat of the sudden shock of the gybe. But sailing an open boat is as different from sailing a yacht as chalk is from cheese, and the man who gradu-

ates from a dinghy to a yacht will soon learn that he must adopt entirely new principles.

Steering a small yacht before a strong wind and heavy following sea is a trying experience for any helmsman, no matter how skilful he may be. The little vessel hangs for a moment upon the top of each wave, and is then hurled forward by the scend of the sea. If not carefully handled she may broach to and be overwhelmed. And all the time the risk of an accidental gybe is present, for it is often a physical impossibility to keep the boat dead before the wind under such conditions. I have sometimes heard men talk about crowding on sail under weather conditions of this nature to "keep ahead of the sea." This theory, on the face of it, is utterly absurd, for no sailing vessel ever built could travel faster than the seas in heavy weather. The velocity of a sea in a gale of wind has been recorded by Sir James Ross as twenty-six miles per hour, and by Sir George Grey at twenty-eight miles per hour, and even if we place it at the lower estimate it is obvious that to talk of a yacht running faster than the seas is sheer nonsense. As a matter of fact, to crowd on canvas when running in heavy weather is to court disaster, and the experienced sailor under such conditions shortens sail. The best thing to do is, of course, to stow the mainsail and run under a squaresail, if you have one, as there can then be no risk of gybing. The sail, moreover, is of a lifting character, and will materially assist in keeping the yacht steady on her helm. In the absence of a squaresail very little after canvas should be carried. Steering an over-canvassed vessel before a following sea is always a nerve-racking experience, as it is not only extremely difficult to prevent her broaching to, but there is also the possibility of her being pooped to contend with. Reduce the sail area and the yacht will run far more steadily and comfortably, and can be steered with half the labour and anxiety.

A trysail should be included in the inventory of every small yacht. It is far more useful in heavy weather than a close-reefed mainsail, as it is easier to handle and not so punishing to the boat. In a really heavy sea a close-reefed mainsail is likely to be becalmed when the vessel is in the trough of the sea, whilst

a trysail, with its greater hoist, will always hold the wind. A trysail, moreover, is a particularly desirable possession when a new mainsail is bent. To reef a new mainsail before it is fully stretched is most unwise, as in all probability it will never set decently again. Yet, in the absence of a trysail, it may be necessary to do so in order to get home. If one has a trysail on board ready for use in strong winds, the new mainsail need not be reefed until thoroughly stretched, and its setting qualities will not be impaired.

There are two forms of trysail in use in yachts, and opinions seem somewhat divided as to which is the better. Some owners pin their faith to the sail with a short gaff, whilst others advocate the thimble-headed variety. Personally, I prefer the former, as practical experience of both kinds has led me to the conclusion that the jib-headed kind is not efficient when used in small yachts. The absence of peak seems to rob the sail of the necessary driving power to counteract the windage of hull when the yacht is heeled in a strong wind, and I have known yachts quite handy under normal conditions get out of hand under a sail of this description when hove down in a hard squall. I remember once seeing one of the smartest 4-tonners in the Burnham River take charge under such conditions and ram another craft at anchor, and the accident could be only attributed to the trysail she was carrying at the time.

One of the chief advantages of a trysail is that one can, or at any rate should be able to, dispense with a boom, but when the sail has no gaff it is useless before the wind unless boomed out in some way. It is the usual practice when such a sail is used on a small yacht to lash the clew to the made-up mainsail, and so, instead of saving the weight of a boom, one really adds to the weight that of the gaff and mainsail, and probably the sail cover also. This is wrong both in theory and practice, and the chief merit of the trysail is sacrificed. When a trysail is fitted with a short gaff, a boom is not required, and the made-up mainsail can be lashed securely on deck, the trysail being worked with double sheets leading to the yacht's quarters. With a loose-footed trysail a yacht is much stiffer and far easier in a rough sea, whilst the danger of carrying away gear by an acci-

dental gybe is practically eliminated. The only objection that can be raised against this form of sail is that it is rather more trouble to set than one that has no gaff, but, as a matter of fact, it can be set in a very few minutes if kept ready for use, as, of course, it should be. The gaff need be no longer than, say, half the length of the ordinary gaff, or even a trifle less than that. For a 5-tonner a short stout spar of 5 or 6 feet in length would do very well, and there is no reason why the sail should not be kept ready bent to it. If too long to stow away conveniently in the sail locker it could be lashed to the side of the fo'castle, the sail being neatly made up on the gaff. When it is set, the ordinary main and peak halyards can be used for the purpose. The jaws of the gaff must, of course, be fitted with a parrel line and balls, whilst the luff is secured to the mast with a lacing. When set, the hoist will be about the same as that of the mainsail, but as the sail is so much less than the mainsail on both head and foot the area will not be more than about half that of the mainsail. Thanks to the saving in weight aloft and the absence of a boom, the yacht will be stiffer than she would under a double-reefed mainsail, and although it is not likely to be required, a row of reef-points could be inserted in the trysail if desired. As a trysail is used comparatively seldom, it is apt to be neglected by the owner, and may become mildewed from lack of ventilation. For that reason it is prudent to have the sail dressed with oil and ochre to preserve it from damp. A trysail, being mainly intended for use in heavy weather, should be made of fairly stout material, and for convenience in stowing the luff rope should be of hemp in preference to flexible wire. To have an old condemned mainsail cut down to serve the purpose of a trysail is a form of economy that cannot be recommended. It is obviously imprudent to make a sail intended for use in heavy weather out of canvas that has been condemned as unsound, for it is not improbable that a makeshift trysail of this nature will be blown to ribands the very first time it is set.

Before leaving the subject of handling a small yacht in heavy weather I would impress upon the single-handed yachtsman the importance of being always prepared for any emergency. As soon as he sees indications of the approach of heavy weather he

should get his reefs down, or bend the trysail, whichever in his judgment he thinks the more suitable. He may often shorten canvas before it is really necessary, but it is better to be premature than too late. It is, indeed, no more than prudent to take time by the forelock when one is alone, for one cannot work so fast as a full crew. And having made suitable preparations for the safety of his yacht the owner should look to his own comfort. It is quite possible that he may not be able to leave the helm for many hours, and a little store of food should be placed in a locker within his reach. The Army and Navy Stores supply, or at any rate used to supply, a brand of tinned provisions known as the " Calorit "—I speak from memory, but think that is the name—which can be warmed without a stove. These tins, which contain soup, Irish stew, etc., are surrounded by an outer jacket containing water and some chemical, the water being held in a separate compartment. I don't know what the chemical is, but at a rough guess should say it is unslacked lime. Anyhow, all one has to do is to punch a couple of holes with an implement provided for the purpose, and in a few minutes one has a basin of steaming hot soup or stew, which is most grateful and comforting on a dirty day. This brand is by no means cheap, but is of a very high quality, and the single-handed yachtsman could not have anything better as a " stand-by." Some years ago when the Messrs. Haig were bringing the 12-ton cutter *Ran* from Norway they lived almost entirely on provisions of this brand. As there were only two of them there was seldom more than one on deck, for when one was at the helm the other was sleeping. When the man at the helm felt hungry he took from a locker in the well a " Calorit " and a few biscuits, and was able to prepare a hot meal without leaving the tiller. Many men who cruise alone make the great mistake of going too long without proper food, sometimes because they simply cannot leave the tiller, but more often because they will not take the trouble to get it. To be well fed is half the battle in bad weather, and some food, even if it be no more than biscuits and chocolate, should always be kept in a locker near the tiller, so that it will be accessible to the helmsman at any time.

CHAPTER XVII

"PILED UP"

In the majority of cases when a yacht runs aground it is due either to sheer carelessness or to taking undue risks. The carelessness may be either direct, such as neglecting to heave the lead, or indirect in the way of mishandling the vessel. I am inclined to think, however, that the average yachtsman gets ashore more often than not by taking undue risks. When beating over a strong tide with a long and a short leg there is an almost irresistible temptation to stand on too long on the favourable tack. As the yacht approaches the shore she finds slacker water and the helmsman naturally tries to make every foot to windward that he can whilst the conditions favour him. And it is this hanging on to the bitter end that is often his undoing. It not infrequently happens that the yacht finds the mud when actually in stays, and although one stops just the same, one can in such circumstances derive a certain measure of consolation in the thought that the error of judgment was, like the servant girl's baby, only a little one. No matter how careful a navigator the single-handed yachtsman may be—and as a rule he is more careful than those who sail with a crew—he is almost certain to get his craft ashore at some time or other, and getting her afloat again may provide him with an exceedingly interesting problem.

Should the yacht run aground on a falling tide no time must be lost if she is to be successfully refloated. The single-hander is certainly handicapped under such conditions, for he cannot hope to work as quickly as anyone who has plenty of assistance, and if he gets badly ashore on the ebb he will in all probability remain until the following flood tide makes sufficiently to refloat the vessel. If the yacht takes the ground at or near high water he will have a dreary wait of twelve hours or thereabouts, and

to pass the day on a stranded vessel that is listing badly is a miserable business. And that is not the worst thing that can happen, for should the tides be taking off there is a possibility of the boat being neaped until the next spring tides, or even longer if they happen to be small ones.

I once had the bad luck to get a boat neaped for rather more than four months, and although it happened some twenty years ago the episode still lingers in my memory. In those days I owned an old converted ship's boat of about 6 tons T.M. which drew barely 3 feet of water. Having at that time only recently taken up my quarters at Burnham I did not know the river very well. One day in the early winter I was beating up the river on the top of the tide, and at the upper end of Cliff Reach, seeing a wide expanse of water before me, sailed gaily on towards Bridgemarsh Island. So far as I knew there was deep water right up to the seawall, and so I held on until the wall was but a few yards distant before putting the helm down to go about. To my astonishment the boat suddenly stopped and I realised that I was hard and fast ashore. The ebb was running fast, and before I could do anything the vessel began to list and I knew that there was no hope of refloating her that tide. When the water had run off I found that I was 40 or 50 yards from the edge of a big salting projecting from the eastern end of the island. A glance at the tide tables revealed the fact that the tides were taking off, and when, on returning to Burnham, I heard that it was the biggest tide that had been experienced for eighteen years, I realised that my boat was likely to stay where she was for some time. Although it was a forlorn hope, I went on board at the next high water to attempt to get her off, but the tide only just lapped round her keel. Day after day as I passed the spot in the train on my way up to town I could see my unfortunate craft perched amidst her rural surroundings and had to put up with much chaff from my travelling companions. Occasionally we could see a cow standing on the seawall gazing pensively at the derelict, an incident that never failed to amuse my friends. It was not until the spring came round that I saw a prospect of refloating the boat. Late in March the tables showed a tide that should be the biggest of

the year, and I determined to make strenuous efforts to get her off that night. And it was high time. The owner of the land threatened to seize the boat as flotsam. Whether he could legally have done so I cannot say, but the threat was quite sufficient to spur me on. For some days before the attempt I visited the spot and made the most careful preparations. I dug a trench for the vessel's keel right down to the edge of the saltings and marked out the passage with withies. I removed all the ballast, which was of scrap iron of the most varied description, and placed it in a heap at the edge of the saltings, and finally I chartered a big sailing tripper from Burnham to lend me assistance. When the eventful night arrived I was rejoiced to find the wind blowing fresh from the north-west, a quarter that favours big tides in that district. The tide came up bravely, but even so it was evident that it would be a near thing, and so I set every stitch of sail I could with the idea of reducing her draft by listing. We waited until we dare wait no longer before making the attempt. Then, when we considered the moment had arrived, I began to heave on the windlass whilst the tripper endeavoured to tow her off. For a minute or two there was "nothing doing," as the saying goes; then she began to move very slowly. Yard by yard we hauled her over the saltings until with a rush she leapt into deep water. With no ballast on board she was naturally very crank, but I contrived to cast off the tow rope and luff her up just in time to save her from turning turtle. Then I grabbed the sails down and let her swing to her anchor. With the assistance of the watermen I got the ballast on board and stowed away and the boat was on her moorings at Burnham long before breakfast-time. But Lord, how she leaked! The dry easterly winds had opened her topsides and she was not fit to sail for days; but she "took up" again in time, and was little the worse for her long sojourn amongst the buttercups and daisies. I have never got a yacht neaped since, and sincerely hope I never shall.

If a yacht gets ashore on the ebb and attempts to refloat her prove of no avail, steps should be taken to ensure her listing inwards. The simplest means of doing this is to lash the boom to the runner on the side it is desired to list the boat. If this

is done the vessel will not lay over so far and will consequently be more comfortable for the crew, but the main reason for listing her inwards is to facilitate refloating when the tide makes. Many years ago I had a very unpleasant experience through my boat listing outwards. She was a deep, narrow-gutted craft of 4 tons that drew 6 feet of water, and having brought up one evening in Hole Haven I went ashore. There is plenty of water for a small craft to lie afloat in Hole Haven provided that one keeps in the rather narrow channel. I certainly left the boat anchored in the channel all right, but whilst I was ashore the wind changed, and as I had given her a rather generous scope of chain, she blew on to the flat. When I returned on board about midnight I found her high and dry and listing outwards at a most alarming angle. I could see at a glance that there was going to be trouble when the tide came up and made what preparations I could to meet it. I got some of the floorboards from the cabin and nailed them over the lower half of the well and then tacked an old sail over them. By this time the young flood was coming in and I sat and awaited events. After half an hour or so had passed the water lapped over the rail and began to mount the deck. It gradually rose to the well coamings, but the yacht showed no signs of lifting. Soon it flowed over on to the temporary well-cover, which proved anything but water-tight, and I had to start baling with a bucket. Things began to look desperate, and I was thinking of getting the dinghy alongside preparatory to abandoning the boat when she suddenly got up on to a level keel and relieved me from further anxiety. It was a very near thing, however, and ever since then I have always been careful when I get ashore to see that the boat lists inwards. It is by experiences of this sort that one learns seamanship.

The method of refloating a yacht that has stranded will depend a good deal upon the circumstances under which she went aground. In the case of a small boat that does not draw more water than, say, 3 feet 6 inches, the most expeditious and perhaps the best method is to get overboard and push her off. By lifting the bowsprit end, one can exert enormous leverage, and the boat that cannot be refloated by such means is very badly ashore

indeed. Should the tide be ebbing, one must jump overboard at once, without even waiting to undress. It is perhaps unpleasant to get one's clothes wet, but it is far more unpleasant to sit on a heavily listing boat for hours waiting for the succeeding flood to refloat her. The man who sails alone seldom wears clothes of any value when under way, at least he is extremely foolish if he does, and wet garments can soon be dried in the summer-time. If the yacht had the wind free when she ran aground she must be pushed off stern first, and as one cannot hope to do that with the mainsail set, the sails should be lowered before making the attempt. Should the yacht have been beating to windward when she is stranded the matter is much simplified, as all one has to do is to push her head round sufficiently for the headsails to draw on the other tack, and she will then sail off. A yacht that draws more water aft than forward will very often ground on her heel, and her head may be pushed round with the aid of a sweep, particularly as one's weight on the foredeck will tend to reduce her draft aft.

The pushing-off method is, of course, only applicable in the case of quite small craft that draw little water, and when one comes to deal with yachts of, say, 5 tons and over, more orthodox means must be employed. If the boat be of some size and she gets ashore whilst beating, an anchor must be taken out in the dinghy and laid out from the yacht's bow. The mainsail need not be lowered, but it is desirable to slack away the main-sheet until the sail holds no wind. By heaving on the anchor-chain it may be possible to haul the boat's head round until the headsails can be backed. Should the yacht have run aground with the wind aft, the anchor must be laid out astern and the vessel hauled off stern first. Under such conditions the yacht will probably have cut into the mud fairly deep, and it will assist to loosen her keel if she is rocked from side to side. If one has to haul off stern first, it is more convenient to use the kedge and a warp rather than the bower anchor, as a warp can be led through a snatch block, fixed to the forestay, to the wind-lass. The sails must, of course, be lowered whilst the attempt to pull her off is made. If a yacht takes the ground when running by the lee, or with the wind dead aft, it is often possible to

gybe the mainsail over, when, in most cases, she will come off without further trouble. When the wind is dead aft one can haul in the boom until the mainsheet is chock-a-block, and yet be unable to force it over the few additional feet necessary to gybe the sail. In such circumstances it is best to lower the mainsail and then push the boom over and secure it to the rigging, whilst the sail is hoisted again on the desired side.

CHAPTER XVIII

RULE OF THE ROAD

BEFORE a man goes cruising—or for that matter before he takes charge of a yacht at all—he should master the Regulations for Preventing Collisions at Sea, more commonly known as the Rule of the Road. It is essential that he should know these regulations, not only for his own protection, but also for the safety of others who traffic upon the deep waters. As set forth in the Act the regulations are of considerable length, containing much that is outside the sphere of the small yacht owner and only of interest to him from an academic point of view. There are certain rules, however, that relate to all craft in common, and these must be mastered, for even the smallest yacht that fails to observe them is a menace to public safety afloat. It is neither necessary, nor perhaps desirable, to learn the rules parrotwise, as we learnt our Euclid at school. What one wants is to grasp thoroughly the principles upon which the regulations are based.

The principal rules from a yachtsman's point of view are those which deal with steering. They are as follows:

(*a*) A vessel which is running free shall keep out of the way of a vessel which is close-hauled.

(*b*) A vessel which is close-hauled on the port tack shall keep out of the way of a vessel which is close-hauled on the starboard tack.

(*c*) When both are running free, with the wind on different sides, the vessel which has the wind on the port side shall keep out of the way of the other.

(*d*) When both are running free, with the wind on the same side, the vessel which is to windward shall keep out of the way of the vessel which is to leeward.

(*e*) A vessel which has the wind aft shall keep out of the way of the other vessel.

Now, if these rules be studied carefully, it will be noticed that port always has to give way to starboard. A vessel on the port tack must keep clear of one that is on the starboard tack, and a craft running free with the wind on her port side has to keep out of the way of one that is running free with the wind on her starboard side. It must be remembered that a craft is on the port tack when the wind is coming over that side, or in other words when she carries her boom over the starboard side, and she is on the starboard tack when those conditions are reversed. When running with the wind aft, the gybe she is on is determined by the side on which she carries her boom. If the spar is over the starboard side she is on the port gybe, even if she actually be sailing by the lee, and she is on the starboard gybe when the boom is over the port side. The first point to remember, therefore, is that when two vessels are meeting with the wind on opposite sides so as to involve risk of collision, it is the duty of the craft with the wind on her port side to keep clear.

Where the novice often goes wrong is in thinking that a vessel which appears to have the wind rather more free than his own craft has to give way to him, but a little consideration will convince him that the rules would fail in their object of preventing collisions if the matter were left to the helmsman's judgment. Let us take a hypothetical case. A and B are meeting each other, both having the wind on the beam, or nearly so. They are both reaching, but the term "reaching," it will be noticed, is not mentioned in the rules. A has the wind on her port side and B on her starboard; which must give way? The helmsman of neither vessel could say with any degree of certainty that the other craft had the wind more free than his vessel, and so clause (*e*) could not be safely applied to the situation. Neither could clause (*a*), for neither vessel would fulfil the condition of being close-hauled, for a vessel can only be considered as close-hauled when she is sailing as close to the wind as she can with advantage. As the rules only recognise the two terms "close-hauled" and "running free," it must be assumed that a vessel which is not close-hauled is running free. Having grasped this fact the matter is quite simple, for the situation is clearly covered by clause (*c*).

Another point to be noted is that a vessel is deemed to be under way except when at anchor, aground, or made fast to the shore, and when she is technically under way she is amenable to the regulations. Yachtsmen sometimes labour under the misapprehension that when hove-to every other craft must give way to them, but that is not the case. Being under way within the meaning of the rules they must obey those rules. Should the yacht be hove-to on the port tack and another craft close-hauled on the starboard tack approaches her so as to involve risk of collision, it is the duty of the vessel hove-to to get out of the way as best she can. If it is the intention to heave-to for some considerable time, it is prudent to do so on the starboard tack, for then it will not be necessary to give way to other vessels.

When it is the duty of a helmsman to give way to another craft he should do so in good time, in order that the approaching vessel may be under no misapprehension as to his intentions. Some yachtsmen seem to be fond of holding their course until the last moment before altering the helm to give way. This is most misleading to an approaching vessel, and may result in a collision. In such circumstances the helmsman of the craft holding the right of way may be within the letter of the law—although even that is open to question—but he is morally guilty of contributory negligence and shows a regrettable lack of sportsmanship. If you have to give way, do it with a good grace and sufficiently early to leave no room for doubt as to your intentions. There is nothing heroic in holding on to the last moment; it is merely silly and stamps the helmsman as a novice. Inexperienced yachtsmen frequently get into trouble by miscalculating the strength of the tide, and when beating to windward on a tideway the greatest care should always be exercised. If, when on the port tack, you are approaching another vessel that is on the starboard tack, watch her closely. If possible observe her position in relation to some stationary object on the shore. If you find that you are steadily opening out that object, you will go clear, but should no appreciable alteration in the relative positions of the mark and the approaching vessel be manifest, then there is every prospect of the two craft coming together, and the one on the port tack must take immediate

steps to give way. In case of doubt, remember that the onus of keeping clear rests upon the boat on the port tack, so therefore go about in good time. Should you, however, by an error of judgment hold on, thinking that you can clear the approaching vessel, and then at the last moment find that you are unable to do so, put your helm down and let your headsail sheets fly. By so doing it is possible that you may be able to avert the impending collision, and even if you have the misfortune to strike the other boat it will only be a sidelong blow which will cause little, if any, damage. To bear up with the idea of going under her stern is in such circumstances a fatal policy to adopt, as if you hit her it will probably be almost end-on, and when ramping full, in which case the damage can hardly fail to be serious. Anyhow, don't forget that you have made a grave error of judgment, and offer the best apology you can to those aboard the craft you have fouled or incommoded, for, as the proverb tells us, "Confessed faults are half mended."

Although when two vessels are approaching one another so as to involve risk of collision, the regulations give one of them the right of way, the helmsman of that vessel is not released from all responsibility in the matter. Should the approaching craft for any reason fail to give way in time to prevent a collision, the vessel with the right of way is enjoined to take such steps as will best avert a collision. Yet there are many yachtsmen who decline to make the slightest departure from their course in any circumstances when they have the right of way. I have, indeed, known helmsmen to ram the dinghies of yachts that have crossed their bows on the port tack in order, as they say, to give them a lesson. In doing so they are absolutely in the wrong, and if the owner of a dinghy damaged in this manner were to take the case into court he would in all probability secure a verdict, for these regulations were framed for the *prevention* of collisions and not to cause them. Moreover, such conduct is an unseemly display of temper likely to bring discredit upon the sport. Men who adopt these bullying tactics would, when taken to task, probably point to Article 21, which states, "Where by any of these rules one of two vessels is to keep out of the way, the other shall keep her course and speed," but that only applies when

the other boat fulfils her obligations, and is overridden by the clause which states that "nothing in these rules shall exonerate any vessel, or the owner, or master, or crew thereof from the consequences of any neglect . . . of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case."

Article 24 is a particularly important one, reading as follows: "Notwithstanding anything contained in these rules, every vessel overtaking any other shall keep out of the way of the overtaken vessel. Every vessel coming up with another vessel from any direction more than two points abaft her beam—*i.e.*, in such a position, with reference to the vessel which she is overtaking, that at night she would be unable to see either of that vessel's side-lights—shall be deemed to be an overtaking vessel; and no subsequent alteration of the bearing between the two vessels shall make the overtaking vessel a crossing vessel within the meaning of these rules, or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear. As by day the overtaking vessel cannot always know with certainty whether she is forward of or abaft this direction from the other vessel, she should, if in doubt, assume that she is an overtaking vessel and keep out of the way."

The intention of this rule is perfectly clear. Any craft coming up on another from any direction more than two points abaft the beam is to be considered an overtaking vessel and must keep clear of the vessel overtaken. Unfortunately, the racing rule of the Yacht Racing Association differs from this, in that the overtaken vessel is permitted to luff as she pleases to prevent another overtaking her to windward, and yachtsmen are apt to confuse the two rules. Now, these two rules were framed with very different objects; that of the Board of Trade being drafted with the sole idea of preventing collisions, whilst that of the Y.R.A. was framed with a view to relieving the overtaken yacht from the additional handicap of having her wind taken. To a keen helmsman it is rather galling to see another vessel pass him to windward, and almost by intuition he is apt to luff a trifle to prevent her doing so. But when the overtaking vessel is not a racing opponent he must restrain his feelings and let her pass without

hindrance, for under Article 21 he is enjoined to keep his course. If everyone followed the rules strictly collisions between yachts would be of rare occurrence, even in the most crowded waters, but there is, unfortunately, a certain type of yachtsman who seems to think himself altogether above rules and regulations, and such men wander about the tideway in the same irresponsible way one usually associates with young ladies on bicycles.

The Regulations for Preventing Collisions at Sea ordain that a steam vessel, or any craft under power, shall give way to all others, but in practice such vessels do not always follow the rules. The prudent yachtsman, therefore, will be ever on the *qui vive* to act himself in the event of an approaching steam vessel declining to give way. It must not be supposed that because a big steamer declines to make way for a small yacht she is ignoring the regulations on account of the insignificant size of the craft she is meeting, for very often it is physically impossible for her to do so on account of her draught. The channel may appear a wide one in the eyes of the owner of a tiny cruiser drawing, say, 4 or 5 feet, but for a big steam vessel with a draught of perhaps 25 or 30 feet, it may be very narrow indeed, and her skipper would run grave risks of getting ashore if he made the smallest departure from his course. The yachtsman should, therefore, be always prepared to give way to one of these leviathans should she hold her course. When a steam vessel alters her course to give way to an approaching craft, she usually signifies the same with her whistle or siren, and the yachtsman should therefore memorise the following signals:

One short blast indicates " I am directing my course to starboard."

Two short blasts indicate " I am directing my course to port."

Three short blasts indicate " My engines are going full speed astern."

I have already referred in a previous chapter to the lights yachts are required to carry, but it is desirable that a yachtsman should have some knowledge of those displayed by steamers and other vessels, so that he may readily determine the character of any craft he may happen to meet when under way at night. Steamers and other power-propelled vessels carry, when under

way between the hours of sunset and sunrise, the usual red and green sidelights, as shown by sailing craft, but in addition they display a white masthead light placed high upon the foremast and visible from right ahead to two points abaft the beam on either side. Such vessels may, in addition, carry a second white masthead light abaft the other, and at least 15 feet higher, but it should be noted that this second masthead light is optional, although generally displayed by large vessels. As the red port light is usually seen some time before the green starboard one, a second masthead light is of considerable assistance to other vessels in determining the course of a steam vessel seen at a distance.

A steam vessel, when towing another craft, has to carry two white lights on her foremast, one above the other in a vertical line and not less than 6 feet apart, whilst the vessel that is being towed shows her usual sidelights. Should a vessel for any reason not be under command she must show two red lights on her foremast in a vertical line and not less than 6 feet apart. These lights must be visible all round the horizon for a distance of at least two miles on a clear night, and if the disabled vessel is a steamer she carries them in lieu of her masthead light. Tugs and other steam vessels engaged in towing are permitted to carry a small white light abaft the funnel or aftermast for the vessel towed to steer by, but such light must not be visible forward of the beam. A steamer employed in laying or picking up a telegraph cable must carry, in lieu of her masthead light, three lights in a vertical line, one over the other, and not less than 6 feet apart. The highest and lowest of these lights must be red and the middle one white, and they must be visible all round the horizon for a distance of two miles. By day such vessels carry in place of the lights three shapes of not less than 2 feet in diameter, of which the highest and lowest are globular in shape and red in colour, and the middle one diamond in shape and white. Vessels not under control and those engaged in laying cables carry their sidelights only when making way through the water. The lights or shapes displayed by cable-laying craft and those not under control are to be taken by other vessels as indications that the vessels displaying them

cannot give way. Pilot vessels, when at their stations engaged on pilotage duty, do not show the usual lights, but display a white light at the masthead visible all round the horizon, and they also exhibit a flare-up light at frequent intervals. Any vessel when being overtaken by another must show from her stern to the overtaking vessel a white or flare-up light. This may be fixed and carried in a lantern, but in such cases the lantern must be so constructed as to show for six points on either side from right aft. Such light should be carried on the same level as the sidelights and be visible for at least a mile. Steam vessels of less than 40 feet and craft under oars or sails of less than 20 tons gross tonnage respectively are not required by the regulations to carry the usual lights when under way, but should they not do so they must carry portable lights ready for display on approaching another vessel. Sailing boats of under 20 tons can carry in place of sidelights a lantern with a green light on the starboard side and a red light on the port side so constructed that the red light shall not be visible on the starboard side nor the green light on the port side. This light must be shown in sufficient time to prevent collision. Rowing boats, whether under oars or sail, must have ready at hand a lantern showing a white light, which shall be temporarily exhibited in sufficient time to prevent collision. There are other lights used at sea, such as those carried by fishing boats with their nets down, but full particulars of them will be found in any nautical almanac.

Vessels are compelled by law to carry a foghorn and bell for use in thick weather, but I fear the majority of small yacht owners ignore the law in that respect. Some certainly carry a foghorn of sorts, but it is not often used, and very few include a bell in the boat's inventory. I suppose the reason of this neglect is that the prospect of thick weather does not enter into the yachtsman's calculations, for, hope prompting, he looks for nothing but sunshine and fair breezes. Everyone who goes cruising should, however, provide himself with the implements prescribed by the Act, if only for his own safety. When under way a sailing vessel must sound her foghorn in thick weather, which includes snowstorms and heavy rain, at intervals of not

more than a minute. One blast should be sounded when on the starboard tack, two when on the port, and three when the wind is abaft the beam. When at anchor the bell must be rung rapidly for about five seconds at intervals of not more than one minute. This is a very trying business for a man who is sailing alone; indeed, in practice, it is apt to verge upon the impossible. When practicable, the single-hander who is caught out in thick weather should get into shoal water out of the way of the traffic, or even take the ground, if it can be done with safety. Fortunately in summer serious fogs are not often encountered, and one seldom experiences anything more than a morning haze, which clears off as the sun gathers strength.

A steam vessel having way on her sounds her whistle in a prolonged blast at intervals of not more than two minutes. When under way with her engines stopped she sounds at intervals of not more than two minutes two prolonged blasts with an interval of about a second between them. When at anchor a steam vessel rings her bell in fog in a similar manner to a sailing craft. Sailing vessels and boats of less than 20 tons gross tonnage are not obliged to give the above-mentioned signals, but should they not do so they must make some other efficient sound signal at intervals of not more than a minute.

CHAPTER XIX

BRINGING UP

After a long day's sailing a quiet berth at night is a thing to be desired and schemed for, and the single-hander should, therefore, select his anchorage with discretion. The ideal berth is, of course, one under the lee of the shore, for such conditions usually yield smooth water and freedom from the dinghy-bumping nuisance. When the wind blows off the land, moreover, the risk of a foul anchor is practically eliminated, for the yacht is pretty certain to swing clear at the turn of the tide. In view of these advantages it is worth taking some little trouble to reach such a haven of rest, if there is one to be found within reasonable distance. More often than not, however, one has to bring up in a berth with the wind blowing either straight up or down the tideway, and although such an anchorage may be quite satisfactory when the tide is running to leeward, it may be very far from comfortable when those conditions are reversed, as they must be when the tide turns. The wind meeting the tide is apt to knock up a jabble of sea that is calculated to develop in a small yacht terpsichorean qualities that are not altogether conducive to slumber, whilst the eccentricities of the dinghy may cause the hapless owner to make frequent excursions on deck in somewhat scanty night attire. What could be more annoying than to hear the dinghy bump into the yacht in the small hours of the morning? For the first few minutes the owner, half asleep, will probably say to himself, "Let it bump and be damned to it," but sooner or later he will crawl from his warm bed to try the expedient of a bucket attached to the stern of the offending boat. While the tide continues to run with fair strength, the bucket will probably keep the dinghy clear, but when the tide begins to slacken the wind is almost certain to drive the dinghy up over it, and there will be a repetition of the nuisance.

Most yachtsmen, I think, have recourse to the bucket to keep the dinghy clear with a weather-going tide, but personally I prefer to make use of a bass warp, which I have found far more effective. A fairly stout bass warp used in lieu of the painter, offers considerable resistance to the tide. When the dinghy attempts to drive up, the warp forms a big festoon on or near the surface of the water, which effectually restrains her movements. Of course, at slack water neither warp nor bucket will hold the boat back, but if the warp is fairly long, the dinghy will probably blow past the yacht and lie clear ahead until the latter has swung to the tide.

There is a deal of truth in the old proverb that one man's meat is another man's poison, and I remember an occasion, when I made myself exceedingly unpopular by using a warp in this manner. It was a dark night with a fresh breeze blowing against the tide, and having for some time been much annoyed by my dinghy bumping into the yacht, I bent on a 30 fathom bass warp and dropped the boat right astern. This brought me peace at last, and turning in again I was soon asleep. Presently, I was disturbed by a lot of shouting astern, but coming to the conclusion that it emanated from some yachtsmen in a neighbouring craft who had "looked upon the wine when it was red," I turned over and went to sleep again. But I was not permitted to rest very long, for I was aroused again by further shouting and the blare of a foghorn. This continued persistently, and at last I struggled out of bed, and went into the well to see what the commotion was about. As I pushed open the cabin doors I heard, "If you don't pull up your —— boat we'll cut her adrift." I then learnt that my dinghy had for an hour or more been bumping against a yacht brought up astern, and it was, in the circumstances, not altogether surprising that the occupants should have waxed indignant. It is bad enough to be disturbed by one's own dinghy, but to be bumped by somebody's else approaches perilously near to what in the vernacular of the day is termed "the limit."

One may have the best-designed anchor in all the world and yet drag if the chain be dropped in a heap on top of it, but one frequently sees yachtsmen, with years of experience behind

them, bring up in the most haphazard way. Now, the golden rule in anchoring is never to let go whilst the vessel is stationary. If the chain is to fall clear of the anchor, the latter must be dropped when the vessel is moving, either ahead or astern, and if yachtsmen would only remember that, they would seldom experience trouble in the way of dragging. When a yacht drags, her owner usually abuses his anchor, but more often than not he has nothing but his own carelessness to blame for it. One seldom sees an anchor of really bad design nowadays, and provided that it be properly used, a small yacht's ground tackle should hold her reliably in any ordinary weather. The novice should make a point of thinking out exactly what he has to do as he approaches his selected berth. Supposing that he is running up to the anchorage with a fair tide beneath his vessel. He should stow his headsails before reaching the anchorage and, having selected his berth, run just to leeward of it under mainsail alone. When he is abreast of the selected berth, he should put the helm down and haul in the mainsheet. Then, as the yacht comes round, he should run forward and let go the anchor, letting the chain run freely through the hawse-pipe. If he lets go the anchor at the right moment the yacht will carry just sufficient way to run out a proper scope of chain, whilst the friction on the chain will tend to drive the fluke of the anchor well home into the bottom. As the boat will be moving all the time the effect will be to draw the chain away from the anchor, and there will be no risk of the latter being fouled. Had the yacht been running over a foul tide, the proper method would have been to lower the mainsail first, and sail to the berth under headsails. When the berth was reached the headsails would have been lowered and then, when the yacht began to gather sternway, the anchor dropped. To keep the chain clear of it, the cable would have been checked as soon as the anchor touched the ground, and then paid out gradually until the proper scope had been given. Coming to the anchorage with a foul wind and fair tide, the proper way is to beat past the selected berth, lower the mainsail and run back under headsails over the tide. When the berth is reached the headsails should be taken in and the anchor dropped after the boat has begun to fall back with the tide, the

chain being gradually paid out. Beating up against a foul tide one simply beats up to the berth, lowers headsails, and drops the anchor when the yacht has sternway, as before. The only conditions that remain for consideration are when the wind is on the beam. Should the yacht have a fair tide, the mainsail should be lowered and the vessel sailed to her berth under headsails (which are lowered when the berth is reached), and the anchor dropped. Then dash aft and put the helm over before steerage way has been lost. Then go forward and snatch a turn of the chain round the bitts. By this time the yacht will probably be broadside on to the tide, and as she snubs she will swing quietly round to her anchor. It is not absolutely necessary to put the helm over, but if it is not done, the boat will probably snub rather heavily. If the tide had been foul the simplest way would have been to reach up under headsails to the selected berth, then lower the sails, and wait for sternway before dropping the anchor. In a yacht that carries a full complement of hands the quickest and smartest method of anchoring with a beam wind is to lower headsails and luff up into the berth under mainsail, which must be smartly lowered as the anchor is dropped. As it is essential to get the mainsail down whilst the yacht is running out her chain this method could not very well be adopted single-handed.

Of all the manœuvres the single-hander has to carry out in the course of his sailing there is none that causes him so much anxiety as that of picking up moorings. Even after much practice and experience it is not always an easy job, whilst to the average novice it is apt to be something of a nightmare. Particularly is this the case when there is a strong tide under the vessel and very little wind, but even under those awkward conditions he should be able to get his moorings without bungling if he keeps cool and acts with judgment. The chief difficulty I find when alone arises from being unable to sight the mooring buoy when close to it. One must, of necessity, be at the tiller until the last moment, and when close to the buoy one cannot see it owing to the freeboard of the yacht. A certain element of luck therefore enters into the business. If fortune smiles upon one, when the final dash forward to pick up the mooring is made, the

buoy will be found just under the boat's bow, within convenient reach of the boathook, but should one's luck be out, it may be just a few inches too far away. The position is then awkward, for the yacht will have lost all way and will probably lie head to wind with her sails slatting. Now, if the tide be strong it is within the bounds of possibility that one's vessel may be carried foul of some other craft brought up in the immediate neighbourhood ere she can be got under control again, and one may then get the reputation of being a bungler when the failure is really due to not possessing a pair of eyes capable of seeing through the bow of the yacht.

To overcome this difficulty, I devised many years ago an appliance which, although extremely simple in operation, proved most useful and efficient. It consisted merely of a short length of stout rope with a snatch hook spliced in the end. The object of this was to enable me to pick up my mooring from the well without leaving the tiller, and it certainly answered the purpose admirably. The rope was about six fathoms in length and the hook, a large galvanised iron one, had a spring tongue something after the fashion of the hook one sees on a dog chain, but of course, on a much larger scale. When about to pick up moorings, I belayed the other end of the warp to the bitts and led the rope under the bowsprit shroud and outside everything to the well. Thus prepared, I would sail up to the moorings in the usual manner until I could reach the buoy from the well. Then, leaning over the side, I just snapped the hook on to the buoy rope. Having made fast I permitted the yacht to ride to the rope until the sails had been stowed away and then the buoy was hauled aboard by the rope. By these means a somewhat doubtful proposition was rendered comparatively simple, whilst the possibility of the headsails getting wet from contact with the buoy rope was eliminated as the sails were removed before any wet rope was hauled aboard. The operation could, I think, be made even more simple by the use of a certain boathook I have seen. This boathook is of the usual form except that it has a spring tongue, which keeps secure any rope grasped until released by hand. Another special feature is that the head has a very strong becket which is an integral part of the casting. To this

a rope can be secured and a boathook of this type could therefore be used in place of the snatch hook. It would then be possible to snatch the boathook on to the mooring buoy rope without even leaning over the vessel's side.

Except under very special circumstances, as, for instance, a total absence of wind, one should never attempt to get a mooring whilst the vessel is travelling with the tide, as that way disaster lies. Years ago there was a certain small yacht stationed at Fambridge that caused us no end of amusement by the wild antics of her owners when attempting to get their moorings, and their performance in that respect was usually a splendid object-lesson as to what not to do. The owners seemed to be obsessed with the idea that the proper way was to get the moorings when sailing *with* the tide, and they often went out of their way to secure those conditions. As they frequently spent the best part of the afternoon in vain attempts to moor their craft, quite a crowd would gather on the club balcony to watch the sport when the news went round that the boat was coming up the reach. One particular Sunday afternoon we had an extra special performance that still lives in my memory. On that occasion only one of the two owners was on board, but he had with him a friend who was evidently quite strange to sailing. The first of the ebb was running hard, and there was a smart "soldier's wind." She came reaching up the river right past her moorings in accordance with her usual practice. Then she came about and stood back for the buoy with a tearing ebb under her. The visitor, who was deputed to pick up the buoy, was not provided with a boathook for the purpose, but lay on his stomach on the foredeck ready for action. As the yacht raced down to her buoy the visitor deftly grabbed it. "Don't let go," shouted the owner, who was at the helm, and he didn't. Hanging on with a tenacity that called forth our admiration, we saw him slowly dragged off the deck until he took a header into the river, where he remained, still embracing the mooring-buoy. As soon as we had recovered from our paroxysms of laughter we launched a boat and rescued him, while the owner let go his anchor and, incidentally, fouled another mooring, which subsequently had to be lifted in order to release the boat.

Not the least difficult conditions for picking up moorings are when the yacht is running up to them with fair wind and tide, as the manœuvre then calls for nice judgment and a knowledge of the boat's capabilities as regards carrying way. In a fully-manned craft the headsails would be stowed before reaching the anchorage, but when single-handed the jib at least should be kept set, so that the yacht can be got under control without loss of time should the mooring be missed. Of course, if the headsails are fitted with the Wykeham-Martin furling gear they should be rolled up, as, in case of need, they could be set again in a moment without leaving the tiller. The yacht should approach the mooring some distance to leeward of the buoy, and when abreast of it the helm should be put down and the mainsheet gathered in. If the distance has been correctly gauged the vessel will come head to wind and lose her way when the mooring-buoy lies but a foot or two from her bow, and it will then be possible to haul the chain on board before she begins to gather sternway, thus saving a good deal of hard work. The distance to leeward of the buoy that the yacht is sailed will depend upon her handiness and the amount of way she carries, and so it will be readily understood that an intimate knowledge of her capabilities in those respects will be necessary ere one can rely upon picking up moorings with certainty under these conditions.

Should the yacht be running over a foul tide, the mainsail must be lowered before reaching the buoy and the vessel sailed up to it under headsails alone. These should be lowered just before reaching the mooring, and the craft should then carry just sufficient way to take her up to the buoy. When both wind and tide are foul, the best way is to beat up to the mooring and, luffing head to wind just before reaching the buoy, shoot up to it. With a foul wind but fair tide, the simplest method is to beat past the buoy, lower the mainsail, and run back under headsails to the mooring over the tide. When reaching, if the wind is abaft the beam, the method of procedure will be the same as if running, and if it is forward of the beam the same as if beating. When the wind is actually on the beam the moor-ing should be picked up under headsails alone when sailing

against the tide, passing the buoy and returning should it be necessary to secure those conditions. Perhaps the most unpleasant situation the single-hander can find himself in, at any rate so far as moorings are concerned, is having to pick them up in a flat calm when there is a strong tide under the yacht. About the only method he can then practise is to use a sweep and when approaching the buoy row her round so that she drops down on to it stern first. It is, however, an operation that calls for very nice judgment, and if the anchorage is at all crowded the novice will be better advised to drop his anchor close to the mooring and run off a warp to the buoy. He can then get the anchor and warp on to the mooring at his leisure.

CHAPTER XX

ENTERING AND LEAVING HARBOURS

My remarks on bringing up have hitherto referred to more or less open anchorages where one can see where one is going and select a suitable berth. But there still remains for consideration the berthing in harbours of the artificial order in which one has to bring up where directed by the Harbour Master, or in a basin specially set aside for the use of pleasure craft. In such harbours one may have to go into an inner basin, lie at moorings in the outer harbour or moor to a pier, and if unaccustomed to such ports the single-hander may find the experience somewhat disconcerting. Even if he has an intimate knowledge of the port a man sailing alone often has some anxious moments when entering a harbour of this nature, and the difficulty is much enhanced when the port is a strange one. In the latter case it is prudent to procure and study a large scale chart of the harbour and its approaches before visiting the place, and if possible local information as to the position of the yacht berths should be obtained.

Even if acquainted with the harbour one is about to enter, it is advisable to make preparations for any emergency that is likely to arise. It must be remembered that one cannot see through a solid pier, and it is possible that there may be a fleet of vessels coming out just when one wants to go in. Or the yacht basin may be unduly crowded, and in either contingency prompt action may be called for to avert a collision. When a man has to rely upon his own pair of hands to do everything it is particularly important that any article likely to be wanted should be placed in readiness for use, as there will be but little time available for finding things buried at the bottom of a locker. Entering a harbour of this sort is often very like running into a cul-de-sac, and one cannot afford to make mistakes. Take

Lowestoft, for instance. The entrance, which is comparatively narrow, lies between solid wooden piers, and a strong tide sets across the mouth. If one is running up the coast with the wind aft, it will be on the beam when one makes for the entrance, and it is therefore necessary to keep the mainsail set until the yacht is inside the pierheads, or otherwise she would be becalmed under the weather pier and might be set on to the leeward one by the tide. It is, however, but a few yards to the yacht basin, which, during the summer months, is often crowded with craft lying in tiers and moored "all fours." Between the front tier of yachts and a pier is a very narrow fairway, and right ahead, only a short distance away, is the quay upon which stands the clubhouse of the Royal Norfolk and Suffolk Yacht Club. It will be readily understood that when entering under the conditions I have indicated, the mainsail must be lowered very smartly, or there is likely to be trouble. The single-hander's difficulties are, moreover, usually increased by a regular jam of smacks coming out of the harbour just as he enters, and it is even possible that he may suddenly find his craft brought up all-standing by a warp that has been run off to the weather pierhead from some smack that has drifted on to the other pier. Now, to attempt to enter such a harbour without making adequate preparation would be culpable negligence, bringing in its wake instant punishment in the form of a bad smash.

When approaching the harbour two warps should be got out and belayed, one on the foredeck and the other aft. Both should be carefully coiled down so that they will be ready for immediate use. The anchor should also be cleared and a scope of chain overhauled in case it should be necessary to anchor in a hurry. A sweep should be laid on deck in a handy position, and a crutch for it shipped in the rail, whilst the dinghy painter should be shortened, so that the boat will be near at hand if wanted. Should the sculls and rowlocks have been removed, they should be replaced in the dinghy. In case of need, fendoffs should be placed in readiness for use, and the boathook laid on deck near at hand. As I have pointed out, it may be necessary to lower the mainsail in a hurry, so the topping-lift should be set up and the halyards prepared for running. If the headsails

are not fitted with roller furling gear, it will be advisable to stow the foresail, thus leaving a clear foredeck and only the jib to attend to. A topsail would, no doubt, be useful to catch the wind over the pier, but when single-handed it is not prudent to carry one on entering a harbour, as it is a sail that takes some little time to get in, and its presence hinders the lowering of the mainsail. Useful as it might be, therefore, it is better to stow it before making for the harbour. Having completed these preparations the single-hander will be able to sail into the strange harbour with some degree of confidence, as he has done everything that prudence can suggest. Before making for the entrance, however, careful note should be taken of any signals that may be displayed. It is customary at many harbours to hoist some form of signal to indicate the depth of water in the entrance, and it will be as well to make sure that there is sufficient water for one's craft before attempting the entrance. Another signal that should be looked for is one warning vessels outside that craft are about to leave the harbour. Should such a signal be displayed it would be prudent to cruise about outside until the entrance was clear.

Before making for the entrance the tidal conditions should be carefully noted. As a rule the tide will be found to set strongly across the entrance, and it is a matter of the first importance to know in which direction it is setting. At Lowestoft the ebb sets from south to north, and the flood *vice versa*. When entering on the ebb, therefore, the south pier must be hugged, but if the tide be flooding the north pier must be kept close aboard. Sail should be carried until the yacht is well inside the pierheads, and the influence of the cross tide no longer felt. Should the wind be blowing straight into the harbour, the mainsail must be lowered smartly as soon as the vessel is inside the pierheads, but with the wind from any other quarter it will probably be necessary to carry the mainsail until almost inside the yacht basin, but beware of back eddies of wind coming off the piers. Lower the sails when you think you will have sufficient way to carry you in, and remember it is less dangerous to carry too little way than too much. In the yacht basin at Lowestoft there are big dolphins to which to moor. Steer for one of these, and if you have sufficient way to reach it, run forward when

but a yard or two distant with a fendoff to ease the impact, and then take a turn round it with the forward warp and make fast with a long bowline. Should you have insufficient way, get the sweep over the side and row the yacht gently up to the dolphin. Having made fast forward, jump into the dinghy with the stern warp and run it off to the big hawser that is stretched across the basin and make fast. Having returned on board, slack up the bow warp and haul the vessel into her berth by the stern one. Should there be the warps of another yacht in the way, ask her crew to slack them up for you, or if there is nobody on board, slack them up yourself, being careful to re-adjust them again after you have passed over. When your craft is in the desired berth, moor her securely " all fours," that is to say, with warps from her quarters and from each bow. In some harbours you will find large mooring buoys instead of dolphins, in which case you will have to go off in the dinghy with your forward warp as you approach the buoy and make fast. In other harbours it is the practice to drop one's anchor and haul into the berth stern first. Should you find that you are carrying far too much way and there is nobody at hand to catch a warp to check your boat, the best thing to do is to drop the anchor and trust to it pulling her up before she strikes the quay. Always make your bow warp fast with a very long bowline, as it will probably be necessary to slip it from deck when leaving the harbour, as you cannot very well go off in the dinghy to cast it off, leaving your vessel unmoored among a crowd of other craft.

In some harbours one has to lie alongside the quay, which is anything but a comfortable berth for a single-hander. It is certainly convenient for getting ashore, if you happen to be alongside a ladder, but on the other hand, there are many disadvantages. Should there be much swell coming into the harbour there is a considerable risk of the yacht's topside being scraped against the quay, for no matter how cunningly one may dispose of the fenders, they usually contrive to get displaced. About the only way in which one can hope to keep the vessel clear is by means of a breast warp attached to the kedge, but even if one takes this precaution some other vessel, out of pure

cussedness, is pretty certain to come in and want to lie alongside. Should this happen, all one can do is to look as pleasant as the circumstances permit and get in the kedge to allow her to berth. And when the new arrival has taken up her position outside of you, you are between the devil and the deep sea, for you then run the risk of having both topsides scraped instead of only one. Among other objections to such a berth it may be mentioned that your craft will probably attract half the loafers in the town, who will stand and criticise your domestic arrangements all the live-long day. And it is quite astonishing what a lot of dirt and refuse will be blown from the quay into your cabin, causing much present annoyance and subsequent labour.

I think, however, the principal nuisance attaching to a berth alongside the quay is the constant trouble involved in tending warps as the tide rises and falls. If you want to go ashore you must leave a considerable amount of slack on the springs to allow for the range of tide, thereby affording the boat scope for getting into mischief. Indeed, to leave a yacht unattended under such conditions is to quite sacrifice one's peace of mind, for all the time one is away one is wondering what is happening to her. The position is even more unsatisfactory in a tidal harbour that dries out, or nearly so, at low water, as steps must be taken to ensure the vessel listing inwards when she takes the ground. It can be done by a careful adjustment of the tension of the warps and a masthead line, but it is not advisable to rely upon such means. The slightest error in the adjustment of one of the springs may lead to the yacht listing outwards, whilst one can never be sure that small boys on the quay may not play pranks with the warps in one's absence. No, a berth alongside a quay is a perfect curse, and it is not perhaps surprising that that prince of single-handers, the late Mr. R. T. McMullen, should have preferred to ride to his anchors in an open roadstead in heavy weather rather than put up with the inconvenience of harbours of this nature. Should circumstances compel you to put into such a harbour, do your level best to get a berth alongside some other craft and ask permission to make fast to her. You will then be quite comfortable, as all the labour and inconvenience will fall to the share of her crew.

The greatest difficulty with which the single-hander has to contend when leaving a harbour is that of clearing the warps of other vessels. If there is anyone on board of the neighbouring craft the matter is simple enough, as one can ask them to slack up their warps when one is ready to leave the tier. But it often happens that the boats on either side of one have been left unattended, and in such circumstances there is no alternative but to pass over the ropes that block one's way. If possible a long warp should be run out ahead and belayed to a pier, buoy, dolphin or anything that may be handy for the purpose. Then the springs to which one has been riding should be got aboard and coiled down. Then comes the task of getting out of the tier, which is not so easy as it sounds, if there be sufficient wind to stretch taut the warps of the other vessels. Should there be several warps in the way, and it is probable that there will be, each must be taken in turn and pushed beneath the keel with a boathook or sweep. A strain should be kept upon the warp out ahead, as each of the impeding springs is pushed under the forefoot, or otherwise the yacht may drift back and allow the warp to escape. When all the warps are well under the keel, the yacht can be hauled clear of the tier by means of the bow warp, which, if necessary, can be placed on the windlass. When hauling out of the tier, care must be taken that the warps under the yacht do not get foul of the rudder. In most modern boats there is a guard at the heel of the sternpost to prevent ropes lodging in the space between the rudder and sternpost, but I have owned craft that were not thus fitted, and more than once I have been ignominiously hung up by buoy-ropes and other traps for the unwary. If you have reason to think there is a possibility of a warp getting foul of your rudder, the wisest course is to push down each warp in turn with the boathook and guide it safely past the rudder.

The sails will, of course, have been prepared for setting before the yacht is unmoored. If the headsails are not fitted with the Wykeham-Martin furling gear they should be sent up in stops. The mainsail should also be got ready for setting, and all the gaskets cast off except that holding the bunt of the sail. When clear of the tier and out in the fairway of the harbour, the bow

warp can be cast off and hauled aboard. If it has been made fast on shore it will be necessary to get someone on the quay to cast it off, but if secured to a buoy, it will be quite easy to cast it off yourself, provided that it has been made fast with a long bowline. Having got the warp aboard, sail can be made. If the wind is fair the headsails will probably be sufficient to take the boat out of the harbour, and the mainsail can be set when outside the heads. But should the wind be foul the mainsail must be set smartly if you propose to beat out. But beating out of a narrow harbour is not always so easy as it sounds, for the wind is usually very unsteady and fickle, and other vessels going out and coming in are apt to hamper one. Still, with a fair tide under the boat one can generally manage to work out, particularly if one is not too proud to make use of a sweep. Some owners seem to think it undignified to row a sailing yacht, but all the same, a 14-feet sweep is not to be despised as a means of propulsion when the wind is light and fickle. Moreover, it is useful for pushing off from the quay should you get blanketed and lose steerage way. A final reminder I would give the single-handed sailor when leaving a port of this nature is to keep an eye on the dinghy. Tow her on a short painter and see she does not get the wrong side of warps, buoys, etc., or you may find yourself hung up in an awkward position. Particularly does this apply when hauling out of the tier. When the warps of other vessels have been pushed under your keel, it is prudent to bring the dinghy up forward and make her fast to the bow until you have hauled out. When once clear of the other boats' springs, the dinghy can be made fast in her proper place astern.

CHAPTER XXI

MOORINGS

To be able to ride to a mooring is a convenience to anyone, but particularly so to the single-handed yachtsman, as it not only saves him much heavy anchor work but also considerably facilitates getting under way. The owner, if wise, will lay down permanent moorings at the port he makes his head-quarters, and when visiting strange ports in the course of his travels he will no doubt often be able to obtain the loan of a mooring whose owner happens to be away. In normal times most yacht owners make a practice of going for a cruise in the course of the summer, and it usually happens that there are a few vacant moorings to be borrowed for the asking at most places where yachts congregate. No sportsman would be so churlish as to object to a visitor making use of his mooring when he did not want it himself, provided, of course, that it were used and not abused. If the ground tackle be of sufficient weight and strength to hold the yacht and the chain of the riding scope be hauled aboard, no harm can be done to the mooring, and by making use of it the visitor will keep the buoy-rope clean and in good order for the owner's use when he returns.

The man who picks up the first mooring he comes to in a strange anchorage without first ascertaining if it is of sufficient weight to hold his vessel, or inquiring if it is likely to be wanted by its owner, is pretty certain to get himself disliked. So also is the casual yachtsman who, too lazy to haul the chain aboard, rides to the buoy-rope. For these are unsportsmanlike acts that cannot be too highly deprecated. In the first case, if the mooring is not intended for so large a vessel there is every likelihood of the anchors being drawn together, necessitating the subsequent relaying of the mooring, whilst in the second instance the buoy-rope may be badly chafed or even carried away.

But the man who probably causes most annoyance is he who picks up a mooring without permission and goes ashore leaving the yacht unattended. Should the owner of the mooring return and find a strange boat riding to it with nobody on board, he will have no alternative but to drop his anchor and wait impatiently for the interloper's return. This is not altogether conducive to that courtesy and good fellowship that should exist among yachtsmen, and in all probability will result in an unseemly wrangle. The single-handed yachtsman when cruising should therefore make a point of always obtaining permission before picking up a mooring in a strange anchorage, for it is not only "playing the game" to do so, but also eliminates the possibility of having to get his vessel under way again should the rightful owner return. At most yachting centres there is usually a waterman about who will be in a position to say whether a mooring is likely to be wanted by its owner or not; or, failing a waterman, the information can perhaps be obtained from some local yachtsman. The holding power of a mooring is generally indicated by the tonnage of the yacht to which it belongs being painted on the buoy, and as it is the common practice of owners rather to understate the tonnage of their vessels, so as to leave a margin for safety, one is not likely to be led astray in that respect.

Whilst on the subject of moorings, I should like to refer to a matter that does not seem to be clearly understood by yachtsmen in general. Many owners appear to labour under the impression that by laying down permanent moorings they have in a manner of speaking "pegged out a claim," thus securing a right to that particular berth at all times. In this they are not, from the legal point of view, quite correct. The legal aspect of the case is, I believe, that the master or owner of a vessel has the right to lay down moorings for the safety and convenience of his craft, such moorings ranking as part of her ordinary ground tackle. Beyond that his rights do not extend, and his position is precisely the same as if he merely dropped an anchor. Should he on returning to the anchorage find some other vessel brought up so close to the moorings that he could not lie on them without involving a risk of collision, he would

be guilty of negligence if he picked up the mooring, as by so doing he would be taking up a foul berth. Every vessel that brings up in an open anchorage is entitled to a clear berth, and the mere fact that you have laid a mooring in the near vicinity of a vessel at anchor, does not convey to you the right to pick up the mooring and incidentally give that vessel a foul berth. Should you do so and damage result you would be liable for the damage inflicted, as it would have been caused by your negligence in taking up a berth that was obviously a foul one. That, I believe, is the law; but, all the same, it would be most unsportsmanlike on the part of a yachtsman to anchor so close to a mooring as to prevent the owner, who had gone to the expense and trouble of laying it down, from making use of it. Should you inadvertently take up such a berth it is, I think, "up to you" to shift further away so that the owner may pick it up and subsequently lie clear. Many unedifying disputes would be avoided if owners would remember that although the actual anchors and chains constituting the mooring may be their property, they are only permitted to use them when there is ample room all round for the vessel to swing clear of any other craft that happen to be brought up in the immediate neighbourhood. In an open anchorage the only vessel that has a legal right to a particular berth is the one that first occupies it, for it is in fact a case of first come first served. I have often seen a yacht pick up her mooring and then order some craft brought up inconveniently near to clear out. As often as not in such circumstances the owner of the craft flatly refuses, for he naturally resents being ordered about by a stranger who has no legal right to do it. Now, if instead of ordering the craft away, one adopts a more conciliatory tone and politely requests her to shift, it is most probable that she will do so at once. At any time bullying tactics are to be deprecated, but when you have not even legal right behind you they are absurd. Should you find a boat brought up close to your mooring and there is nobody on board of her, you have no alternative but to anchor, for to shift the vessel yourself would be to incur a grave responsibility. One has no right at all to board and shift another man's yacht from her berth without authority, and if she sub-

sequently dragged her anchor and sustained damage the person who had moved her would be held responsible.

Although when cruising one is sometimes fortunate enough to obtain the loan of a mooring when visiting a strange port, more often than not one has to ride to one's own ground tackle. If able to select a nice snug berth under the lee of the land, the yacht's bower anchor will afford all the security that could be desired, but sometimes it is necessary to bring up in a tideway when the wind is blowing either straight up or down the tide. So long as wind and tide are in the same direction, all is well, for the water will be comparatively smooth, but when the tide turns and meets the wind the conditions soon begin to assume a very different aspect. As the tide gathers strength the wind will knock up a nasty jabble of sea calculated to make a small cruiser particularly lively. Such domestic occupations as cooking will then be carried out under difficulty, whilst the dinghy-bumping nuisance, to which I have already referred in a previous chapter, will begin to annoy the owner. Still, this is an incident of small yacht cruising that has to be endured at times, and the wise yachtsman regards it in much the same light as does a golfer a "rub of the green," and makes the best of it.

Riding to an anchor with the wind against the tide is, however, not merely uncomfortable, for unless steps be taken to prevent it, it is possible that the security of one's berth may be jeopardised. Under such conditions of wind and tide the yacht is apt to ride up over her anchor and career about all over the place. When this happens she is almost sure to foul her anchor sooner or later, and will then begin to drag. To prevent this contingency it is customary to give the boat a sheer, as the strain thus put upon the cable tends to keep the craft steady. If the wind be dead aft, the vessel may be sheered in either direction, but as a matter of fact it is very seldom that one has the wind dead aft. It usually comes from a point or two over the quarter, and when that is the case it is most important that the yacht be given the correct sheer. The golden rule is always sheer to windward. When this is done the vessel takes up a berth to windward of her anchor and rides quite steadily. If one is stopping on board this is all that need be done, unless the weather

be very bad, but as there is always a possibility of the boat breaking her sheer owing to a flaw in the wind, it is imprudent to go ashore for any length of time leaving the boat unattended.

If it is the intention of the single-handed yachtsman to leave his boat unattended for some time, he should take the precaution of mooring her with the kedge. No man has any business to leave a vessel riding to a single anchor when the wind is against the tide, or if the tide is likely to turn during his absence, for he can never be sure that she will not foul her anchor and drag. Should this happen, it is not only his own property that is jeopardised, but also that of others, as the dragging yacht will be a menace to the safety of any other craft that happen to be brought up in the neighbourhood. To lay out a kedge is not much trouble, and it is certainly worth while to do so if only for one's own peace of mind. In a crowded anchorage it is not fair to ride to anchors laid out from either bow, as the yacht would take up more than her share of room, and perhaps cause some other craft which brought up later to get her anchor foul of one of yours when she dropped it. It must be remembered that the main object of laying out a kedge is to prevent the bower anchor from fouling its chain, and this object is attained just as well by laying the kedge out astern, so that the yacht rides to the anchor on one tide, and to the kedge on the next without shifting her berth. The kedge warp should be secured to the anchor chain by a rolling hitch, and the chain then slackened up a few feet so that the hitch is below the forefoot. When a yacht is thus moored, one may reasonably expect to find her in the same berth when one returns, even if away for several tides. When the yacht has been securely anchored nothing remains to be done but to stow the sails and tidy up the gear generally. If the mainsail shows the slightest signs of damp it should only be made up loosely and left uncoated until there is an opportunity of thoroughly airing it. Many sails are ruined every season by being stowed and coated when damp, as nothing is so conducive to mildew. If bone dry the sail may be neatly stowed and the cover put on, both main and peak halyards being unhooked from the gaff for the purpose. Some owners make a practice of leaving the main halyard *in situ*, fastening the collar of the cover round

both halyard and mast. But this is a slovenly habit, and when a cover is thus put on there is nothing to prevent the rain trickling through on to the luff of the sail. When the mainsail has been made up and coated the halyards should be made fast to the made-up sail by means of canvas slings, the peak halyard being set up just taut enough to take some of the weight and thus prevent the boom sagging. Care should be taken, however, that the halyard is not set up too taut, for the first shower of rain will cause it to shrink, with the result that the spar may be buckled. The boom-crutch should be secured with lanyards to prevent its getting adrift in the event of the boom becoming unshipped. Neither halyards nor runner-falls should be set up taut, as they might buckle the mast if they happened to shrink with the damp, and in any case the life would be stretched out of them. If the owner values a quiet night he should frap the halyards to the mast by taking one or two turns round the mast and ropes with one of the halyard falls, which should then be belayed. This will also prevent the halyards from being chafed. All halyard falls and sheets should be neatly coiled down, as also should any warps that have been in use, the latter being hung up in the rigging to dry. If there is a possibility of visitors coming on board, the accommodation ladder and fenders should be hung out for their convenience, and incidentally to save the yacht's topside paint from being scratched. If the headsails are fitted with roller furling gear and it is only proposed to stop for the night, the owner will probably elect to leave the sails up. Should he decide to do so, he should take the precaution of putting a canvas tier round each, near the clew, to eliminate the risk of the sails unrolling during the night. At sunset the burgee should be lowered and the riding light hung up on the forestay, the latter being steadied by means of lanyards leading from the bottom of the lamp on either side to the bowsprit shrouds.

CHAPTER XXII

THE CARE OF SAILS AND GEAR

It is astonishing what a lot of good sails are spoilt through lack of care on the part of the owner. Many men seem to think that new sails require no special attention at all, and then if they go wrong they abuse the maker. As a matter of fact new canvas should receive the greatest care until thoroughly stretched, for if inconsiderately treated at the outset a mainsail may be marred for ever. When bending a new mainsail it should be pulled out on the spars hand-taut and no more, and when set for the first time, there should be but the merest trace of a ruck at the throat, which should disappear when the topping lift is slackened. Fine, warm weather should, if possible, be selected for sail stretching, and a mainsail should never be reefed until thoroughly stretched. Should the yacht not number a trysail in her equipment, the owner should beg, borrow, or otherwise acquire one for use if required whilst his new sails are in the process of stretching, and then if it should happen to rain or blow hard he will be in a position to stow the new mainsail and get home under the trysail. As the sail stretches the slack should be taken up on head and foot, but no great pressure must be used in hauling it out until all the stretch has been taken out of the new canvas. Care should be taken to stow and coat the sail when it is bone dry, and for that reason it should not be used when the dew is falling. Should the owner have the misfortune to get caught out in a shower with his new sails set he should at once take steps to minimise the risk of their being spoilt by slacking up the outhaul and lacing at both head and foot. After four or five days' use the sails will be fairly well stretched, and may be safely reefed should occasion demand. With regard to headsails, the only special precautions needed are

to keep them dry and not purchase them too vigorously whilst they are stretching.

The owner must not run away with the idea that when his sails are thoroughly stretched they will be free from all risk of deterioration. It must be remembered that white sails are particularly prone to mildew, which can only be kept away by unremitting attention. The sails of yachts used only at week-ends are especially liable to mildew, as they often suffer from lack of ventilation. The owner of such a craft, having comparatively little opportunity for sailing, naturally likes to keep under way as long as he can, and defers the return to moorings to an hour that is governed more by the time of his train than anything else. As a result it often happens that the dew is falling when he finally brings up and the sails are slightly damp. They may not be really wet, but there is just a suspicion of dampness which may either escape his notice or which he may not think worth worrying about. And so he makes up the sail and puts on the cover. Being more or less tightly furled and lacking ventilation, it is more than possible that when the owner joins his yacht the following week-end he will find in places innumerable tiny black spots caused by mildew, and nothing will get them out. This not only mars the appearance of the sail, but in course of time rots the canvas. I always think that mainsail covers are something of a snare, and yet if one has white canvas they must be used to keep the sails clean. If there is the slightest suspicion of dampness in a sail, it is far better to furl it loosely and leave it uncoated until there is an opportunity of airing it. White sails are really quite unsuitable for week-end yachts, as such craft frequently return to their moorings with wet or damp canvas, and it is not every waterman who can be trusted to air sails in the absence of the owner. It is for this reason that the prudent owner has his sails either tanned or dressed with some damp-proof preparation, and although they may not be quite so pleasing to the eye, he certainly reaps a reward in the shape of more sailing and complete freedom from worry. Personally I think the rich red-brown tint of sails dressed with oil and ochre very picturesque, and they give a yacht a very workmanlike appearance. Still, there are many small yacht owners

who have a prejudice against coloured sails, and it may interest them to hear of a waterproof dressing that adds nothing to the weight of the canvas and is colourless. Sails treated with this process are supplied by the well-known Burnham sailmakers, Messrs. Cranfield and Carter, and I hear excellent accounts of it. I have not personally tried it for sails, but some six years ago the firm made a motor cover for me which still shows no sign of mildew. It was made of the lightest cotton sailcloth, and as it has been frequently folded up tightly when wet and stowed away for days on end in a locker, the cover may be said to have had a good test. As the dressing adds nothing to the weight of the cloth the process strikes me as being particularly adapted for the sails of racing craft.

Modern yacht sails, which for the most part are made of Egyptian cotton, do not last so long as the old-fashioned ones of flax canvas, but as they do not cost so much there is nothing in it as regards economy, whilst they are a good deal lighter and more efficient generally. A suit of cotton duck sails if carefully looked after will last for four or five seasons on a yacht that is used only for week-end sailing, with perhaps a few weeks' holiday cruising in the course of the summer. Even after four or five seasons' use their life of utility will not be finished, as they can be dressed and bent for winter work or for a few weeks at the beginning and end of the season when the weather is uncertain. But if the sails be neglected it is more than likely that they will be badly mildewed and stretched out of shape after a couple of seasons' use, and so it is well worth the owner's while to take a little trouble over them. Such sails as a storm jib, or a trysail, being comparatively little used, are apt to be overlooked, and the owner should therefore make a point of getting them out of the sail locker at fairly frequent intervals and giving them a good airing. Spare headsails should be stowed away loosely in the locker, as they will then get more air than would be the case if they were neatly folded and stowed in bags. The door of the sail locker should be left open occasionally on warm dry days for the purpose of ventilation, and if the floor of the locker takes the form of wooden battens, it will enable a free current of air to reach the sails. Little matters of detail of this nature have

a considerable bearing upon the life of the sails and are worthy of the attention of a careful owner.

There is nothing so destructive to a yacht's fabric as damp in combination with lack of ventilation, for such conditions lead to the generation of mildew and dry rot. For this reason the interior is better left unlined, but for the sake of comfort and appearance it is customary for yachts' cabins to be ceiled. The necessary ventilation can, however, be obtained by drilling holes in the lining and in the bunk-risers. Ventilation may be further promoted by having the lids of the bunk lockers made in the form of battens, so that a free current of air may play on the underside of the cushions. Walton Lincrusta and kindred substances should never be used for purposes of decoration, as moisture is apt to settle beneath it and generate dry rot. If linoleum be used to cover the floorboards it should not be tacked down, as it is desirable that it should be lifted occasionally so that the floorboards may be dried. As a yacht that is used for week-end sailing is shut up for five days out of the seven, steps should be taken to keep the cabin ventilated during the owner's absence. This can be done by fitting a mushroom ventilator in the cabin-top. A ventilator of this type may be left open without fear of the rain getting into the boat, and when the vessel is under way can be screwed down to keep out driving spray.

The lockers of the average week-end yacht usually receive but scant attention, as the owner, particularly when single-handed, is apt to grudge the time necessary for systematic cleaning operations. But if neglected, lockers are liable to accumulate dirt which will in course of time smell unpleasantly and foster mildew. Every few weeks the lockers should be cleaned out and scrubbed with soap and hot fresh water, being allowed thoroughly to dry before the contents are re-stowed. The owner who makes a practice of doing this will not only keep his lockers clean and sweet, but also avoid that accumulation of useless rubbish which is usually to be found in the lockers of small yachts.

If not properly cared for, a yacht, when laid up, will deteriorate more in one winter than she would in several years of honest sailing. The best berth for a small yacht when out of commission

is ashore under cover; but facilities for hauling out a vessel are not always available, and the majority of such craft pass the winter months in a mud berth. A boat thus laid up should be covered with a waterproof tarpaulin specially made to fit her. The cover may cost the owner five pounds or more, but the money will be well spent. The cover should rest upon a ridge pole extending fore and aft about 2 feet above the deck, to allow of plenty of ventilation. When berthed everything should be taken out of the yacht and all doors and lockers left open. Any inside ballast should be removed, and the bottom, below the cabin floor, thoroughly cleaned and coated with black varnish applied hot. On bright sunny days the cover should be removed for a few hours so that the interior of the yacht may have a good airing. If there is a coal stove in the cabin a fire may be lighted occasionally with good results, as it will dry up any moisture that may have been generated by condensation. The spars should be stored under cover, and the mast, if not lifted out of the vessel, can receive a coat of grease and whitening to keep out the weather. The decks, rail, skylights and other bright work should be given a coat of common varnish.

The sails, cushions, and gear must be stored for the winter in a dry shed, and care should be taken that the sails are bone dry before they are put away. A quantity of paper should be placed with the sails and cushions in the shed to prevent damage by rats and mice. Such vermin prefer paper to anything else for nest-making, and if there is plenty of paper available, they will leave the sails and cushions alone. Before the yacht is berthed she should go on to the hard and have her bottom scrubbed and coated with black varnish, and if her topsides are at all bare they will be the better for a coat of paint. A yacht thus cared for when laid up can be refitted in the spring with far less labour and expense than would be the case if she had been left exposed to the weather, and her fabric will not deteriorate to any appreciable extent.

In concluding these notes on single-handed cruising I would remark that no owner should venture alone very far from the land until he has attained some proficiency in marlinspike seamanship. One never knows when gear may be carried away,

and it is essential that the owner, when alone, should be in a position to effect at least temporary repairs. With this end in view a liberal supply of rope, blocks, shackles, thimbles, etc., should be included in the vessel's inventory, and there should be a coil of new rope of sufficient length to replace any halyard in the yacht. I have not touched upon marlinspike seamanship, as in my opinion a knowledge of the subject can only be acquired by practice. The correct method of making knots and splices is most difficult to explain on paper and practically impossible to illustrate. The novice's best plan is to get some more experienced friend to teach him, or failing that, to give a waterman a tip now and then in exchange for a little instruction.

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