

YACHTING
WRINKLES

BY
Capt. A. J. Kenealy



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YACHTING WRINKLES.

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YACHTING WRINKLES

A PRACTICAL AND HISTORICAL HANDBOOK OF
VALUABLE INFORMATION FOR THE RACING
AND CRUISING YACHTSMAN.

BY

CAPTAIN A. J. KENEALY,

Author of "Boat Sailing, Fair Weather and Foul,"
"Yacht Races for the America's Cup,"
Etc., Etc.

Wrinkle — Something Worth Knowing.— Nautical Lexicon.



With Apposite Anecdotes, Diagrams and Illustrations.

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PREFACE.

THE kind reception given by yachtsmen generally to "Boat Sailing, Fair Weather and Foul," has induced me to embark in a new venture. The following "Wrinkles," gleaned from practical experience, observation and study, are printed in the hope that they may prove of interest and value to lovers of sailing craft.

I want to warn off literary critics by the frank admission that I am not worthy of their steel, being an old sailor who went to sea when he was thirteen, and spent many years afloat where books were scarce. So far as yachting critics or nautical experts are concerned, I must let my work speak for itself. If it has no other merit, it has at least been conscientiously done.

A. J. KENEALY.

New York, March, 1899.

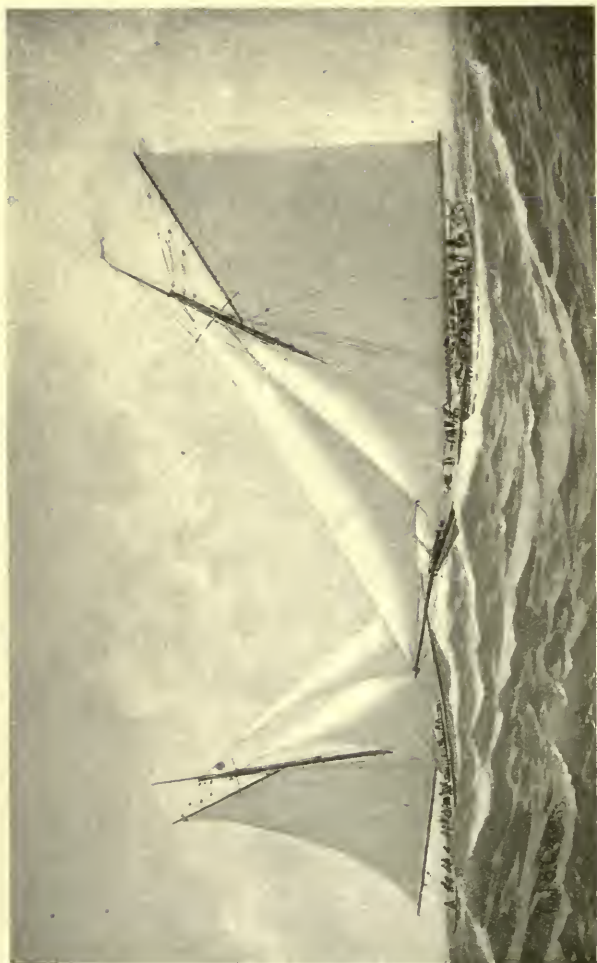
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“ WITH TOPMASTS HOUSED.”

I.

YACHT RACING AS A SPORT.

BRIEF REVIEW OF THE FASCINATING PASTIME FROM
ITS INCEPTION TO THE PRESENT TIME.

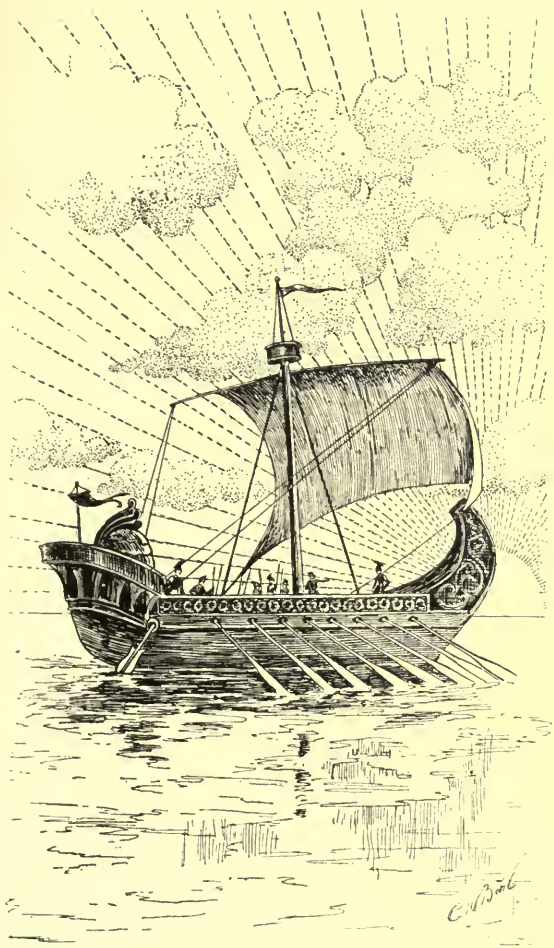
ABOUT half a century ago, when I wasn't so gray and grizzled as I am now, I was shipmate with John Gulliver, an ancient mariner who fully believed in the doctrine of the transmigration of souls. He used to spin the most wonderful yarns. He had in former incarnations animated the body of a whale, a green turtle and a sea-gull. He had also been cabin boy on the good ship *Ark*. He declared that, of all the skippers he had ever sailed under, Captain Noah was the strictest.

During the brief but memorable voyage of that historic craft, the crew, he declared, never once got an afternoon watch below. When they weren't feeding the live stock they were kept busy on deck cleaning brass-work and hauling taut the lee crossjack brace. He said he felt very glad when the time came for the crew to be paid off. He had grown weary of the weevily biscuits

and the tough salt junk. There were no "manavellings" aboard the tarnation hooker and the Old Man only served out rum once during the voyage, and that was when the *Ark* was hove-to under a goose-winged maintopsail and foretopmast staysail in the latitude and longitude of Mount Ararat, waiting for the dove to come aboard.

I remember I used to listen with my mouth wide open to the marvelous stories of this old salt. I once asked him to describe the interior fittings of Captain Noah's ship, but from what I could gather from him there wasn't much gilt gingerbread work in her main saloon. Everything was for use; nothing for ornament. There weren't even brass hoops on the mess kids. Besides, she leaked like a sieve and wouldn't steer well unless close-hauled on a bowline.

The ship *Argo*, in which Jason sailed in search of the Golden Fleece, had no artistic decorations below, but her hull, from all accounts, was a "dandy." Built of lofty pines which flourished on Mount Pelion, she was pierced for fifty oars. She was daubed with coal-black pitch, and her bows were painted with vermilion. I don't believe she ever made more than four knots an hour, even with fifty heroes pulling their hardest at the oars, all keeping time to the music of the harp of Orpheus, who had too much low cunning to do any work himself. The *Argo* was



JASON'S YACHT "ARGO."

a yacht manned by Corinthians and the first one that ever sailed on the Euxine, vulgarly known as the Black Sea. So far as I know, there are no photographs extant of her interior, but judging from the log of her voyage she had a fine galley on deck, in which her crew of heroes used to cook the choice parts of swine and deer for their own use, offering up the offal as a sacrifice to the immortal gods—a circumstance showing that the ancient mariners were just as level-headed as the down-to-date seamen of to-day.

The handsome barges which belonged to the high civilization of ancient Egypt used to ply on the muddy waters of the Nile, and highly ornate vessels they were, manned by fifty rowers. They had sails of crimson silk, richly embroidered. Their cabins were sumptuous, spacious and luxurious, gold, silver and precious stones being used lavishly in their decoration. In such a stately craft Cleopatra and Mark Antony passed many halcyon hours of splendid ease and amorous dalliance. The Romans and Carthaginians had their pleasure craft, and so had the Greeks and Venetians.

It was the custom of the Romans to hold regattas of biremes and triremes, and according to the chronicles a good deal of money changed hands over the results. Every schoolboy remembers the exciting boat race between those gallant Trojan captains, Cloanthus and

Sergestus, so ably reported by one Vergil. I know that I can never forget it. That regatta cost me many a cruel birching. In these competitions oars only were used. I fancy that sails were not set in those days except when the wind blew abaft the beam, the ancients not being well versed in the art of beating to windward. The swift ships in which Father Æneas, his faithful Achates and his devoted followers, fled from Troy, had, I suppose, but scanty cabin accommodations; and when bold Pilot Palinurus glanced at the compass to see if the helmsman was steering a correct course, no highly polished brass binnacle reflected that skillful old navigator's bronzed and bearded face.

The flagship of Columbus may fairly be classed with the *Argo*, and so may the Norse galley which brought to the rugged New England coast those hardy salts who built the windmill at Newport and left their indelible marks on the primeval granite rocks of that region.

The Dutch, I think, were the inventors of the sailing yacht proper, and from Holland the finest diversion in the world spread to Great Britain, and became the sport of kings. Quaint old Pepys, in his diary, tells us of a sailing yacht named *Mary*, which was presented by the Dutch East India Company to King Charles II. in the year 1661. Charles was a tip-top yachtsman, the merry monarch being never sick at sea.

His yacht *Mary* was beaten by another pleasure craft of English design, the match being the first between sailing yachts in the history of the pastime in England. According to Pepys, the *Mary* was snug and cozy below, quite comfortable, but not at all luxurious. The king cruised much in her up and down the English Channel in the palmy days of his reign.

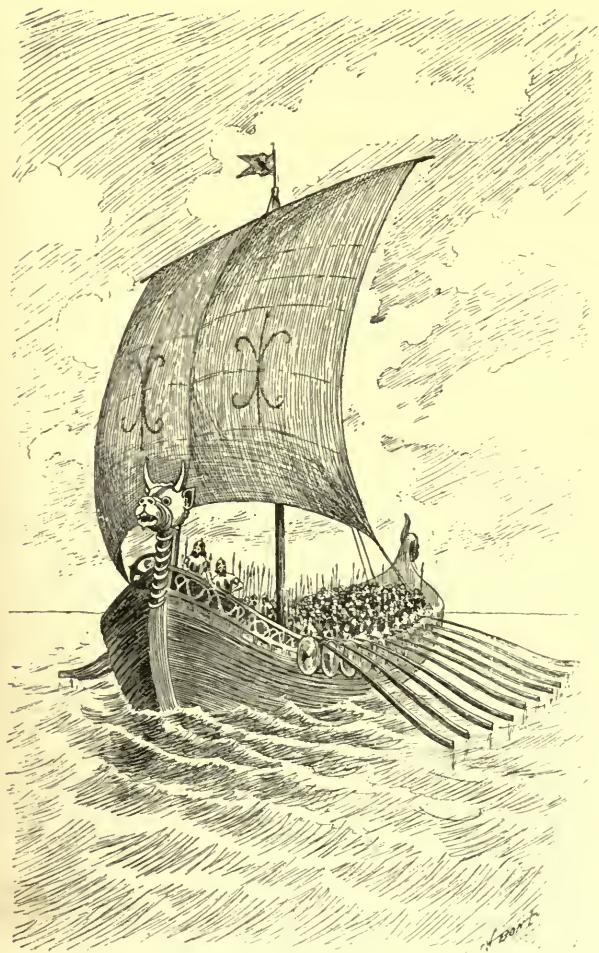
Three hundred years before, when Marino Faliero was Doge of Venice, a merchant prince of that state originated pleasure sailing on the peaceful Adriatic. A Dutchman called Van Kompf transferred the craft to the German Ocean, and gave it the name of yacht. To the Dutch and Scandinavian strain in the English blood is owing that passion for the sea which has made yachting so favorite a recreation in Great Britain. Our own love for the sport is doubtless derived from the same source.

Turning to our own land the beginnings are naturally more definite. We know the exact facts, for the New York Yacht Club was organized aboard Mr. John C. Stevens' schooner *Gimcrack* on July 30, 1844, the *Gimcrack* being at anchor off the Battery. In those days there were but few yachts, and most of them were small. The fittings of pleasure craft were then simple and inexpensive, when compared with the luxurious and costly appointments of the palatial vessels which are our pride to-day. The old *Maria*, which was the

last yacht owned by Commodore Stevens, would not rank very high in the present fleet of magnificent steamers, schooners, sloops and cutters. She was the finest and fastest yacht of her day, having many of what are now termed "modern improvements," such as outside lead, a heavily weighted main centerboard, also a forward centerboard, a hollow main boom ninety-five feet long and nine feet in circumference at its greatest girth, built of white oak staves, with doweled and keyed edges, iron bands and longitudinal iron trusses. Her main sheet was fitted with a rubber compressor.

Her former sailing-master is on record as saying: "She would work within seven points, and I have sailed her seventeen knots. On her trial trip with the *America* along the beach we beat her so badly that Mr. Stevens was in doubt whether it was good policy to send her to England; but as she defeated all the others by as much as we beat her, it was finally decided she ought to go."

The *Maria* is said to have cost \$100,000, a vast sum in those days even for Mr. Stevens, who owned nearly all Weehawken and Hoboken. It must be remembered, however, that she was continually being altered and improved, no expense being spared. The equipments and cabin fittings of all the pleasure craft of that period were plain and economical. The greater part of their cost was expended on hulls, spars and



THE VIKING SHIP.

rigging, which were of the best material. The age was not so luxurious as it is to-day. Though bronze and aluminum hulls, steel booms, wire rigging, silken sails, and the one hundred and one "fads," patented and otherwise, which are now considered indispensable for racing were unknown, the yachts cost a pretty round sum, but merely a trifle compared with the crack clippers of this year of grace.

The cabins of those yachts were not finished in costly hard woods carved by artists and highly polished. No upholstery of silken plush or hangings of rich tapestry were to be seen. Sperm oil in brass lamps of no particular design illuminated the space below. The fare, too, was plain and simple. Little or no wine of costly vintage was consumed. Honest claret, mellow Medford rum, and fine old whisky were the staple beverages with which those sturdy salts moistened their clay, while they solaced their souls with Virginia tobacco smoked in pipes of quaint Dutch shape. It is needless to say that the "400" of half a century ago didn't carry their valets with them while cruising on the Sound or while sailing to Cape May.

The old course of the club was from the club-house in the Elysian Fields, Hoboken, out to the Southwest Spit and back. The yachts, as a rule, were sailed by amateurs. No uniform was worn in those primitive days, and there was no red tape whatever. But it is questiona-

ble if a finer class of amateurs ever existed than those men who sailed the yachts of the club during the first twenty years of its history.

If some of those sturdy salts who flourished in the good old days of our famous schooner *America* could rise from their snuggeries in the cemeteries and sail on the squadron cruise of the New York Yacht Club next August, I would promise them a spectacle which would astonish them. I would first point out to them in Glen Cove a fleet of more than one hundred yachts, comprising some of the finest steam and sailing craft in the world. I would next call attention to the fairy-like electric, steam, and naphtha launches darting between the ships and the shore, some of them laden with ladies of bewitching loveliness, dressed so saucily and coquettishly in nautical raiment as to make a bachelor's mouth water.

I would next take my resurrected friends in a naphtha launch on board one of the big steam yachts, and while on their way thither they would marvel at the handiness and speed of the little boat which carried them. If it was the flagship *Corsair* they visited, her owner would be sure to have the side piped in true man-o'-war fashion in honor of the old-time salts. Climbing up the gangway ladder, walking aft on the snowy deck, they would be invited below, to the hospitality of the *Corsair*, which they would indeed be loath to leave.

I might then possibly convoy them aboard the big racing schooner *Colonia* and the new cup defender, and, after gazing upon these two marine marvels, you might wager that the old chaps would make a vigorous kick against returning to their little grass-covered beds.

While rummaging over some musty documents in the library of an old seafaring friend the other day, I happened to come across some interesting memoranda concerning the good old schooner *Gimcrack*, the first flagship of the New York Yacht Club. From these items I gather that she was fitted with a fixed centerboard of heavy plate iron, four feet deep and fifteen feet long, resembling the fin of to-day, but minus the bulb of lead on the base. This is another exemplification of the truth of the old adage that there is nothing new under the sun.

The pastime which was so ably started by those old and gallant sportsmen has prospered beyond belief, and no wonder, for yacht racing, in my judgment, is the most fascinating and wholesome sport in the world. Its devotees are actuated by no mercenary or money-making motives, but follow the pastime for the many delights its pursuit affords. The praiseworthy ambition that has for its goal the winning of sea trophies is devoid of all craving after filthy lucre, because the prizes obtained, no matter whether in cash

or plate, are trifling in comparison with the first cost of the yacht and the incidental expenses of running her. There are many other reasons that may be adduced to prove that the pastime excels all others; but, in my opinion, the most convincing argument that can be urged is that no scandal has ever sullied the fair name of the sport, and that its followers the wide world over are the best fellows that breathe—generous, hearty and manly—the salt of the earth, in fact.

It is a sport in which the element of gambling rarely enters, except in the case of international events, when patriotic pride impels men to back their country's flag with a modest wager. I have been a close student of yachting lore for more years than I care to recall, but I know of no instance where yacht racing has made a financial wreck of one of its faithful adherents. Of what other gentlemanly sport can as much be truthfully alleged?

If a rich man has sons with a leaning toward yachting he should encourage its complete development. I know of no better school for the cultivation of all manly virtues. There is no question concerning its healthfulness, but my contention is that a man's moral tone as well as his physical constitution improves by association with the sea. Self-reliance, quickness of decision, action and resource, bravery and personal endurance, are qualities necessary for



success in life. Where can all these desirable characteristics be acquired with more ease and greater satisfaction than on a racing vessel, preferably one of moderate size manned exclusively by amateurs or with the aid of one paid hand ?

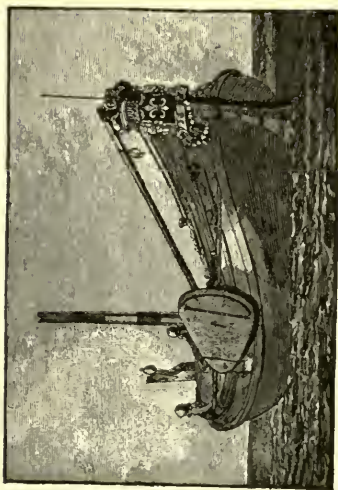
It may properly be remarked that the love of boating is innate and can never be acquired. The mere sight of the sea has an attraction to the true son of Neptune as cogent as that of the magnet to the pole. He eagerly desires to be afloat on it, and can sympathize with Charles Lever, who once said he would rather have a plank for a boat and a handkerchief for a sail than resign himself to give up boating altogether. The man who has not the nautical instinct can never come to regard a boat with more affection than he does a horse-car. When you rave ecstatically of the virtues of your little ship he feels inclined to think that you must be half crazy. You can never make a yachtsman out of material such as this. We cannot all be sailors, so therefore let the cobbler stick to his last and the cook to the fore-sheet, where he belongs !

The deduction from the above is that you should be careful as to the choice of your seagoing chum. The most congenial companion ashore may prove an insufferable bore afloat. And to tell the truth, you ought not to blame him for the lack of the nautical instinct, but rather yourself for inviting a person

lacking that saving qualification to go sailing with you. *Nauticus nascitur, non fit* is a true adage. There is a huge army of our fellow creatures who think with Dr. Johnson that the pleasure of going to sea is getting ashore again from a prison, where there is also the risk of getting drowned. But a far brighter literary light than he, Thomas Carlyle, to wit, the crabbed, the cynic, who was ever ready to use his mordant pen of wormwood in holding up to execration the foibles and the sins of humanity ashore, was always blind to the faults of his fellow-man afloat. The acrid gall of his being, induced by the horrors of chronic dyspepsia, was converted into milk and honey by the magic influence of the Ocean.

Who can forget the account of his trip to Ostend and back in the revenue cutter *Vigilant* in 1842? He described the craft as a smart little trim ship of some 250 tons, rigged, fitted, kept and navigated in the highest style of English seacraft, made every way for sailing fast that she may catch smugglers. Outside and inside, in furniture, equipment, action and look, she seemed a model, clean as a lady's work-box.

His biographer, Froude, has told, of their return trip, how at midnight they were in their berths aboard the *Vigilant* running out into the North Sea: "The wind fell in the morning and they were becalmed. They sighted the North Foreland before night, but the air was



DUTCH YACHT OF 17TH CENTURY.

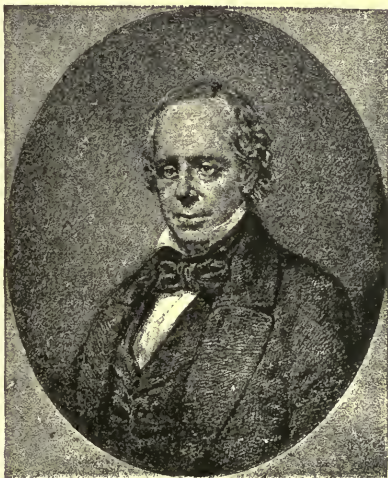
still light, and it was not till the next day that they were fairly in the river. Then a rattling breeze sprang up and the *Vigilant*, with her vast mainsail, her vast balloon jib, with all the canvas set which she could carry, flew through the water, passing sailing vessels, passing steamers, passing everything. They carried on as if they were entered for a racing cup. The jib, of too light material for such hard driving, split with a report like a cannon. Carlyle saw the 'Captain's eyes twinkle; no other change.' In ten minutes the flying wreck was gathered in, another jib was set and standing in place of it, and the yacht sped on as before. 'To see men so perfect in their craft, fit for their work, and fitly ordered to it,' was a real consolation to him. There was something still left in the public service of England which had survived Parliamentary eloquence. They entered at Deptford and the gig was lowered to take the party up to London.

"Five rowers with a boatswain; men unsurpassable, I do not doubt, in boat navigation; strong, tall men, all clean shaved, clean washed, in clean blue trousers, in massive clean check shirts, their black neckcloths tied round their waists, their large, clean brown hands, cunning in the craft of the sea—it was a kind of joy to look at it all. In a few minutes they shot us into the Custom House stairs, and here, waving our mild farewells, our travel's history con-

cluded. Thus had kind destiny projected us rocket-wise for a little space into the clear blue of heaven and freedom. Thus again were we swiftly re-absorbed into the great, smoky, simmering crater, and London's soot volcano had again re-covered us."

I am sure my readers will pardon me for quoting at such length from Carlyle, if only for the reason that the matter I reproduce is far more interesting than any I can originate. Besides, I need the extract to emphasize my argument concerning the healthful moral tonic of my much-loved sea. Here is a trillious, doleful, indignant, and scornful Carlyle cured temporarily of all his mental disorders by a rattling run across the North Sea and back. He lands in a delightful frame of mind, and has nothing but the most pleasant reminiscences of the *Vigilant*, her skipper and her crew. The readers of his stories of other journeys by land will appreciate the surprising contrast.

Very few men go into yachting for the advertisement that it may offer. It is always possible for some seller of quack medicines to achieve cheap notoriety by claiming that he is about to build a yacht to defend or capture the *America's Cup*. If he uses diligently whatever art of claptrap he is endowed with he will find numbers of newspapers gullible enough to give him columns and columns of gratuitous puffs. The public may be beguiled for a time into



COMMODORE JOHN C. STEVENS,
The Father of American Yachting.

the belief that his intentions are really honest ; but the experienced yachtsman will not be deceived for a moment, as he knows that no yacht club of repute will father the challenge of such a person, even in the unlikely event of his building a yacht for the purpose of a real race. Yacht clubs on both sides of the Atlantic, to their credit, fight very shy of such queer customers.

Thus it is that the sport is confined to gentlemen; nautical blacklegs, blackguards, and 'welshers' being unknown. The membership committees of the clubs are very discriminating and cautious as to those whom they admit ; and even if a "black sheep" succeeds in entering the flock his presence is soon discovered, and he quietly learns that his room is more desirable than his company. His resignation follows as a matter of course.

A yacht club composed principally of men who love the sport for the precious gifts it offers, and not for fashion's sake, or because "It's the proper caper, you know, to belong to a yacht club, don't you sec?" is an excellent school for a young man, both morally and physically. In the arena of professional sport, as we all know, objectionable characters, unhappily, fairly swarm. It would be invidious to particularize or to single out any one sport as being remarkable from the number of black sheep among its adherents. But of yachting it may truly be said that the pastime never has

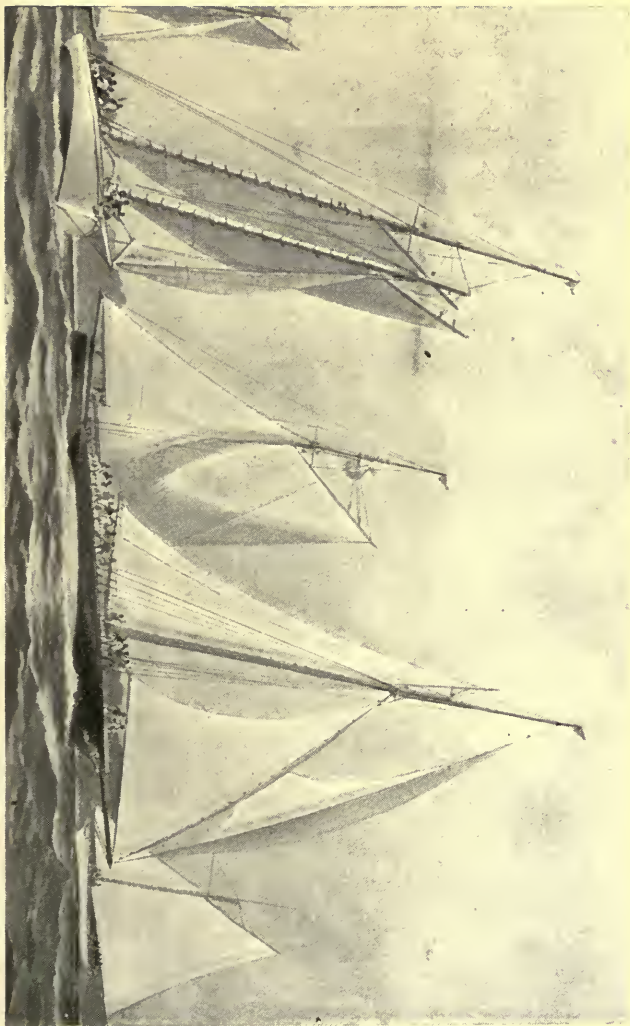
been disgraced or degraded by the professional hands necessarily employed in its service. Officers and men before the mast quickly realize that good conduct is the only secret of success, that braggarts and bullies have no place in its symmetry, and that dishonesty of any kind, whether selling a race or robbing a yacht owner, is quickly detected and punished. I have never known an instance of the first-named disgraceful offence, and the lack of it speaks volumes in behalf of the honor and integrity of yacht skippers the wide world over. Be it remembered that for a sailing-master to lose a race would be as easy as for a jockey to so ride a horse that in spite of his gameness or his speed he could not possibly win. Scandals such as in the past have made the turf a byword are happily unknown in yacht racing. In all my experience of yachtsmen I never heard one of them, in his most open and confidential moods, with his mind mellowed with grog, boast of winning a race by unfair or questionable methods.

Many stockbrokers race their yachts, and, although the Stock Exchange is supposed to have a peculiar effect on the moral tone of its members, yet when these gentlemen engage in a yacht race they display the nicest honor, the most chivalrous conduct toward their adversaries, that is indeed most admirable to contemplate. Lawyers, too, who in the exercise of their profes-

sion are full of wiles and stratagems, lose their chief characteristics when they enter their yacht club or get aboard their yachts. The transformation is magical. You fail to recognize in the bluff, open and honest sea-dog in his natty suit of serge the shrewd gentleman of the long robe who, with his quips and his quirks and his long list of precedents and his unfailing gift of the gab, has just succeeded in making the Supreme Court of the United States feel exquisitely unhappy. Talk of Aladdin's lamp or any other famous storied talisman as you please, but, upon my word, the sea has worked more wonders than them all !

There is much patriotism among our yachtsmen, the bulk of the Naval Militia of the various States, possessing such a volunteer organization, consisting of men who are devoted to the sport. That the United States Government is much indebted to yachtsmen is now generously conceded by our naval authorities, who, at the outset of the war with Spain, availed themselves of a large fleet of steam yachts, which were transformed with marvelous celerity into despatch boats, protected cruisers and torpedo-boat destroyers. They proved of immense service to the navy, as that arm of our national defence was destitute of these almost indispensable vessels. It may be truthfully alleged that the navy would have been in an unpleasant predicament if it had not been possible to

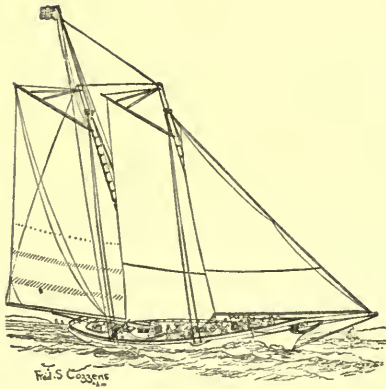
"GIMCRACK" AND "MARIA."



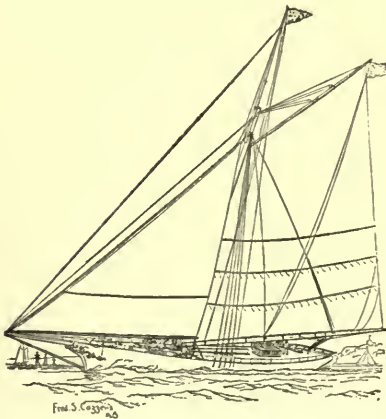
call upon the steam yachting fleet of the Atlantic coast. The splendid achievement of the converted yacht *Gloucester*, formerly the flagship of the New York Yacht Club, which drove ashore two Spanish torpedo boat destroyers near Santiago de Cuba on July 3, 1898, will always be remembered as one of the most brilliant episodes of that "most just and charitable war." She was in command of Lieut.-Commander Wainwright, who was executive officer of the *Maine* when she was blown up in Havana harbor on February 15, 1898.

The generous response of the Naval Militia to the call of the President and the eagerness of yachtsmen generally to recruit its ranks have been highly appreciated. Yachtsmen will ever feel proud of the gallantry of the Naval Militia because it is so largely composed of their shipmates and messmates. It is needless to expatiate on the patriotic part of my theme. The advantages of yachting as a nursery for the navy in war-time are indisputable, and will occur to anybody who will give the matter due reflection.

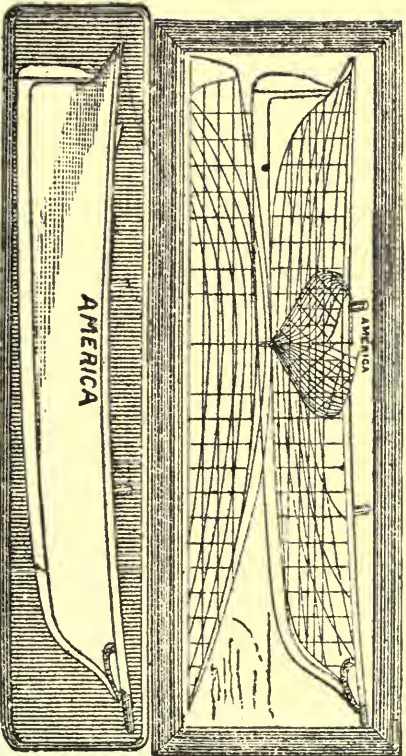
The Corinthian Yacht Club of New York, now unhappily extinct, did excellent work in its rather brief but not inglorious career. It achieved much in the way of the abolition of the pernicious broad and shallow type of boat which at the time of the Corinthian Club's heyday was extremely popular. I should be disingenuous were I not to



"AMERICA," 1851.



"MARIA," 1851.



“AMERICA’S” LINES

confess quite frankly that the extreme type of plank-on-edge cutters favored by the leading lights of this club was, in my judgment, nearly as objectionable as the class of craft it sought to supersede. But still it must be said that the boat of to-day, which is a compromise between the extremes mentioned, owes a share at least of its existence to the bold efforts of the Corinthians. To abolish the "skimming dish" was one of the chief aims of the club, and that it did yeoman's service in that direction was one of its greatest glories.

An innovation made by this club was the establishment of cadets as members. These cadets were the sons or relatives of members who took an interest in the sport. They were entitled to many of the privileges of their elders, including the right to wear the club button. It always impressed me that the idea was a good one. I know of no other club that has followed its example. Now that the ban against women has been removed by half a dozen clubs of importance, Young America may also be granted an opportunity to rise and shine. There is no doubt that the average American boy is fond of a sailor's life. It is also true that some of the genus would hardly be a joy in the life of a yacht club if admitted to cadetship. There is every likelihood, therefore, that it may be long before the boy becomes an active participant in yachting, so far as clubs are concerned. But

I know several ambitious youths who can handle their fathers' vessels as well as a veteran, and who can be depended on to enter into the vigorous practice of the sport as soon as they get old enough to run their own affairs.

It is my intention to discuss in detail the cost of running a racing yacht, in a subsequent chapter, but I may say in a general way that capital sport may be had each season at a moderate outlay. There never before were so many yacht clubs as there are to-day, and never has a more intelligent interest been taken in the economical pursuit of racing. *Defenders, Vigilants, Colonias* and *Emeralds* are vessels beyond the reach of all but millionaires. It is only the very richest of our fellow citizens who can enjoy the delights of racing these large and costly vessels. But the popular restricted classes of 1899 offer inducements that the ordinary man of affairs earning a moderate income may easily avail himself of. Suppose that two chums, who have sailed together long enough to find out that their idiosyncrasies of disposition and temperament will allow them to dwell together in amity afloat, form a marine partnership and buy jointly a knockabout or raceabout for cup-hunting and cruising purposes. The first cost of the boat, complete and delivered, might be \$800. A second-hand boat might be picked up much cheaper. The expense of keeping her in commission would be modest. No

paid hand would be necessary, and the boat might be so moored that one of the club hands would keep a general watch on her to see that no harm befell her in a summer storm, his recompense for this being a generous "tip" at the end of the season.

In nearly all of the yacht clubs in the vicinity of the metropolis special efforts are made to induce owners of small craft to join, and there are facilities for the safe anchorage and also the hauling out of the club's mosquito squadron. In this the clubs act wisely, for the small classes are really the life of the organization, which, without their active interest, might stand a fair chance of perishing of inanition.

Most pleasures are evanescent when compared with the comfort that a sea-dog gets from fixing up his cabin for the season's sport. The ingenuity displayed in making the most of the necessarily limited quarters at his disposal, the stowage of his "dunnage," so as to be able to put his hand on anything at a moment's notice in the dark, the capacity of creating a home-like interior out of chaotic surroundings, call out every faculty.

The first sail on a new boat which is your very own causes a thrill of joy. To see the noble craft respond to the slightest touch of the tiller, to watch her gradually eat her way to windward in the teeth of a merry breeze, with a shining furrow of foam in her wake and her

sharp cutwater cleaving the blue billows, and when, with sheet eased off and wind abeam, her lee rail almost awash, she puts on an extra spurt—all these are eestatic raptures which your poor land-lubber has never experieneed.

Yaehts are fickle jades, as all who have been vietims of their whims and humors must fain eoncede. It is no wonder that they belong to the feminine gender. No eoquette can be eover or more diffieult to please than the highly strung racing yacht. On occasions it is hard to realize that she is an inanimate fabric. I have known one to develop nerves and even hysteria. It takes a man of great judgment and infinite tact and good temper to get the best speed out of a modern racehorse. Qualifications similar and quite as highly developed are necessary to the suecessful yacht skipper, be he amateur or be he professional.

The ambition to exeel in the art of yacht racing has been the means of inducing a great number of our fashionable youth, both golden and gilded, to cultivate the sport of yachting. The wholesome and invigorating influence of sea life and salt water have developed scores of dudes into men; and the one-design classes, now so popular, do much to keep young fellows out of mischief.

Raeing in the smaller classes is encouraged by all the clubs execept one—the New York Yaeht Club—and open regattas are plentiful, to which the boats belonging to all recognized clubs are

not only eligible but cordially welcome. The Yacht Racing Association of Long Island Sound has made a specialty of encouraging and promoting these open regattas, and the result is a programme of most attractive events, with no conflicting dates, that offer golden opportunities to ambitious amateurs to win trophies of their skill and daring. All existing classes are invited to take part in these competitions, as the most generous and sportsmanlike spirit of comradeship pervades the yacht clubs of the Sound; so, if a man prefers a catboat or a sloop or a yawl to a knockabout, he will have many opportunities of gratifying his yacht-racing instincts. The rules of this Yacht Racing Association are so fair and liberal that the most carping of critics can find nothing in them to cavil at. A hearty welcome is accorded the owners of all visiting boats by the club holding the regatta, and nothing can be more satisfactory than the system which so happily obtains in this present year of grace.

The benefits bestowed by this association on the yachtsmen of New York and Connecticut are rivaled by those offered to Eastern yachtsmen by the Yacht Racing Association of Massachusetts. Similar associations exist on the Lakes and the Pacific Coast, while the International Yacht Racing Union, established in 1897, promises to wield a powerful and benignant influence in the immediate future on the promotion of

international matches, which, in the past, have proved so beneficial to the sport.

It may thus be deduced that the outlook for sound and thriving sport was never brighter or more promising than it is to-day. White sails of racing craft dot the waters of our coast line where the sport is practicable. In the inland lakes the pastime, too, is pursued with zeal and intelligence. The advance and progress made in the sport date, strange to say, from 1880, when what is known as the "cutter craze" first made itself manifest in this country. In the light of history it should be candidly conceded that the lessons learned from the Scotch cutters *Madge*, *Clara* and *Minerva* proved of incalculable benefit to the sport in America. Broad-minded Britishers will also admit that the victories of moderate and able compromise craft like *Puritan* and *Mayflower*, combining the American breadth of beam and the centerboard with the British outside lead, over such representative English cutters as *Genesta* and *Galatea* caused the alteration of the British rule which penalized beam and which resulted in the building of vessels like *Britannia*, *Valkyrie* and *Meteor*.

The adoption by the English of cotton duck for sails, and also of the Yankee laced mainsail, show how our trans-Atlantic cousins appreciate a good thing when its advantages are made manifest. The eager way in which they snapped up the Herreshoff fin-keel is further

proof of the active interest the British designers take in the development of American yacht naval architecture and how keen they are to avail themselves of any new "wrinkles" in hull, sails or rigging that Yankee genius may invent.

And while the British eye is kept wide open in our direction, it must not be thought that we are blind to the doings of our rivals across the sea. The friendly feelings that have been enhanced between the two great English-speaking nations ever since the outbreak of the late war with Spain did much to make another race for the *America's* Cup possible and popular, and neither nation can afford to nap when the yachting supremacy of the sea is at stake.

Queen Victoria's policy has ever been to encourage yacht racing, as the many Queen's Cups she has presented to yacht clubs during her long reign abundantly prove. The most popular act of her life, so far as professional yacht sailors are concerned, took place on April 8, 1897, when she visited the Prince of Wales' cutter *Britannia*, at Nice, and presented Capt. John Carter, her skipper, with the medal of the Victoria Order, accompanying the gift with a graceful compliment. In America the yachting fraternity, both amateur and professional, has received no encouragement whatever from the Congress, and is still subject to harassing legislation. This is much to be regretted, as it is without question bad and unwise policy.

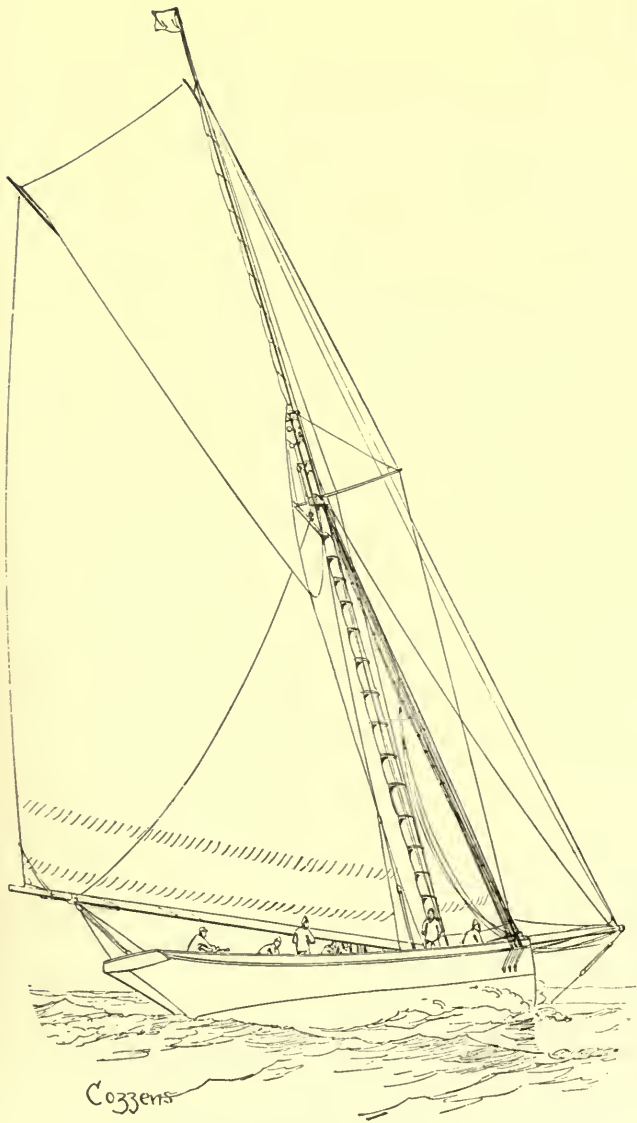
II.

THE RACING YACHT.

SOME REMARKS ON THE MATERIAL, CONSTRUCTION
AND SELECTION OF A VESSEL.

IT is a matter of some difficulty to advise a prospective yachtsman as to the acquisition of a racing craft. There are two courses open to him. He can either build or buy ready-made. If the question of money is purely a secondary consideration, the wealthy amateur will probably feel inclined to give an order to a fashionable naval architect for the down-to-date design of a tip-top craft in the class on which he has set his heart. He will find plenty of accommodating builders who will meet his views conscientiously and do their best to follow out the minutiae of the draughtsman's design. Swell sail-makers—and we have some of the best on earth—will supply his craft with a splendidly fitting and sitting suit of muslin, and he can hire a crack skipper who will teach him all the tricks of the most expert timoneer.

Mr. George L. Watson, the famous Scotch yacht designer, in a lecture on



THE CUTTER "ORIVA."

“Progress in Yachting and Yacht Building,” delivered early in 1881, said :

“As prophecy nowadays seems to be one of the branches of naval architecture, and we have been told by Sir E. J. Reed and others what kind of ships the next generation are to have, I am anxious to keep abreast of the age, and herewith present you with the outline specification of a 10-tonner for the season 2000. You see I keep myself pretty safe, as but few of us will be alive to see her sail. The dimensions I won't venture on. Some yachting authorities assert that you have only to make the boat long enough and heavy enough, to beat all existing racing craft; and it seems strange that, with this knowledge in their possession, they should not only have had sufficient self-denial to resist the building of certain successes, but have even gone the length of turning out duffers of normal dimensions. I think there is just a little more in it than that, and can't believe that a 10-tonner 80 feet long could ever be a success.

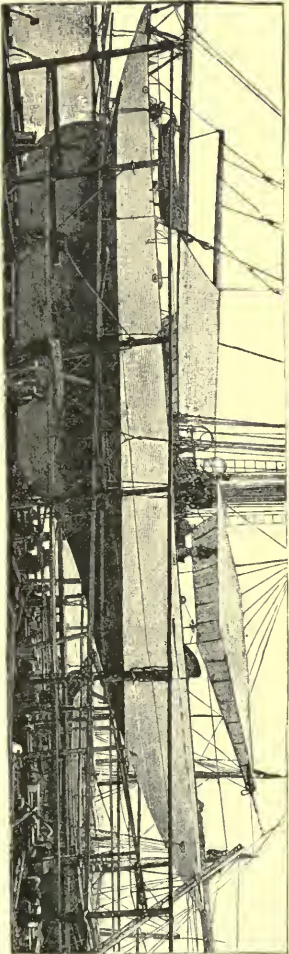
“We have not exhausted the possibilities of form yet, and really know very little more about it than Solomon did when he confessed his inability to understand ‘the way of a ship on the sea;’ and when we do arrive at perfection in shape, we can set to, then, to look out for better material.

“The frames and beams, then, of my ideal ship shall be of aluminum, the

plating below water of manganese bronze and the topsides of aluminum, while I think it will be well to deck her, too, with that lightest of metals, as good yellow pine will soon be seen only in a museum. For ballast, of course we should have nothing but platinum, unless the owner grudged the expense, when we might put the top tier of gold.

“But by that date I hope we won't care for sailing in such a sluggish element as the water. I firmly believe that some day the air will become as easily traversed as the earth or ocean.”

Now, in 1881, Mr. Watson's fame as a naval architect was quite firmly established, but as a prophet he was without honor in his own and every other country. It is therefore remarkable that his prediction, made presumably in playful jest, was, in a great measure, fulfilled not very long after. A torpedo boat of manganese bronze was actually built in England for the French Government in 1891. Then followed the construction in France of the yacht *Vendeesse*, built almost altogether of aluminum, in 1892, and a series of French torpedo boats of aluminum in 1895-6. The Yankee *Vigilant* was constructed of Tobin bronze below the water-line and of steel above. She had a hollow bronze centerboard and a solid bronze rudder. The latest development of Mr. Watson's fanciful idea was introduced in *Defender* in 1895. This celebrated yacht has top-side plating, deck beams, deck-strapping



Courtesy of Harper Bros.

“VIGILANT,” CUP-DEFENDER OF 1893, IN DRY-DOCK.

and upper fittings of aluminum, 4 per cent. nickel alloy, while the bottom plating is of bronze. The stern, frames, floor-plates, stiffening-angles, bilge-stringers, inverted angle-bulbs, under-deck beams, the two deck beams inclosing mast, tie-plates round mast, stepping-socket, bed-plate fittings, and supports and chain-plates are of steel. All the rivets are of bronze, thus completing an intimate association of the three metals, which was followed in a short time by inevitable general corrosion.

Advocates of aluminum as a fit metal for use in shipbuilding point out that no effort at insulation of any kind whatsoever was made, not even the simple precautions which would have been insisted on in an ordinary case of steel and bronze construction. *Defender* was built with only one purpose in view—the winning of a series of races. Her subsequent proceedings were a matter of no interest to her owners and builder. Had she been built of steel throughout she would have cost about half as much as she actually did, and would have been good for fifteen years of hard sailing if built up to Lloyd's rules. But she might, in that case, have failed to fulfill her only reason for existence—the beating of Lord Dunraven's *Valkyrie III*.

The scientist who will invent some alloy to combine with aluminum which will make the metal free from corrosion when immersed in salt water will confer a great boon on the builders of racing

yachts and, incidentally, will enrich himself. That this problem will be solved eventually there is little doubt. I hope that Mr. Watson will live to see his prophecy realized, even to the extent of aerial navigation.

At present, however, the heavy first cost of aluminum and its short life, when exposed to the erosive action of sea water, bar its use in the construction of racing yachts, except when the sentiment of defending or regaining an historic national trophy is indulged in by a syndicate of capitalists. Probably no single millionaire would have gone to the expense of the *Defender*, but when the price of her was divided up among several, the plethoric purses were not so very much depleted after all.

Aluminum as a material for yachts has been an interesting subject to me ever since it was first used in shipbuilding. The aluminum used in the *Defender* had an alloy of from 12 to 15 per cent. of nickel. The majority of the plates used were $\frac{5}{16}$ and $\frac{3}{8}$ of an inch in thickness. The heaviest plate weighed about 200 pounds, was $38\frac{1}{2}$ inches wide, 13 feet 10 inches long, and $\frac{5}{16}$ of an inch thick. This plate gave an ultimate tensile strength of 40,780 pounds per square inch, an elongation of 10 per cent. in 2 inches, and the reduction of area at the point of fracture was 14.75 per cent. Each and every plate used was tested.

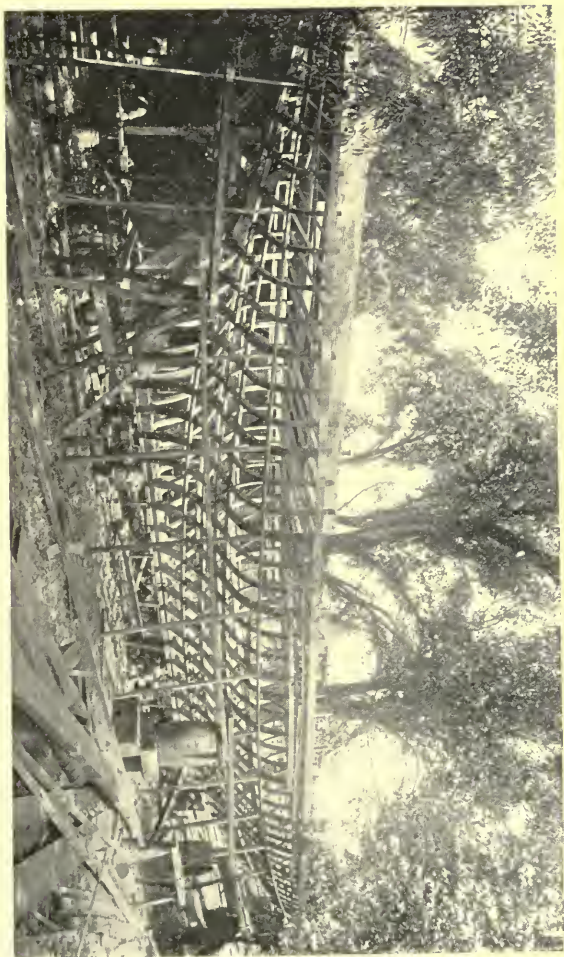
The *Defender* was constructed of aluminum plating from the water-line

up. Her deck beams, lateral and diagonal braces under the deck, a stringer plate connecting the deck beams with the sides of the vessel, continuous throughout her length, and the rail were of aluminum. The same metal was also used for dead-light frames and covers and small interior fittings. The sheaves of all her blocks were of aluminum.

I have read nearly everything that scientific men have written on the subject of aluminum as used in *Defender*, and from my reading I deduce that the metal failed to prove satisfactory because proper care was not taken to prevent oxidation by galvanic action. In the first place, bronze rivets were used instead of aluminum rivets, or iron rivets galvanized. Secondly, the insides of the rivet holes were not coated with white lead, nor were the rivets themselves dipped in white lead or paraffine before driving, as might easily have been done. In fact, no precaution whatever was taken to minimize galvanic action.

Mr. Herreshoff was advised to lay strips of heavy canton flannel well soaked in white lead between the lapping aluminum plates of the topsides and the bronze plates of the underbody, and then rivet up with the flannel between the edges of the two plates, forming a neutral joint. This precaution was not taken, however, the result being great corrosion where, through the

“UNCAS” IN FRAME.



junction of the two metals, galvanic action set in.

As a general axiom it may be averred that whenever brass or copper comes into direct contact with aluminum exposed to sea-water, corrosion is very rapid. It may also be averred that aluminum rivets can be made fully as strong as those of any other metal. Thus there is no good reason for using bronze rivets in the construction of an aluminum vessel.

The conclusion I arrive at is that aluminum as a material for a racing yacht should not be condemned until further experiments have been made. In strength and lightness it surpasses every other metal.

It is the general opinion of ship-builders that the best system of construction is to use one material alone in a vessel. Let her be all wood or all one metal, and then the strains will be equal and corrosion will be avoided. There is no question that wood should be used in all of the smaller craft up to the 51-footers, at any rate. Strength and lightness may be most effectually combined by the double-skin system of construction, which is by all odds the most efficient and lasting. In boats larger than these, steel may be the material of the hull. Metal in small craft is necessarily so thin that unsightly bulges often disfigure the topsides of vessels built of sheet-iron, ships' lifeboats, for instance. It is true, however, that these metal

boats are light and durable, and when hung to a ship's davits do not warp or shrink or become leaky when exposed to the burning rays of a tropical sun. These qualities, though of great value in the craft indicated, do not apply to small pleasure vessels, especially when the great heat of metal vessels in our hot summers is taken into consideration. Steel corrodes quickly and soon gets foul. It should, therefore, be kept well protected with a preservative anti-fouling paint.

Old-fashioned yachtsmen, a class of people almost extinct, prefer wood to any other material in sailing yachts of even the largest size. But the most prejudiced of these ancient mariners are forced to admit, however reluctantly, that wood will not satisfactorily stand the jarring strains of powerful modern marine engines. It would, of course, be possible to build an oaken vessel strong enough to sustain the stress of the machinery, but the timbers would have to be bulky indeed, and the weight would be far greater than if steel were made use of exclusively.

A friend of mine who is a devoted yachtsman, as well as a pretty fair hand with the rod and gun, having lost the bulk of his money by an unfortunate investment, was able by the exercise of ingenuity to build for himself a smart and able cruising schooner at a very moderate cost, and also to spend a winter very enjoyably. This is how

he went about it : In the first place he had a thorough knowledge of the type of boat he wanted, and had a smattering of the shipbuilders' art, being moderately handy with tools. So when he went to a naval architect he was able to give an intelligent notion of his real requirements, and wasted no precious professional time.

In the course of a few days the designer furnished him with the requisite working plans and specifications, all admirably clear and concise, and easily comprehensible by an intelligent mechanic. Armed with these plans he packed up his traps, not forgetting his guns, and started for a certain seaport in Maine, where some of the best coasting vessels in the world are built and where suitable timber is to be had at a very low price. Labor is cheap and so is the cost of living. He fell in with a skillful shipwright who owned a shipyard in the harbor, and he made satisfactory terms for the building of the vessel, the construction of which he generally supervised. She was built under cover, and thus was not damaged in the least by the severe winter weather. My friend made the seaport his headquarters, his expenses averaging no more than \$1 a day. He went on several enjoyable shooting expeditions, and was much benefited in health by the pure and bracing air.

The best of it was that by this means he became the owner of a very service-

able vessel. All her timbers were sound and seasoned. The estimate was so reasonable that, instead of galvanized fastenings, which the specifications called for, he found that he could afford yellow metal and copper bolts wherever prudence dictated their use.

Being a "crank," as most good yachtsmen are, when the vessel was in frame he gave every inch of her a right-down good soaking with kerosene oil, applying as much as the dry wood was able to absorb. He says this process preserves the wood almost indefinitely. All the oak was fall-cut, and not a sappy timber found a place in the shapely hull.

In the late spring she was launched and rigged, and, when fitted out, her owner sailed her to New York, where the nautical critics carefully surveyed her and pronounced her good.

I would not, however, advise the average man to follow my friend's example. The man of whom I write was exceptionally well qualified and equipped for the undertaking and carrying out of such a job. Outside of his general knowledge of shipbuilding and seamanship, he was a shrewd business man, with plenty of tact and knowledge of the world. It would be difficult for the most rascally of shipbuilders to get the better of him. He was also favored by good fortune, insomuch as the honesty and skill of the builder of his yacht were concerned. He tells me he saved

twenty-five per cent. in the actual cost of the vessel if built anywhere in the neighborhood of New York. Moreover, he got a boat capable of being classed in the highest standard at Lloyd's and good for a quarter of a century's hard cruising. Having seen the boat put together, he never felt anxious about straining her in a squall. There was no skimping of quantity in material to procure a flimsy kind of lightness. Hull, spars and rigging were all scientifically adapted to the heaviest strains they were likely to encounter, and a sufficient margin of extra strength was added in case of emergencies. The schooner has been in commission now for several years, her owner living aboard her practically all the year round. He has cruised south as far as the Caribbean Sea and north to Labrador. He is his own skipper, and a better seaman and navigator never broke a biscuit on his knee or drank grog out of a pannikin.

The only objection that can be made against iron or steel yachts in the larger classes is that their bottoms foul so rapidly. So far as their capacity to resist stress and strain is concerned, nothing can be said against them. The first English iron yacht was the *Mosquito*, designed by Tom Waterman and built on the Thames in 1848. The first American iron yacht was the cutter *Vindex*, designed by Mr. A. Cary Smith in 1870 for Mr. Robert Center.

Nickel steel, as its name implies, is an alloy of steel with nickel. It possesses all the qualities of steel for shipbuilding purposes, but it has, in addition, a breaking strength of forty tons to the square inch, as against twenty-seven for ordinary steel. The twenty-rater *Dragon III.*, built in 1893, had frames and beams of this metal, which I think is destined to be much used in the construction of racing yachts.

The composite system of construction, namely, steel or iron frames and wooden planking, is in my judgment open to objection. The frames of a racing yacht are of course as light as the naval architect dares to make them in his effort to reduce weight in every detail of hull, spars and rigging. When it comes to pass that the seams of a composite yacht require calking the strain of driving the oakum home produces such a pressure on the bolts that fasten the planks to the frames that they snap off.

The composite system was introduced in 1860 on the Clyde, many China clippers being built after that plan. Among the first composite yachts were *Nyanza* and *Oimara*, built by Robert Steele & Co., of Greenock, about 1867. All the large racing yachts of the present time that are not constructed of metal have steel frames, as a sufficiently light wooden frame could not sustain the immense strains of the large sail plan and the heavy weight of the outside lead.

If a man sets his heart on having a composite vessel he should take care that her skin is of double construction, one layer of plank overlapping the other, with a liberal luting of white lead between. Thus no calking whatever is necessary; the vessel is tight as a bottle and much stronger than if the old-fashioned plan is followed. The only objection is the expense.

John Harvey, the English yacht designer and builder, who was first to introduce the double-skin system in yachts, told me once that many composite yachts were hauled out in his yard at Wivenhoe to be repaired. He had been inside several of them when being calked, and seen the nuts break off and roll down in the bilges by the score as the oakum driven by the calking iron wedged the planks apart. This result is so obvious that it requires no further comment.

It may well be urged that it is scarcely worth while to incur so much more expenditure of hard cash on a boat that may be obsolete, so far as racing is concerned, after two or three seasons; and this argument will probably prevail with the average yacht owner. I consider it my duty, nevertheless, to call attention to the defects of the system generally in use, and to the advantages of the double skin; and I will give two striking illustrations which I think will prove my case.

Mr. Coate's smart 10-ton cutter *Madge*,



"UNCAS" ON THE WAYS.

designed by Mr. G. L. Watson, was a single-skin craft. She was built in 1879 and created a great sensation when she came to this country and beat all our skimming-dishes. In 1890 she was almost ready to fall to pieces, and her rickety frame had to be strengthened with iron knees and fitted with new topsides. In 1894 she was condemned as unseaworthy and fit only for the junkman.

On the other hand we have the cutter *Oriva*, designed by John Harvey and launched in 1881. She is of the double-skin construction, lighter in proportion to her size than *Madge*, and to-day she is as strong and stanch as she was when she was launched.

If the prospective builder decides to use wood as the material for his boat, he will find that American elm is the best material for the keel and the garboard strakes. When entirely submerged, elm will last for half a century or more, but is especially liable to decay between wind and water.

White oak should be used for the stem, sternpost, knightheads, apron, deadwoods and futtocks. The timbers should be of oak or hackmatack, and the planking of yellow pine. This material, if well seasoned and properly put together, should insure a sound boat. Yellow-metal fastenings should be used below the water-line, if the expense is not too much for the owner's purse. If that should prove the case, galvanized

iron may take their place. Personally, I believe in having the hull as perfect as possible. I would dispense with costly gingerbread-work below deck, having everything cozy and attractive, and would expend the extra money, thus saved, on hull, spars and rigging, yellow-metal fastenings being my first object. Of course, if I were building a "freak" for a couple of seasons' sport, I wouldn't use a fragment of copper in her construction.

It is well to bear in mind that there is absolutely no market for an outclassed racer. For that reason I cannot recommend the expenditure of much money on the construction of a craft whose life in the usual course of events is limited to perhaps three seasons. Double skins and copper fastenings would be absurdly out of place in such craft. But when a man builds a cruiser, there is no reason why she should not be as sound and strong as a judicious expenditure of money can make her.

There is much to be said for and against copper sheathing for the bottom of a racing yacht. For some reason or other it has never been popular in this country. It was first used in 1761, when the British warship *Alarm* was coppered at Woolwich.

Mr. G. L. Watson is authority for the statement that, as early as 1834, a metal keel was fixed on the *Wave*, built for Mr. John Cross Buchanan by Messrs. Steele.

The man desirous of obtaining distinction in the arena of yacht racing, supposing he decides to build a yacht of his own so that the luster appertaining to her achievements shall be inevitably associated with his name, should, in the first place, have a full and business-like understanding with his designer, who will only be happy to meet him half way and will cheerfully name the honorarium for his draught. The designer supplies drawings, plans and specifications, and supervises the work of the builder.

The builder's duty is to furnish an estimate of the cost of such yacht, which estimate, if accepted by the yachtsman, should be embodied in an agreement that takes the legal form of a contract, after being signed.

The agreement should specify :

1—That the yacht shall be constructed according to specifications and drawings furnished by the designer, complying with all requirements therein set forth regarding material and workmanship, and that all work shall be completed to the satisfaction of the designer and surveyor (if any).

2—That the yacht shall be delivered to the owner on a certain date afloat and complete, and in default of completion by such date, the builder shall pay a certain stipulated sum for each and every day afterward during which the yacht remains incomplete and undelivered, for liquidated damages, the owner being empowered to deduct

such damages from the price of the vessel.

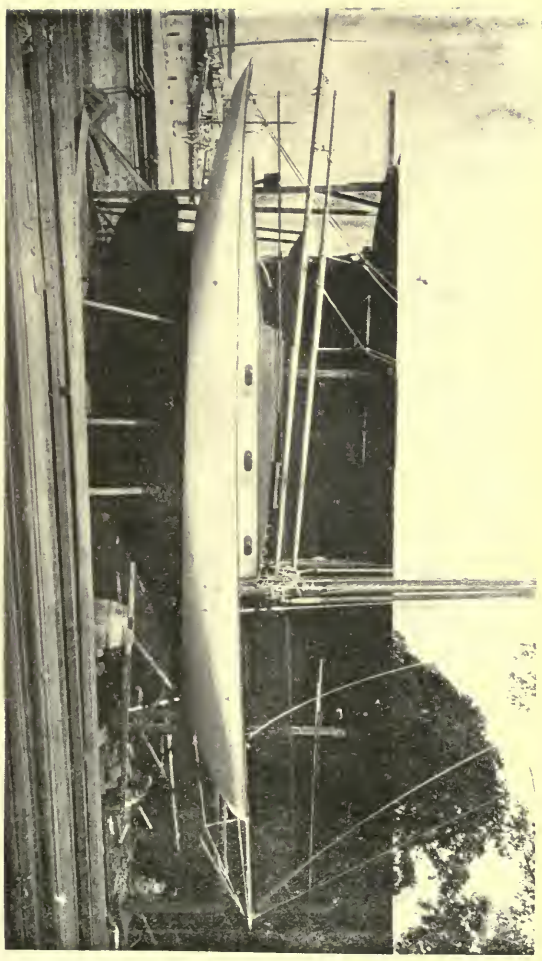
3--That the builder shall be paid by the owner a certain sum on the signing of the agreement, a further sum when the yacht shall be in frame, yet another sum when the yacht is timbered and planked, and the final payment when the yacht is completed to the satisfaction of the designer and surveyor, and delivered to the owner ready for sea.

4—All damage to the yacht, through fire or any other cause whatever, previous to her delivery to the owner, shall be made good by and at the expense of the builder, and to the satisfaction of the designer.

The specification should fully set forth the dimensions of the yacht and the material to be used in her construction. As an example I append the general specifications of the *Uncas*, one of the three one-design 46-foot schooners designed by Mr. A. Cary Smith in 1898 :

General Dimensions.—Length over all, 64ft. 2in.; length on l.w.l., 46ft.; beam, extreme, 16ft.; draft without board, 6ft. 6in.; least freeboard, 3ft. Specifications: Keel, white oak, molded, 5½ in.; stem, white oak, sided, 4½ in.; sternpost, white oak, sided, 5in.; trames, hackmatack, double, sided 2in., molded at keel 3½ in., at planksheer 2¼ in.; floors, sided 2½ right and left; trunk log, sided 6in. and molded 10in., bolted with ⅝ galvanized iron; sides of trunk, yellow pine and white pine, 2x8in., bolted with ⅝ galvanized bolts; centerboard, oak and yellow pine, bolted with ⅝ galvanized iron; pin and hanging to be of brass; ballast to be of lead furnished by owner, 20,000 lbs. in all, 18,000 on keel bolted with ¾ in. Muntz metal bolts, 25 in number; planking of yellow pine, spike fastened; clamps, yellow pine, 2 in number, 1½ x 6in.; shelf, same, 5 x 2 in., worked to shape, 1 through bolt on each frame; bilge strakes, yellow pine, 3 on a side, 1½ x 6in.; ceiling, only where cabin work calls for it, ¾ in. pine; deck beams, white

"OUANANICHE"





oak, sided 3in., molded $2\frac{3}{8}$ in.; partner beams and house beams to be sided 6in.; partners, hackmatack, kneed with same; planksheer, white oak, $1\frac{3}{4}$ x7in.; deck plank, white pine, $1\frac{3}{4}$ in thick by $2\frac{1}{4}$ in. wide, spiked; bulwarks, pine; stanchions, white oak; trunk cabin, tongued and grooved sides, $1\frac{1}{2}$ x3 in., with wrapper; trunk deck, tongued and grooved stuff, $1\frac{1}{2}$ in., covered with canvas; hatches and slides, mahogany; bits, locust; windlass, pump brake; anchors, 120 lbs., 160 lbs.; chains, 70 fathoms, $\frac{3}{8}$ tested.

All chocks and kevels as required; steerer, Perley patent, mahogany wheel about 30in.; tanks, galvanized iron, to hold about 200 gals.; pump in galley basins to discharge in receivers (bilge pump); one small tank on C. B. trunk.

Masts and spars of best spruce; rigging, best cast-steel wire rope and manila; sails to be as follows: mainsail, foresail, forestaysail, jib, small jib, small jibtopsail, second jibtopsail, spinnaker, two gaff-top-sails, small maintopmast staysail; blocks of white ash; iron work of all kinds, of best iron galvanized; awning stanchions galvanized; joiner work to be of tongued and grooved stuff, where it will not be seen, and the rest to be paneled, of white pine, all to be of $\frac{3}{4}$ stuff; to be painted with three coats of paint.

The 21-footer *Ouananiche*, designed by Mr. T. E. Ferris and built at the same yard as *Uncas*, is an excellent example of the modern type of boat. Her accommodations are good and she is both fast and able.

The specifications may also include the cabin fittings and all furniture, upholstery for berths, and ship stores generally, not including edibles. It is more satisfactory to the owner to have an estimate of the total cost of the craft complete and ready for sea.

The owner too frequently suggests changes from the specifications, which, in all cases, entail considerable expense. These alterations are quite justly charged for by the builder as "extra work;" and if the owner is a good hand at "suggesting," as the tyro generally is, the bill for "extra work" makes a big

item when the final account is rendered. I have known it to amount to as much as \$500 on a \$2,000 craft. Sometimes vexatious litigation follows.

All this trouble may be avoided by having a clause inserted in the contract to the effect that no work done on the yacht without a written order, signed by the designer and countersigned by the owner, shall be deemed extra work. The careful builder will insist on such a clause if he is alive to his best interests.

A yacht, in the interesting process of construction, possesses a sort of hypnotic attraction to the man it is being built for. He haunts the shipyard from the hour the men turn to in the morning to the time they knock off at night. Naturally, he is anxious to know how she progresses. If he were a wise man he would keep religiously aloof from the scene of operations, and leave the work of inspection and supervision to his naval architect. These remarks apply only to the tyro, who is usually as proud of his first yacht as a young mother of her first-born. With old stagers it is different.

On the day of the launch it is customary for the owner to buy liquid refreshments for the workmen in the shipyard. The naval architect, too, feels hurt if he does not receive a personal invitation to the ceremony and a seat at the collation which follows the launch.

If a man has neither the means nor

the inclination to build a boat of his own he need not despair. There are always in the market a number of serviceable boats. A shrewd buyer, if he keeps his weather eye open, may pick up a rare bargain. It is his own fault if he gets the worse of the transaction. Given a good designer and a good builder in the first place, he may safely conclude that the craft he has his eye on was not a "gingerbread" boat when she was launched.

Unless the purchaser is well versed in boats I should by all means advise him



" DRAGON III. "

to have the craft surveyed by a competent man, whose charge will be moderate. It is sure to be money saved. A boat with a bulb fin or a heavily weighted centerboard is peculiarly susceptible to strains and wrenches which a tyro would be likely to pass over, but which would be clearly apparent to the unerring eye of an expert professional.

Sometimes a man who thinks he is built on the lines of a yachting enthusiast joins a yacht club and builds a boat in a fashionable class. After a few weeks he discovers that all his enthusiasm has evaporated; that he takes no interest whatever in the sport. His next course is to offer his craft for sale. He is often so disgusted that he lets a purchaser have her for a song. This is a shrewd man's opportunity, and he should not let it escape. It is not often, however, that such windfalls come in one's way, in spite of the old adage that a simpleton is born every minute.

Let me in all seriousness conjure you never to buy or launch a yacht on a Friday! If you do, you will surely rue it. The superstitions of old sailors are not to be despised. It is quaint and curious that superstition of the sea about the lucklessness of Friday, but I for one most devoutly believe in it. I have reason, too, for on one fine Friday morning, ever so many years ago, I set sail from the port of Sunderland in the stout brig *Goshawk*, hailing from the port of Shoreham, with Captain Cuddington in

command. On Sunday morning we were ashore on the Long Sand in a howling gale, and the brig went to pieces in six hours. I was saved with others of the crew by a smack from Harwich, in charge of brave John Tigh, but a poor boy, just fresh from a Sussex farm, perished. I shall always remember that day. There were two life-buoys aboard, and these the captain and the cook secured. The instinct of self-preservation was strong, no doubt, and it was not an era of heroes. I was a romantic child at that time, on my first sea voyage, and fresh from a course of "The Three Musketeers," "Monte Cristo," and other such entertaining literature. I thought then that we two little frightened boys would have been allowed the safeguard of the life-buoys. Now I know better.



III.

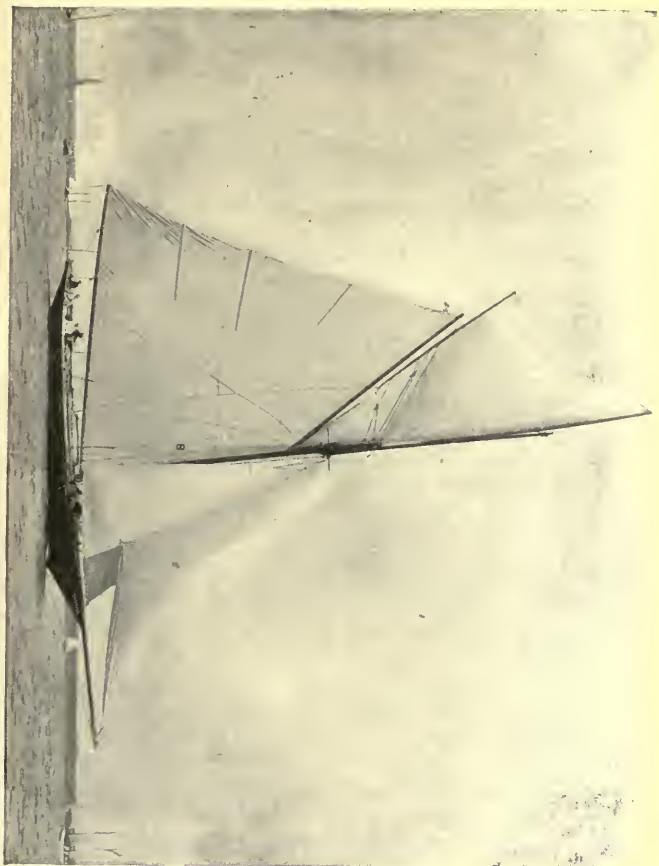
THE TYPE OF YACHT.

WHAT SHALL SHE BE—KEEL, CENTERBOARD,
OR BULB-FIN?

WHEN we come to consider the type of yacht most desirable to buy or to build, the problem is perplexing. We must in every case be guided by circumstances. For instance, a deep bulb-fin boat for racing or cruising on the shallow waters of the Great South Bay would be manifestly out of place. Nor would a sharpie be the most desirable class of craft for use on the deep water of the lower Hudson. Locality is what must guide us in our choice. Build or buy a boat suitable for the work she is intended to do.

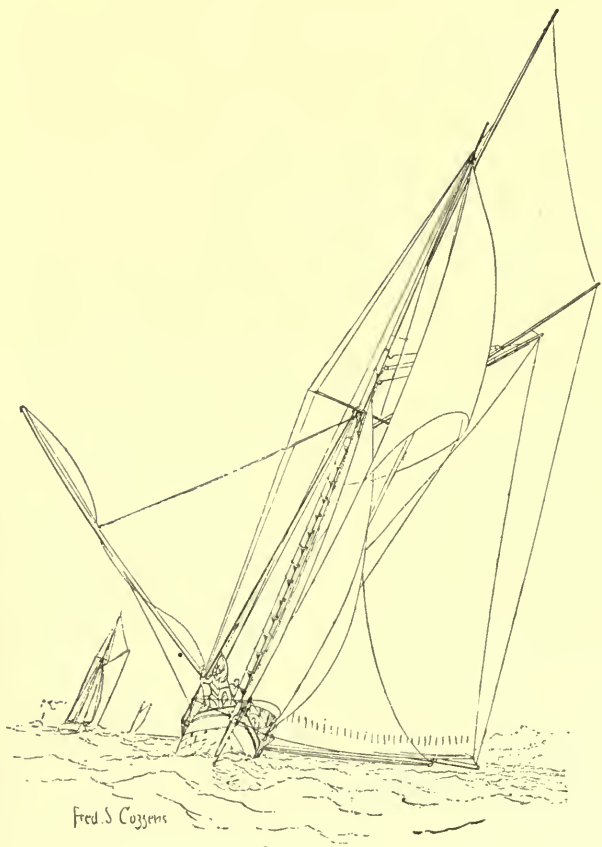
Remember that nearly every type of craft, keel, bulb-fin, centerboard or double-huller, has some good qualities to recommend it. For cruising, a keel yacht of moderate draught, so as to be able to enter harbors where the water is comparatively shallow, may be recommended. A centerboard vessel for the same purpose, to those who prefer the type, holds further inducements. A wholesome knockabout for general pur-

"GIORIANA."



poses, fishing and class-racing affords lots of sport. A modern fin-keel for racing only cannot be surpassed. So out of these various types you have only to choose. It is not necessary in this connection to sing the praises of the keel type. It speaks for itself. For speed and safety it is equally adapted. In war and in commerce as well as in yacht racing it has made its mark.

There are a number of yachts which without exaggeration or affectation may well be characterized as epoch-making vessels. First comes the schooner *America*, which revolutionized yacht naval architecture in Great Britain. Then follows *Evolution*, the parent of the bulb-fin type of to-day. Next comes the Scotch cutter *Madge*, which was responsible for the decline and fall of our unwholesome "skimming-dish" type. *Puritan* is next—a compromise between the two extremes of deep cutter and shallow centerboard. It should be remembered in connection with this boat that she combined the factors of outside lead, moderate draught and ample beam, and was in every way a new departure, reflecting great credit on her talented designer, Mr. Edward Burgess. *Gloriana* was as pronounced a departure as *Puritan*, her famous spoon-bow and immense overhangs arousing all the British designers and causing them to steer a new course. Her influence was quite as great as that of *America*. She made Nat Herreshoff famous.



"MADGE."

The remarkable feature of *Gloriana* was that while her length on the load water-line was 45 feet 3 inches (she was built for the 46-foot class), her length over-all was 70 feet. As the fullness of the bilge extended to bow and stern, the more she was inclined, the greater was her water-line length. I never saw a stiffer yacht. Her record for her first season (1890) was eight starts and eight first prizes. *Dilemma*, the Herreshoff fin-keel, may also be described as an epoch-maker, as her form and her fin were speedily adopted and adapted by British designers.

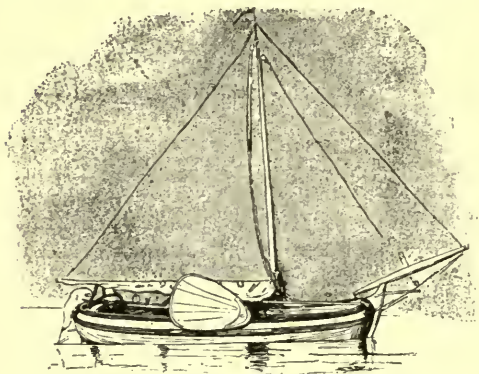
It will be noticed that all the yachts enumerated, except *Puritan* and *Dilemma*, are of the keel variety.

The long reign of what may be termed the demoralized centerboard type is happily over. It is really a matter of marvel that the shoal hulls of great beam, destitute of a safe range of stability, and carrying a dangerous spread of sail, did not oftener turn turtle and cause a greater loss of human life.

The Hudson River freight sloop was a safe and well-built craft, well adapted not only for the commerce of our coasts but also for long ocean voyages. So far back as 1785 the *Albany*, an 84-ton sloop, Stewart Dennis master, made a voyage to Canton, returning with a cargo of tea. Between 1790 and 1800 there were about a hundred sloops plying in the freight and passenger trade between New York and Albany, and proving

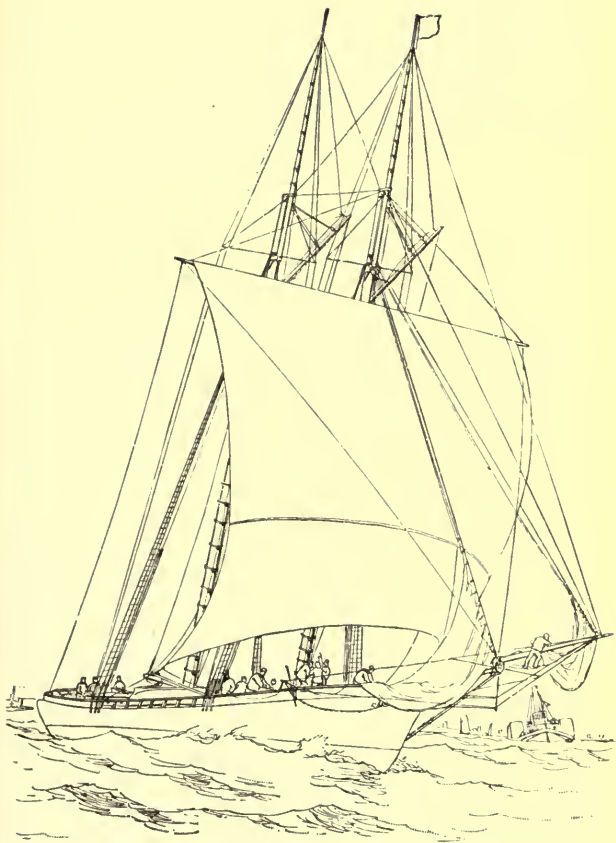
fast and able. These packets flourished until steam drove them out of the business.

The centerboard, an improvement on the Dutch leeboard, first used on the Hudson about 1830, has since been a necessity because of the shallowness of some of our harbors; and there is no reason why it should not continue to be



THE GERM OF THE CENTERBOARD.

popular, if the model is of sound design and the construction strong. Every objection against the centerboard system may be met by the argument that a large proportion of our coasting schooners on the Atlantic seaboard are fitted with centerboards, and ply their calling winter and summer, in storm and calm, and the unerring test of their seaworthiness is that the underwriters do not look upon



“ VESTA.”

them as greater risks than those of the keel variety. A marine underwriter is generally shrewd and businesslike, and keeps a close watch on the statistics of maritime losses. If it were proven by the wreck returns that centerboard vessels were more prone to succumb to the perils of the raging main than the craft not built with a movable fin, the inference is obvious, the premium of insurance would be graded to meet the risk.

I think that this argument will appeal to all people of common sense, and will settle the question of the relative safety and seaworthiness of the two types. But there is this to be said on the subject, that very much difference exists between a craft constructed for carrying coal and another built for the purpose of pleasure. I think it may be averred without error that the early centerboard yachts were, as a rule, modeled by shipwrights who had a due regard for the factor of initial stability as well as strong hulls scientifically put together. But, step by step, a school of naval architecture came into vogue, so far as centerboard yachts were concerned, in which most of the sound principles of yacht designing were totally ignored. Mr. W. P. Stephens, in an interesting and scholarly paper read before the Society of Naval Architects and Marine Engineers in 1895, well says:

“The centerboard lent itself as a willing accessory to the sacrifice of that depth which is essential to a safe range

of stability, mere sail-carrying power being derived from an excess of beam, which was but an additional element of danger. In the search for speed under special local conditions, mainly those of summer racing, the true principles of naval architecture, so apparent in the work of George Steers and others of the earlier designers, were utterly ignored, and a most dangerous and vicious school of designing prevailed throughout American yachting.

“Taking the centerboard sloop and schooner as they were up to 1880—dangerously shoal and wide in model; often clumsily built of soft wood, with the poorest of fastenings; faultily ballasted with stone and iron inside; the hull inherently weak in form from the great beam and lack of proportionate depth; the entire middle portion of keel and floors cut away, with the familiar ‘hinge joint’ where the mast was stepped, just forward of the trunk; and with the deck construction made worse than useless as an element of strength through the absence of all beams in the middle portion of the vessel and the presence of a great superstructure, the cabin trunk—the accepted laws of naval design and construction fail to give any reason why such craft capsized no oftener and kept afloat as long as they did; and we can only fall back for an explanation on the doctrine of a special providence.”

Mr. Stephens is not only a naval

architect, but also a practical shipwright, and therefore, his scathing arraignment of the centerboard type must be taken as emanating from his ripe judgment and long experience. It must be remembered, however, that he is a pronounced advocate of the keel type, and has long waged war against the centerboard. So far as his denunciation applies to the vicious and exaggerated variety I agree with him, heart and soul. But I am not prepared to condemn the whole class because of the glaring imperfections to be found in examples.

It must be borne in mind that without the aid of the centerboard the pastime of yachting would be impracticable on innumerable sheets of shallow water, both salt and fresh, to be found in North America. With that point in view, the abolition of the vicious element in the type, and its succession by a sound and seaworthy class of pleasure craft, should be the aim of all yachtsmen. And since the year 1880 great strides have been made in that direction. I have witnessed with joy the decadence and abolition of the "sandbagger," a craft of immense beam, shallow draft, and big sail plan. The sandbagger was the ideal racing machine of twenty five years ago. Its place has been taken by the fin-keel. I wonder if the fin-keel is destined to be succeeded by the double-huller, such as *Dominion*, which made her début in Canada in 1898?

In the course of the same paper Mr. Stephens also says: "To us familiar with it [the centerboard] from our earliest knowledge of the water, the striking characteristics of the type appeal with little force; but if, with our knowledge of the sea, of naval instruction, and of the strains and stresses to which every vessel is subjected, the idea were laid before us, for the first time, of a vessel with the entire backbone and floor construction cut away for the middle third of her length, devoid of deck frames almost from mast to rudder-post, with a great box amidships open to the sea, and with a thin, movable plane projecting deep below the bottom, it would be strange if the majority would not condemn on sight a combination so unmechanical, so lubberly, and so dangerous."

But Mr. Stephens gives the other side of the question also. He says: "In the hands of competent and honest shipwrights the centerboard coasting schooner has disproved all theories as to the non-utility of the type for sea-going purposes: in a hull of moderate first cost and running expense it has carried swiftly, safely and profitably its cargoes of coal, lumber, sugar, firewood, barley, bricks, or general freight, both on the lakes and on the Atlantic, up and down the 'Beach,' across Nantucket Shoals, and around Hatteras in winter, light or loaded, taking in and landing its cargoes in localities inaccessible to

the keel vessel. In the ocean coasting trade it has been and still is a powerful factor for good ; and in the local trade it has been a Godsend to the small farmer or miller or lumberman, carrying his product cheaply and safely from his own small creek or bay to a profitable market. In the face of such practical results all theories as to the initial weakness of the centerboard type or its inferiority as a sea-going vessel must stand aside ; numerous instances of bad design and construction may be found, it is true, but they prove nothing against the type itself in capable hands."

This last extract gives a fair presentation of the whole question. It is by practical results that the centerboard yacht must be judged, as well as the centerboard coaster. I believe that the centerboard has been beneficial to the sport of yachting. I will go further, and will say that without the board yachting could not possibly have attained the great popularity it now enjoys in this country.

Viewing the subject broadly, I see no reason why the centerboard should not be good for centuries to come in honest cruising and racing, especially in classes of moderate size. The keel will probably bear off the palm in the larger classes of cutters and schooners, but for craft in the thirty-foot class and under, the centerboard has advantages which the bulb-fin in my judgment does not possess. Those who care for speed alone

and whose ambition it is to acquire a stock of more or less inartistic silverware, will continue to pin their faith to the fin. Others who like to enjoy a modicum of comfort when afloat may safely swear by the centerboard.

When I was a young man I had an unconquerable prejudice against the centerboard. My opinion of the type was often expressed in language of great warmth and strength. Mind you, I was not so utterly devoid of common sense as to be blind to the advantages of the "board" in shallow water. I had, however, a fixed idea that the average centerboard sloop was no good in a blow. This view has been considerably modified in the school of experience. It once fell to my lot to be an eye-witness of the excellent seaworthy and speedy qualities of a centerboard sloop in an easterly gale on Long Island Sound. When we reached port I was perfectly willing to confess that a vessel of the type aboard which I had been, if well-found and well-manned, was equal to any keel boat of her size that I had ever sailed on.

Permit me to spin you the yarn :

The cruise of the Atlantic Yacht Club in 1889 will always be remembered because of the bad weather encountered on the Sound between Black Rock and New London. In that year Jefferson Hogan was Commodore and the schooner *Cavalier* was the flagship. I was the guest of Vice-Commodore E. B. Havens

on his stout sloop *Athlon*, a remarkably fast and able craft in heavy weather, but by no means speedy in light airs. She was built by Mumm, at Bay Ridge, for Dr. Barron. Mr. Havens bought her and lengthened her six feet, adding a handsome "Burgess stern," which improved her appearance wonderfully. I joined the *Athlon* at Black Rock, Conn., on Saturday, July 13th, and, after passing Sunday very pleasantly, turned in early, as the orders were to get under way next morning at five o'clock, the early start being necessary, as our destination was New London, distant nearly fifty miles to the eastward.

I recall that, as we were enjoying our pipes on deck preparatory to going below for the night, the weather looked dirty and the barometer was falling.

The guests of Mr. Havens besides the writer were Mr. Levi Burgess and Mr. Havens, Jr. All of us were capable of lending a hand in an emergency, and when the time came we did our level best.

The preparatory gun from the flagship aroused us next morning at an hour when the early birds were still roosting. Going on deck we found a light wind blowing from east-northeast and a drizzling rain falling. The sky looked threatening, and all round the horizon black and angry clouds were clustered. A glance at the aneroid in the companionway showed a fall of two-tenths of an inch during the night.



'ATHLON.'

While the men were sweating up the peak and throat halyards and heaving short on the anchor chain, Mr. Burgess and I sneaked below and interviewed the steward, with the result that we each got outside of a cup of fragrant coffee mellowed with some remarkable old cognac, carried on the *Athlon* for medicinal purposes only. Fortified with this we joined our shipmates on deck, giving an imitation of two men looking eagerly for work and praying to the gods not to be successful in the quest.

"Shall we get the jibtopsail out of the sail locker?" inquired young Mr. Havens of his father.

"I guess the weather looks more like a double-reefed mainsail than a jibtopsail," was the reply. So the jibtopsail reposed in the locker.

Bang! went the gun from the *Cavalier*. It was the signal to start. Anchors were broken out smartly, jibs were hoisted, and the squadron sailed out of the harbor and began the long and dreary beat to New London in the chilly, pelting rain.

As I remarked above, the *Athlon* requires a strong breeze to start her, and, although our anchor was up in good time, the smart sloop *Anaconda*, with Mr. Prague at the helm, looming up like a gray ghost in the mist, glided past us and assumed the lead of the fleet. The *Anaconda* was the only boat in her class that ever beat the swift Fife cutter *Clara*—an achievement that speaks volumes in her behalf.

"Our turn will come by and by," tersely remarked Mr. Burgess. Events proved that he was a prophet.

Presently the *Anaconda*, far out to windward, was struck by a savage squall. Down came her flying kites by the run. I looked at her through the glass and saw her heel over until the water boiled and bubbled on her lee deck. All was now activity on the *Athlon*. The boats were swung in and everything was made snug for the approaching gale. Mr. Havens determined not to reef till the last moment, and just before the squall, with its long line of white water in marked contrast with the murky clouds above, smote us, we clewed up the gaff-topsail. It wasn't an instant too soon. Had that topsail been set when the blast hove us down nearly on our beam ends the topmast must have snapped off short, like the brittle end of a carrot. Mr. Havens was steering. He gave her a few spokes of lee helm and kept her shaking in the wind till the first fury of the squall was exhausted. It was almost as dark as pitch for ten minutes. When it cleared up a little we cast anxious eyes to windward and to leeward to see what had become of our companions. The *Anaconda* had snugged down to a couple of reefs. The 40-footer *Chispa*, a brand-new Burgess boat, was taking it easy under storm trysail and foresail. The sloop *Concord* was scudding back to Black Rock under a bare pole, with the *Fanny* chasing her under short sail.

The schooner *Azalea* was having a lot of trouble, and the flagship *Cavalier* was making plucky efforts to collect her scattered and stormbeaten convoy about her.

Just about this time the *Athlon* began to go. She was carrying her whole mainsail, jib and foresail. Every now and then a shower of spray dashed over the weather bow and drenched the Commodore as he stood at the wheel. The yacht now and again careened to the puffs to such an extent as to take in green water over the lee coaming of the cockpit. We passed the *Chispa* as if she was at anchor, and soon began to forereach on the *Anaconda*. Under the pressure of the gale the masthead fairly buckled. It was a case of carrying on sail with a vengeance, but the Commodore had confidence in his craft, and Mr. Burgess and I had confidence in the Commodore, so we went below and drank to the health of the brave little ship. The steward forsook his kitchen and pantry. He was too nervous to stay anywhere except on deck. As Byron sings :

He was a man in years,
And long had voyaged through many a stormy
sea,

And if he wept at length, they were not fears
That made his eyelids as a woman's be ;

But he, poor fellow, had a wife and children—
Two things for drowning sailors quite be-
wild'ring.

The wind and sea increased. Lumbering schooners bound to the eastward

showed only a rag of canvas, while the west-bound coasters were under single or double reefs. Still the *Athlon* held on to everything, showing the ability of a representative centerboard sloop to do wonderful work in heavy weather. At last things came to such a pitch that we *just had to* shorten sail. We were knocked down by a squall of particular violence. Anybody to windward of us might have caught a glimpse of *Athlon's* keel. We hauled down the jib and tied a single reef in the mainsail, which, being brand-new and soaked with rain and spray, was hard to handle. At last we got it reefed, and after swaying up the halyards taut as bars of steel we hammered at it once more.

The gale was dead in our teeth. The other yachts of the fleet had disappeared, most of them seeking harbors of refuge. The *Athlon's* destination, however, was New London, and thither she threshed her way right gallantly, making a short leg and a long leg along the Connecticut shore. Never before had I seen so heavy a sea in the Sound, and I had had a long experience on which to draw.

The crew looked like drowned rats. Every time we tacked, the yacht shipped a good deal of water as she plunged her bows under in the steep head sea. It was hard work for all hands, but there was a lot of excitement in it. By and by we struck a streak of good luck. It was off Branford Beacon, and it was

just one bell in the afternoon watch. The wind had a trifle more northing in it, so much so, in fact, that our saucy and stanch little ship was able to lay her course for Bartlett's Reef lightship, thirty-five miles distant.

This prospect cheered us up considerably. The steward resumed duty and gave us a square meal of fine cold roast beef and pickles, which we washed down with bottled Bass. Thus strengthened, we went on deck and set the jib, gave her a foot or two of the mainsheet, and, keeping her a good full, went smoking through the perturbed sea at a great rate. The whole distance to Bartlett's Reef, at the entrance of the River Thames, was accomplished with the *Athlon's* lee rail under water. Strong gusts from the land smote her at frequent intervals. If all her gear hadn't been of first-class material, something would have carried away. At half-past four o'clock we passed the lightship, having made the thirty-five miles in four hours—a highly creditable performance, considering the villainous weather we had had.

Our troubles, however, were not over by a long shot. The ebb tide was running out of New London harbor with the velocity of a mill-race. It was blowing a living gale dead in our teeth. The beat to the city against wind and tide was as hard a one as I remember on this side of the Atlantic; but we drove her at it. Glad enough we were to cast

anchor off the old steamboat landing at six o'clock, thus ending twelve hours of tough fighting, in triumph. The *Chispa* arrived at a quarter to eight o'clock that evening. The rest of the fleet reached port in straggling order the next day. The *Athlon* thus had the credit of beating the whole squadron, including several vessels treble her size. The *Cavalier*, of course, could easily have made the passage, but Commodore Hogan felt it his duty to stick to the bulk of the fleet, and for this he was justly commended. So thus it came to pass that *Athlon* made the record heavy-weather run in her history, covered herself with glory, and made a convert of me.

I have had some experience of yachtsmen, but I feel bound to say that I never saw a vessel handled better in a blow than *Athlon* was by Commodore Havens on that occasion.

This must be added. If the *Athlon* had not been well-built, well-rigged, and her sails good, in addition to being handled most capably, it is not likely that she would have made such a splendid record.

The popularity of the catboat as a racing craft will never die out in this country. The horseless carriage may supersede the hansom-cab in our city streets, and the electric launch may usurp the place of the Venetian gondolas, and drive the gay gondoliers to adopt some other means of livelihood.

But the catboat is destined to survive all such revolutionary changes, and a century hence it will doubtless be more in



CATBOAT "DOROTHY."

vogue for pleasure, sport and business than it is to day. In hull and sail plan it will probably be much improved, but its

general type will remain unaltered. For cruising as well as racing it will never fail of an array of enthusiastic admirers.

Of catboats there are many varieties. They are plentiful at all waterside haunts, and as they glide gracefully to and fro they look so tempting and so easy to handle withal, that the visitor from the woods or the mountains longs to be afloat in one of them, grasping the tiller with his left hand, while his strong right arm encircles the slender waist of his trusting but slightly timid sweetheart. The average catboat is as safe as a church when sailed by a man who knows how, and the art of sailing her may soon be acquired. But when a lubber undertakes to handle her she may become as stubborn as a balky mare and as perilous as the bottomless pit.

Many who have no liking, inherent or acquired, for the modern racing freak, whether in the 15-foot, 20-foot or 30-foot class, need not give up their hopes of acquiring fame in mosquito craft racing. A good, fast catboat is never out of date, and there are various classes of these wholesome little vessels in which there is always room at the top. The best of the racing cabin-cat is that she has not yet degenerated into a mere machine, but has certain modest accommodations which permit her to be used for pleasant cruises.

The heavy sand bags, or shot bags, which a few years ago necessitated so much laborious toil and the carrying of

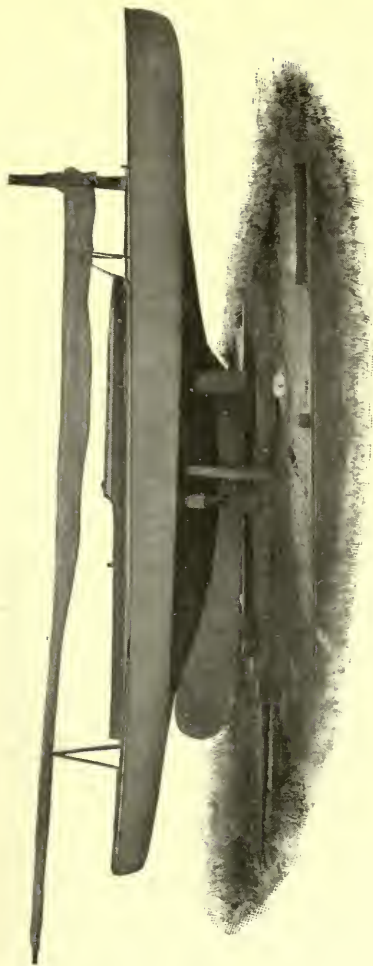
such large crews, are now, happily, out of date, shifting ballast being barred in nearly all clubs. The modern cat carries outside ballast, which makes the sailing of her a pastime, not a perspi-



"KEWAYDIN."

ration-compelling task, while for handiness in rig the cat cannot be surpassed.

By many ingenious methods and contrivances the mast is so securely stepped and stayed that there is now no danger in carrying a press of sail in a piping



THE HERRESHOFF CATBOAT "WANDA."

blow or a steep head sea. The boat can be sailed along and permitted to feel the full strength of the breeze without any fear of springing the mast or straining the boat forward.

Catboats of many kinds there are, from the craft common in the Great South Bay, with its pleasant but rather flimsy summer cabin, to the robust boat of Cape Cod, which bravely dares the steep seas of a stormy coast, and is at her best in a vigorous blow. I don't know of any craft of such light draught that can compare with the "Caper" for bad-weather qualities and general all-around usefulness. She is by no means pretty to look at, but her appearance can be materially improved without detriment to her sterling attributes. Mr. F. M. Randall has introduced to New York a modified "Caper."

All his boats have been built by the Crosbys, of Osterville, Mass., who now have a branch shop in South Brooklyn. They have been highly successful, and with *Ethel*, *Presto*, *Step Lively*, and *Scat*, Mr. Randall won pretty nearly everything he tried for.

Not less successful was the catboat *Kittie*, designed and built for Mr. Hazen Morse, by Captain Thos. R. Webber, of New Rochelle. She has a lead shoe on her oaken keel, through which works her centerboard of Tobin bronze. Launched in 1894 and sailed by her owner, *Kittie* won fourteen first prizes that year, and in 1895 she carried off

seventeen firsts. She is now owned in Galveston, Texas. She is 27 feet over all, 20 feet on the load water-line, 9 feet beam, draught 2 feet, mast 30 feet, hoist 19 feet, boom 33 feet, gaff 21 feet, and sail area 700 square feet.

The racing catboat is such a fascinating theme that a whole volume might be devoted to its advantages and possibilities. No finer craft in which to learn the rudiments of yacht racing can be chosen by an amateur; and there are several classes, large and small, in which eager rivals compete from the beginning to the end of the yachting season, offering many opportunities for the winning of prizes.

A successful racing cat is the 25-foot cabin craft *Wanda*, designed and built by the Herreshoffs, for Mr. F. T. Bedford, Jr., of Brooklyn. She is 30 feet over all, 21 feet 9 inches on the load water-line, with 12 feet beam. Her record for 1898 was thirteen starts and thirteen firsts.

*13 Starts.**13 Firsts.*

May 16th.—Norwalk.

May 30th.—Norwalk.

June 25th.—Indian Harbor.

July 2d.—New Rochelle.

July 4th.—Larchmont.

July 6th.—Riverside.

July 14th.—Seawanhaka; won in 30-foot class by eight minutes actual time.

July 23d.—Norwalk.

July 30th.—Indian Harbor; won on resale.

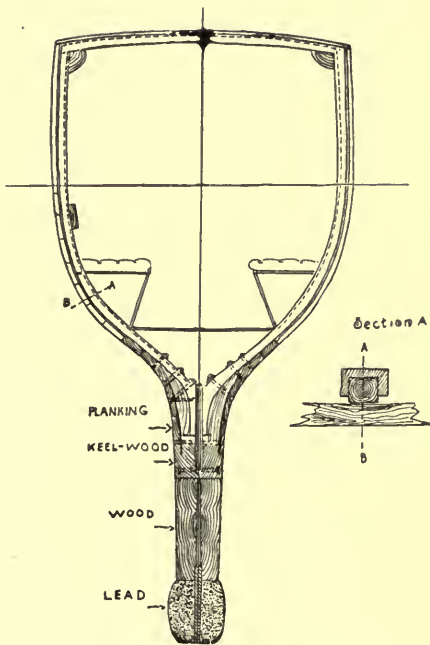
August 13th.—Horseshoe; 30-foot class by twenty-six minutes.

August 20th.—Huguenot.

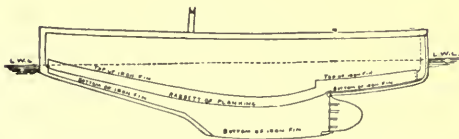
August 26th.—Huntington.

September 3d.—Atlantic.

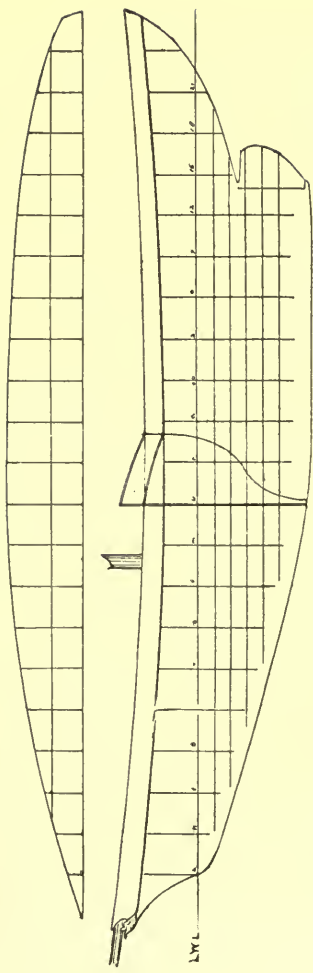
25-foot cabin catboat *Wanda*: 21ft. 9in., l. w. l.; 30ft. o. a.; beam 12ft. Designed and built by the Herreshoff Manufacturing Co., Bristol, R. I. Owned by F. T. Bedford, Jr., Brooklyn, N. Y.



MID-SECTION OF "EVOLUTION."



SHEER-PLAN OF "EVOLUTION."

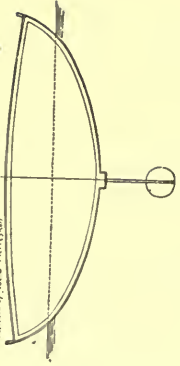


LINES OF "JULLANAR."

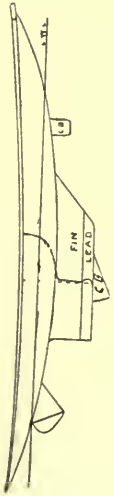
By a glance at the illustration of *Wanda* (p. 104) it will be seen that Mr. Nat Herreshoff, her designer, has introduced the modified form of fin-keel which he exploited so successfully in *Vigilant*. *Wanda*, in point of fact, was designed and built to elude the measurement rule in force at the time of her creation. Like *Gloriana*, when heeled, she gets the benefit of long overhangs forward and aft, while at the same time she escapes the penalty of excessive length on the load water-line. Taking into consideration all her features, it must be candidly acknowledged that she is the most "scientific" catboat that "tonnage-cheating" ingenuity ever devised. Both the principles of yacht designing that worked so admirably in *Vigilant* and *Gloriana*, namely the large lateral plane and the increased water-line length, when heeled, have been embodied in *Wanda*. The result has been a gratifying success. Catboats of the olden time used to measure about the same length over all and on the water-line. It remained for Mr. Herreshoff to produce a boat 21 feet on the water-line with an over-all length of 30 feet.

In marked contrast to the *Wanda* is the catboat *Dorothy*, which is quite famous, both as a cruiser and a racer, on Long Island Sound. She is a sturdy boat that can give a good account of herself in a blow, and, in addition to this most excellent quality, she has a

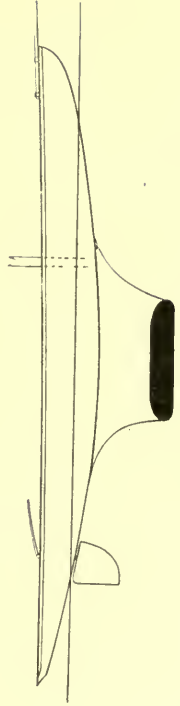
The Dilemma
 Designed by Nat. S. Herreshoff
 Midship section



' DILEMMA. '

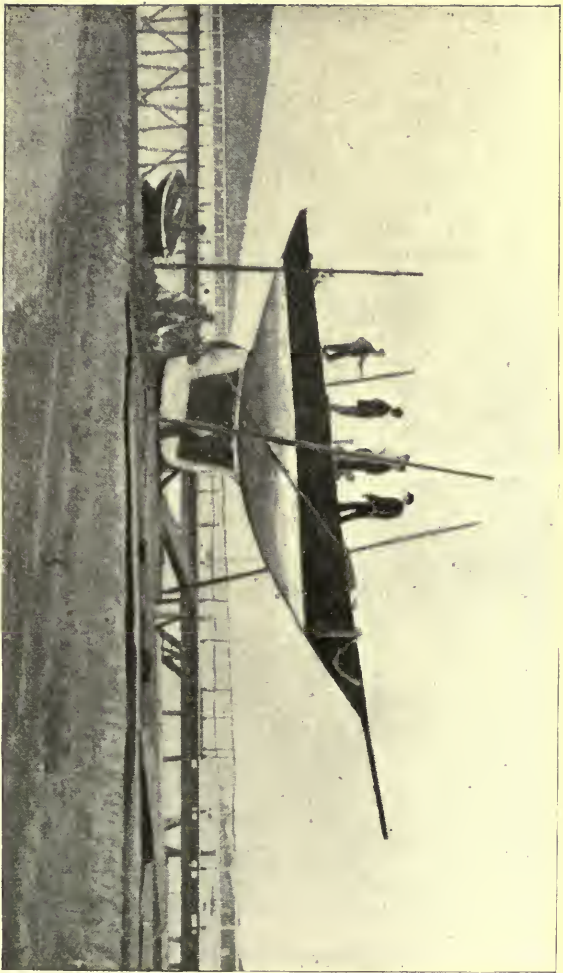


' JUBILEE. '



' NIAGARA'S' LINES. '

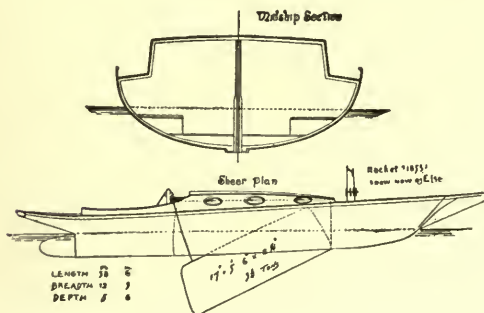
ENGLISH FIN-KEEL FREAK 'NAMELESS.'



nice roomy cabin, in which every inch of space is utilized. Her mast is well secured by means of stays and spreaders, and, as may be seen from the illustration, her rig is scientific and down to date.

The *Dorothy* is interesting as showing the transition stage between the old-fashioned catboat and the new *Wanda*, which is sure to become popular as a racing machine, but from her limited accommodations is not likely to be much sought after as a correct type for mere cruising.

I have said before that *Evolution* was the parent of the ballast fin, and in an article I wrote for *OUTING* many years ago I think I made out a good case. She was designed by Mr. E. H. Bentall, an English manufacturer of ploughs and other agricultural implements, whose famous yawl, *Jullanar*, created a sensation when she came out in 1875,

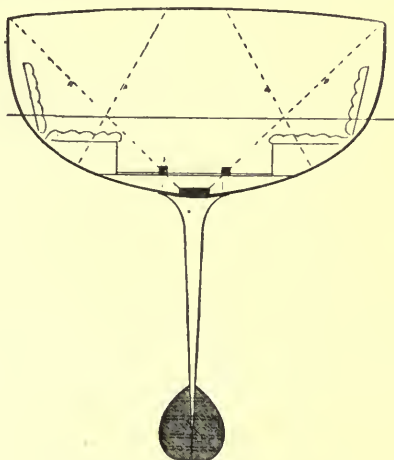


"ROCKET," 1851.



“ NIAGARA.”

from the circumstance that the dead-wood was cut away fore and aft in the most audacious manner. She was, perhaps, the most original tonnage cheater ever built, as a study of her plans will show. The cutting away of her fore-foot was followed by Mr. G. L. Watson in his design of *Thistle*, but he overdid

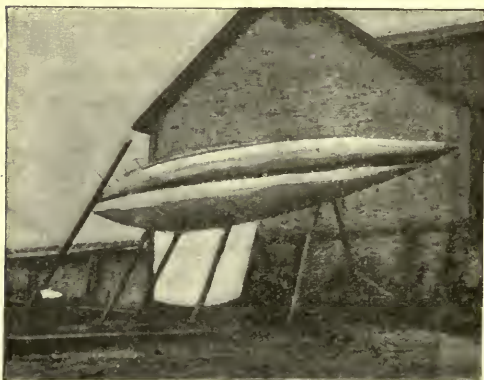


“NIAGARA'S” MIDSHIP SECTION.

it, leaving the yacht without sufficient lateral plane for successful windward work. *Jullanar's* dimensions follow: Length over all, 110 feet 6 inches; depth of hold, 12 feet; length on load water-line, 99 feet; extreme beam, 16 feet 10 inches; draught forward, 1 foot 6 inches; draught aft, 13 feet 6 inches.

Evolution was launched in 1880. She was built to sail in the ten-ton class, and was the first yacht of which I can find any record to carry a bulb of lead on the keel. The transition to the Herreshoff fin-keel was natural and easy.

The first yacht to be fitted with a weighted centerboard was *Rocket*, whose sheer-plan and mid-section are on p. 112.



“RORQUAL,” TWO AND ONE-HALF RATER, 1894.

Niagara, a most successful yacht of the bulb-fin type, was designed by Mr. Nat Herreshoff for Mr. Howard Gould in 1895. She made a splendid record that year in British waters. She was sailed by Captain John Barr, who was skipper of *Thistle* when *Volunteer* beat her in 1887.

Jubilee, a fin-keel, with lead bulb and



"DAD."

two centerboards, was designed by General Paine for a possible Cup defender in 1893. She was 122 feet over all, 84 feet 6 inches on the water-line,



"VESPER."

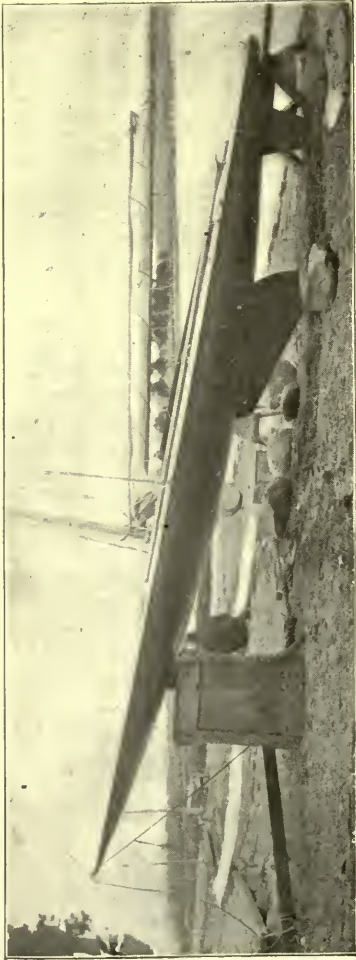
22 feet 6 inches extreme beam, and had a draught of 13 feet 9 inches. She competed in the trial races of 1893 against *Vigilant*, *Colonia* and *Pilgrim*, and was unsuccessful.

Fin-keels of the freak variety were produced in large quantities on both sides of the Atlantic, following each other in quick succession. Two of English design are shown in the illustrations. One is the *Rorqual*, the other the *Nameless*. Neither proved successful.

The last five years have been remarkable for the prolific production of "freaks" and monstrosities, three of which I show, the *Skate*, *Vesper* and *Dad*, all racing machines. In marked contrast to these abortions is the Seawanhaka knockabout *Kewaydin*, a wholesome type of boat with many good qualities to recommend it. I advise all my readers to fight shy of "freaks," especially those of flimsy construction.

As a matter of history it may be mentioned that the centerboard schooner *Vesta*, in the midwinter ocean race of 1866, and the centerboard schooner *Iroquois*, in the blizzard of March, 1888, both acquitted themselves admirably, much to the surprise of the prejudiced devotees of the keel type.

The double-hull type of craft came prominently before the yachting fraternity in 1898, and will doubtless be exploited in many ingenious ways hereafter. The development of a type of vessel whose origin is lost in the mist of



MONSTROSITY "SKATE."

antiquity into a racing machine like the twenty-footer *Dominion* attracted the attention of naval architects generally to Mr. Herrick Duggan, the Canadian yacht designer, who for three consecutive years has humbled the pride of the Seawanhaka Corinthian Yacht Club by keeping in Kanuck hands the cherished international challenge cup, won with singular ease off Oyster Bay in 1896.

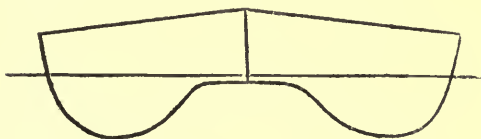


FIG. I. THE "DOMINION," ON EVEN KEEL.

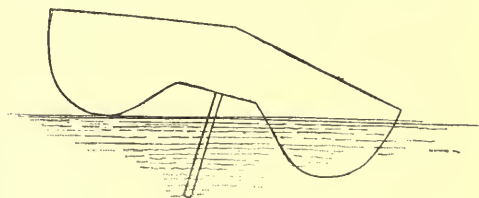


FIG. II. THE "DOMINION," HEELED.

Mr. Duggan, of course, did not pretend to be the originator of a new type of sailing craft, but he may safely lay claim to whatever laurels are due to the faculty of astute adaptation. He succeeded in a field where others tried and failed. He skillfully modified the principle of the Malay proa, and introduced its salient characteristics into a vessel small indeed in the matter of dimensions, but

huge when its inherent scientific possibilities are considered. Since Nat Herreshoff made practicable the crude fin-keel of former designers, no such interesting phase of marine architecture has been evolved.

As a matter of historical fact, it remained for Mr. Duggan to revive interest in the type, and this he did most effectually by the production of *Dominion*. The craft has given rise to much discussion among yachtsmen and in the press, both at home and abroad. The point of sailing in which *Dominion* excels is close-hauled on a wind or with the wind abeam. It is then that she sails on her lee hull only, the weather hull serving the same purpose as the ballast of a "sand bagger," enabling her to carry a good press of sail. This is shown by Figure II., which portrays her when heeled. With the wind dead aft and both hulls immersed, *Dominion* in the races at Dorval was slightly slower than her rival, her paramount advantage being gained when sailing with one hull immersed.

Dominion's dimensions are : Length over all, 35 feet 10 inches ; on load water-line, 17 feet 6 inches ; extreme beam, 7 feet 7½ inches ; beam, load water-line one bilge, 2 feet 5½ inches ; draught of hull, 10 inches ; draught with board, 6 feet ; freeboard, 1 foot ; displacement, 1,750 lbs. ; area midship section, total 2.88 square feet ; sail area, 500 square feet.



“DOMINION.”

I remember how fascinated I was as a boy by the perusal of "Lord Anson's Voyage Round the World," telling how that famous English navigator, in his stout ship *Centurion*, doubled Cape Horn in 1740, visited the romantic isle of Juan Fernandez, and enriched himself and his accompanying bold seadogs by the capture of a Spanish galleon literally laden with treasure. Incidentally, the book describes the surprise experienced by the ship's company at the first sight of the proa, as used by the natives of the Ladrões. In a copy of the first edition of the work, in my father's library, was a quaint illustration of the proa under sail, with a plan drawn to scale, from which I made a crude model, and sailed her on an arm of the sea that washed the beach not fifty yards from our front door. I was not slow to recognize the advantage of the type in windward work. It was my good fortune in the year 1870, from the deck of the East Indiaman *Hurkaru*, bound to Madras, to obtain my first view of the Singhalese type of flying proa off the coast of Ceylon. The sight was novel and picturesque, and, being young and impressionable in those days, it was photographed indelibly on my mind.

The southwest monsoon was blowing briskly and the *Hurkaru* was bowling along with stunsails set at a nine-knot gait. It was my forenoon watch below, and I was suddenly awakened by a ship-

mate who invited me on deck to look at the "queerest craft I ever saw." Turning out in a hurry I followed him, and from the topgallant forecastle saw the proa in the act of shooting across our bows. The breeze piped at a "three-man power," for that number of lithe and swarthy lascars straddled the outrigger to windward, hanging on by their eyelids, after the manner of mariners the seas over. The sail that propelled this craft was of the sprit variety, but was made of cotton stuff and not of matting, as was the sail described in "Anson's Voyage." She darted past us, with rare velocity, throwing the spray over her crew in fine style. There were six or seven of them in the main hull of the proa, the helmsman steering with a rather long paddle. After she had cleared the ship's bows she luffed up sharp and seemed to point almost in the wind's eye, the sail sitting quite flat, unlike the sails of the ordinary "country wallah," which are, as a rule, of the baggy kind. I judged her speed at about sixteen knots—certainly not less. The mast and sprit of her sail were of bamboo, the rigging of kyar. Subsequently I had several opportunities of inspecting these proas, and subjecting them to a close examination—notably at Pointe de Galle, where the *Hurkaru* touched to take in cargo on her homeward voyage.

The main portion of the hull proper consists of a trunk of a tree hollowed



THE DOUBLE-HULLER OF THE PACIFIC.

out and hewn into symmetrical shape, bow and stern both being pointed. The bilge of the weather side is neatly rounded, while the lee side is as flat as the side of a half model of a vessel that is nailed to a board. Cut a double-end boat in two longitudinally, take one of the sections and nail on planks so as to form a wall-like side, and you have a fair imitation of the principle of the main hull of the Singhalèse proa. To this trunk, when hewn into shape, are fastened the topsides, which consist of planks of suitable length and thickness bound with lashings of kyar rope, the seams being calked with cocoanut fibre, which swells when water-soaked. Not a nail is used in the construction of the craft, it resembling in this detail the famous Masoolah boats of the Madras coast. In all its essentials the characteristics of the proa of the Ladrones described by Anson are reproduced. The cigar-shaped log, which is connected to the main hull by bamboo outriggers (which give the necessary elasticity) and kyar lashings, is hewn out of a solid and rather heavy tree. This gives the required stability, and in a strong breeze pretty nearly all hands "hike out" to windward on it, leaving only the helmsmen (one at each end) aboard the main ship. It need not be said that the Singhalèse are as nearly amphibious as it is possible for human bipeds to be.

IV.

FITTING OUT AND TUNING UP.

HINTS AS TO GOING INTO COMMISSION AND MAKING THE CRAFT FIT FOR A RACE.

WE will now assume that, either by buying or building, the amateur yachtsman has come into possession of a craft which he intends to race this season. If he has had the vessel built to his order, the designer will have seen that she complies with the specifications, which, of course, include all gear necessary for her mug-hunting efforts. If he has purchased a second-hand vessel, after having her surveyed by a competent naval architect it might be well to learn from him what repairs, if any, are needed to her hull or rigging. The next thing to do is to obtain estimates for making the repairs; and unless the yachtsman is an old hand at the business, and knows approximately what should be the cost of such work, I should advise him to obtain figures from two or more concerns if extensive work is called for.

It is unbusinesslike and unsatisfactory to order a master shipwright to haul a yacht out and make such alterations

and repairs as he may deem requisite, but examples of such fatuousness have been known and have afforded much profit to lawyers and much unhappiness to clients on both sides. A shipwright may have views of his own about a racing yacht, and it is inadvisable to give *carte blanche* to any builder of ships, or even of houses.

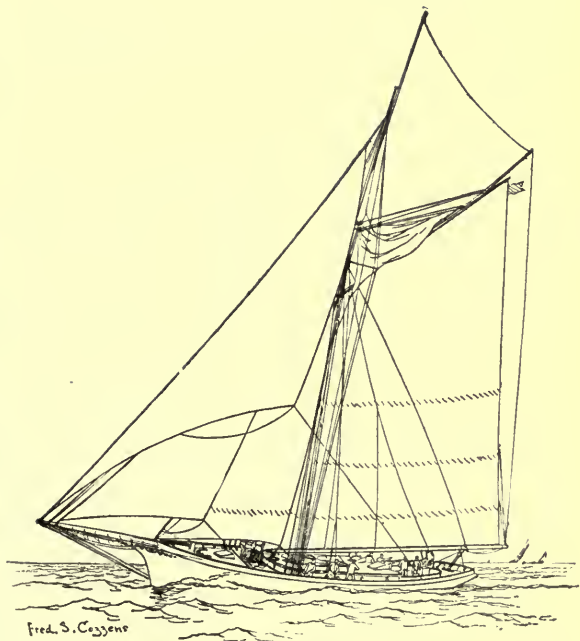
In these days of progress in yacht naval architecture, to the man of sentiment there will always be one source of regret. The owner of a successful yacht that has gallantly won scores of well-contested races and has proudly flaunted a superb string of racing flags at the close of her second season, cannot help having an affection for his vessel, especially if she was designed and built to his order. To think that after a few short seasons she has become outclassed—a regular back number—naturally awakens many sad reflections.

Old-timers remember that racing craft, when their cup-winning days were over, were converted into comfortable cruising craft, fishing boats, or pilot cutters. Nowadays such a transition is impossible. In many cases an expensive fin-keel is outclassed in a single season, and I have yet to learn what use she can be put to when her career after cups comes to an inglorious finish. Her lead, metal bolts, spars, sails and rigging may fetch a fraction of their first cost in a junk-shop; but few yachtsmen

would care to buy a vessel of the kind indicated for cruising or fishing purposes, not only because of the lack of accommodation, but also on account of the unhandiness of the fixed fin, whose vicious qualities can never be fully appreciated until one happens to get stuck in the mud or sand with the tide fast ebbing and no tug in sight or any other means of hauling off into deep water available.

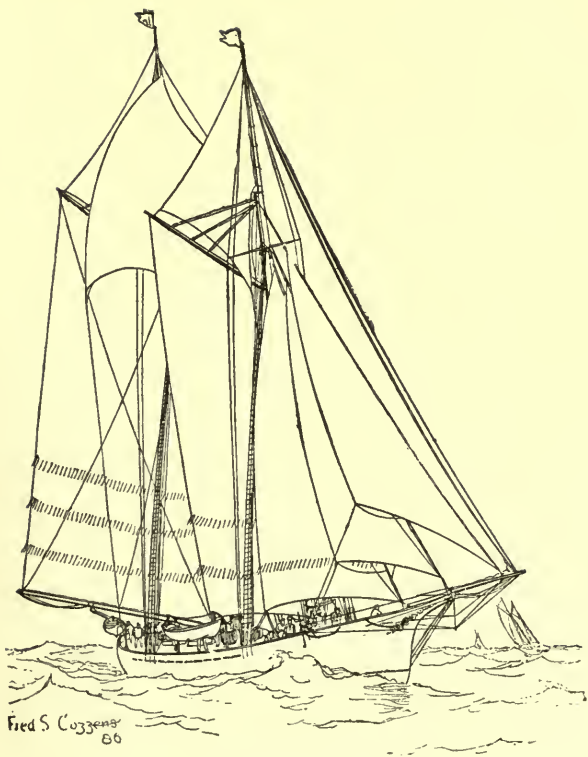
In the good old days of yacht racing it was customary to lengthen, "hip out," rebuild and otherwise alter a boat that showed signs of having outlived her usefulness, and in a rejuvenated condition bring her to the line again and with her achieve new conquests. Such a method is rarely resorted to nowadays. In fact, it is doubtful whether it would pay. Mr. J. Rogers Maxwell, who owned the schooner *Emerald*, is one of the few yachtsmen in this country who, of late years, have made extensive alterations in large racing vessels with any degree of success. He practically rebuilt the sloop *Shamrock*, and greatly improved her speed, and has twice made radical changes in the *Emerald* at great expense, both processes making her slightly faster.

Among the many yachts which were altered often and extensively may be mentioned the famous sloop *Gracie*, designed and built at Nyack-on-the-Hudson, by A. Polhemus. She was launched in July, 1868, her dimensions



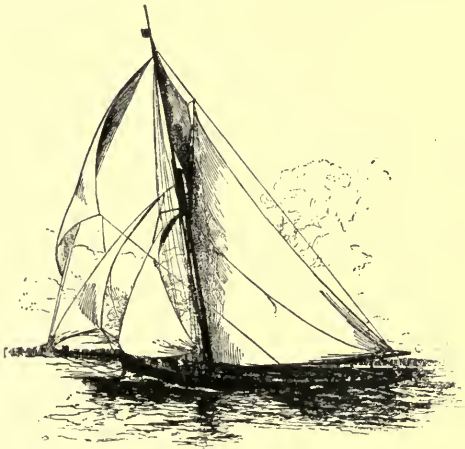
Fred. S. Cozzens

SLOOP "GRACIE."



SCHOONER "SAPPHO."

being 60 feet 3 inches over all, 58 feet on the water-line, 18 feet 8 inches beam, 5 feet 6 inches depth of hold, and 5 feet draught. Her center board was lengthened 2 feet aft in 1869. She was altered in 1874, and when completed measured as follows: length over all, 72 feet 9 inches; on water-line 62 feet;



CUTTER "GENESTA."

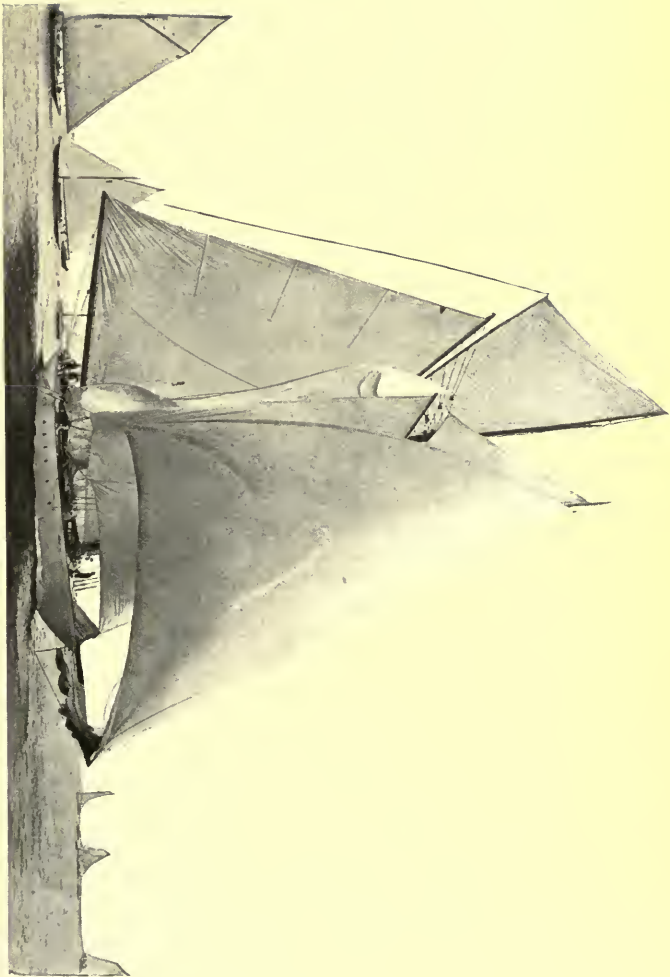
beam, 20 feet 6 inches; depth of hold, 6 feet 6 inches; draught 5 feet 8 inches. In 1879 she was rebuilt by David Carll, at City Island, her length over all being 79 feet 10 inches, on water-line 72 feet 2 inches; beam, 21 feet 6 inches; depth of hold, 7 feet 2 inches, and draught, 6 feet 6 inches. In 1886 she was given 12 inches more freeboard.

She sailed in the trial races against *Bedouin*, *Puritan*, and *Priscilla*, for the honor of defending the *America's* cup against *Genesta*, but that task was given to *Puritan*.

The keel cutter *Colonia*, built by Herreshoff as a cup defender to sail against *Valkyrie II.*, proved less fast than *Vigilant*. Her fault was a deficiency of lateral plane, which made her sag off bodily to leeward in a most discouraging manner. After serving as a drill ship for the crew of the *Defender* in 1895, she was purchased by Commodore Clarence A. Postley, fitted with a centerboard from a plan by Cary Smith, at Lewis Nixon's shipyard, and rigged as a schooner. She is now (1899) the crack American "two-sticker."

Old-timers will recollect how slow the schooner *Sappho* was until Capt. "Bob" Fish hit upon the bold expedient of "hipping her out," which was done by swelling out her midship section about fourteen inches, and tapering it off to nothing about thirty feet each way. The result was that *Sappho*, theretofore so sluggish that she could scarcely get out of her own way, beat nearly every craft bold enough to encounter her, and won many cups and much kudos for her sportsmanlike owner, Mr. William P. Douglas. Mr. A. Cass Canfield altered the sloop *Priscilla* considerably, but it cannot be said that he was altogether successful. When *Volunteer* was transformed into a schooner her forebody

SCHOONER 'COLONIA.'

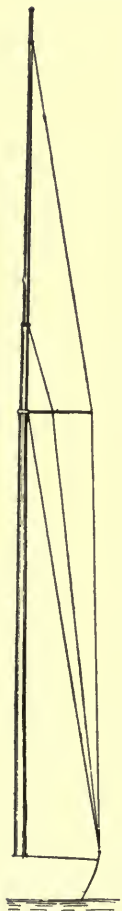


was reconstructed, and she made an enviable record as a "two-sticker;" but when rerigged as a sloop she never showed an approach to her original splendid form, as I think most yachtsmen will frankly concede.

Our British cousins used to have a perfect craze for rebuilding famous yachts, the old crack cutters *Alarm* and *Arrow*—both celebrated prize-winners—being notable examples of this ruling passion. But both here and in England the custom of materially altering the form of a yacht's hull in the hope of improving her speed may be said to have gone completely out of fashion. This is doubtless due to the radical and rapid changes in hulls, brought about by the frequently shifting rules of measurement for time allowance and the artfully ingenious methods of generations of yacht designers to get the better of those selfsame rules.

I only mention these just to give a practical illustration of the way the old-timers used to alter and rebuild their beloved boats. The custom is now obsolete. If a racing machine of the present day is not outclassed in her third season she is looked upon as quite a smart craft. It may thus be perceived that conditions have altered considerably during the last decade.

On general principles it is unwise to go in for very extensive alterations on a yacht of any kind, whether cruiser or racer. If, however, you are determined



Rig of Cutter showing Mast-head Shroud.

to go ahead, I advise you to be sure to have an iron-clad contract as to cost.

While your boat is being repaired or altered, ship your sailing-master, scrutinizing his references as to ability and character with care, and if possible supplement this examination by an interview with his last employer before engaging him.

Of course, much depends upon the size of your craft and the depth of your pocket. A Hank Haff or a Charley Barr would be too expensive a luxury for a craft of modest dimensions, and a boat-owner in matters of this kind must depend much upon his own judgment; it is impossible to give him advice except in the most general way.

The work of fitting out a racing yacht preparatory to tuning up for the season's sport is exceptionally interesting to the real amateur, but the owner who has no true regard for yachting generally finds the process somewhat of a bore. In "Boat Sailing, Fair Weather and Foul," a companion volume to this book, there

is a chapter on "The Overhauling of a Yacht," which contains a useful wrinkle or two, of which the reader may avail himself if he feels so disposed. The same is true of the chapter on "Laying up for the Winter," which is indorsed by naval architects and practical seamen.

It is customary with some builders to have a sail-loft annex to the shipyard, and these men are, in most cases, anxious to contract for the sails as well as for the hull of a boat. I should not advise any yacht-owner who contemplates racing his craft to employ anyone but the most skilful manipulator of duck to make his sails, which are of as much consequence as the hull itself so far as the winning of cups and prizes is concerned.

The man of fashion, ambitious of being well attired, so as to shine socially, doesn't go to Baxter street for a dress suit. Neither does a yachtsman patronize a tentmaker for a racing mainsail or a well-cut jib. There is no objection to the shipbuilder contracting for the sails if he desires to make a little extra money, but the yacht owner should take care that the name of the sailmaker appears in the contract, and this will be a sufficient guarantee for first-class work. There are many firms in the United States justly famous as yacht sailmakers, and these are of such high standing that their names marked on the sails supplied insures the best in the way of cut and the quality of material. It is a

great mistake to exercise any cheese-paring economy on a yacht's means of propulsion, whether it be steam or duck. The best in the market, whether it be machinery or sails, is none too good.

A cruising craft with a slovenly or slatternly owner may, perhaps, be content with a suit of sails that fits like a purser's shirt on a handspike, with a mainsail all abag and headsails that would disgrace a coal barge; but even a cruising craft may be caught on a lee shore with a gale of wind, and perhaps the owner will curse his fatuous economy when he has tried in vain to claw off the beach with his baggy sails and finds that his craft is crunching to pieces in the surf and he himself is struggling for life in the treacherous undertow.

The cost of racing sails is high, and, ordinarily, a yacht that goes the cup-hunting circuit needs a new mainsail every season. Under careful management, however, a mainsail, with good luck, has been known to do good service for two summers. The quality of cotton duck has improved appreciably of late, owing to a better method of manufacture, and sails "sit" better and do not "bag" as they used to. Cotton is king, so far as racing sails go, in Europe as well as America, flax having been entirely superseded by it. The change from flax to cotton began in England about 1893.

The rig of a racing yacht should be no more neglected than her sails. The

spars should be hollow on 20-footers and all in excess of that class. The standing rigging should be of silver-steel wire, set up by turnbuckles. The blocks should be strong and light, and the running rigging of the best quality. There should not be a superfluous ounce of weight in the craft aloft or aloft if the winning of cups is what the owner has in view.

Rigging screws or turnbuckles, which have superseded deadeyes and lanyards for the setting up of standing rigging, were first used in 1877 on the English cutter *Verve*. They are used now on all racing yachts.

In the old days of reefing bowsprits it was quite a usual event to carry away several bobstays during the season. The long overhang forward of the modern yacht has reduced the length of the bowsprit, and consequently the strain on the spar when pitching into a heavy head sea. The overhang also gives better facilities for handling the head-sails.

Flexible silver-steel wire rope is now used for running rigging in many yachts, notably for runners and runner tackles, and also for peak and throat halyards.

The best spars for large yachts are made of Oregon fir. This splendid wood is the best in the world for the purpose. Some spars have been known to measure nearly 40 inches in diameter, and some 172 feet long; the average length of spars shipped to Atlantic ports

from the Pacific coast is 90 feet, and the diameter 22 to 23 inches. Oregon fir is stronger than spruce or white pine, and hence less diameter is required for the same height. Spruce is in general use for the spars of smaller craft. Steel booms for racing yachts were first used on *Defender* and *Valkyrie III*.

The greatest improvements in the rigging of yachts of recent years have been the masthead shrouds, bridles on gaffs, and the comparatively new throat-halyard pennants. In a spanking breeze there is a great strain on the masthead, also much play, but by the adoption of the three devices mentioned the strains are both minimized and equalized. Large vessels carry double masthead shrouds, and smaller craft single ones. *Vigilant* was, I believe, the first American yacht to be fitted with them. Now they are carried by every craft of consequence. Gaff bridles and throat-halyard pennants are indispensable to the rigging of every racing yacht from the smallest cat to the largest schooner.

If your craft is large enough to spread two shrouds on each side, have them fitted in pairs. A bight and a good seizing are preferable to two single eyes.

The bowsprit-shroud outriggers or spreaders should be bolted fast to the ship without any hinged joint. This prevents any unnecessary play when the boat plunges bows under in a heavy head sea. There should be the same length of shroud between the spreader

and the bowsprit end, and the spreader and the turnbuckle which sets them up. The strain is thus divided equally and advantageously. The bobstay spreader or dolphin-striker should always have a hinged joint.

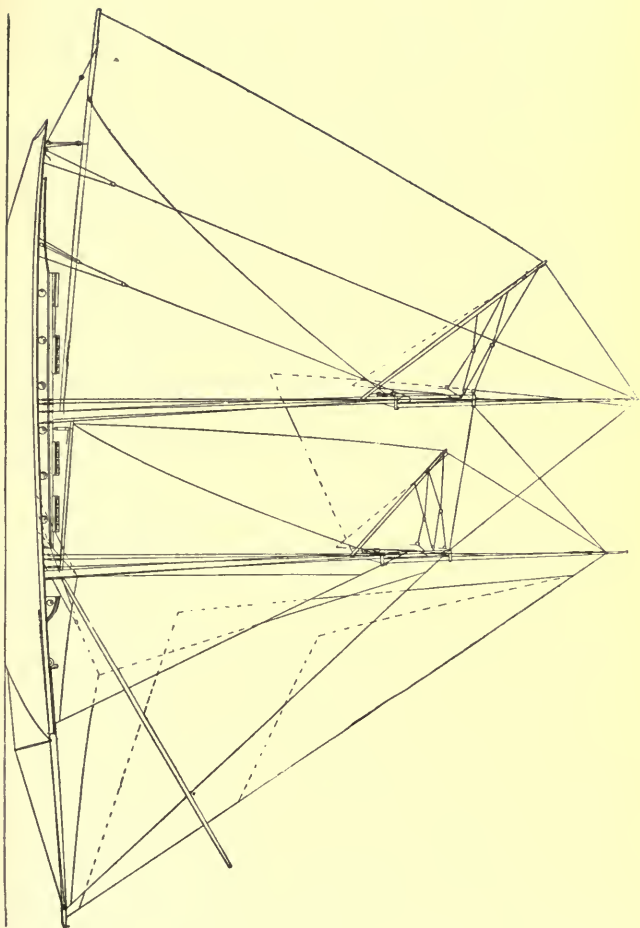
The rigging of *Uncas* is fitted as follows: Bobstay, 2½-inch steel wire; fore-stay, 2-inch do.; jibstay, 1¼-inch do.; bowsprit shrouds, 1½-inch do.; standing rigging, 1¼-inch do.; masthead shroud, 1⅜-inch do.; topmast gear, all 1 inch do.; runner shrouds, 1¼-inch do.; spring stay, 1½-inch do.; main lifts, 1½-inch flexible 19-thread steel wire; gaff bridles, 1¼-inch do.; peak and throat halyards, 2¼-inch manila bolt-rope; main sheet, 2-inch do.; fore sheet, 1¾-inch do.; head sheets and minor gear in proportion.

The *Vigil*, of similar design, is rigged precisely the same, with the exception that her main peak and throat halyards are of 1-inch flexible steel wire, the fore peak and throat halyards of ⅞-inch do.; club-topsail halyards, ⅞-inch do.

Lengths of manila are so spliced to these flexible wire halyards that when they are belayed the splice is about six feet above the deck. This flexible steel answers remarkably well. When once set up, it stays set up. There is no "give" to it, and thus frequent "swaying on it," as is the case with hemp rope, is quite unnecessary.

A modern 25-foot-water-line single-sticker with a pole mast, is rigged as

RIG AND SAIL PLAN OF "UNCAS."



follows: Bobstay, rod of steel $\frac{3}{4}$ -inch in diameter, set up with a turnbuckle at end of bowsprit; shrouds, two on each side, $1\frac{1}{8}$ -inch steel wire; forestay set up to stem head, $1\frac{1}{4}$ -inch do.; jib set flying, hoisted with $\frac{3}{4}$ -inch 8-stranded flexible steel halyards, set up with a jig-purchase; runner shrouds of $\frac{7}{8}$ -inch steel wire canvased over; main lifts, $\frac{3}{4}$ -inch flexible steel wire, painted, parceled, served over with white cod-line, and then covered with white canvas sewed on; the throat and peak halyards are of $\frac{3}{4}$ -inch flexible steel wire. The blocks are all strapped with grommets of flexible steel wire, served and leath-ered.

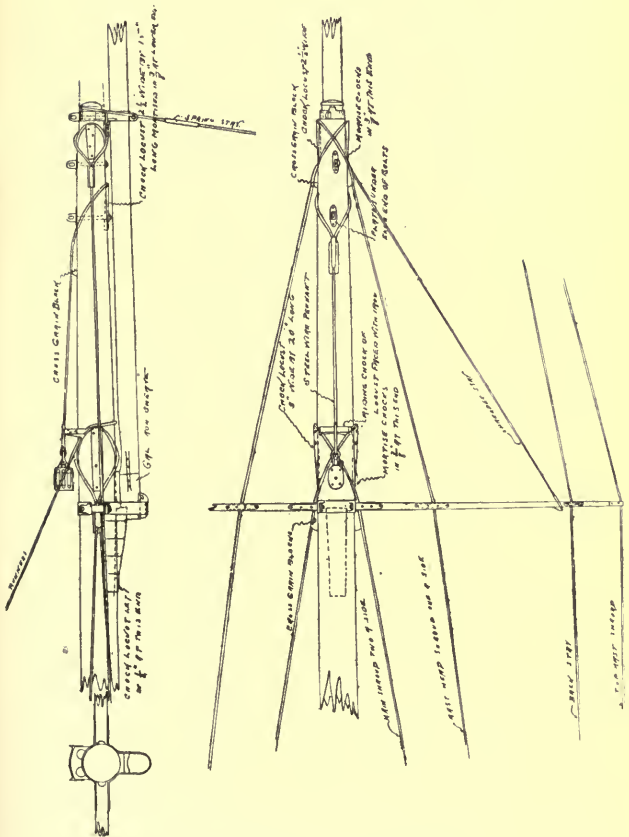
From these examples a fair idea of the modern method of rigging a racing craft may be gathered. Strength, lightness, and neatness are the qualities sought and attained. Steel wire is now largely used for the leech ropes of sails, and it is strongly recommended by our "swellest" sailmakers.

The above I owe to my old sea-faring friend, John F. Byno, who put the neatest splice ever seen in the Brooklyn Bridge cable, and is an expert with the marlinspike, as all the members of the Seawanhaka Corinthian Yacht Club can bear witness.

Flexible steel-wire rope is nearly if not quite as pliable as new hemp rope of the same strength. It is made with nineteen wires to the strand. The greater the diameter of the sheaves

NO. 1.

NO. 2.



No. 1. Side view of main masthead.
No. 2. Back view of main masthead.

MASTHEADS OF "UNCAS."

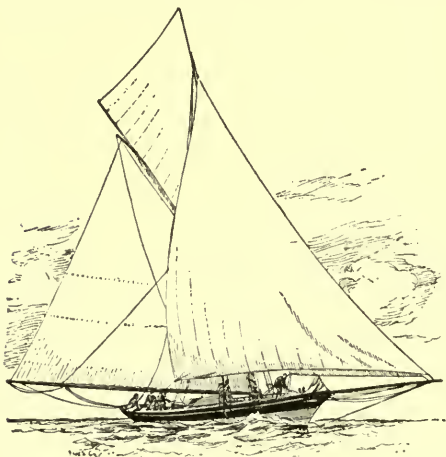
over which it passes, the longer it will last. The manufacturers recommend as a preservative a mixture of linseed oil and pine tar. It is impossible to belay wire rope to a cleat, as it will surely "render" or slip. Manila rope is therefore spliced to the hauling end of the wire, which makes it pleasanter to haul on, and insures its remaining fast after it is once belayed. I would not counsel a lubber to try to splice wire and rope together, unless in the privacy of a separate room. Why? Because the bystanders would be sure to laugh. It takes an artist to make this most difficult splice.

Grommet straps for blocks made of flexible steel wire cannot be surpassed. After making the grommet, paint well with raw linseed oil and white lead; parcel with canvas, serve with marline, apply another coat of paint, and then cover with leather or canvas sewn on. For neatness, strength, and durability this method is superior to any other. But it requires an expert to do the work.

With regard to turnbuckles for setting up all kinds of standing rigging, it must be conceded that they are indispensable for racing craft both large and small. One advantage of deadeye and lanyard for deep-water cruising is that if it should be necessary to cut away the mast to save the ship when hove on her beam ends, a cut with an axe will sever the weather lanyards and away goes the mast. The turnbuckle

cannot be cut. A combination of turn-buckle, and deadeye and lanyard, might be fitted so as to combine the advantages of both.

The bulwarks of racing yachts have been reduced in height to mere battens. All deck fittings have been lightened as much as the designers dared. All with



CUTTER "MINERVA."

the intention of reducing weight. Iron-work on spars looks very frail when compared with that of a decade ago, and the weight of blocks has been diminished in some cases more than fifty per cent.

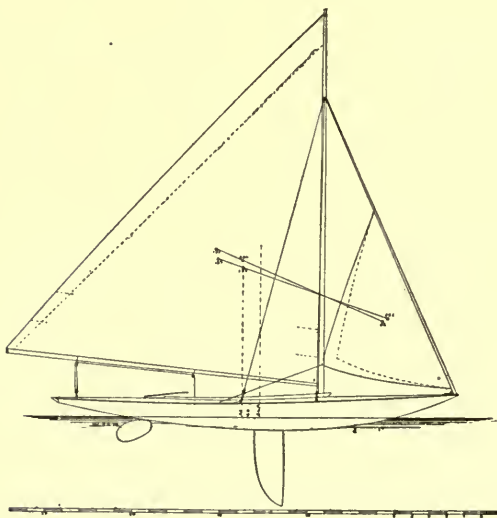
The abolition of all cabin fittings first took place in the Marquis of Ailsa's *Bloodhound*, built in 1874. All she had in her cabin was a seat along each side.

It is only comparatively recently that yacht designers have made serious efforts to reduce weight aloft. Sometimes they have gone too far. I remember a 40-foot cutter, built to sail against the Scotch cutter *Minerva*. She was dismasted in a puff on the occasion of her first race, which was also her maiden sail. The same mishap befell her later on in a fine sailing breeze off Newport. I was on the committee boat which towed her into port. If she hadn't been well handled after being disabled some serious accident might have happened to her hull. The accident was ascribed to defective iron-work.

It is of no benefit to stay the masts of pleasure vessels with rigging heavy enough for a great brig. A sense of proportion should be observed. Scientific men have calculated and tabulated the stress and strain that wood, metal, wire and hempen rope will bear, and these tables may be consulted by anybody able to read.

It is a fact that piano wire plays a leading part in the rigging of some of the down-to-date little racing freaks one meets nowadays, especially in fresh water where it is less exposed to corrosion. It is highly spoken of by those who have used it. Better, however, not to go to extremes and always to beware of a spider-web rig. Like flimsy construction it causes a yacht to come to grief.

A good example of lightness of rig was the 15 - footer *Ethelwynn*, designed by Mr. W. P. Stephens, to defend the International Challenge Cup of the Seawanhaka Corinthian Yacht Club. It will be remembered that she beat Mr. Brand's *Spruce IV.*, which boat



SAIL PLAN OF "ETHELWYNN."

was quite heavily rigged when compared with the American craft. The mast was a hollow spar of $4\frac{1}{4}$ inches, a far too heavy stick, as experience proved, for one of 3 inches and about half the weight would have been sufficiently strong. The hollow boom was



HALF RATER "SPRUCE IV."



FIFTEEN-FOOTER "ETHELWYNN."

$2\frac{3}{4}$ inches diameter in the slings. The rigging was of phosphor-bronze wire rope, the forestay being $\frac{3}{32}$ -inch diameter, shrouds $\frac{3}{16}$ -inch diameter, and runners $\frac{1}{8}$ -inch. Main and jib halyards were of the same material, $\frac{1}{8}$ -inch diameter. The main-halyard ran over a 2-inch sheave in the masthead, a single part with a whip-tackle at the deck. The jib-halyard was double with a jig. The running rigging was of imported English cord. She carried 198 square feet of duck.

I am indebted to Mr. Stephens for the description and the accompanying sail plan.

J. M. James, Vice-Commodore of the Imperial Model Yacht Club, of Tokio, Japan, is enthusiastic in praise of lacquer as a coating for the outside skin of yachts. He says that all the club's models have their topsides and bottoms lacquered; and after numerous experiments for testing those thus treated against painted craft an increase of speed, amounting to ten per cent., was found in favor of the lacquered ones. A model yacht once well lacquered, with care and barring accidents, will last a lifetime and retain its luster. He says that all the Japanese naval ships have their bottoms lacquered. The lacquer gives increased speed and almost prevents fouling, and if properly put on lasts for three years. The only drawback is that the process is very expensive.

Here is an opportunity for some enterprising individual to experiment with lacquer. If he proves successful he will gain the gratitude of yachtsmen. Incidentally, he will also win a large pecuniary reward.

In the matter of a compass the racing yachtsman should be careful. In thick weather, when steering for a mark, it is necessary that the deviation for every point should be known. In wooden yachts there is no difficulty, if ordinary precautions are taken, in keeping compasses exact. In iron and steel yachts they have to be licked into shape by a professional adjuster of reputation.

In spite of opinions to the contrary, held by old salts, the compass is not affected by fog, thunder, or attraction of land. It should be remembered, however, that magnetism exerts its magical influence through all bodies, no matter how dense, while light, heat and electricity do not possess this wonderful property.

Thus, casing an iron bulkhead with wood or covering an iron stanchion with copper or canvas will not prevent the metal from affecting the compass. It may be thought superfluous to assert such a well-known scientific fact in this year of the world, but experience teaches me that there is still much to be learned by those who go down to the sea in yachts.

It is not generally known that no iron vessel has been struck by lightning.

The wooden spars have been shattered frequently by the electric fluid, but, owing to the circumstance that water is a better conductor than iron, the hull of an iron vessel has never suffered. If the spars of an iron ship are made of iron, the vessel may be looked upon as immune from disaster by lightning.

As soon as your craft is fitted out place her in commission, and proceed to become acquainted with her. Prizes are won only by hard work, and if you intend to make a record for yourself and your craft you can attain your end by honest industry only.

Part of the sea-jockey's stock in trade is to discover how slow a yacht may be made to go with every stitch of sail set ostensibly to the best advantage, with sheets pulling like horses and trimmed to perfection. It is only the most subtle and knowing customer that can so master a yacht as to excel in this. The most accomplished proficient I ever knew was the skipper of the Scotch ten-ton cutter *Madge*, which came over in 1881, and created a great revolution in yachting. That man could make the boat almost speak. By manipulating the sheets, slacking one or flattening in another, and by other tricks unknown to this deponent, I have seen him allow an oyster-boat to beat the crack racing cutter. The name of that canny skipper was Duncan. The Yankee captains who sailed against him are not likely to forget it.

I remember reading somewhere about a yacht skipper of experience who fooled a younger rival and caused him much unhappiness during a hotly contested race on the Solent. It was blowing a piping breeze, and *Sally*, the rival craft, had one reef in her mainsail and the topmast struck. *Bantam*, on the other hand, was the stiffer of the two, and held on to the whole mainsail, but also dowsed topmast. *Sally* had passed *Bantam*, and was leading her some fifty yards. Both yachts were at that time sheltered by the land, but a few hundred yards ahead a big sea was running in the West Channel.

It was at this moment that the sly old sea dog played his low-down trick on the green young skipper, who was watching his every action.

"Up with the topmast, lads!" yelled Captain Sly of the *Bantam*.

His crew made a great pretense of swaying away on the heel rope, but somehow or other it got jammed and stayed jammed, in spite of the apparent efforts made to clear it.

Captain Green thought he would be smart. He sent up his topmast in seamanlike style. The topsail was set just as the *Sally* encountered the heavy sea in the channel. She made one dive and buried herself up to the skylight. The pressure was too much for her. In an instant *Bantam's* topmast was housed, and all the gear fast again, and while *Sally* was pitching and 'scending in the

choppy sea *Bantam* crawled through her lee and beat her. Captain Green was so demoralized by the trick of which he was the victim that he did not regain his self-possession until it was too late.

Captain Sly was convinced that Captain Green would imitate him in everything, and the result proved that he had formed a correct estimate of his opponent.

It is not wise or politic to undervalue the sailing qualities of an opposing yacht, especially when she is practically an unknown quantity. In other words, don't prophesy unless you know. Here is a case in point :

When the *Madge* was about due to sail her first race in these waters, the skipper of her Yankee opponent is said to have paid a visit to Sawyer, the sail-maker, and asked for the loan of some flying kites.

"Any old stuff will do," quoth the skipper. "I've only got to knock out that narrow-gutted coffin anchored yonder."

The sails were lent by Mr. Sawyer, and it is needless to say that they did *not* fit "like paint on a post." The "coffin" beat the "skimming dish" with singular ease.

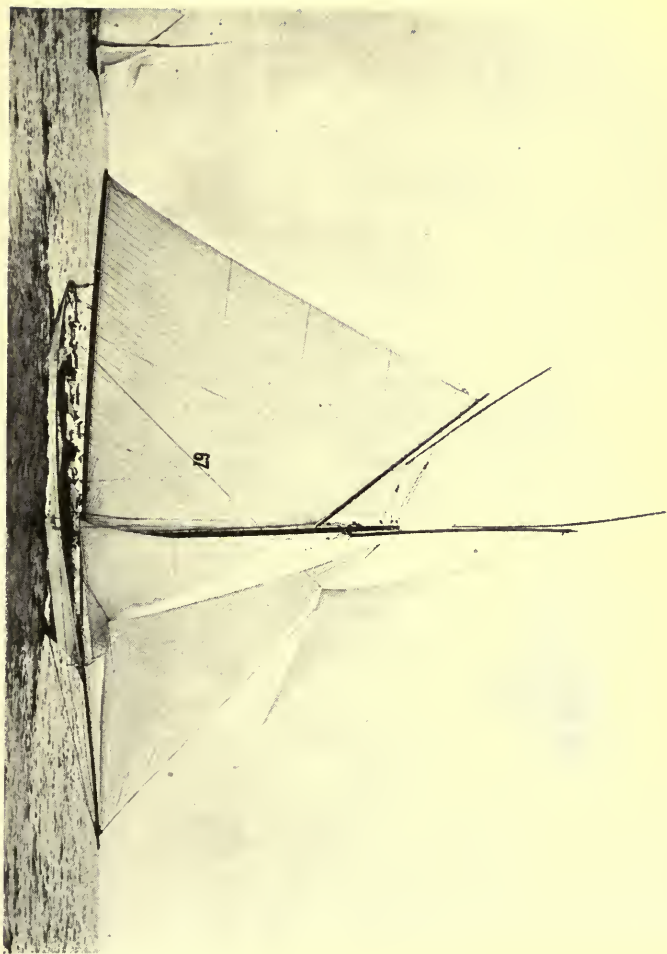
I put this little yarn on record only just to show the contempt the average American yachtsman had at that time for the epoch-making *Madge*.

The proper balancing of sails is im-

perative when racing. To illustrate my meaning I need only refer to the decisive race between *Vigilant* and *Valkyrie* for the *America's Cup*, which all but resulted in the winning of the race by the British yacht. In point of fact, *Valkyrie*, had not her two spinnakers blown away, would have romped in victoriously. In the beat to the outward mark *Vigilant* carried a reefed mainsail and a big jib, and, for the first time in her history, required lee helm. This blunder, in addition to her centerboard becoming jammed, made *Valkyrie* beat her 1m. 55s. on the windward leg. *Valkyrie* had a half-reef in her mainsail, but shifted her jib and set one whose center of effort was in exact accord with the reduced after-canvas. *Vigilant* won by forty seconds only, and had it not been for the *Valkyrie's* hard luck would have been badly defeated.

On July 13, 1889, the *Katrina*, while racing against the *Titania* in a reefing breeze, carrying a big jib and a reefed mainsail, suffered a like deserved defeat. Under her ill-balanced sail-spread, for the first time in her history, she, too, carried lee helm, and sagged off to leeward like a haystack adrift. She made a pitiable exhibition of herself, and all hands rejoiced when her main boom snapped off and permitted her to withdraw without disgrace. Meanwhile *Titania*, splendidly handled by Captain Haff and Mr. C. Oliver Iselin, sailed over the course and won the race.

FORIY-FOOTER "GOSSON."



It is interesting to note that the mishaps to both *Katrina* and *Vigilant* occurred on the 13th of the month.

The jibtopsail when a yacht is close-hauled is of very little use, especially in a bit of a breeze. Some skippers set what is known as a "baby-jibtopsail" when the wind is very light. It is questionable if the sail is of any benefit at all under such circumstances. In my opinion, the sail makes the boat's head sag off to leeward, lee helm being the result. If no such sail were made, I think it would never be missed. Of course, with the wind free the jibtopsail, from its most diminutive size to its most extreme balloon development, is a very valuable sail.

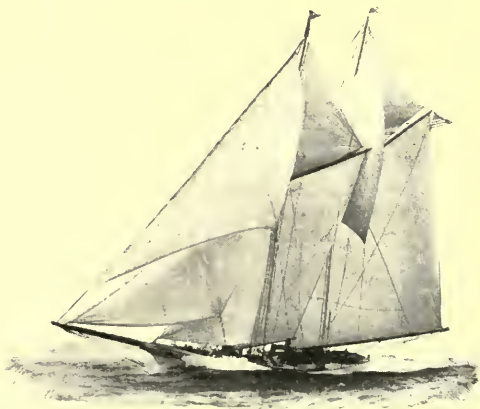
In taking note of the speed of boats the length should be considered. I remember that the 40-footer *Gossoon*, the conqueror of the Scotch cutter *Minerva* in 1890, without any tide to help or retard her, made in a race I saw an average of nine knots an hour. This means that to accomplish this feat she had to run her length in $2\frac{3}{4}$ seconds. A little reflection will show that this is a remarkable achievement for so small a vessel.

It may be mentioned here that a nautical mile, a knot, and a geographical mile are one and the same thing. A knot equals 1.15 statute miles. Multiply the number of knots by 1.15, and you have the distance in statute miles. There are 6,080 feet in a knot; 5,280 feet in a statute mile.

Chronometers should be kept free from damp, dust, and draughts. When winding turn the key steadily, avoiding any jerky action. Most of them require seven and a half turns of the key. Wind slowly and steadily as far as the mechanism will permit. Wind punctually at the same hour every day. A chronometer that has run down, on being wound up again, will probably not start until it has been quickly but not violently slued half round and back again. This is easily done by placing the instrument on the table, and turning it horizontally between the hands. Take care that the instrument has neither too much nor too little side-play in the gimbals. A standard compass stowed away, while in port, close to a chronometer has been known to ruin the going of the watch, the powerful compass needles having by induction magnetized the steel portion of the balance. Do not stow a chronometer close to an iron bulkhead, an iron vessel's side, the upper or lower end of a vertical iron stanchion, or within eight feet of compass compensating magnets. The chronometer case should not be screwed down to a table containing drawers which might possibly be used to hold spare compass cards. Chronometers should be kept away from iron almost as religiously as compasses.

Jolting in a railway train or a conveyance of any description is liable to alter the steady going of a chronom-

eter. The quick jerk of a boat propelled by oars is still more likely to prove injurious. If, therefore, a chronometer has to be taken from one place to another in a pulling boat, it should be held free in the hand by the leather straps, taking care to avoid a circular motion. When traveling by train place the instrument on a pile of overcoats or rugs, in such a position that it will not fall. Marine chronometers are intended always to be kept strictly horizontal with the face up. Never allow a chronometer to run longer than four years without having it overhauled by a first-class workman. If it is a new instrument, it should be looked at after a year or eighteen months.



“AMERICA,” 1899.

V.

DUTY AND DISCIPLINE AFLOAT.

THE SHIP'S COMPANY IN DETAIL FROM THE
SKIPPER TO THE SEA-COOK.

TO cruise with pleasure from port to port and to win races—the yacht owner must remember that he can do neither unless his sailing-master thoroughly understands his business. Whether amateur or professional, the skipper must be a man of dash and daring tempered with a modest *souçon* of discretion, active, vigilant, with his weather eye wide open at all times and seasons. He must have the knack of handling men so as to get every foot-pound of energy out of them that is in them. He should be a strict, but not necessarily a stern, disciplinarian; and he should have sufficient diplomatic instinct in his make-up to know when to wink at a slight lapse on the part of a generally capable and faithful blue-jacket.

The personnel of the racing yacht is of the greatest importance, and, if not of the best, the career of the vessel is not likely to be crowned with the laurels of success. The man in command must have the rare gift of personal magnet-

ism, the art of inspiring enthusiasm, of compelling victory. A cool head is no less necessary than are nerves of steel. He must be a splendid helmsman, a good practical seaman and skillful navigator.

A man possessed of all these attributes commands high wages and deserves all he can get. The discipline of his yacht is perfect. Everything goes with the precision of clockwork, at sea or in port. He is prepared for every emergency that may arise when at anchor or under way, and is never caught napping. Keeping a watchful eye on the interests of his owner, he is also careful of his crew, being fully aware of the evil consequences of a discontented fore-castle, and knowing that sulky or surly sailors never yet were conducive to the capturing of sea trophies. A good skipper must therefore be a good judge of human nature, alive to the idiosyncrasies and frailties of sailors, who have in good sooth as many whims and vagaries as silly schoolgirls in the transition stage of development. In fact he should be quite a past master in the cunning art of "jollyng along." It is astonishing what a number of men there are who possess all these qualifications. Modest, unassuming men, skillful navigators and seamen they will prove to be, and you can avail yourself of their services for a moderate compensation.

There is no fixed scale of wages for a yacht skipper. The sailing-master of a

large steam yacht may be paid \$3,000 a year, while the skipper of a racing 51-footer might think himself lucky if he gets \$80 a month with the prospect of being paid off when the yacht goes out of commission. This practice of engaging a skipper for the season seems to me to be short-sighted policy. It cannot be expected that a captain hired for three months only will take more than a passing interest in the vessel. He would be more than human if he lay awake nights, scheming how to save his owner money. Whereas, an honest, conscientious skipper, assured of receiving living wages all the year round, will more than earn his salary by the extra care he takes of the yacht. He naturally looks upon the vessel as a prime source of revenue. He realizes that it is to his interest to run her as economically as possible, to keep her in thorough repair and order at the least possible cost, to make life aboard her as pleasant as possible to his owner and his guests, to win as many prizes as he can if the boat is a racer, or if simply a cruiser to get her talked about for a phenomenally fast passage from one port to another, for beating a rival of approximate size by a handsome margin, or for successfully reaching her destination in a heavy blow, when other boats were glad to scud under bare poles for a harbor. These little acts if performed with tact, make an owner prouder than ever of his yacht and more appreciative of the services of his skipper.

Permit me to illustrate. A friend of mine several winters ago purposed to buy a schooner and fit her out for a West Indian cruise. He provided himself with a number of tickets of admission to several vessels laid up in a dock at South Brooklyn. He invited me to accompany him on a prospecting tour. It was a dirty day, sleet, snow and wind being the objectionable features that confronted us.

Our first port of call was the office of the dock, where we found a man in charge who examined our credentials and sent to a neighboring tavern for the "ship-keeper," who he said had "gone to lunch." In about half an hour this functionary made his appearance, and piloted us to the pier where several schooners which we desired to look at were moored. We boarded the first on our list, a cruising vessel of some celebrity, whose owner desired to sell her, as he was building a steamer. The decks were deep with water, the scuppers being obstructed. Everywhere were signs of disgraceful neglect. The binnacle was a mass of verdigris. Costly and artistic wood carving was without protection from the weather. The handsome companionway of mahogany was without a canvas cover. Going below we found everything mildewed and musty. The bedding in the berths was damp. Water trickled from the deck beams. What really had been a most attractive interior presented an appearance of

dampness most dispiriting, as well as every evidence of decay. It was indeed pitiable to see such a fine vessel in so sad a plight. We passed on, and inspected two other craft whose condition was only slightly better, and which presented few attractions from a purchaser's point of view.

The next yacht we visited was in marked contrast to the others. A handsome, sunburned man greeted us at the gangway, and after we had explained our mission, invited us below. He was the captain of the schooner, he told us, and was spending the winter aboard of her. Stepping down into the cabin we saw a snug and cozy saloon, a cheerful fire burning in the open grate, everything bright and spick and span, as though the yacht was in Newport at the height of the season. A pretty young woman was at work at a sewing machine, while a pampered Persian cat basked luxuriously on a handsome rug in front of the fire

"This is my wife, gentlemen," he said, and then he showed us all over the vessel from right forward to right aft. The staterooms were in perfect order, not a sign of damp or mildew anywhere. Everything was clean and spotless as a new pin. We found that the skipper had been in charge of the yacht from the day of her launch, that he and the steward and a boy lived on her every winter and kept her in thorough order outside and inside.

We were shown the logs of several deep-water cruises she had made, together with track charts of the voyages. We were entertained with an intelligent and interesting description of the yacht's behavior in a hurricane off Bermuda, given with a wealth of seamanlike detail, which we both hugely enjoyed. It was evident that the skipper was a firm believer in his boat, and that he had tended her with care and loving kindness from her christening to that day. He explained that his owner had married a woman who hated the sea, and that the vessel was in the market at a reasonable price.

That schooner now flies my friend's private signal, and that same skipper is still her sailing-master, and, according to his employer, is worth his weight in gold. This practical illustration may demonstrate the advantage of employing a sailing-master by the year and not by the season.

Every word I have written about a skipper applies, in the case of a steam yacht, to the engineer. And if possible, still more strongly, for the deterioration of marine engines left without care or protection is both rapid and, I need hardly add, costly in the extreme.

I strongly advise a yacht owner who thinks he has the skill and knowledge requisite for the command of a yacht, to assume command himself and dispense with the services of a professional sailing-master. Let him ship a competent

man as mate and give him to understand that his duty is to carry out the owner's orders, and simply to act as executive officer. It is impossible that a yacht can have two captains and turn out a cup winner. Jacob found two wives in the same house quite incompatible ; and the discipline of a racing craft with the owner and the sailing-master both issuing commands at the same time is not unlikely to be lax, and with lax discipline races cannot be won.

The treatment of the sailing-master by the yacht owner varies according to the temperament and disposition of the latter. A gentleman is incapable of rudeness to an employé—especially to a man holding so responsible a position, and in charge of such a valuable piece of personal property as a yacht. The judicious owner always treats his skipper with respect. If he desires to preserve proper discipline aboard, he will let the crew see that the captain has his entire confidence. The owner, therefore, should always give his orders to the skipper, who will then communicate them to the crew. For instance, if he wants a boat lowered he should not sing out to the crew to lay aft and lower the launch. That would be a grave breach of yachting etiquette. The correct course to pursue is to tell the captain that he wants the boat, and leave to him the issuance of the necessary commands for the carrying out of his wish. This may seem a small matter, but it is really

of importance. If neglected, it is subversive of discipline. The owner should always address the master as Mr. —, never as "Skipper" or "Cap," as is too often the case aboard a certain class of craft conducted after slipshod methods. The men should always address the sailing-master, and also the mate, as "Sir," and no departure from this rule should be tolerated. The sailing-master should be held responsible for any breach of discipline on the part of the crew, and his authority should always be sustained by the owner.

I have seen more than one sailing-master who, not content with tyrannizing over the crew, held the owner in complete subjection. It may be readily surmised what kind of worms these owners were. But take yacht skippers by and large, the average is worthy of confidence and respect. The percentage of black sheep among them is almost infinitesimal. The same remark applies to the mates and the men.

The following hints to sailing-masters were written by a dyspeptic martinet of a yacht owner, but there is much good sense in them. They are hung up in his sailing-master's berth :

- 1.—Never curse the crew. The owner will do all the swearing.
- 2.—Should the owner or any of his guests not use tobacco, never smoke to windward of him or them. Have the goodness to step to leeward.
- 3.—Always be at the gangway when

- the owner comes alongside. No matter how warm it may be, do not receive him in your shirt-sleeves.
- 4.—Have a memorandum of all the stores in your department. Do not rashly answer, "There is none on board," without consulting your list when asked for an article required.
 - 5.—There are yachts afloat whose owners are run by the sailing-masters. This yacht is governed differently.
 - 6.—If the sailing-master is at any time dissatisfied with the owner or the yacht he has an unfailing remedy, and the sooner he avails himself of it the better.
 - 7.—The owner trusts that pleasant relations will always prevail between the sailing-master and himself.

Having secured your skipper let him ship the crew. If your yacht is a large vessel you will need a mate. In the interest of harmony it is advisable to let the skipper have some say in the matter of his selection. It will be advisable to look over his credentials, with a view to finding out if he is competent to take charge of the vessel in the event of any accident befalling the captain. If you contemplate a blue-water voyage, be careful that the mate is a navigator and has the requisite license. If deprived of the services of your skipper by any unforeseen cause, it would be awkward to find yourself, say, a thousand miles from land, with nobody aboard capable of finding the vessel's position otherwise

than by dead reckoning—a hit or miss method always unreliable.

The wages of mates vary. Some of them are paid \$10 or \$15 a month more than the men, whose pay ranges between \$25 and \$30 a month. This is much more than is paid to English yacht sailors, who have to feed themselves out of their pay.

The mate's duty is to take charge of the yacht when the master is below. When the master is on deck the mate's station is forward. He superintends the setting, taking in and trimming of sails, and in a general way carries out the skipper's orders. He is a very important man in a race, for then the captain's place is at the helm and the mate is responsible for the proper working of the vessel and the prompt setting of balloon sails. If any of the running gear gets foul or parts he is tolerably certain of a brisk dressing-down, especially if the mishap causes the loss of the race. The reason of this is because he has charge of all the gear and sails and spars, and is responsible for their being always in good condition.

The mate superintends the work of getting under way, sees the head-sails clear for hoisting, looks after the windlass, sees that the hose is played on the chain cable if the vessel has brought up on muddy bottom. Also when coming to anchor he sees that the mud-hook is clear for letting go, all halyards ready for lowering, booms in good shape for

swinging out, and the boats in good condition for lowering. The captain is in command of the starboard watch, and the mate takes hold of the port watch. In long runs the watches are set as in ocean steamers, the men taking two-hour tricks at the helm and the same on the lookout.

The mate, as executive officer, superintends the washing down of the decks in the morning, and is held responsible for the yacht's ship-shape appearance. If any "Irish pennants" are seen towing overboard or if there is a speck of dirt anywhere to be found, the mate is brought up with a round turn. A good mate is invaluable, and if he and the sailing-master work in harmony together, the yacht, so far as discipline is concerned, will be perfect, and the vessel will be a pleasant one for all hands. The mate in large steam yachts has generally the charge of the launch, bringing aboard guests and taking them ashore. It is imperative that he should have a thorough knowledge of the art of boat-handling and that he should be a smart, all-round man in every detail.

Only very large craft carry a boatswain. His duty is to care for the rigging and "pipe the side." Personally, I like to hear the cheery sound of his whistle. It reminds me of old times. The boatswain nowadays finds no occupation for his "call" on a racing craft.

Great Britain and the United States are the leading yachting nations of the

world. The yachting flags of both countries have been seen in nearly every harbor of the globe. France, Italy and Germany have during the last decade made some noticeable progress in the pastime, but neither in racing nor in cruising have they accomplished anything of real significance.

For instance, how galling must it have been to the patriotic pride of the German Emperor to be forced to sail his imperial racing cutter, *Meteor*, designed by a Scotchman and built on the Clyde, with a crew of Hampshire and Essex sailors. But stern necessity compelled him. The German seaman has many merits, but he doesn't show up to advantage aboard a racing cutter. One would have thought that the Emperor would have trained a crew of Germans especially for the task, but the idea either did not occur to him or was judged not to be feasible.

He might have followed the example of our countryman, Mr. C. Oliver Iselin, the managing owner of the *Defender*, who in 1895 turned the tables on certain of his British critics, who had declared that no American crew could possibly beat the trained British yacht sailors who formed the crew of the *Valkyrie*. These seamen, all hailed from Wivenhoe or Brightlingsea in Essex, had sailed in cutter yachts in the summer and cutter-rigged fishing smacks in the winter from boyhood, and were indeed the flower of the racing sailors of England. Captain

Cranfield, one of the smartest skippers afloat, had drilled them for several seasons. They were pronounced invincible by recognized authorities.

In previous contests for the *America's* cup the crews of the *Puritan*, *Mayflower*, *Volunteer* and *Vigilant* were composed largely of Scandinavians, concerning whose ability as seamen I have nothing to say except in praise. It was the general idea that without the Scandinavian element the battle was lost. Mr. Iselin undertook to expose the fallacy of this notion. Without disparagement of the excellent yacht sailors hailing from Danish, Swedish or Norwegian ports, he determined to prove practically that the native-born American sailor, when properly licked into shape, makes as fine a yachtsman as ever trod a deck or broke a biscuit.

Accordingly Captain Haff was sent to Maine, and there the veteran skipper shipped an American crew worthy of the saucy Stripes and Stars—active young fellows who had never sailed on pleasure craft but had followed the sea on fishing schooners and coasting vessels. After being drilled by Captain Haff for a few weeks they became as smart and efficient a crew as ever tailed on to a mainsheet or manned club-top-sail halyards.

I had many opportunities of comparing them with their British opponents, and I pledge you my word as a sailor and a gentleman that one crew was as

smart as the other in setting or shortening sail and in all marine manœuvres. It was a surprise to many, but nobody was more astonished than Captain Cranfield, who admiringly admitted the ability and efficiency of the boys from Maine who manned the *Defender*.

This achievement opened the eyes of the British critics and showed them of what our raw material is capable. It was also a surprise to many of our racing skippers, who were laboring under the delusion that Scandinavian sailors alone are capable of manning our yachts. Never was a greater error. The native-born American, when properly trained, makes as smart a yacht sailor as ever walked a deck.

Most of these Maine sailors, judging from their names, belonged to the great Anglo-Saxon race whose deeds afloat are written on the bright pages of sea history. America has reason to be proud of her seafaring ancestors. The infallible law of heredity and the no less assured principle of the survival of the fittest have been well exemplified among the dwellers on the British coasts. The bold sea-dogs of the West Country today are fitting successors to those sturdy semi-pirates who under the flag of Frobisher, of Drake, of Raleigh and of Hawkins shed so much glory on the nation they upheld and so much of the enemy's life-blood. The smugglers and privateers of the southern and eastern coasts may justly be classed as the pro-

genitors of our racing yachtsmen. For be it remembered that speed was the prime necessity of their means of livelihood. The contests between revenue cutters and luggers were continuous struggles for sea supremacy. If a lugger was captured by a cutter, the keel of what was hoped to be a still faster lugger was laid, and so the war went on. British privateers generally got the best of their Gallic opponents. Nelson crushed Great Britain's foes at sea as effectually as Wellington defeated her enemies ashore.

In the war of 1812 America proved her naval superiority by many a heroic deed. Until the devastating cruise of the *Alabama* our mercantile marine was our national pride. It is true that our mercantile fleet of to-day is by no means what it ought to be, but it is also a fact that our fine coasters and fishing vessels, although manned by a large percentage of foreigners, are, as a rule, commanded by native-born Americans. Those of our countrymen who follow the sea for a livelihood soon rise in their profession. The somewhat scanty emoluments offered are sufficient reasons for deterring the average ambitious American youth from seeking his fortune afloat, but should more liberal inducement ever be offered, the sea-loving Yankee will be to the fore again.

That the raw material is at hand was proven by the adaptability of the Maine men to be transformed into efficient

yachtsmen in so short a time. Had the Emperor of Germany tried to convert some of his seafaring subjects into a crew for the *Meteor*, he might have met with a far different result.

Sailors are a queer lot, and good ones are to be found in every maritime country. In their native climes a crew of lascars, hard as nails and agile as monkeys, cannot be surpassed. Ship them aboard a vessel bound to the English Channel and due there in midwinter, and you might just as well have a ship's company of frozen earwigs. In the Bay of Bengal, blow high or blow low, you couldn't wish for smarter sailors. I speak from personal knowledge, having had command of a smart schooner engaged in a certain lucrative trade on the Coromandel coast and in the China seas, the precise nature of which I decline to divulge, but which called for quick work. Never have I sailed with a more satisfactory crew than Abdool, the Serang, and his twenty alert followers. They made that schooner talk. In the Bay of Biscay they would have been as useless as a dead steam-engine. They were the most economical sailors I ever knew—five rupees a month and a modest ration consisting principally of curry and rice. I wonder in what seas my faithful Abdool and his lithe and dusky shipmates are cruising to-day, for I am writing of thirty years ago, when I was a little spryer on my pins than I am at present.

The selection of a crew, especially for a deep-water cruise likely to be of long duration, is an important piece of business. The skilled skipper, from long experience, possesses the instinctive faculty of picking out the right men from a small army of applicants. This, too, without any unnecessary delay. A short talk, a glance at papers, and the trick is done. A sea-lawyer has no chance of being shipped. The skipper detects him at once. He knows that breed. The inexperienced yacht-owner cannot appreciate what troubles he is saved from by the wise selection of his ship's company. One sea-lawyer with the pestilent gift of the gab will infect a whole fore-castle full of honest and well-meaning men, just as one sheep with the rot will taint a sound and healthy flock. The incessant wagging of his jaw, his perpetual growlings like a bear with a sore head, are as likely as not to breed a mutiny, or, at any rate, to make a floating hell of that part of the vessel that is forward of the fore-mast. Such a man will grumble even if he gets roast beef and plum duff three times a day and a "nobbler" of rum every hour of the twenty-four.

It is well, therefore, to exercise due care in shipping your crew if bound on a globe-circling expedition. Some owners insist that candidates for berths aboard their ships shall undergo a medical examination, in order to make sure that they are physically fit for a long

voyage. This is, in my opinion, a wise course to pursue, for sickness at sea is like a wet blanket on the pleasure of a voyage, and no owner wants to ship a sailor unfit to fulfil the duties for which he signs articles.

A crew intended for the usual coast-wise cruising and racing, taking part in all the events of the season for which the yacht is eligible, should, of course, be selected with care. You will often see the same crew stick to a yacht for years. They are paid off at the close of the season, get through the winter as best they can, some of them subsisting on their summer savings, others shipping on coasting vessels or fishing craft, or even finding odd jobs to do ashore. When the yacht goes into commission at the beginning of the following summer, there they are to be found aboard of her, and ready for anything that may turn up. Smart and steady men are always in demand, and when they leave the yacht in the fall they get the tip from the sailing-master to report for duty in the spring.

The prudent yacht-owner, when preparing for a deep-water voyage, should ship a crew as small as possible for the proper working of the vessel. Every device for the economizing of labor should be adopted. In these days, when a crew of six, all told, sail a big fore-and-aft cargo schooner, a large ship's company is not absolutely necessary aboard a yacht of moderate size. It is easier

to keep a small crew in good health than a large one, especially when cruising in the tropics. The necessarily limited space at the disposal of the "jackies," in spite of all the modern contrivances for their convenience and comfort, causes some forecastles to be unhealthy. Without taking into consideration the saving of money in the wages of men not absolutely necessary for the handling of the yacht, the owner is likely to get more solid comfort out of a small, contented crew of picked men than he would out of a large, injudiciously selected crowd of sailors. The fewer the mouths to feed the more stores and water for each can be carried. Personally, I would rather have twelve good men to work a large schooner, than a score of indifferent lubbers and skulkers masquerading under the names of able or ordinary seamen.

These may seem to be revolutionary notions in these days of kid-gloved skippers and large crews. But let us go back half a century or so, and see what the custom was in the brave old days of the Yankee schooner *America*. In her historical voyage to England in 1851 she was commanded by Captain "Dick" Brown, with Nelson Comstock as mate, and only six men before the mast. Messrs. George Steers, James Steers and young Henry Steers were the passengers, and these, of course, lent a hand when required. But there were no more cats aboard than could catch mice.

The *Sappho*, a much larger schooner, sailed from New York to Falmouth in July, 1868, the time of her passage being fourteen days. She was in charge of Captain T. P. Baldwin, a retired merchant skipper, two mates, and six men before the mast, none of whom were yacht sailors. Judging from the logs of these two representative schooners, no difficulty was experienced in handling them, and both made excellent passages, the *America* reaching Havre in seventeen days and a half, in spite of the retarding circumstance that she carried only the small sails of the pilot boat *Mary Taylor*, a wonderfully fast schooner built by Mr. George Steers.

Mr. E. F. Knight, the English yachtsman, has some very sensible things to say on this subject, and, as he speaks from wide experience, my readers will be interested in his remarks. He says :

“It is my opinion that there should not be a single yacht sailor on board the foreign-cruising 50-tonner. It is difficult to get the right ones, and it will be bad for the owner if he fall in with the wrong ones—men who have been spoilt by foolish employers, for instance ; a numerous class, I fear. We all know them. Smart-looking fellows enough, maybe, but shirkers of honest work. They prefer to ship on show yachts belonging to owners who like to exhibit themselves and their vessels in the fashionable yachting ports each sea-

son, but who are not sailors in any sense of the word, and have no real love of the sport, following it only for the swagger of the thing. Men who have served such owners would prove a great nuisance on an ocean cruise, and would not be likely to go far. I have heard such hands grumbling on a friend's yacht because they had to pass one night at sea instead of in some port where they happened to have friends. They look to frequent tips from the 'governor's' visitors, and to other less legitimate perquisites. These they cannot get in mid-Atlantic, so it is not the place for them.

“Hands from fishing-boats, sailing barges and small coasters, are the best men for the foreign cruiser of small tonnage. Among these, one is not likely to come across spoilt and pampered mariners, and they are accustomed to roughing it, and to the shifts of short-handed craft. But were I undertaking a lengthened tropical voyage I think I should ship my English crew simply for the run over to my first West Indian or South American port, and there engage a negro crew. These blacks are excellent fore-and-aft sailors, easy to manage, and always happy and ready for any amount of hard work, if kindly but firmly treated; while they are, of course, far better fitted than white men to withstand the debilitating influence of sultry climates, an influence, which, as everyone knows, has caused the ruin of

many a good British sailor, driving hitherto sober men to injure their health by excess whenever they get shore leave."

Sir Edward Sullivan, Bart., who saw the *America* win the cup that bears her name, over the Cowes course in 1851, and has been a devotee of the sport ever since, says: "Yacht sailors, as a rule, are sober, honest, obliging, good-tempered, original. During the many years I have yachted I have had crews from north, east, west, and south, and I have almost without exception found them the same. A man must be hard to please, indeed, if after a three or four months' cruise, he does not part from his crew with regret, and with a genuine wish that they may meet again. Amongst yachting skippers I have come across some of the most honorable, trustworthy, honest men I have met in any class of life, men who knew their duty and were always willing and anxious to do it. The chief peculiarity of all the seafaring class that I have been brought into contact with, is their entire freedom from vulgarity. They are obliging to the utmost of their power, but never cringing or vulgar.

"The winter half of their lives is spent in fishing-boats or coasters, or sea voyages, where they have to face dangers and hardships that must be experienced to be realized. As a rule they are religious, and their preparations for the Sabbath, their washings and

soapings and brushings, show with what pleasure they welcome its recurrence. Yacht minstrelsy, with its accordion, its songs of twenty verses, its never-ending choruses, its pathos, is a thing of itself. Some day, perhaps, some Albert Chevalier will make it fashionable. Such as they are, I know of no class of Englishmen superior, if any be equal, to the sailors who man our yachts. Of course, there are sharks, or at any rate dogfish, in all waters, but where the good so immensely outnumber the bad, that man must be a fool indeed who gets into wrong hands."

With these sentiments I most cordially concur.

The yacht owner will engage his cook and his steward to suit himself. Some seagoing *chefs* of steam yachts get bigger pay than a commodore in the navy, while many stewards have grown wealthy out of their perquisites. With these men I have nothing to do. They belong to the owner exclusively, so let him deal with them as he may see fit. The ship's cook, however, is a most important functionary, and every canny skipper tries to ship a thorough "tip-topper," who will feed the boys "high," while at the same time taking care of the owner's interests by guarding against waste. A cook of genius will on a pinch "create" a savory dinner for all hands out of what may appear a most unpromising batch of materials, and I am glad to say that cooks of genius are by no

means scarce. The Japs make excellent cooks, and so do the Portuguese. Hungry sailors go in for hearty fare. Beef and beans, pork and peas, clam chowder, roast joints, and plenty of fresh vegetables are their principal dishes, but they by no means despise the ice cream and the cabin delicacies which fall to their lot on cruises when there is a heavy sea, and landsmen feel more like throwing up their commissions than taking in ballast.

“The internal economy of a yacht,” says Sir Edward Sullivan, “constitutes one of its greatest charms. Your cook with only a little stove for which a shore cook would scarcely find any use will send you up an excellent dinner cooked to perfection for any number of guests. And the steward! who can describe the work of a yacht’s steward? I doubt whether Briareus with his hundred hands could do more than a steward does with two. At seven in the morning he is ashore for the milk, and the breakfast, and the letters, and the flowers; he valets half-a-dozen people, prepares half-a-dozen baths, brushes heaven knows how many clothes, gets the breakfast, makes the beds, cleans the plate, tidies the cabin, provides luncheon, five o’clock tea, dinner, is always cheerful, obliging, painstaking, and more than repaid if occasionally he gets a *petit mot* of compliment or congratulation. When he ever sleeps or eats I never can tell; and far from grumbling at his work he often resents

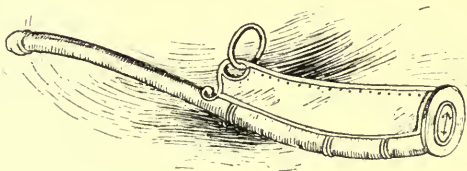
the assistance of any shore-going servant."

I have quoted the above at length because it is in my judgment the best description of a *good* cook and a *good* steward ever written. What yachtsman cannot testify to the truth of every word? I have sailed with a *bad* cook and an utterly worthless and incompetent steward, and my imperfect knowledge of the English language does not permit of my adequately describing the inevitable horrors and discomforts attending the martyrdom of my shipmates and myself. Therefore let us draw the curtain down on the unsavory subject. But nevertheless let us resolve in the interest of our brother yachtsmen never to give a misleading recommendation or certificate of character to either a bad cook or a worthless steward. If the first-named is a "grub-spoiler" masquerading under the guise of a *chef*, and the other is a sham and a fraud, hesitate not to brand them correctly and thus prevent them from imposing on others. Have backbone!

In England there is a regular schedule of racing wages—a system which has not been adopted as yet in this country. The skipper gets five per cent. or ten per cent. of the value of the prize won, while every member of the crew is given \$5 if you win and \$2.50 if you lose. In addition to this expense, bounteous supplies of beef, soft tack and beer are generously dispensed on race days, while

on other occasions the crew supply their own rations.

The life of a yacht sailor is by no means hard. From twenty to thirty dollars a month and good grub should be attractive to the foreigners who, for the most part, man our pleasure fleet, and who would earn considerably less than half that sum in the vessels of their native mercantile navy. There are so many smart and deserving men in the market, that a yacht owner has no difficulty whatever in engaging a satisfactory ship's company.



VI.

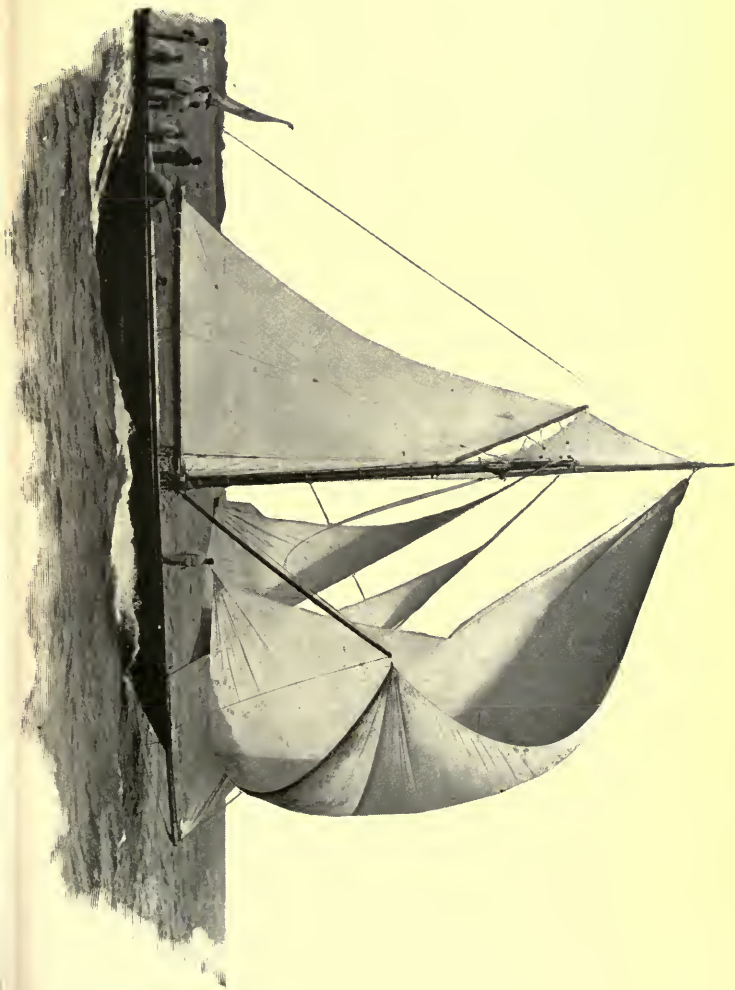
A DOWN-TO-DATE YACHT RACE,

IN WHICH MAY BE FOUND SOME NOTEWORTHY
EXAMPLES OF THE SEA-JOCKEY'S ART.

SAILING as a visitor on a racing yacht is delightfully exciting. Let me transcribe from my log-book the yarn of the contest between the *Ghost* and the *Phantom*, two modern 51-footers. Stowed away between the lines may be found a wrinkle or two of value to the novice. So here goes:

The bell on the *Phantom* was striking eight as the gig rounded her graceful stern and brought up at the starboard gangway. The cutter had been completely "skinned" for the fray, as she was to compete for a valuable prize offered by the club. Everything had been taken ashore that the racing rules permitted, including books, cabin fittings, the cooking stove, deck scrubbers, buckets and brooms, mops, and other impedimenta comprised in the equipment of a properly fitted yacht. The cabin was bare—"cleared for action," as the owner observed.

"All you will get to eat to-day won't trouble your digestive organs," he con-



tinued. "The steward has made a box of corned beef sandwiches, and that will be our plain and simple fare, with a toothful of grog to wash the grub down, and a pipe to settle everything. To-day all hands fare alike, forward and aft, for we shall have no time to waste in devouring luxurious kickshaws. We must win that cup."

From the critical view of an expert yachtsman, everything was in ship shape fashion for the race. There wasn't an ounce of superfluous weight aboard. The very crew seemed to be characteristic of the vital elements of the vessel, namely, strength and lightness. Their muscular agility was displayed to advantage a few moments later, when, manning the throat and peak halyards, they spread the superb mainsail to woo the wind, which, at this time, wasn't particularly strong. I noticed that the skipper did not "sweat up" the halyards too taut, but prudently reserved that process for a few minutes before weighing anchor, allowing the soft, warm breeze to expend its influence on the sail and stretch it evenly and gently before the final pull was given.

The skipper sent the mate aloft to pass a preventer lashing round the gaff and masthead, so as to be prepared for the unfortunate contingency of the parting of the throat halyards. This is a precaution seldom taken, but Captain Marlin's custom is to take no risks, and to be ready for every possible mishap.

Judging from the appearance of the sky at that time, it did not seem probable that the halyards were to be subjected to any heavy strain; but the weather cannot be relied upon, and the carrying away of the throat halyards has lost many a race which a preventer might have saved.

The club-topsail was handled next, in seamanlike style. It is a difficult sail to set properly at any time, and, when spread or dowsed in a fine sailing breeze, has made many a lubber use strong language. This particular piece of duck was mast-headed cleverly and silently, as is always the case in a yacht commanded by an able skipper and manned by a competent crew.

Speculations are indulged in as to the outlook. Yachts about to compete in other classes are criticised, and many sage observations, made by the sailors concerning wind and weather, find their way aft to the quarter-deck, where the owner and his amateur tars are smoking their pipes and discussing and prognosticating the coming events of the day. The parting drag is given to the halyards, the head-sails are made ready, and the anchor is hove short.

It is half an hour before the time announced for the start, and we know that the Chairman of the Race Committee is no trifler and that the preparatory gun will be fired sharp at the hour appointed. The outlook is promising. A fine sou'wester blows, ruffling the blue

waters of the bay and making the small craft dance to the merry music of wind and wave. There is a goodly fleet at anchor and a large throng of visitors is seen on the veranda of the club-house, on the green lawn that almost kisses the water's edge, and on the float, which is nearly surrounded by steam and naphtha launches, gigs, dinghies and other tenders. From a look aloft at the fleecy clouds and straggling mares' tails that sail along in the cerulean sky, the breeze shows every sign of freshening as the day grows older; and the inevitable weather prophets, one or two of whom can be found in every yacht's crew, talk sagely of single reefs and coming squalls.

Our yacht is a down-to-date 51-footer, fitted with all modern appliances for the winning of cups, including a fin keel that would scrape the bottom at a depth of more than ten feet, and frightens many a flounder from his feeding grounds. Witch-like she looks, as she tugs at her anchor eager to be off. Everything alow and aloft is taut and trim. Her standing rigging is set up as tight as bars of steel. Not a wrinkle shows in her well-cut mainsail, set just as it ought to be, with no abnormal strains visible in throat, peak or after leech, and not a symptom of bagginess in the whole symmetry of the sail. Above this the huge club-topsail is spread, stretching ambitiously skyward, and this, too, is a choice example of the

sailmaker's skill. The head-sails are ready for hoisting. The big jib-topsail is set in stops ready for breaking out as we cross the line, for the first leg of the triangular course is a reach with the wind abeam, and we shall have to carry on sail like a China clipper to get to the first mark before our antagonist, the *Ghost*, whose best sailing point is reaching or running.

Our boat, the *Phantom*, though built from the same design as the *Ghost* and carrying the same amount of sail, is the better at beating to windward. Once get her sheets trimmed in close-hauled to a breeze, and she will look up as high as any yacht afloat, and, what is more, you can rely on the saucy jade to fetch and weather any mark she points for.

The *Ghost*, though phenomenally fast with the wind free, is not quite so good at windward work as we are, judging from her behavior in four former races, when we have given her a good dusting with the breeze dead in her teeth. But once get the *Ghost* a-going with the wind anywhere from abeam to right aft, and the way she slides through the sea is exasperating to her opponents on the *Phantom*, who have often had to contemplate with annoyed admiration the shapely contour of the beauty's counter.

Who can satisfactorily account for the difference in the speed of the two boats? They are like shoes made from the same last, of the same material and finish. Why is it that one boat beats to wind-

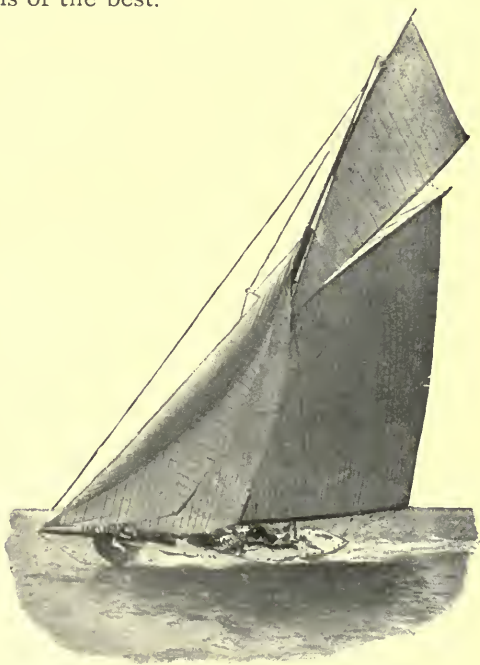
ward better than the other, and that the other reaches and runs faster than her rival? Nobody has yet offered a satisfactory explanation of this peculiar state of affairs, which yachtsmen know to exist in all classes of one design.

But here we are, aboard the *Phantom* thirty minutes before gunfire. Our sportsmanlike owner and our seamanlike skipper are well qualified for the coming strife. They know the course like their A, B, C. They are acquainted with every tide-rip and current likely to be encountered. The sailing directions are explicit. The crew, amateur and professional, are old hands at the business, and if the *Phantom* doesn't win the cup and the side bet from the *Ghost*, why, all hands will be down in the dumps at the end of the race.

But there is no mention of that dastard word, defeat. Owner and captain and crew have an abiding confidence in the yacht and in each other, and all hands are imbued with enthusiasm and zeal. This is apparent in every animated glance, in each cheery "Aye, aye, sir," in response to orders, and in every active movement of body and limb.

All hands have been through the mill before and are accustomed to pull together. The skipper knows the "hang" of the boat; he fully understands how to trim sail to the best advantage—just how much sheet to give to induce the highest rate of speed. The boat herself is balanced like a druggist's scales, and

is responsive as a sentient being to the slightest touch of the helm. The gear is of the best.



“GHOST.”

“Now, Captain Marlin,” says the owner, “we’ll get up the anchor and take a short trial spin across the bay, just to limber things before starting.”

“Break the anchor out, boys,” says the skipper, “and stand by to hoist the headsails.”

In a few minutes the anchor is on deck and the foresail and jib are hoisted to the fast-increasing breeze. Away we go on the starboard tack, heeling over till the water boils up in the lee scuppers and an occasional spray comes in-board on the weather bow.

As we pass through the fleet at anchor many admiring eyes examine us critically from quarter-deck and bridge; and many binoculars are leveled in our direction as we swiftly glide toward the open bay, where we shall feel the true force of the breeze and see whether the club-topsail will be too much for her with sheets flattened in.

Captain Marlin is at the helm, with the owner beside him. Both view the sails with expert glances, quick to discover imperfections in fit or trim. The mainsail retains its shape admirably, because it has been beautifully stretched by a sailor and not “monkeyed with” by a countryman from an inland village. The jib is pulling magnificently, and the foresail is attending strictly to business.

As soon as we reach the bay, away from the shelter of the protecting headland, we get the full strength of the wind, which, indeed, pipes high. A squall strikes us, and we careen under its influence till the lee rail—a mere batten—is almost awash. The skipper



A STERN CHASE.

luffs a little until the fore leech of the mainsail quivers, but this seems to deaden the *Phantom's* way very little. She is off, with a gleaming white bone in her teeth and showing a great burst of speed.

“Ready about!”

“Helm's a-lee.”

The boat swings into the wind like a top, and before you can say Jack Robinson she is filled and away on the other tack. But only a yachtsman can appreciate the smart handling of the craft. The setting up of the topmast-backstay while the vessel is in stays is work for men who are actually alive and haven't a lazy bone in their bodies. The same remark applies to trimming the head-sheets. Of course there are “be-laying marks” showing where they are to be made fast, but smartness must prevail first, last, and all the time in these days of rapid-spinning boats.

And so back we fly through the squadron, most of them now under way. We luff up in the wind's eye for a minute or so and get another pull on the jib halyards, sweating them up quite hard. We see the jib-topsail clear for breaking out from the stops; and while we dodge about with head-sheets hauled to windward, waiting for the preparatory gun, we see the *Ghost* making for us and realize that if we are to secure the advantage of the windward berth and first away we must keep our weather eyes skinned.

And mighty pretty our sleek-looking rival appears, with the sun shining on her creamy sails just new from the loft, but bearing the impress of artistic design and splendid fit. The only difference between *Ghost* and *Phantom* is that the first-named is painted black, while *Phantom* is resplendent in a snow-white garb. Captain Spike, the *Ghost's* skipper, a bronzed, bearded man of massive build, is steering, and as he passes under our stern we wave our hands or doff our caps in courteous salute. For although both ships are manned by sturdy fighters, yet we heartily respect each other, as gallant and honorable foes are wont to do in the domain of yachtdom.

"Bang!" goes the preparatory gun, which conveys the information that our class will start in five minutes. Our owner had timed his watch by the chronometer on the club boat early that morning, and both timepieces agree to a fraction of a second. It is to be a flying start, and the two rival skippers, Spike and Marlin, are equally famous for getting away with the gun, and both are past masters in the art of sea-jockeying for a commanding position on the line. It is most interesting to watch the manœuvres of the two captains. The yachts circle round and round each other like two kittens at play, while the owners, with watches in hand, call out the time.

"One minute gone" says our owner.

"One minute gone," repeats the alert skipper; "hard-a-lee!" About she goes once more. "Two minutes gone," is soon heard, followed by another tack. "Three gone!" Then an anxious pause. "Four gone!" says our owner. We are at this time some considerable distance from the line, but fast approaching it, although our foresail-sheet is hauled to windward. To leeward, and a dozen lengths astern, is the *Ghost*.

"Four minutes fifty seconds," says our owner.

"Let draw the foresail; break out the jib-topsail," are the skipper's next commands, and for the ten seconds that follow we are all on tenterhooks. If we cross the imaginary line between the committee's steamer and the mark-boat before the signal is given we shall have to go back and cross the line again. It is indeed an anxious moment.

"Fifty-five seconds, fifty-six, fifty-seven——"

"Will they never fire?" think I.

"Fifty-eight, fifty-nine ——"

"The gun!"

"Hurrah, hurrah! you gauged her beautifully," says the owner to the skipper, on whose mahoganized mug there grows a gratified grin.

"*Ghost* is ten seconds after the gun," observed the owner, "but I guess she'll pick that up and more too, on this leg, alone."

The *Phantom* is now hissing along with the wind on the port beam, the

main-boom well eased off, the jib-topsail doing gigantic work, and the other sails contributing their share toward impelling the fairylike fabric onward to the next goal, six nautical miles away. Not a quiver or a wrinkle in all the vast expanse of muslin extended to the breeze. The yacht's sharp cutwater cleaves the blue sea, making little or no disturbance, but the fleecy foam travels aft with the speed of a mill-race and leaves a glittering wake astern. All the crew have come abaft the mast, and are up to windward as far as they can get. The yacht heels over in the puffs at times until the lee rail is under, and the water occasionally threatens to bubble up to the skylights, but never gets there. It is indeed glorious racing. Nobody has the slightest idea of shortening canvas. What she can't carry she must drag.

The skipper keeps his eyes on the sails and on the compass. He never dreams of looking astern to see how his friend Captain Spike, of the *Ghost*, is coming along. No yacht-racing skipper ever does look astern while he is steering. It would be a breach of an old tradition unpardonable in a professional. Our owner, however, watches our opponent quite carefully, and confides to me in a whisper that he fears she will overhaul us and pass us to windward before we reach the mark at the end of the first leg. "It is in the beat back from the second mark that we shall have him at our mercy. We are con-

siderably faster to windward in a blow like this, and if it pipes any harder he will have to take in his club-topsail, and then he is our meat, sure," he added.

But there is no sign of shortening canvas on the *Ghost*. Captain Spike will hang on to the great sail until the topmast goes over the side rather than be beaten at "cracking on" by Captain Marlin. As a matter of fact, *Ghost* stands up to her work very well indeed, heeling over to the pressure of the puissant breeze only a mere trifle more than *Phantom*.

Other boats are competing in the regatta—a number of crack schooners and some of the new-fangled knockabouts—all of which carry single reefs in their mainsails and small jibs. It is evident, too, that even with this moderate sail they have as much as they can stagger under. We, however, have too much to do in the way of paying attention to our own craft and our immediate opponent to particularly regard the doings of the rest of the fleet.

One thing that strikes me exceedingly is the splendid way that *Phantom* steers. One of the old-time racing boats would have been yawing about in rampant style in a breeze as potent as is now blowing. The helmsman would have all he could do to keep her on her course, the prevailing tendency of the ancient type being to gripe to windward most damnably. Yacht architects have made great progress since then, and the modern

craft are balanced so exquisitely that they show little or no proneness to gripe, even with the wind abeam or on the quarter. *Phantom* carries her rudder nearly amidships, only taking a spoke or two of weather helm. Captain Marlin steers her with one hand, and keeps as cool as a cucumber.

Meanwhile *Ghost* crawls up on us, inch by inch and foot by foot, her aim being to pass us to windward and to blanket us. This we will never permit without a hard fight.

We are now half way to the first mark, the wind continuing true and strong—an ideal breeze for racing. The sea is not steep enough as yet to do us any harm when we trim in our sheets for the final beat; but before this shall come to pass we have a leg to sail with the wind dead aft, and even now the men are making sure that the spinnaker gear is all in readiness for setting that enormous sail immediately after rounding the first mark. We are going to do our prettiest to get the better of *Ghost* at the turn, and the yacht that gets the spinnaker boom down first and the sail broken out most quickly has a big advantage.

I can't help remembering how a mishap to her spinnaker caused *Valkyrie II.* to lose her last race with *Vigilant*, and I express a silent but fervent hope that nothing untoward may occur to stop the smart setting of our own good sail.

But now the sly and swift *Ghost* is crawling up, pointing her bowsprit for

our weather quarter, with the intent, if possible, of establishing an overlap and a consequent blanket. This leads to a luffing match which is mighty interesting while it lasts. The more we luff the faster we fly, and at last we get so far ahead that we are able to bear away on our course again and still maintain the lead.

Now, what do you think is the next artful move of the skipper of the *Ghost*? That fellow is as cunning as a wagon-load of monkeys. Seeing that he cannot pass us to windward, he eases his sheets a little, and, with a great spurt of speed which fairly took our breath away, walks through our lee like lubricated lightning and tries to luff up across our bows and so get the weather gauge.

But it isn't Captain Marlin's watch below exactly. That ancient and tarry one has his eyes wide open and his wits all about him. He also luffs in time to establish an overlap, and so he balks the blanketing dodge of Captain Spike, who is thus hoist with his own petard. This skirmish shows the advantage of getting the lead at the start. Had *Ghost* crossed the line first we could never have caught her, but as it is we are able to prevent her from passing us. And to the undying fame of our sterling skipper, by the exercise of all the devices known to the sea-jockey, we actually round the mark first!

As we whirl round the raft from whose flagstaff the club burgee is noisily flap-

ping, the main-boom is eased off handsomely by the owner and myself, while the rest of the boys busy themselves with the spinnaker. As the boom is lowered, the sail neatly done up in stops is smartly hoisted to the topmast head. The after guy is hauled aft, the outhaul is manned, and with three tugs on the sheet the big sail bellies to the blast and pulls nobly.

Now a more powerful puff than ever smites the *Phantom*. Its force makes the spinnaker boom up-end and the spinnaker itself puff out like a balloon. But both spar and duck are of the best and no misfortune befalls them. The balloon jib-topsail now takes the place of No. 2, so that if the wind shifts we shall be ready for it. When this is done all hands lie aft so as to lift her bow as much as possible, while not burying her counter, and, standing up so as to catch every breath of wind that is going to waste, are regaled on beer and sandwiches, which the steward passes round. He, like the willing and zealous fellow that he is, has been pulling and hauling with the rest of the crowd, and is puffing like a porpoise after the unusual exertion.

In planning the day's campaign it has been settled that we shall steer a direct course from the first to the second mark. We know that we have no chance to run before the wind so fast as the *Ghost*, which is now only twenty seconds astern of us, and is bound to

pass us in spite of everything. Thus, we waste no time in jockeying.

And glide past us she does, silently and slowly like the ghost that she is, her spinnaker and main booms forming the base of a lofty pyramid of canvas, arched out to the swelling breeze. The lapping waves break in milky foam under her counter, the spray sparkling like diamonds in the golden sunshine. Her crew look proud and exultant at their victory.

But the demon of despair affects us not. We know what our stanch and noble craft will do when we haul on a wind for the final homeward thresh. So we light our pipes, and grin and bear our temporary defeat like the stoics of old. Meanwhile, we recollect that we shall have to gybe round the next mark and realize that this will be quite a ticklish job in so stiff a breeze. To luff round a stakeboat is easy as eating, but to swing over a main-boom as long as ours from one quarter to the other with the huge club-topsail aloft requires coolness, skill and judgment. Besides, we want to make as clever and close a turn as possible, so as not to be swept too far to leeward before flattening in sheets and starting on our long windward beat.

All has been provided for, however. We see all hands on the *Ghost* taking in the balloon jib-topsail and getting ready to dowse the spinnaker, for now the stakeboat looms mighty near and the great struggle of the day is at hand.

"Take in the jib-topsail!" cries our skipper, and this is an easy task, for the enormous sail is almost becalmed. It is soon spilled, stopped up and bundled below. Foresail and jib are neatly set and their sheets trimmed down to the marks.

"See the spinnaker gear clear for taking in," is the next command. And this being done, there is silence for the next minute or two. All hands gather round the mast. One hand stands by to let go the outhaul, another the halyards, while all get ready to grapple with and spill and smother the bellying duck and bring it into subjection to the deck.

We are almost on top of the mark when the skipper sings out: "In spinnaker!"

As the outhaul is slacked, the men, grabbing the foot of the sail, lug it in, and, spilling the wind out of the flapping canvas, wrestle with it and victoriously overcome it, until it lies an inert mass at their feet. The boom is then topped up and all hands lie aft to tend the main-sheet, which is stretched along the deck to rally in quickly. The jib and fore-sail are set already and trimmed down to the marks. A couple of men stand by ready to "come up" the topmast-backstay and get it set up on the other side before an undue strain comes on the spar.

"Now, boys, haul in the main-sheet," says the skipper as he shifts the helm

so as to bring the wind on the other quarter. Hand over hand the men drag in the boom, pulling as if for dear life. The wind pipes so breezily that the skipper has as much as he can do to gybe the boat so as to make a close turn round the mark and carry away nothing.

The boom comes over with a whirl and a rush, and is checked by a turn round the cleat. The yacht flies up in the wind, but is met with the helm and the head-sails, and there we are, close-hauled on the port tack, with three strakes of the lee deck under water and a devil of a strain on the topmast. The yacht, as she comes to the wind, takes a header into a big green sea and floods the deck. This is her first fault of the day, and we cheerfully forgive her, not minding the wetting, and making up our minds for a hard tussle home against wind and sea.

Now that we have fairly settled down to windward work, we have time to look after our opponent. We see that she, too, has rounded without parting a rope-yarn. She is ahead of us, and a wee bit to windward. We notice that she is being "nipped," the luff of her mainsail shaking all the time. She isn't quite so stiff as we are, and her immense club-topsail will bury her if her skipper will only give it a chance. He is afraid to take it in, for he knows that before he could get his "thimble-header" set we should work out half a mile on his weather, so he sails her close, and prays that the wind may lull.

Captain Marlin, on the contrary, gives it to *Phantom* hammer and tongs, letting her go clean through the water with the sails ramping full. The decks to leeward are wet, but little does that concern us, for we know that when we go about on the other tack we shall be able to cross our rival's bows, unless she also goes about. And so it comes to pass. The next "board" assures us that the race is ours, unless we get crippled. We plant ourselves on the weather of the *Ghost* and stick to her, tack and tack. We keep her jammed under our lee, in chancery, as it were; and there she remains until we cross the line, a winner by 2m. 42s.

. We come to anchor, furl the sails, send in a certificate that we have complied with all the sailing rules of the match, and hoist another winning flag to join our already long string. Then the steward is sent ashore, and he quickly returns with a fine feed for the crew, which is vastly enjoyed by them, after drinking a "horn" apiece to the further success of the *Phantom* and her owner.

VII.

RACING RULES AND THE RULE OF THE ROAD.

SOME IMPORTANT POINTS THAT AMATEURS AND
PROFESSIONALS SHOULD BEAR IN MIND.

IT is gratifying to all lovers of the sport that race committees now are in the habit of starting the yachts exactly at the time advertised—that is if wind and weather permit. The old custom of waiting half an hour or so for lazy laggards to reach the line is happily going out of fashion. As a general rule, there is no plausible excuse for a yacht being late, as under ordinary circumstances arrangements can easily be made for arriving on the scene, either in tow or under sail, in good season for the start.

Nothing adds more to the popularity of a yacht club than a race committee that knows its business, starts the race punctually as advertised unless prevented by the weather, takes the time accurately of each craft as she crosses the line, sees that the racing rules are obeyed, and after the race is finished promptly posts up a list of the winners. Above all, the committee should make

sure that all mark-boats are in their places before the starting signal is given. I once knew a race committee — but there, I won't tell tales out of school.

I hope it will not be held as presumptuous on my part if I ask the race committees to treat yachting reporters with courtesy. They are sometimes seasick; they generally would feel much happier ashore. They may sometimes appear too eager and zealous for information; but their motive is good, they are anxious to "file early copy" and thus avoid their editor's wrath. The members of the club like to see good reports of their races in the public press, and this end is rarely achieved by insulting or snubbing a newspaper man, who after all is a human being, if not of such high degree as a haughty member of a race committee. Besides, the newspaper man dissembles his wrath, bides his time; and when his opportunity arrives doesn't he just roast his insulter?

Members of race committees should keep their eyes open all the time. They should try to become familiar with the general appearance of each competing yacht so that she may be identified without the aid of her number. They should be quick to detect any breach of the rules and should unhesitatingly punish offenders. Punctuality with the gun is a cardinal virtue, and strict impartiality is another. In this country, up to 1898, the decision of the race committee has always been final, there hav-

ing been no court of last resort like the Y. R. A. of Great Britain to appeal to. I am proud to say that very few unsatisfactory decisions have come under my notice.

Asyacht racing is a gentleman's sport, it is needless to lay stress on the yacht owner's obligation to live up to its ethics, to observe the racing rules in spirit and letter, to be sparing in the use of the protest flag—indeed never to display it unless he is convinced that there has been an undoubted violation of the rules. After he has made his protest he should not withdraw it, but allow the race committee to adjudicate upon it. The protest must be made in writing.

A writer in the *Yachtsman* some years ago, while discussing the whole subject of protests, suggested that a good way of checking the unsportsmanlike habit of hoisting a protest-flag without sufficient cause, would be to compel a competitor displaying the flag to deposit the sum of £1 with the sailing committee, which should be forfeited to the club fund in the event of the protest being withdrawn, and only be repaid in the event of the protest being decided in favor of the protesting party. This, in my judgment, is a capital suggestion and should be adopted whenever the time is ripe for it. The upholders of the maxim, "When in doubt, hoist a protest-flag," should be brought up with a round turn. A better maxim is, "Be sure you are right, and then go ahead."

There is, however, one point which I wish to make. Not so long ago it was common report that the owner of a yacht in a class where shifting ballast was prohibited, habitually carried bags of shot in his cabin and when the breeze was heavy placed them on a shelf to windward, so as to increase the boat's stability. The charge was never investigated. Whether true or false, I know not. If true, the offender should have been expelled from the club and from the society of gentlemen generally. If false, the same justice should have been meted out to his calumniators. In my opinion, the case called for the fullest inquiry.

The practice of being measured with three light men aboard as crew and sailing the race with three heavyweights, was begun by certain unscrupulous tricksters. This was, however, stopped summarily by a hard and fast rule, defining the limit of live weight to be carried.

The race committee, if it sees any transgression of the sailing rules, should disqualify the offender, whether a protest is made or not. For the honor of our yachtsmen be it said, that, generally, if they commit any breach of the rules, such as fouling a mark, they voluntarily report the incident to the officers and thus there is no need of an accuser.

An owner above all should make it his business to see for himself that the taxable length of his yacht is never

increased. Remembering the unhappy Dunraven episode, he should not make charges against his opponent which he is not prepared to substantiate by most convincing evidence. A gentleman is as chivalrous concerning his antagonist's honor as he is about his own. If not, he ought to be. At the same time, if he observes any "sharp practice" on the part of a competitor, it is his duty to expose it in the interest of true sport.

A racing skipper should have the racing rules at his fingers' ends. For instance, if his yacht is sailing in the annual regatta of the New York Yacht Club, he must take care that the vessel's private signal and her number are displayed according to the rule; that no more persons are on board than permissible by Rule 8; that a boat and two life-buoys are on deck.

I remember having been a guest on the cutter *Mayflower* in her race against the *Volunteer* for the Goelet cup, when a mistake was made about a boat, which, if it had not been rectified in time, might have led to our disqualification. We carried a small boat on deck, but finding it rather in the way when working ship, we passed it down the skylight into the main saloon. One of Commodore E. D. Morgan's guests pointed out that the rule stated plainly that the boat must be carried *on deck*. In a jiffy the offending boat was lugged up out of the cabin and placed where it rightfully belonged.

X The skipper must study the sailing instructions with critical care; he must not forget that, the preparatory signal once made, the yacht is amenable to the racing rules until the end of the contest; that a yacht going free keeps clear of a yacht close-hauled; that a yacht close-hauled on the port tack keeps clear of a yacht close-hauled on the starboard tack; that when going free on opposite tacks, the yacht with the wind on the port side keeps clear; that when going free on the same tack the windward yacht keeps clear; that a yacht with the wind aft keeps clear of all others; that when yachts which overlap are rounding a mark or passing an obstruction, the outside yacht must give room to and keep clear of the inside yacht.

He should remember that a yacht on the port tack can be disqualified if she strike or be struck by a yacht on the starboard tack, also if the latter luff, tack or bear away to avoid being struck. This is a most important rule, because if a breach of it occurs, the yacht responsible for it is not only disqualified but is liable for any damage that may result.

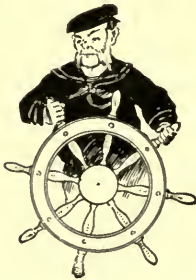
When yachts approach an obstruction close-hauled, and the leeward yacht cannot tack and clear the windward yacht, the helmsman of the leeward yacht should hail for room and the two yachts must then tack together. An overtaking yacht must keep clear of an

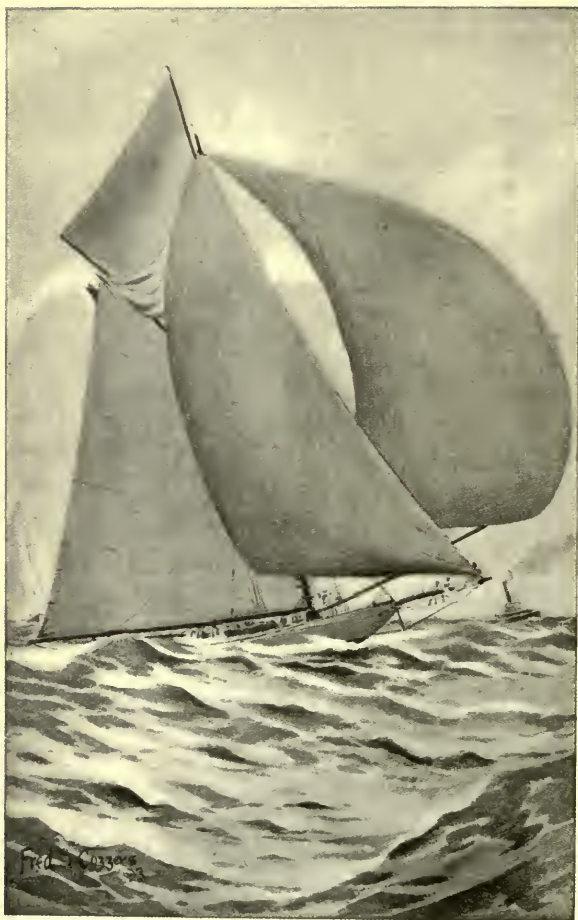
overtaken yacht, which may luff but must not bear away out of her course to obstruct the passage of her competitor to leeward. If a yacht runs ashore, or fouls a vessel or other obstruction, she may use her own boats and gear to get clear, but she must take them aboard again, and is forbidden to accept help except from the crew of the vessel fouled. This rule is, however, qualified by another, which declares that when accidents occur competing yachts must assist to save life.

A yacht must be propelled by sail alone after the preparatory gun. If she is late and is being towed toward the starting line when the preparatory signal is given, she may be disqualified. Tardy owners and skippers should keep tab on this. A yacht may anchor during a race, but she may not slip. She must not warp or kedge, or make fast to a buoy, pier, vessel or other obstruction. The government regulations regarding lights and fog signals, shall be observed by day and by night.

These are the principal rules which the skipper should never forget if he desires to achieve or maintain a reputation. One thing I want to impress upon him is that in any emergency when his vessel may be in peril, it is his imperative duty to follow the regulations of the rule of the road at sea, as prescribed by international law, and disregard any racing rules that in the slightest degree conflict with a literal interpretation of

this rule. If he fails in this duty his owner is responsible for any and all damage incurred by his vessel or by the vessel he collides with. In an admiralty court the racing rules of a yacht club or a yacht-racing association are disregarded. The case is judged by standard rules of law that prevail among all seafaring nations. Those who break the law must pay the penalty thereof. I cannot impress this little legal maxim too strongly on both owners and skippers.





“VIGILANT.”

VIII.

EVOLUTION OF THE RACER.

HOW TONNAGE AND MEASUREMENT RULES HAVE
AFFECTED FORM IN AMERICA AND GREAT BRITAIN.

THE growth of the English cutter from its cradle, on the south and east coasts, where the fantail stern was created, is an interesting study. From the *Pearl*, designed by Sainty, the smuggler, for the Marquis of Anglesey, down to the modern yacht of 1899, it is apparent that the evolution of the craft was slow and gradual until about 1880, since when strides of unprecedented length have been taken. Up to 1880 yacht designing advanced sluggishly, both here and abroad, but the progress of the art could be marked by the intelligent student, even as a trained forester can tell the age of an oak from a section of the trunk. The more closely you observe, the more clearly are you convinced that the naval architects of both countries have for some time been converging to a common goal. This goal they now seem to have attained.

In order to give an intelligent summary of the development of the racing yacht of to-day, it is necessary, as we

progress, to take note of the measurement or tonnage rule which caused the change in the form of the yacht.

The yacht of the early part of the century was an apple-bowed craft of about three beams to length, ballasted with stone, gravel, or old iron. Competition was restricted to matches between two yachts, the bigger craft, other things being equal, usually winning. The first rule was derived from the mercantile marine, and had been in force since 1794. It was one in which length of keel and fore-rake, and the breadth at broadest place, were the only dimensions that were measured. It did not matter how high or how low the vessel was in the hold, half-breadth was taken to represent the depth, in calculating tonnage. The tendency of this rule was to make vessels high, narrow, and flat-sided, in order to get as large a carrier as possible with the smallest registered tonnage. This was called builder's tonnage, and was in vogue until 1854 in the mercantile marine. It was applied to yachts simply as a guide for building them or for their purchase and sale. Up to 1854 there was no time allowance whatever. Big and little yachts raced together indiscriminately, and, of course, the larger boats had the advantage. It struck Mr. Holland Ackers as being somewhat of an anomaly, so he proposed a table of time allowances between large and small yachts, the basis being the difference in

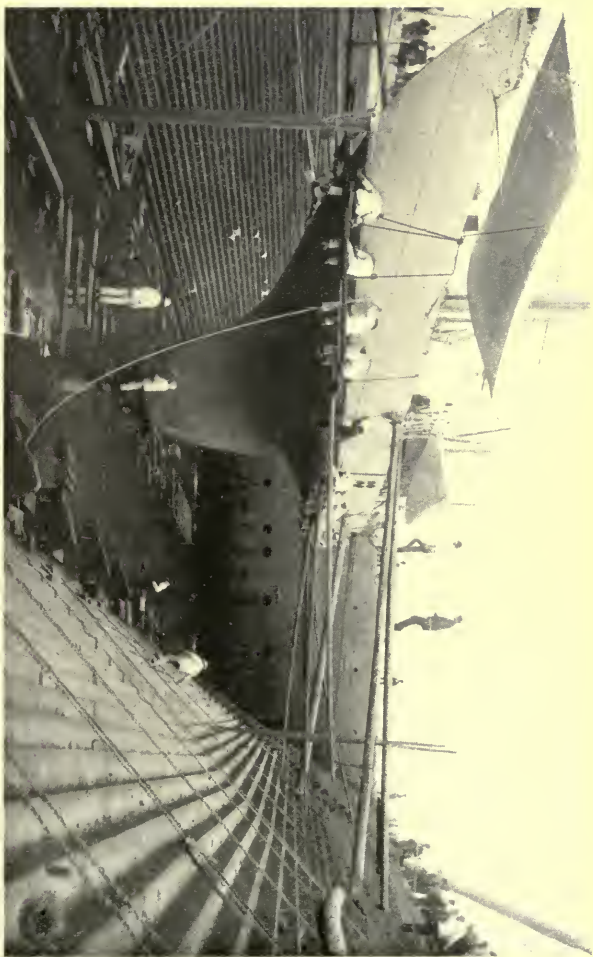


Photo by J. C. Hemment.

"DEFENDER" IN DRY DOCK.

size, as measured by the merchant-ship tonnage rule, as given above, and the length of the course.

To evade the heavy harbor dues, etc., to which merchant vessels were liable under the 1794 tonnage rule, shipbuilders naturally reduced beam, which was penalized twice over, and increased depth, which was not taxed at all, thus creating a vicious type of vessel. Yacht builders followed suit, gradually increasing draught and decreasing beam. Then came the raking sternpost, introduced about 1850 by Wanhill, of Poole, which gave on a given length of keel a much longer water-line. Outside lead followed.

In 1854 the "Thames Rule" was adopted, by which the length on deck was measured and from this length the whole beam was subtracted.

This system did fairly well till heavy lead keels were introduced. Then builders and owners found that with a lot of length and depth yachts could carry sail enough to make them faster and more powerful vessels than their predecessors, the reason being because they were far larger in reality, carrying about 25 per cent. more sail and ballast, whereas if the actual draught of water had been used as a factor in defining the tonnage no such abortions as this rule encouraged would ever have been built.

The apple bow and barrel-like bottom flourished in England until 1851, when

the schooner-yacht *America* created a revolution in British yacht naval architecture. Then, following the shape of that memorable craft, the long, hollow bow became the fashion.

In 1878 the Yacht Racing Association decided that the length should be measured on the load water-line instead of on deck. This was principally owing to the



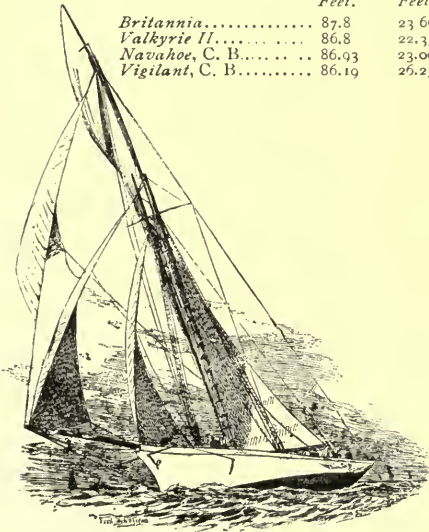
“THISTLE,” NOW “COMÈTE,” EMPEROR OF GERMANY, OWNER.

circumstance that designers, in order to cheat the rule, had adopted such devices as a ram bow and an immersed counter.

The yachts continued to get longer and narrower and deeper until, in 1882, the Yacht Racing Association adopted a rule a trifle easier on beam; and in 1887 a rule was formulated in which length

and sail area alone were penalized, beam being left free from any tax whatever. It is interesting to note that the first yacht built that took advantage of this rule was the *Thistle*, which challenged for the *America's Cup* in 1887 and was defeated by *Volunteer*. *Thistle's* beam was 20 3 feet, while that of *Genesta* and *Galatea* was 15 feet. A comparison of two crack English craft and two smart Yankee yachts of the year 1893 shows how close Mr. Herreshoff and Mr. Watson were coming:

	<i>Length</i>	
	<i>L. W. L.</i>	<i>Beam.</i>
	<i>Feet.</i>	<i>Feet.</i>
<i>Britannia</i>	87.8	23.66
<i>Valkyrie II</i>	86.8	22.33
<i>Navahoe, C. B.</i>	86.93	23.00
<i>Vigilant, C. B.</i>	86.19	25.25



“VOLUNTEER.”

Still more significant are the measurements of *Valkyrie III.* and *Defender*, both keel-craft :

	<i>Length L. W. L.</i>	<i>Beam.</i>
	<i>Feet.</i>	<i>Feet.</i>
<i>Valkyrie III.</i>	88.85	26.20
<i>Defender.</i>	88.45	22.20

It will be seen that not only did the American designer discard the center-board, but he gave his craft less beam than the British boat. I remember when both vessels were hauled out in the Erie Basin, Brooklyn, the American yacht was generally mistaken for the English, and vice versa ; this, too, by experts looking on from a distance too remote to distinguish the names on their sterns.

In 1892 the leading yacht designers of Great Britain, realizing the rating rule then in vogue, wrote to the Yacht Racing Association suggesting that the rule be so modified that a type of vessel having more body be evolved. In the same communication they said, defining what the general public requires in a yacht :

“That she shall be safe in all conditions of wind and weather, that she shall combine the maximum of room on deck and below with the minimum of prime cost, and that she shall be driven as fast as may be, with the least expenditure of labor, *i. e.*, that she shall have a moderate and workable sail area. Therefore, as but few men can afford to build for racing, and for racing only, and as the racer of to-day is the cruiser of a few years hence, any rating rule should, by its limitations, encourage such a wholesome type of vessel.”

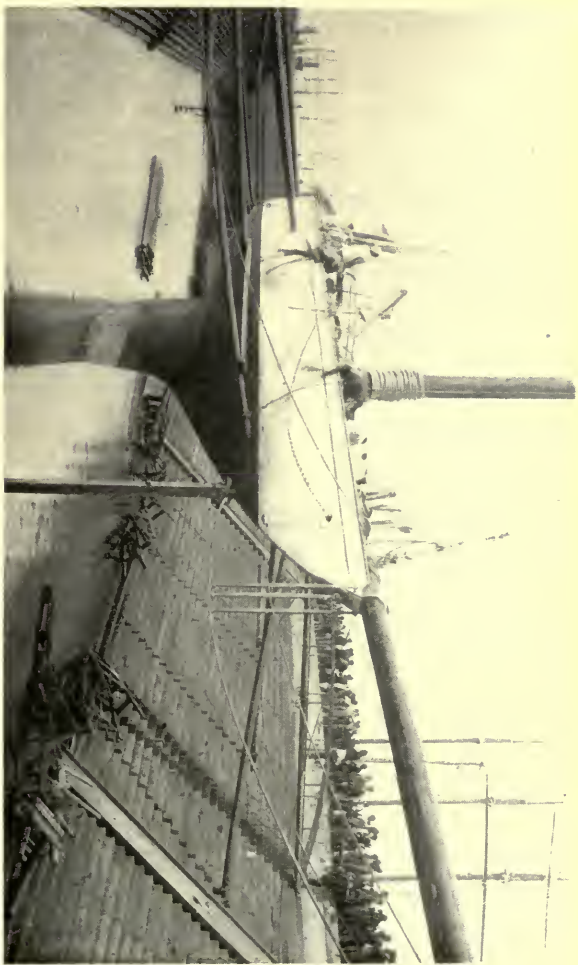
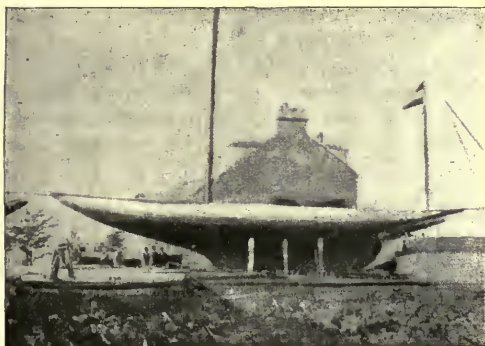


Photo by J. C. Hennert

"VALKYRIE III," IN DRY DOCK.

The Yacht Racing Association, on the other hand, held the view that what the yacht-owning public want in a racing yacht is speed first, last, and all the time, no matter what the cost. The only change made at that time was in the measurement of the fore triangle and marking the load water-line forward and aft.

Thistle was the first big English racing cutter with a clipper bow. Her



Designed by Watson, 1894.

“ ELLEN ”—20-RATER.

advent caused much critical comment among the experts, whose eyes had become so accustomed to the “cutter stem” that they fairly blinked when they first gazed on the new Clyde craft.

Mr. Watson, writing about the defeat of the *Thistle* in 1894, says: “Her surface was so cut down that sufficient

lateral plane was not left to hold her to windward, and although she sailed the water as fast as the American champion, the *Volunteer*, she drifted bodily to leeward."

After Mr. Watson had realized the superiority of *Vigilant's* model over that of *Valkyrie II.*, he designed the 20-rater *Ellen*, which I reproduce from a photograph. It will be noticed that her form is strikingly similar to that of *Vigilant*. Of a verity, imitation is the sincerest form of flattery!

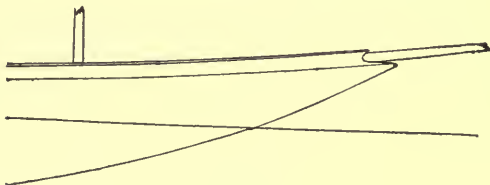
With the long overhang forward, the running bowsprit was abolished. The modified cutter rig thus resulting is practically the same in both America and England. Bobstays are now bars of steel or iron, and bowsprits are comparatively short when compared with those that used to project from the bows of the straight-stemmed cutters.

The clipper bow was gradually altered and modified until the present stage was reached.

That sterling old British racing skipper, Captain Tom Jay, talking about the modern cutter, with her cutaway forefoot and raking sternpost, being an awkward craft to handle in a seaway, said: "Believe me, sir, it's not always so much the craft that's awkward as the people that's in her. Of course, being so easy to drive, they reach faster than the old-fashioned vessels, and that makes them drive harder into the seas; but that is mostly a matter of the can-

was you set. Of course, the worst time is when you're sailing a point or two free, because they go their ten knots, and that means that they throw it about a bit."

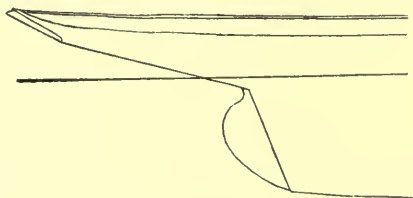
In our own country the measurement



BOW, 1892.

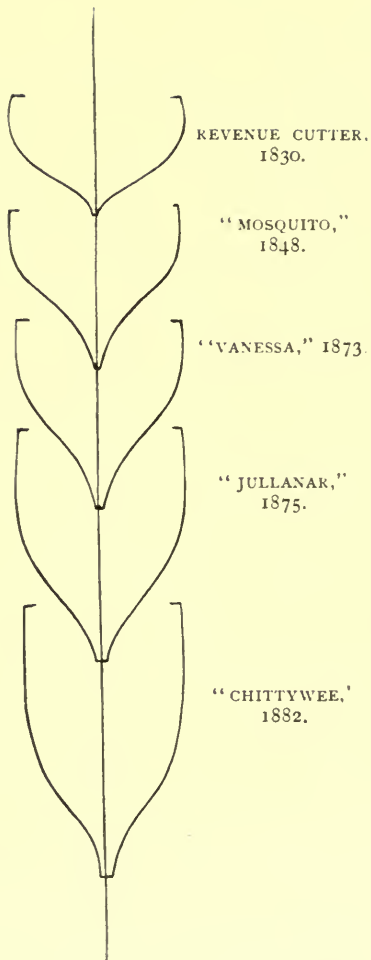
rules have also had a dominant influence on the form of our racing craft as they appear in 1899.

Monstrosities with fin-keels now monopolize the races in the larger classes, while scows and ingenious nondescripts,

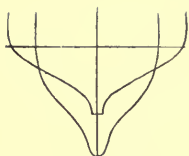


STERN, 1892.

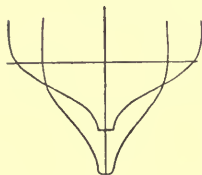
which sailors would never mistake for boats, control all the sport in the smaller classes. How to give the owner of the honest boat a fair show, while at the same time dealing justly with the owner of the racing machine, is a problem that



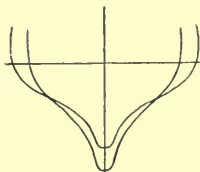
MIDSHIP SECTIONS OF FIVE ENGLISH CUTTERS.



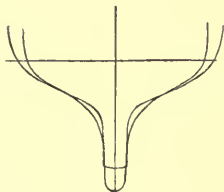
“ PURITAN ” AND
“ GENESIA. ”
1885



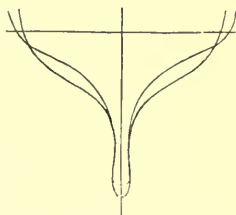
“ MAYFLOWER ”
AND
“ GALATEA, ”
1886.



“ VOLUNTEER ”
AND “ THISTLE, ”
1887.



“ VIGILANT ”
AND
“ VALKYRIE II. ”
1893.



“ DEFENDER ”
AND
“ VALKYRIE III. ”
1895.

THE CUP CONTESTANTS.

The lower lines are approximately those of the English cutters, except in the case of “ Valkyrie III. ” which is wider and shallower than “ Defender ”

seeks for solution at the hands of constituted yachting authorities. The present fleet of "freaks" is due in the first instance to the want of foresight displayed by the clubs in not legislating against them when they first made their appearance. Naval architects are only human, and they cannot be blamed for taking advantage of any and every ill-considered rule adopted by the clubs. For instance, when beam was taxed in Great Britain the result was the long, deep and narrow craft which so long prevailed across the Atlantic. The tax was taken off beam in 1886, and the consequence was the practical abolition of the narrow British cutter and the adoption of a beamier type of craft. At the present time beam as a factor is utilized in much the same way both in this country and in Great Britain. Until some sage discovers what is absolutely the best type of yacht, we shall continue to go beating about the bush.

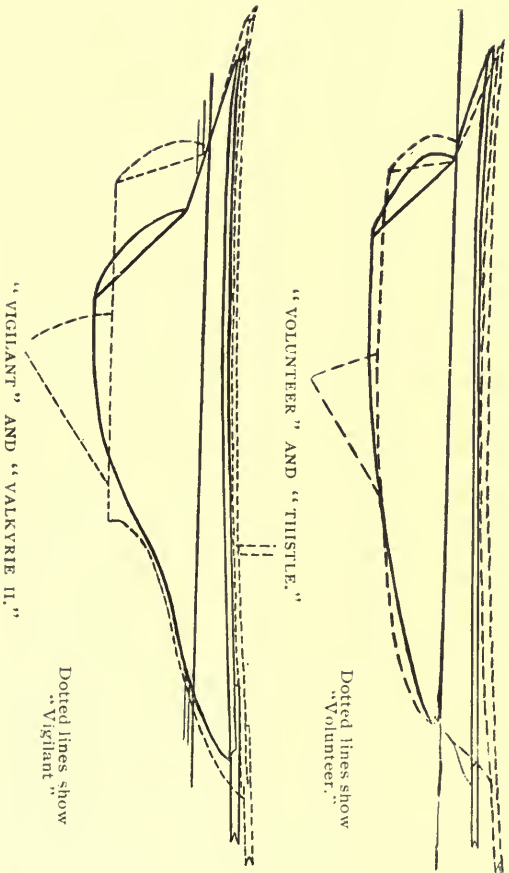
There is no doubt that a rating rule can be so framed as to make any particular type come into vogue, and in the end that type is bound to be pushed to extremes. Experience has shown that when this stage arises in an acute form the standard of rating is altered. This has been the case in the United States ever since the sport became established. When the New York Yacht Club was organized in 1844 the yachts were rated according to Custom House tonnage, first-class sloops allowing 35 seconds a

"VOLUNTEER" AND "THISTLE."

Dotted lines show
"Volunteer."

"VIGILANT" AND "VALKYRIE II."

Dotted lines show
"Vigilant"



ton and second-class sloops allowing 45 seconds a ton to their inferiors. This system was in force for only two years. In 1840 a startling innovation was made. It was neither more nor less than getting the actual weight of the yachts, which was computed by the revolutions of screw-jacks placed under the keel of the boat when in dry dock. Here is an example culled from the club's archives :

YACHT "SYREN."

Weight of boat.....	115,776 lbs.
Weight of keel.....	3,400 lbs.
Weight of rudder ..	219 lbs.
	Total.....
	119,395 lbs.
Racing measurement, 53 tons 6 cwt. 9 lbs.	

From these data the allowances were computed. This queer rule was in vogue until 1852, when a widely different regulation was adopted. Sail area alone was taken into account, the following being the allowance :

First class—Over 3,300 square feet sail area, 1 second per foot.

Second class—Between 2,300 and 3,300 feet, 1¼ seconds per foot.

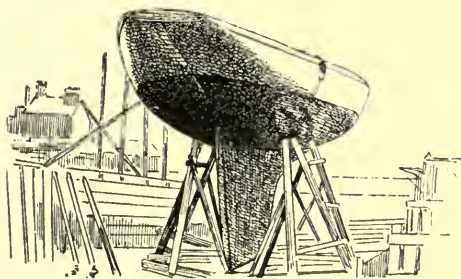
Third class—Less than 2,300 feet, 1½ seconds per foot.

The natural result of this rule was the adoption of the light-draught boats vulgarly designated as "skimming dishes." It was found that it took less canvas to drive this type of yacht through the water, and the consequence was the building of many curious craft whose models may now be seen on the walls of the New York Yacht Club. Here is a striking example, which shows how the rule affected the sail area of the yachts. The schooner *Rebecca*, which,



"VALKYRIE II."

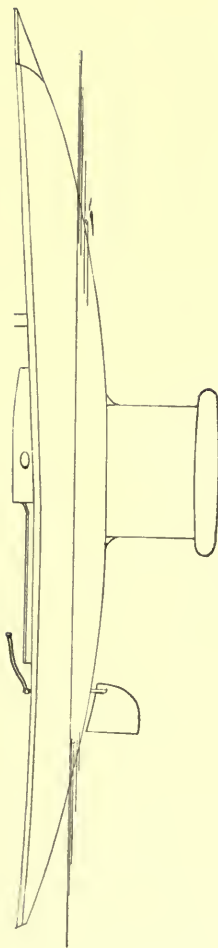
before the rule was made, used to carry a sail spread of 3,303 square feet, was cut down to an area of 1,306 square feet. This absurd rule was in force with a few modifications until 1871, when yet another sweeping change was made. This time the elements consisted of the yacht's displacement in cubic feet and the length of the water-line. In 1873 the rule was changed so as to take into account the cubic contents of the whole hull. In 1883 a plan was adopted taking



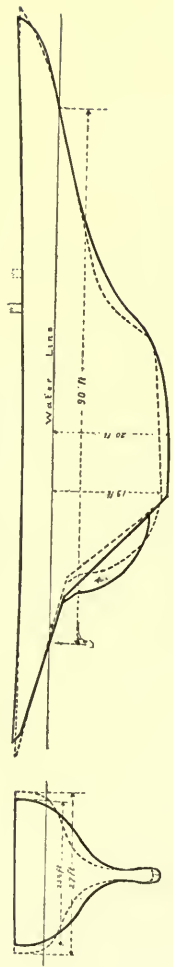
“ VALKYRIE III.”

into account, as a function of the new system, twice the water-line length and once the sail area. In 1890 the present rule was adopted by the New York Yacht Club.

Personally, I am opposed to any system that restricts or taxes sail, and I am glad to be able to quote the veteran Scotch yacht designer, Mr. William Fife, Sr., as being on my side of the fence. He wrote, in January, 1895 : “ I am not a believer in restricting sail ; every



MODERN TYPE OF FIN.



“DEFENDER” AND “VALKYRIE III.”

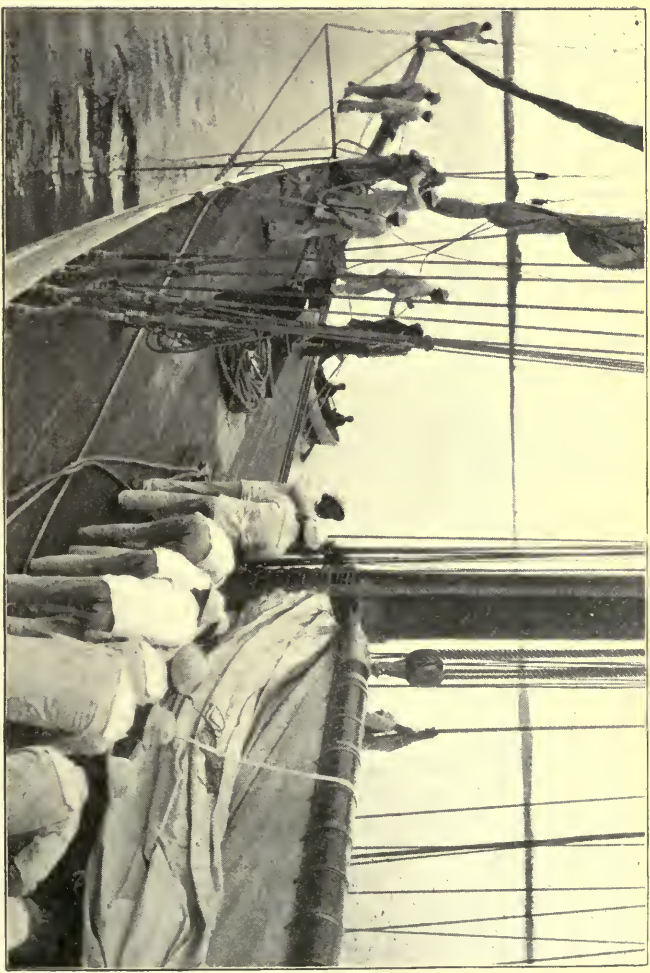


Photo by J. C. Hemment

HOISTING "DEFENDER'S" MAINSAIL.

yacht should get what she can carry. I know this idea has many opponents, although I never saw a valid reason against it; a yacht can be spoiled with excessive spars and sails, and sail area may therefore be left to take care of itself. To satisfy those, however, who fear that, in the absence of any tax on sail area, excessive sail areas might be introduced, a maximum allowance of so many square feet per ton might be specified."

We are, however, confronted by conditions and not theories, but I could not help putting myself on record as being against the taxation of sail. I am almost alone in this. But to resume. *Madge, Clara* and other imported British cutters had considerable influence, and caused our designers to modify the shallow underwater bodies and beamy tops, the *Puritan* in 1885 being the first successful compromise vessel built in the United States. *Mayflower* and *Volunteer* followed.

Under the British tonnage rule in vogue in 1886, a 90-foot yacht of 26-foot beam would have been an impossibility, but as soon as the penalty was taken off beam the British designers took advantage of the circumstance and followed in the footsteps of the Americans, until, in the days of *Valkyrie III.* and *Defender*, the national types were practically the same, Herreshoff being a trifle in advance of Watson, as the victory of the British craft demonstrated.

Meanwhile, the only way I see out of the difficulty between racing machines and honest boats is to sail them in different classes. The plan is good to draw up tables of scantlings and rules for the construction of all racing yachts to be built in the future. As for the "freaks" unhappily now in existence, it is consolatory to be assured that they will all fall to pieces very soon. It is a great wonder, indeed, that some of them did not succumb at the close of their first season.

The photographs of *Valkyrie III.* and *Defender*, in dry dock, which, through the kindness of my friend Mr. J. C. Hemment, I am able to reproduce in this chapter, show the remarkable similarity that exists between the two yachts. Both were taken as the vessels appeared in the Erie Basin when, on the eve of the first race, they were docked to receive the final touches for the fray.

Defender's hull is of metal, as I have previously mentioned, and she was subjected to a very thorough polishing-up above and below the water line. I had an opportunity which I did not allow to escape me of closely examining the hull of the saucy Yankee craft and comparing her lines with those of the British boat. *Defender*, when after a little while you came to appreciate the wondrous symmetry of her underbody, exhibited a fairy-like form when contrasted with the less perfect shape of her rival. I make this criticism while at the same



Photo by J. C. Fenment

"DEFENDER" UNDER BROOKLYN BRIDGE.

time having the profoundest respect for the genius of Mr. Watson, whose talent as a naval architect nobody admires more than I do.

But after my visit to the Erie Basin in Brooklyn I formed the opinion that the *America's* cup was, barring accidents, perfectly safe for another year. *Defender* exhibited all the grace of a thoroughbred horse, while *Valkyrie* was a clumsier but apparently a more powerful creation. *Defender*, in point of fact, was as highly finished a product of the skillful naval architect as was the Scotch cutter *Minerva* when compared with some of the "brutes" that were built to beat her.

I had plenty of time to examine both vessels, and I need not say that each had a wondrous attraction for me. I saw Captain Cranfield mix his famous black varnish for *Valkyrie's* bottom, a compound whose two principal elements are coal tar and "turps," but which gives a surprising gloss and sleek finish when mingled in correct proportions. I saw this applied to the wooden planking of the English clipper, and thought to myself that something more potent and speed-compelling would be necessary to plaster her with if the cup were to be carried away. My friends on the staff of OUTING remember that on my return to the office from the Erie Basin I told them my views of the rival yachts, and predicted an easy victory for the Yankee craft.

My sympathy was with the British boat. I realized that in the interest of true sport it would be a capital thing for the *America's* cup to leave our shores for a while, because it would put our yacht designers on their mettle, and produce something wondrous in the yacht line so far as speed is concerned. But it struck me that *Valkyrie* was scarcely good enough to accomplish the task for which she was constructed. Now I am neither a prophet nor the son of a prophet, but I simply relate facts as they occurred. I am convinced also that Mr. Watson, after examining *Defender* in dock, realized that his work had been in vain, and that *Valkyrie*, admirable as she was and is, was a wee bit inferior to the peerless Bristol flyer.

The photograph of *Defender* passing under Brooklyn Bridge, which her topmast truck barely cleared at the top of high water, shows the tauntness of her mast, and is a splendid object lesson, worthy of preservation for all time. The spirited photograph of her crew tailing onto the throat halyards of the mainsail shows the light but strong rig forward, the stumpy bowsprit, the batten-like bulwark, and the other modern features of the beau-ideal racing vessel of 1895.

Whatever developments there may be in store for us with regard to hull, rig and sail plan, I know not. But if within the next ten years as great progress is made as has been made during the past decade, the racing machine of that epoch



“DEFENDER” UNDER SAIL.

will indeed be a marvelous scientific product. Personally, I am quite willing to endure my earthly burdens for a while longer if only for the pleasure of gratifying my curiosity about the yacht of the future, which has more charms for me than the evolution of the new woman, fascinating as this study doubtless is.

During the many years in which I have been interested in yachting I have seen many eventful changes in the yachts, their rig, their sail plan, and also in the rules that govern their races. Speed has perhaps been developed at the expense of seaworthiness, but yacht sailors have also become more expert at their calling, having progressed with the times. Skippers have learned to handle craft like *Valkyrie* or *Defender*, with main booms of steel 105 feet long, in half a gale of wind; and there is no doubt that, properly rigged and under capable charge, they are as safe for an ocean voyage as any other kind of craft. I will not say a word about the comfort or the accommodations to be found in one of the big racing cutters; but sailors are accustomed to hardships, even as eels to the knife of the cook that skins them.

Much stress has been laid upon the superior advantages that *Defender* had over *Valkyrie III.*, inasmuch as the challenger was built more strongly and heavily, as she had to cross the ocean to race for the cup. I don't think that the mere circumstance of a transatlantic

voyage would induce a modern yacht-designer to add a single superfluous ounce of weight to a racing craft. Luck is depended on to a certain extent, but the bold and skillful skipper is relied on most of all.

I remember reading the other day of a valiant sea captain whose steamer was disabled in a hurricane and lost her funnel. What did this brave fellow do? Give up the ship and take to the boats? Not he; he came from a different breed. He rigged up a jury funnel of timber, barrels and canvas, and by playing the hose on this improvised smokestack and keeping it continually drenched with water managed to keep up a good head of steam and eventually reach port. He came of the great Anglo Saxon race, which has done many heroic deeds afloat and will continue to achieve daring actions just as long as Old Ocean endures. Thus, while I am writing about the evolution of the racer, permit me to pay my humble tribute of praise to the brave seamen who man the racing yachts and have made as much headway in handling the marvelous pieces of mechanism as their designers have done in "creating" them.



"VALKYRIE III."

IX.

THE ETIQUETTE OF YACHTING.

WHAT IS CONSIDERED TO BE "GOOD FORM" IN
CRAFT, OWNER AND CREW.

EVERY yachtsman should be conversant with the etiquette of his calling. If ignorant of the many nice points pertaining to his own personal behavior afloat, or of the proper conduct of his craft at anchor or under way, he may become the subject of a certain amount of ridicule, which is, to say the least, annoying in the extreme. There are many commodores who would rather forgive a man for breaking the majority of the Ten Commandments between dusk and dawn than for committing a breach of nautical etiquette as handed down from the days of the fathers of the sport and added to infinitesimally year by year.

In Great Britain yachting etiquette is modeled largely after that of the Royal Navy, and the same is true in a measure of our own code of yachting manners.

It ought to be unnecessary to urge that a yacht should always be clean and bright as a new pin; her decks white as

a hound's tooth ; her brasswork gleaming, and her polished or varnished woodwork with a mirror-like burnish. Her masts should be correctly stayed, her standing rigging set up to the point of rigidity, her running gear hauled taut and snugly coiled down, her flags mastheaded right up to the truck, no "Irish pennants" towing overboard, but everything from truck to keelson ship-shape and Bristol fashion. A yacht kept in good order is a credit to all aboard from owner down to the cook's mate. Not only is she a credit to those who man her, but also to the club whose burgee she flies. In this respect all yachtsmen, but especially racing yachtsmen, should aim at perfection, and not be satisfied until they make a clear bull's eye.

The reason for this is that a racing yacht invariably attracts more attention than does one of the purely cruising kind, and any carelessness, however minute, aboard her is generally sure to be magnified to a high degree by the microscopic eye of criticism.

Racing crews should always be clean and smart as paint. Untidiness should never be allowed.

In the matter of guns, Young America, particularly when afloat, is apt to be a trifle too demonstrative. It need hardly be said that the indiscriminate discharge of cannon from a yacht is, like the screeching salute of a steam whistle, opposed to good yachting man-

ners. There are only a few occasions when it is necessary to waste good gunpowder on a yacht. The custom in this country is for all the yachts to salute the flag officer in command of a squadron when he joins the fleet, every boat that carries a gun banging away when the flagship drops anchor. This is a picturesque sight when the fleet is a big one. When the squadron of the New York Yacht Club used to rendezvous at New London for the annual cruise a big crowd of sightseers used to sally forth from the quaint old city to see the flagship join the squadron and receive the salutes. The bang of the big guns from the mighty steam yachts and the diminutive din from the pigmy popguns of tiny but pretentious craft made a rare noise in the harbor, especially when the fleet, as it often did, numbered more than one hundred sail. This saluting of the commodore is considered obligatory, and for the use of yachtsmen who do not care to include a brass cannon in their outfit some ingenious pyrotechnist invented a giant cracker, whose discharge is as earsplitting as that from the biggest yacht cannon ever carried. To hear such a threatening bang emanate from so small a yacht creates something akin to awe! When a squadron or part of a squadron is at anchor in a roadstead the flag officer in command or the senior captain present fires a gun at eight bells in the morning watch making "colors," the fleet taking the

time from the flagship. The same process is gone through at sundown, the fleet at the sound of the gun hauling down the ensign and the club burgee and hoisting the night pennant.

The commodore, when in command of a squadron, when hoisting a signal to get under way or perform any other nautical manœuvre, calls attention to the signal by firing a gun. The yachts, in order to show that the signal has been observed, hoist the answering pennant of the commercial code of signals.

Saluting by means of the gun when yachts meet under way is obsolete, although not forbidden by the code. Craft now content themselves with dipping the ensign, junior captains saluting first.

No firing of guns is permissible on Sunday.

Owners when not aboard should fly a blue rectangular flag from the starboard spreader (the main spreader of a schooner). In order that visitors may not intrude when the owner is at meals, a white rectangular flag is displayed from the spreader as above. A red pennant from the port fore spreader of a schooner or the port spreader of a single-masted craft denotes that the crew are at a meal.

If I may make so bold as to give a hint to a real live commodore, I venture to suggest that he shall try his level best to appoint a fleet-captain of tact, good temper, sound judgment, discretion—in

fact, a gentleman as well as a man of the world. I have been on a cruise with a fleet-captain possessing all the sterling attributes above enumerated, and I have also sailed with one his direct opposite. Thus I speak from experience. A fleet-captain may do much to make or mar the pleasure of a cruise.

Single-masted vessels display the private signals of their owners when cruising; when at anchor they fly the club burgee.

In making colors, salutes, etc., the yacht always represents the rank of the owner, whether he is aboard or not.

Yachts in commission should hoist their colors at 8 o'clock A. M., and haul them down at sunset, taking time from the senior officer present.

Before colors in the morning and after colors at sunset, the ensign and distinguishing flags should be shown when entering port, and should be hauled down immediately on coming to anchor.

At all other times yachts should fly a night pennant at the main, from colors at sunset until colors the next morning.

On Decoration Day and occasions of national mourning, the ensign only should be half-masted. On the death of the owner of the yacht, both the club flag and his private signal should be half-masted, but not the ensign. When mourning is ordered for the death of a member of the club, the club flag only should be half-masted. This rule applies to yachts both at anchor and under way.

Flags should always be mast-headed before half-masting them, and should be mast-headed before hauling them down. Saluting with the ensign at half-mast should be done by mast-heading first.

The senior officer present should be in command of the anchorage, should give the time for colors, make and return salutes, visits, etc.

His yacht should remain the station vessel until a senior to him in rank arrives and assumes the command of the anchorage.

Flag officers should always fly their pennants while in commission.

From colors at sunset until sunrise the commodore should show, when on board, two blue lights, perpendicularly, at the stern; when absent, one blue light should be shown. The vice-commodore should show lights as provided for the commodore, substituting red lights instead of blue. Captains, when on board, should show a white light under the main boom; when absent this light should be extinguished.

All salutes should be returned in kind.

Yachts should always salute vessels of the United States Navy by dipping the ensign once.

The commodore, on entering port to join the squadron, should be saluted, on coming to anchor, by the yachts present. On all other occasions the commodore should be saluted, on coming to anchor, by the officer in command.

Junior flag officers should be saluted, on coming to anchor, by the officer in command, unless the latter be a senior in rank, in which case they should salute him.

Captains should, on all occasions, salute the officer in command.

The salute from yachts entering port should be made by dipping the ensign once, or by firing a gun on letting go anchor.

The senior officer, when leaving the anchorage, excepting temporarily, should indicate the transfer of command to the next in rank by firing a gun on getting under way. All other yachts should salute the officer in command.

All visits should be made according to rank.

Yachts, passing one another, should always exchange salutes by dipping the ensign once, juniors saluting first. Steam whistles should never be used to make salutes.

The salute to yachts entering port, entitled to a salute, should be made by dipping the ensign once, or by firing a gun when they let go anchor.

An official salute to a foreign club should be made by firing a gun, with the flag of the foreign club at the fore on schooners and steamers and at the main on single-masted vessels, or, in the absence of such flag, by half-masting the club flag and firing a gun. When the salute has been returned, or a reasonable time for its return allowed, the flag

should be hauled down and the club flag hoisted again.

The salute from or to yachts arriving after sunset, or on Sunday, should be made immediately after colors on the following morning.

When a flag officer makes an official visit, a gun should be fired, with his pennant at the fore on schooners and steamers, and at the main on single-masted vessels, while he remains on board.

A yacht, acting as judges' boat, should not be saluted during a race.

The quarter-deck should always be saluted by lifting the cap on coming on board or from below.

Yachts should report to the commanding officer on joining the squadron, and should obtain his permission before leaving it.

When under way with the squadron, firing guns and signaling should be avoided, except when joining or parting company, or when repeating signals.

When squadrons of different clubs meet at sea, salutes should be exchanged only by the commanding officers.

Salutes from single yachts at sea should only be answered by the flagship.

Single-masted vessels should fly the private signal of the owner when under way with the squadron; when at anchor, the club flag.

When a foreign yacht arrives, the senior officer present should send on board, without regard to rank, a tender of the civilities of the club.

Yachts should salute on entering port in the home waters of a foreign club, where any of its fleet are lying. After the tender of civilities has been made, owners of the entering yachts should visit the officer in command of the anchorage. All other visits should be made according to rank, visits to their equals in rank being made by the owners of the entering yachts.

The time for colors in the home waters of a foreign club should be given with its senior flag officer present.

The term "foreign" should be understood as applying to all clubs outside of the waters of the Gulf of Maine.

Flag officers and the fleet-captain should fly their pennants, and captains their private signals, when in their boats; members, the club flag. After sunset a white light should be shown at the bow.

Passing one another, juniors should salute seniors by raising the cap.

Following are the words of command used in the handling of rowing boats:

Give Way.—To begin rowing.

Hold Water.—To stop the boat's progress by keeping the blades of the oars in the water in a vertical position, and at right angles to the keel.

In Bow.—To cease pulling the bow oar and to lay it down fore and aft within the boat, the blade forward.

Let Fall.—To let the oars drop from the vertical to the horizontal, the loom

resting in the rowlock, the blade held out of the water and horizontal, the oar itself at right angles to the keel.

Oars.—To cease rowing, and to maintain the oars in the same position that they are in after executing the order "Let Fall."

Ship Oars.—To lift trailing oars out of the water alongside and hold them as described for "Let Fall."

Shove Off.—To force the boat away from a vessel's side or from a wharf or float.

Stern All.—To row the boat backwards—the opposite to "Give Way."

Toss.—To lift the oars out of the water and lay them down within the boat, fore and aft, the blades forward.

Trail.—To throw trailing oars out of the rowlock and allow them to *trail* alongside by their lanyards.

Up Oars.—To raise the oars to the vertical, the blades kept fore and aft—a preface to the order "Let Fall."

Way Enough.—To cease rowing, and to lift the oars out of the water and boat them, at the coxswain's word, "Toss."

When visiting a yacht at anchor, steer for the starboard gangway. The port gangway is the "back door" of a yacht and is reserved for sailors, stewards, etc.

When boarding a yacht under way, or hove to, go to the lee side, no matter whether port or starboard.

Don't forget to "salute the quarter-

deck" on reaching it by touching your cap in naval style.

As soon as you get aboard pay your respects to the owner. If you don't see him on deck send your card to him immediately.

A young yachtsman, when about to embark in a boat from a yacht, should go over the side first and should take a modest seat. The owner of the yacht is last to leave and takes the post of honor at the tiller lines.

When disembarking at a landing, returning to the yacht, or going aboard another vessel, the owner leaves the boat first, the modest youngster last.



Photo by R. B. Burchard.

DEFENDER—STERN.

X.

YACHTING INSURANCE.*

ALSO A FEW LEGAL WRINKLES ON THE STATUS
AND RELATION OF OWNER TO CREW.

UNDERWRITERS, as a rule, seem not particularly anxious to run foot-races after the owners of small yachts who navigate their own craft. For some reason or other the amateur skipper is looked upon by them with suspicion and disfavor. Why, I do not know, for considering the immense number of pleasure craft in commission every year the ratio of loss through wreck, collision, or fire is remarkably low. I think, if underwriters took this circumstance into consideration, they would find it in their interest to offer more attractive inducements to owners of yachts to insure their floating property.

The vast number of pleasure craft in commission on the Atlantic and Pacific seaboard, on our great fresh-water lakes, and on the large sheets of water that, like the Great South Bay, are divided from the ocean proper by a strip

* The author is indebted to an eminent marine jurist (commonly known as a sea lawyer) for all the information contained in this chapter.

of sand, more or less narrow, should I think excite interest in marine underwriters, and induce them to offer attractive terms to yacht owners.

The most dangerous fire risk in New York or any other great city is eagerly sought for by the lynx-eyed agents of insurance companies. No tenement is too flimsy; no habitation exposed to the accident of a mouse and a nest of matches is too perilous for the competition wallahs of the gigantic corporations.

Bearing this in mind the owners of small craft have frequently tried, in the lack of aid from the large companies, to start a co-operative scheme of their own, but because of the want of an enterprising and intelligent organizer the project has always fallen through.

Early in the present year I was asked by a friend of mine to try to get a policy of marine insurance on a 35-foot yacht which is worth at least \$4,000 as she floats—lead keel and all the latest improvements. I had the greatest difficulty in effecting the deal. As a matter of fact no insurance company jumped out of its shoes with alacrity to accept the risk. Had it been some ramshackle old schooner, rotten in hull, deficient in sails and rigging, and manned by a scanty crew, I was told there would be little or no trouble in consummating the transaction. Pleasure vessels are viewed with suspicion that they do not deserve. I allude principally to the smaller

classes of craft, which underwriters steer clear of as though they were affected by a hoodoo worse than that of Friday and the thirteenth day of the month.

Marine insurance, so far as applicable to yachts, seems to be in a mixed and muddled condition. The owner of a steam yacht, commanded by a duly qualified master, and with the machinery in charge of a licensed engineer, has no difficulty in insuring his vessel at ordinary rates. As the risk is, generally speaking, not so hazardous as that of ships engaged in freight-carrying both summer and winter, underwriters, as a rule, give steam-yacht owners quite favorable terms, provided the yacht is seaworthy and well-found. A large, steel, steam yacht run under the foregoing conditions was insured up to her real value at a premium of three per cent. against losses by fire, collision, or the perils of the sea, the risk being divided *pro rata* on the vessel's hull, tackle, apparel and furniture, and the machinery and boilers.

The policy, in this instance, protected the yacht against the "perils of the seas, men-of-war, fire, enemies, pirates, rovers, thieves, jettisons, letters of marque and countermarque, surprisals, takings at sea, arrests, restraints, and detainment of all kings, princes and people, of what nations, condition, or quality soever, barratry of the master and mariners, and all other perils, losses and misfortunes

that have or shall come to the hurt, detriment or damage of the said ship, etc., or any part thereof. And in case of any loss or misfortune it shall be lawful for the assured, their factors, servants and assigns, to sue, labor and travel for, in and about the defence, safeguard and recovery of the said ship, etc., or any part thereof, without prejudice to this insurance; to the charges whereof the said insurance company will contribute according to the rate and quantity of the sum herein assured.

“Each voyage to be subject to general average, particular average to be payable on each valuation separately or on the whole, if amounting to three per cent., or the vessel be *stranded, sunk, burnt, on fire, or in collision*. With leave to sail with or without pilots, to tow and to be towed, and to assist vessels and/or craft in all situations and to any extent, to render salvage services, and to go on trial trips. With leave to dock, undock, and change docks as often as may be required, and to go on slipway, grid-iron and/or pontoon, and/or to adjust compasses, including the risk of launching.

“In case of any claim for average the repairs to be paid without deduction of one-third, whether the average be particular or general.

“General average and salvage charges as per foreign custom, payable as per foreign statement, and/or per York-Antwerp rules, if required; and in the

event of salvage, towage or other assistance being rendered to the vessel hereby insured, by any vessel belonging in part or in whole to the same owners, it is hereby agreed that the value of such services (without regard to the common ownership of the vessels) shall be ascertained by arbitration in the manner hereinafter provided for under the collision clause, and the amount so awarded, so far as applicable to the interest hereby insured, shall constitute a charge under this policy.

“ And it is further agreed, that if the ship hereby insured shall come into collision with any other ship or vessel, and the assured shall in consequence thereof become liable to pay, and shall pay, by way of damages to any other person or persons, any sum or sums not exceeding in respect of any one such collision the value of the ship hereby insured, we, the assurers, will pay the assured such proportion of three-fourths of such sum or sums so paid as our subscriptions hereto bear to the value of the ship hereby insured. And in cases where the liability of the ship has been contested, with the consent, in writing, of a majority of the underwriters on the hull and/or machinery (in amount), we will also pay a like proportion of three-fourths part of the costs thereby incurred or paid; but when both vessels are to blame, then, unless the liability of the owners of one or both of such vessels becomes limited by law, claims under the collision clause

shall be settled on the principle of cross liabilities as if the owners of each vessel had been compelled to pay to the owners of the other of such vessels such one-half or other proportion of the latter's damages as may have been properly allowed in ascertaining the balance or sum payable by or to the assured in consequence of such collision; and it is further agreed that the principles involved in this clause shall apply to the case where both vessels are the property, in part or in whole, of the same owners, all questions of responsibility and amount of liability as between the two ships, being left to the decision of a single arbitrator, if the parties can agree upon a single arbitrator, or failing such agreement, to the decision of arbitrators, one to be appointed by the managing owners of both vessels, and one to be appointed by the majority in amount of underwriters interested in each vessel; the two arbitrators chosen to choose a third arbitrator before entering upon the reference, and the decision of such single, or of any two of such three arbitrators, appointed as above, to be final and binding.

“This insurance also specially to cover loss of and/or damage to hull or machinery through the negligence of master, mariners, engineers, or pilots, or through explosions, bursting of boilers, breakage of shafts, or through any latent defect in the machinery or hull, provided such loss or damage has not

resulted from want of due diligence by the manager."

By the terms of the above policy no damage under \$100 could be collected.

Another clause allowed the yacht to touch and stay at any ports or places, and for any and all purposes.

Another clause made the liability cover the hulls, spars, sails, boats, etc.

Yet another clause provided that a fixed sum should be returned for every fifteen days canceled and for a like number of days laid up dismantling, overhauling, repairing, etc. This, as the intelligent reader will see, is to guard against an usurious interest when the yacht is not exposed to the perils of corsairs or rovers on the deep green sea.

The collision clause generally provides that although the yacht insured may be in fault the underwriters must pay up to three-fourths of the value of the policy toward the repair of the damaged vessel or the general repairs. For example, a yacht insured for \$5,000 runs into another craft and damages her to the extent of \$4,000. In that event the underwriters are responsible to the extent of \$3,750.

What is called the "racing clause" is sometimes added, which makes the underwriters liable for total or other loss while the yacht is in the act of racing.

A policy for \$1,250 covering five months should cost no more than ten per cent. if the yacht is in good condition. Rates vary on laying-up policies

covering risks from fire, falling over, etc., while the craft is out of commission.

A yacht should be insured for her full value. If insured for less the ratio which that amount bears to the true value will be deducted from the amount given as compensation for damages. Here is an English case in point. A man insured a boat for £200, her true value, as declared by him to Lloyd's agent at the time, being £250. She suffered damages in a blow. The owner agreed to accept £25 for compensation. He was tendered £20, the explanation being that he had undertaken a fifth part of the risk on the craft himself, inasmuch as he had insured the boat for £50 less than her real value; also that as he had agreed upon £25 as compensation for the damage sustained, the underwriters could only be called upon to pay £20. An appeal to the courts resulted in a judgment for the underwriters.

It may be mentioned that English companies do the bulk of marine insurance, and that the law with regard to it is practically the same in the British Islands and this country.

After mentioning all the dangers that may cause total loss, which is fully insured against, the policy states that where only partial damage is sustained the underwriters will pay an average for the repair of such damage at the rate of 3 per cent.

The \$100 clause is advantageous to the owner of a large yacht, for any damage that the craft might meet with while at sea, whether in the nature of collision, or carrying away of gear by stress of weather, would be more likely to exceed than come within the \$100 limit. With small craft it is different. It would be a rather severe accident that would necessitate \$100 worth of repairs. Some companies, realizing the injustice of this \$100 clause, have lowered the amount to \$50, but for this a slightly increased premium is demanded. I would advise all insurers of small boats to insist upon the \$50 clause.

When taking out a policy on a sailing yacht, whether for coasting or deep-water cruising, no stipulation is made as to the sailing master being provided with a license. In fact, the law does not make it obligatory for the commander of a sailing yacht to pass any examination whatever ; but the skipper of a steam yacht, like the engineer, must pass the regular examination and be provided with a license. The reason for this does not seem quite clear to the layman.

The owner of a yacht, if he acts as his own skipper and engages the crew himself, has all the autocratic power of a master in the merchant marine. He can quell a mutiny with the pistol, clap a refractory "shell-back" into irons, and maintain stern discipline afloat. But happily the yachtsman is never called

upon to exercise any severe measures such as those mentioned. If, however, the occasion called for the exercise of stringency the law would protect the yacht owner.

If a sailor is discharged for misconduct he forfeits the outfit provided for him by the owner. Few yachtsmen, however, insist upon this, and the discharged seaman is allowed to take his "dunnage" ashore with him, but the outfit is legally the property of the owner.



XI.

THE COST OF YACHTING.

CAUTIONARY AND ECONOMICAL HINTS TO TYROS
ABOUT TO EMBARK IN THE SPORT.

IN a witty essay Mr. W. L. Alden, author of "The Canoe and the Flying Proa," points out that the most reckless woman is vastly inferior in wild extravagance to the ordinary yacht whose owner has enrolled her in a yacht club. It is with yachts as it is with women, he argues. A man who provides himself with a pretty wife, equipped with a sufficient quantity of clothes, might keep her very cheaply if he did not permit her to go into society, which Mr. Alden conceives is about the same as introducing a yacht to the society of other fashionable yachts. He declares that when the once modest schooner or bashful sloop has once tasted the pleasures of a regatta, she proceeds to lavish her owner's fortune with frightful recklessness. During the racing season she splits her sails as though they were lace flounces, and sheds topmasts and booms as though they were hairpins. At the close of the season he has to call in the aid of the shipbuilding profession, and to lavish

upon her costly tonics of hemp and iron and other expensive remedies prescribed by skillful yachting specialists.

When spring returns she is not satisfied with the position of her masts ; she insists upon being provided with a new and more graceful stern and a complete wardrobe of new sails and signals. After these are supplied she declines to race unless her bow is lengthened ten or fifteen feet. Next, she finds fault with her figure and wants to be given more breadth of beam. Mr. Alden thinks that the owner of such a craft ought to have an independent fortune, or at least be counsel for an insolvent railroad. A yacht that squanders money like water all summer, undergoes elaborate repairs in the fall, and is completely remodeled every spring, is infinitely more extravagant than any woman who ever wore 32mo shoes or microscopic gloves. Mr. Alden concludes that the only way to be a happy yachtsman is to buy a slow and plain-looking yacht that rarely cares to go into society and carefully shuns the giddy regatta.

There is much solid substance in the above, though at first sight it may appear to be somewhat fantastic. Unless an owner takes a personal interest in his yacht she is bound to prove a very costly luxury. If he gives *carte blanche* to every Tom, Dick and Harry that has to do with her he will be amazed at the extent of the bills. The most expensive luxuries in the world are said to be

racing stables and theatres run for the pleasure of rich men without business instincts. A large racing yacht conducted on the same extravagant and reckless basis might well hold the third place in the list.

A prudent man, before investing in a yacht, will make inquiries as to the probable expense likely to be incurred, and will cut his coat according to his cloth. In this he will act as a sensible man making any other investment. Before purchasing a cottage at Newport, a person of average intelligence calculates the cost, and decides whether it is within his power to afford such a luxury. He doesn't rush at it blindly like a bull at a gate. Most of our racing yachtsmen have begun when mere boys, generally with small craft, and have gradually worked their way upward tentatively, as it were, until they have owned the largest type of vessel. Take Mr. J. Rogers Maxwell, a representative yachtsman, as an instance. He commenced his yachting career with a mere cockleshell of a craft some fifteen feet long. He has ascended by easy stages, and knows the cost of building and running all kinds of pleasure craft. The result of his varied experience would be valuable indeed, for he has had a hand in the design of every craft that has carried his private signal.

The life of the yacht owner, of course, is not all rose-colored. There is an occasional dash of bitterness in his daily

draught. It is possible for him to hire a sailing-master who knows his business, to engage a temperance crew, and even to secure the services of a steward who is honest to the core. But there is ever present with him, from the morning he goes into commission in the spring until the chilly afternoon in the autumn when he hauls into winter quarters, the Yachting Parasite.

The yacht owner soon becomes painfully aware of the existence of this excrescence. Whenever a camel falls down exhausted on the sands of the desert, a vulture is sure to await him with ravenous appetite and murderous beak and talons. So, too, wherever a yacht owner touches, he is always sure to be beset by some flattering knave eager for an invitation, and longing to stretch his legs under the cabin table and partake of its hospitable fare.

This is the fellow to steer clear of, for if he once manages to get himself domesticated he becomes like a tame cat. He will flirt with the ladies aboard, if they are so foolish as to permit it; he will rook your son at cards; he will call for and drink your choicest vintages, and smoke your most fragrant weeds; and all this with an insolent air of proprietorship galling in the extreme. The only way to rid yourself of his presence is to burn the yacht, or to lash a couple of cannon balls to his legs and make him walk the plank. He is above taking even a broad hint to depart.

The Yachting Parasite has an abundant feeding ground in America. Some of our yacht owners are marvelously susceptible to flattery. The Parasite is wide awake to this weakness and avails himself of it. He secures a season's free board amid luxurious surroundings. He lives on the fat of the land, and the yacht owner hasn't moral courage enough to kick him ashore. On the contrary, he seems to enjoy his sugary speeches. The Parasite is found under every flag, our American variety being naturally jealous of any foreign rival. Particularly objectionable to him is the English or Irish interloper with parasitical designs on what he regards as his own rightful prey. The successful Parasite thus lives a pleasant life during the yachting season. He has more fun than the owner, and neither expense nor responsibility. He sometimes is fortunate enough to be retained in his master's household all winter. His fawnings have become indispensable to his patron's comfort. A queer creature, truly, but he is one of our recognized yachting "institutions." Guard against him, my brethren; never let him play the part of Old Man of the Sea to your Sindbad the Sailor. He is too unwholesome and expensive a luxury for you, and it is about time that he is abolished.

In times of serious financial depression, when a cold wave of economy permeates the land, owners of large schoo-

ers need be at no loss for substantial reasons for tardiness in fitting out.

These spacious craft are expensive to run. They are great gobblers up of greenbacks, their voracity being incapable of appeasement. As a matter of fact, yachtsmen fall an easy prey to land-sharks disguised as ship-chandlers and merchants who cater to the needs of those who take their pleasure afloat.

Monster steam vessels and unwieldy schooners soon reduce the balance at the bank unless their owners bring to bear on the situation the same business shrewdness that dominates their offices in Wall street, where every little bill is audited with lynx-eyed subtleness, and the salary list, from the cashier to the three-dollar-a-week office boy, is scrutinized with economical care every week in the hope of cutting down expenses by reducing the working staff.

My heart goes out to the man who cultivates yacht racing not for ostentatious and vulgar display, but from an innate and hearty love of the sport. If I can give him a few hints on the way of saving a dollar or two of his modest store, I shall only be too delighted.

The carrying of large crews is obligatory in racing yachts but is by no means requisite. In another chapter I have mentioned the small number of men carried on the *America* and *Sappho* in their voyages across the ocean. In the Atlantic race of December, 1866, in which *Henrietta*, *Vesta* and *Fleetwing*

took part, each yacht carried a complement of four officers and twenty-two men. This was a large ship's company for a 200-ton schooner, but the season was winter and the stakes \$90,000, so no risk was taken. The centerboard schooner *Montauk*, in her voyage to the West Indies in 1884, carried a sailing-master and a crew of thirteen. The *Athlon*, a 60-foot sloop, is worked by a skipper, two men before the mast and a steward. Captain Henry Andruss of the *Sasqua*, a smart 35-footer, carries only one paid hand, but then Andruss is a host in himself and his son makes his weight felt when he tails on to the mainsheet.

That this question is considered of importance in England is evident from the following editorial which I transcribe from the *Yachtsman* :

“One of the best features in the early life of British yachting was that the vessels then engaged in racing did not depend so much as in these days on professional aid for smartness and seamanship. We may smile at times when we read the accounts of races sailed fifty years ago, and at the yarns of ‘the veteran’ anent ‘the good old days,’ etc.; but there cannot be a doubt that yacht racing has since then drifted too much into professional hands, and whilst we have learned (small credit to us) to look for greater smartness in the handling of our racing yachts, we must not ignore the fact that we pay for it right royally. In proportion to the number of racing

yachts now afloat there can be no doubt that good amateur sailors are lamentably fewer than they were even twenty years ago.

“If in the wisdom of the Y. R. A. it should be so decided that paid hands shall be limited in number for each class, the change should be hailed with joy, and to lessen the sorrow of the grumbler it may be pointed out that the smallest number likely to be assigned in every case would be far in excess of what our forefathers would have dreamed of. The cost of crews is enormous nowadays, not only from their numbers, but from the excessive remuneration for their services. This is a matter, indeed, which cannot be regulated in any feasible way that we know of, and therefore a limitation in the number of paid hands is the more desirable. To compare the wages, or ‘salaries,’ of to-day with those of past times, we may mention that when the old Clyde clipper *Clarence* was in her prime (about 60 or 65 years ago) her sailing master received £1 per week, and her ordinary hands 18s. They had no outfits given them, and they were grateful for a glass of grog to celebrate the winning of a prize. This was a typical ease until the early fifties, when the scale of wages seems to have gone up. In the *Stella* and *Cymba* days, sailing-masters of renown got £1 5s. per week, and the men £1, and then outfits and prize-money first began to appear, though on a very small scale. McKirdy, skipper

of the *Cymba*, was the first sailing-master, so far as we know, who received a yearly salary.

“Those were ‘the good old days,’ however, and in nothing have they gone beyond recall more than in the lowness of wages. That they are now beyond recall may easily be believed by all yacht owners, and, therefore, these should hail with gladness any scheme likely to stop one or two of the many leaks in their purses. Some of those leaks, however, might well be counteracted by the clubs through the simple expedient of increasing the amount of their prizes. To offer the 20-raters of to-day the same sum as was offered as a prize to the 20-tonners of 1870 is strikingly absurd.”

In general it may be remarked that it is wise to ship no more cats than can catch mice; before making repairs to your vessel to procure estimates; to buy your stores and provisions in the open market and exercise judicious economy in the running of the yacht.

It should be remembered that aside from the first cost it takes very little more to run a 30-footer than a 15-footer. In the latter you have no accommodations whatever, while a 30-footer can be made quite a roomy little ship if space is judiciously adapted. Three men can handle a 30-footer with ease, if the fingers of the men are not all thumbs.

Before buying a yacht see that there are no liens against her for unpaid wages

or stores. If she has been libeled in the Court of Admiralty you will probably have to pay claim and costs. A creditor can without trouble libel a yacht and put an officer in possession. Your only course then to pursue, if you dispute the claim, is to give a bond for the amount and fight the matter in the courts.

Following is the scale of wages for yacht sailors now prevailing :

Captains.....	from \$250 to \$50	per month
Mates.....	100	50
Engineers.....	175	90
Engineers on small yachts.....	125	85
Stewards.....	100	60
Cooks.....	125	50
Sailors.....	30	25

The cost of outfits follows :

Captain.....	\$75	Steward.....	\$40
Mate.....	55	Sailors, each.....	35
Engineer.....	60	Messman.....	35
Cook.....	50		

The expense of keeping a 40 footer depends much upon the tastes of her owner and whether used for racing or cruising. Here, however, is an example. It will be noted that the rates are lower, owing to the size of the craft :

Captain.....	\$50 a month ; outfit \$25
Two sailors.....	60 " " 25
Cook.....	50 " " 20
Walter.....	35 " " 18

The grub for the crew would cost 50 cents per day per man.

Hauling out three times during the season,	\$50
New mainsail.....	100

Racing money is paid as follows in large yachts when a victory is scored :

Captains ...	\$25	Mates....	\$10	Sailors....	\$5
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It is not usual in this country to pay "losing money."

XII.

THE LAST WORD.

FINAL HINTS TO TARS WHO WANT TO SAIL THEIR
OWN CRAFT.

THE small cruising and racing yacht has now become so fashionable that a vast number of recruits have joined the already large navy of yachting amateurs. In many cases the owners of the craft new last season have only a slight and superficial knowledge of a boat, and will depend on their professional skippers for the navigating and general management of her. This is as it should be.

There are, however, certain matters relating to the internal economy of a yacht which cannot be learned from the average skipper, and this article is devoted to their exposition and discussion. The hints given are practical, and may possibly be of use to men just embarking in the sport, as well as those entering upon their second season.

The owner of a small racing yacht taking part in the squadron cruise of the New York Yacht Club, which sometimes extends as far as Bar Harbor, Me., should take care that he carries

along with him a sufficient "sea kit" for all the emergencies of the voyage. Certain social functions at Newport, for instance, will render evening clothes necessary, if not indispensable, to any yachtsman desiring to participate in the social gayeties of the Cowes of America. A "claw-hammer" coat is my pet abomination, and personally I would never "hoodoo" a racing yacht with any such luxurious superfluity. So strong is my antipathy to this garment of civilization that my will contains a special clause forbidding my undertaker to attire me for the grave in a so-called dress suit, as is sometimes the custom in this country.

But I am no prejudiced churl, and will willingly give the benefit of my experience to those who would not "feel at home" after sundown unless clad in the regulation society garb. Now a dress suit to look well must be kept free from damp, otherwise it will speedily mildew. The cabin of a little racer is always exposed to the danger of moisture, either in the form of rain or of spray. Sometimes a veritable "green sea" in an unguarded moment finds its way below, and then woe to the nautical dandy who has intrusted his shore togethery to the untender mercies of a leather portmanteau or dress-suit case! No self-respecting girl will dance with a young man whose evening clothes have been made unsightly by sea water, no matter how scarce the dancing

species of the genus homo may happen to be.

To preserve "swell togs" in spick-and-span condition the wise yachtsman will provide himself with a metal uniform case, airtight and waterproof, such as navy and army officers use when on service in tropical climates where humidity and cockroaches play havoc with unprotected uniforms. In this case the nautical dude may snugly stow his dress suit and dancing shoes, his "biled" shirts, collars, white ties, jewelry, and such other trifles as he may see fit, including stationery, postage stamps and whatever paper currency he may have with him. I say stationery and stamps advisedly, having experienced the annoyance of trying to write on paper damaged by spray and envelopes gummed up by heat and humidity. It might, however, be well to omit the ink as an inmate of your uniform case, as mishaps are rather more frequent afloat than ashore, and ink stains are difficult to eradicate from collars, shirts and cuffs. This case may be stored away in the most convenient location possible, and its owner may rely on finding its contents in good condition, no matter how severe the weather the little boat has encountered.

The remainder of the owner's wardrobe may be carried in a sailor's painted duck bag, or, if this simple and inexpensive device is not "swagger" enough, in an india-rubber bag, such

as may be obtained of any dealer in sportsmen's supplies. Woolen underwear is preferable to any other, and as it can now be had in the lightest weights, the old objection of heaviness and too much warmth has lost its significance. Serge and flannel clothes are best suited for ordinary wear at sea, and flannel pajamas will also be found more serviceable and comfortable than those of any other material. Woolen socks and blue, hand-knitted guernseys are also to be recommended. These few hints with regard to clothing must suffice, as every man has his own peculiar ideas as to the rigging and adorning of his person, and is slow to adopt any other fellow's notions or follow advice, no matter how kindly offered.

Remember that it is not safe to put to sea without a corkscrew and a can-opener. In fact, these tools are so indispensable when on the briny that they should be duplicated or even triplicated. When a thirsty tar needs a glass of grog, medicinally or as a beverage, it is very provoking to be told that the corkscrew is mislaid. An old sea-crony of mine used to provide against such contingencies by always carrying, made fast to a lanyard round his neck, a sailor's knife, whose "other blade was a corkscrew," so he was never at a loss to tackle a rum bottle or a sardine can whenever the emergency arose. Ship-mates! take an old sea dog's advice and follow this most excellent example.

Matches should be carried in glass jars with wind and water tight covers. These are good receptacles also for tobacco, either in plugs or cut. Cigars, too, may be kept in them without that injury to their fragrance inseparable from their absorption of sea-air, which has ruined the flavor of the finest of Havanas. If these glass jars are covered with canvas neatly sewn on, they will run no risk of breakage.

The yachtsman must use his own discretion regarding medical supplies. I recommend essence of ginger, extract of witch hazel, absorbent cotton, rubber sticking-plaster (which requires neither heat nor moisture for its application) rolled up in an airtight tin box, thread and needles, muslin bandages, a forceps for extracting splinters, vaseline, seidlitz powders (in an airtight tin), and Horsford's acid phosphate as among the most pressing necessities to be taken along.

A mixture of baking soda and vaseline in equal parts is a most excellent ointment for the cure of sunburn. I have known a landlubber's lily-white skin to be so scarified by the burning rays of the sun as to cause him excruciating agony. An application of the mixture mentioned above afforded him quick relief.

A large stowing place for ice is indispensable to health and comfort in these latitudes. If you should, however, happen to fall short of this necessary, it should not be forgotten that a

canvas bucket filled with fresh water and covered with cheesecloth to keep out dust and flies, if hung up in the sun, will afford a supply of agreeably cold water. This is an old "wrinkle," much used in tropical climates. A porous earthenware jar will also accomplish the same result, the effect being produced by evaporation.

The cuisine of a small racing yacht is necessarily limited. The solution of the cooking-stove problem has not as yet been accomplished. Gasoline stoves are clean, convenient and efficient, but they are dangerous. Oil stoves with wicks, on account of their odor, smoke and dirt, are objectionable; cook and cabin are covered with lampblack. Coal stoves generate too much heat below for true comfort in our summers. The sea stove of the future will probably be an adaptation of the wickless oil stove, which is as cleanly as an alcohol stove and equally free from dirt and odor, and burns ordinary kerosene oil.

The good quality of the canned meats, vegetables and fruits, as put up nowadays, renders a yachtsman pretty nearly independent of a galley. With a capacious ice-box, he can store supplies of cooked meats and fowls, which, with the aid of his stock of canned goods, will keep him going. A stove on which he can boil a kettle for coffee or tea and fry a dish of fish or ham and eggs is all that is absolutely necessary. He wants all the available space for his racing

sails and gear, and cannot spare room below for a Delmonico kitchen. Thus the æsthetic epicure or even the ordinary glutton (I guess there is but little difference between them) must make some notable gastronomical sacrifices while in the pursuit of yacht prizes, but he can easily atone for scanty fare afloat when he reaches the shore, where hotels with epicurean larders are within easy distance. But, as a matter of fact, the ordinary yachtsman will fare admirably on such "grub" as he can carry along from port to port, and he need never be forced to seek the hospitality of a caravansary.

Some cooks have a violent prejudice against the humble and innocuous frying-pan. They denounce it until they are black in the face. I have found this culinary utensil invaluable in a small vessel where an oil stove only was possible, and the use of a broiler consequently impracticable. Procure not the ordinary shallow pan, such as is commonly used in kitchens ashore, but a deep pan with a tightly fitting cover and a long handle, such as French *chefs* affect. In this a great variety of food can be prepared—savory stews, appetizing curries and soups. If you heat the pan very hot before you put a steak or a chop in it (omitting fat or butter), in flavor and tenderness you can scarcely distinguish it from a genuine grill. My word for it, a frying-pan, intelligently used, is a boon and a blessing aboard a

small vessel. But mind and get a deep one with a cover, as a shallow one is of little use when the boat is pitching or rolling, or even sailing in smooth water but heeling over to the breeze.

If you happen to get hold of a good "Jap" for a sea cook, he will be able to boil rice correctly. Some fellows don't like rice. The reason is because they have never eaten it cooked to Oriental perfection, when every grain is plump and dry and separate from its fellow. It is different when you get a mushy abomination served up to you in lieu of a dish pretty to look at and grateful to the palate.

I learned to cook rice when a boy plying on a schooner owned by the Jehanum Jow Juldee Railroad, which used to connect Negapatam with Madras. The native cook was my teacher. First he placed his measure of rice in a deck bucket, washing it repeatedly with water fresh from the ocean. He explained to me in his Tamil language, that unless this process was followed the grains of rice would cling together and coagulate and form into a porridge, loathsome to look at and worse to taste. After washing the rice thoroughly, he placed it in a pot of furiously boiling fresh water—no salt being added. Then he would fire up like an infernal stoker and keep the pot in a splendid state of ebullition. And mark you, messmates all, he never stirred the heated mass!

After boiling for twenty minutes, he

reduced the heat, strained off the water, carefully reserving it for drinking purposes (for congee water isn't half bad), and then let the rice swell and dry for half an hour under a very moderate fire. The result was RICE!

As a grateful accompaniment to this staple comestible, his custom was to prepare a curry, often of prawns, which grow to perfection on the Coromandel Coast. Now, far be it from me to decry the luscious excellence of the American prawn, whose toothsome delicacy has often tickled my palate, but in the interest of truth I must say that the species which flourishes under the Stars and Stripes must retire into insignificance in the matter of size, plumpness, juiciness and flavor when compared with the prawns of Madras. Some of these attain the length of nine inches. Parboiled in sea water, dexterously deprived of their scaly armor, and then impaled on thin strips of bamboo, they were ready for the deft and scientific touch of our Madrassee *chef*. In an earthenware "chatty" he placed a sufficient quantity of "ghee," or native butter. When this reached the sizzling stage, he added a little finely shred onion and a suspicion of garlic, watching the stewpan with the kindly care of a mother until it reached the golden-brown stage. Next, with tender solicitude, he put in the prawns and the curry and watched the product stew in its own juice until its fragrance enticed all hands with water-

ing mouths to cluster round his base of operations.

About the curry? Please don't ask me for its ingredients. I was only a hungry boy then and didn't know enough to investigate its component parts. I am sure, however, that it contained chillies, turmeric, the pulp of green coconut and a host of other Eastern condiments, and that the result was gastro-nomic joy. To make a dish of palatable curry in a yacht's kitchen and in half an hour is easy. In your deep frying-pan place a chunk of butter as big as an egg. When it melts and begins to smoke add a large onion sliced and a tablespoonful of curry powder and any cold meat or cold fish you may have on hand, cut up in small chunks. Let it cook for fifteen minutes and fall to and eat!

Curry is like the true West India pepper-pot. It can be made of almost anything. Fresh meat or fish, canned meat or vegetables, will always taste good. All that is actually necessary in the way of condiments may be thus summarized: Butter, onions (garlic to those who believe it to be the violet of vegetables, always in a small quantity), red and black pepper, curry powder and chutnee. With these ingredients a palatable dish is always at hand. No Asian or Eurasian thickens his curry with flour. A squeeze of lemon or lime-juice adds zest to the dish.

In concluding these culinary hints I may say that chops, ham and eggs, may

be prepared with facility in the deep frying-pan already recommended. Let the pan be blazing hot when your ambition urges you to serve up a sirloin steak or an English mutton chop. Put no fat in the pan. The object is to sear up the fibre of the meat and keep in the juices. When you think the meat is cooked put it in a hot dish, butter it on both sides and pipe all hands to dinner.

When you fry fish, oysters or clams, place them in boiling fat and cook rapidly. The best and freshest of fish is ruined by letting it get soddened in lukewarm grease.

Now here is my recipe for fish chowder, and when you have once partaken thereof you will cry like a child for more. Procure a small codfish or haddock, while yet squirming from the hook, clean him well and parboil him, reserving the water in which he was cooked. Remove head, tail, skin and bone, and cut him up into moderate mouthfuls. Place an iron pot on the galley fire. When it is hot throw in a lump of butter and six onions sliced finely. When the fragrant odor of the onion arises throw in your fish. Cover the pot close so that the fish may absorb all the flavor. Then add potatoes in very small quantities and some of the broth the fish primarily simmered in, and wait till it is cooked and then ask a blessing and eat it. One hint and then I am done. Let each man flavor his own dish. Don't you as sea cook usurp a man's rights. Provide the usual

condiments and sauces, pepper and salt, etc., but otherwise allow the true disciple of the goddess Gastronomica to reach his goal by means of his own.

By using a little judgment and common sense one may easily avoid the "grub-spoiling" stage, and be able to boil a kettle of water without burning it, and finally master the art of making a cup of drinkable coffee, tea or chocolate, and of cooking a few simple dishes, which will agreeably vary the monotony of canned viands, which are distasteful to many of our *jeunesse dorée* under any and all circumstances, sardines alone excepted, which seem never to clog on even the most jaded palate.

Hardtack should be stored in airtight canisters, or it will soon become "soggy" and lose its dry crispness and wholesome savor. A glazed earthenware jar in the ice box makes a very capital receptacle for butter.

With regard to beverages tastes will differ. Bottled beer is rather too bulky. California wines are wholesome and moderate in price. Some of the growths are equal to the produce of any foreign vineyard. In making out your list of liquid stores do not omit a bottle of old brandy for medicinal purposes, and take care to reserve it for a real emergency, never opening it, no matter how parched your throat may be or how plaintively your chum may cry out for a "nip." Brandy has often saved life, and on general principles it is unwise to

divert medical stores from their proper sphere of usage. Some racing yachtsmen quench their thirst with ice water qualified with a drain of Scotch whiskey or Plymouth gin. Both of these drinks are recommended by many fleet surgeons of my acquaintance as being wholesome when taken in moderation. But it is as hard to prescribe a man's food or drink for him as to induce him to follow advice on how to dress. The foregoing hints are, therefore, given with good intent, and with no desire on my part to ram them down my readers' throats.

Beware, however, of the amateur "grub-spoiler." He will play havoc with your larder, and make you use language which your spiritual director would highly disapprove. There is much truth in the aphorism that heaven sends cooks and that "grub-spoilers" come from "the other place."

With reference to remedies for seasickness I can offer only one suggestion. Ice bags for the spine, nitrite of amyl to inhale, chloral to take internally, are among the many nostrums recommended. Personally I have witnessed many marvelous cures by judicious doses of dry champagne, or, in default of this beverage, brandy and soda taken ice-cold. Sweet champagne seems to aggravate rather than relieve the awful nausea.

Do not fail to take a good supply of lemons and limes with you when bound

on a cruise. They are excellent for the compounding of temperance and other beverages.

Do not fail to include in your list of necessaries a nautical almanac, which is full of useful information. Among the subjects are the time of sunrise and sunset, lighthouses and lightships, the moon's phases, compass variations, tide tables, etc. Do not leave it ashore as did the Dutchman his anchor.

Watertight sailcovers are great safeguards against mildew, but should not be used to cover sails already wet. Dry your sails thoroughly before you furl them snugly. If wet, leave them in loose folds secured with a stop or two.

If your boat is bigger than a Herreshoff thirty-footer, which has no accommodations at all, by all means get into the wholesome habit of sleeping aboard and thus avoid the temptations in the way of dissipation which the shore has extended to mariners since the days of Jason and the good ship *Argo*. Remember that a windsail judiciously set to catch every stray breath of air, with its lower end down the forehatch or the cabin skylight, will keep the air below sufficiently cool for comfort, and refreshing sleep will follow as a matter of course.

It is quite the correct thing for the owner of a racing yacht to invite a friend or two to go with him on a cruise and to accept their help in racing the yacht in the daily runs from port to

port. For the benefit of those not well acquainted with the etiquette of yacht racing the following suggestions may be of use :

It is well for all hands to get aboard in good time, so as to have ample opportunity to prepare for the business of the day. I will take it for granted that you are properly clad for the work ahead, that you have left your frock coat and gafftopsail hat ashore, where they belong, and that your apparel is suited for the occasion. I am no Beau Brummel, to act as *arbiter elegantiarum* in the matter of attire afloat or ashore, but I have seen some queerly rigged specimens of amateur sailors in my time, and have observed what an amazing fund of fun they furnish to the curious onlooker surveying the scene from the outside. Gorgeous "blazers," silken sashes of variegated hues, acting as soul and body lashings round the midship section and supporting trousers of spotless white jean, with the accessories of an expensive straw hat, a "biled" shirt, silken hose and pipe-clayed deck shoes—all these may look ornamental and captivating, but the common-sense element of utility is lacking. Such bright plumage may be suitable for the deck of a steam yacht with pretty girls aboard, or for the casino of a swell seaside resort, but a simple suit of flannel and a white duck yachting cap is the sort of garb best adapted for the work to be tackled.

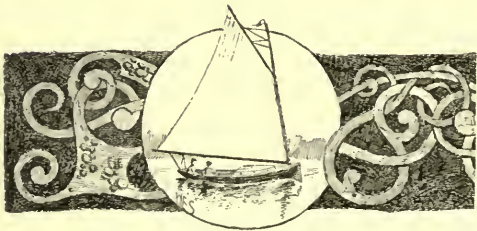
For prudential reasons, in this uncertain climate a fellow should take his "oilers" along. Even as I write I am reminded of the advisability of this by certain unpleasant rheumatic twinges which rack my old weather-beaten hull, and which might perhaps have been avoided if I had kept myself drier in my youth. Let no "freshie" take an umbrella aboard, as it is a breeder of bad luck, and if there happens to be an old sea-dog in the craft, ten to one he will seize an early opportunity of surreptitiously heaving it overboard—a proceeding which every right-minded mariner will cordially approve.

Do not burden yourself with walking-cane, field-glasses or camera, no matter how devoted you may be to the art of amateur photography. There is a time for everything, and your special duty during the match will be to pull and haul on ropes, to stick out to windward as far as possible when the yacht is close hauled, and to hop lively about the decks as occasion requires, never heeding salt sea water coming aboard in showers of spray from the ocean, or the drenching downpour from the open heavens.

It will occur to you that the fancy attire to which I have alluded above will be inappropriate to any but the calmest and sunniest weather. Enough said! If you wish to gratify the heart of the yacht-owner you will invest in a close crop and a clean shave prepara-

tory to reporting aboard, and will carry nothing but a knife and a handkerchief in your pockets, leaving your jewelry and watch and keys and other personal bric-à-brac ashore. If you should chance to fall overboard during the race you will not feel sorry if you availed yourself of this valuable hint, for salt water plays the devil with the works of a timepiece, and but few watch-cases are actually fluid-proof. Besides, every ounce of superfluous weight militates against the speed of a craft, and "mony a mickle makes a muckle."

One final word to the yacht owner. Be careful of the guests you invite. The sea frequently develops the harmless shore crank into a most detestable nuisance afloat. When once he is aboard the law does not permit you to heave him overboard.



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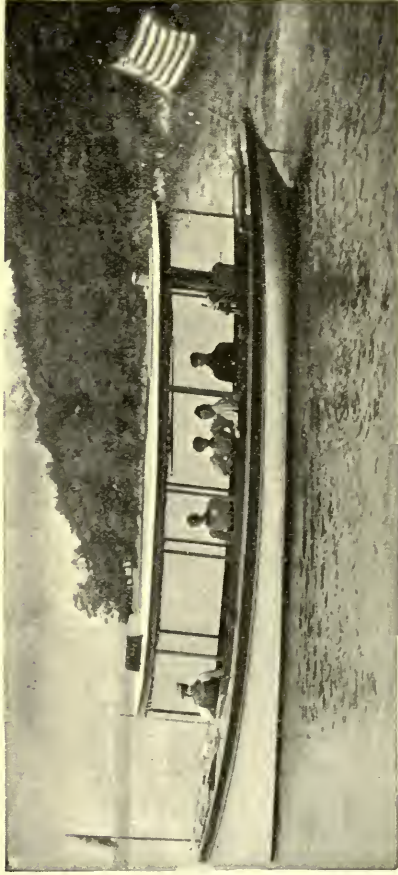
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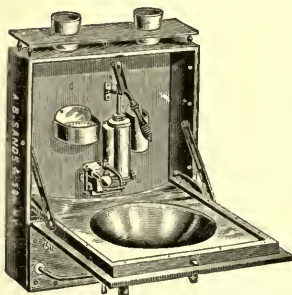
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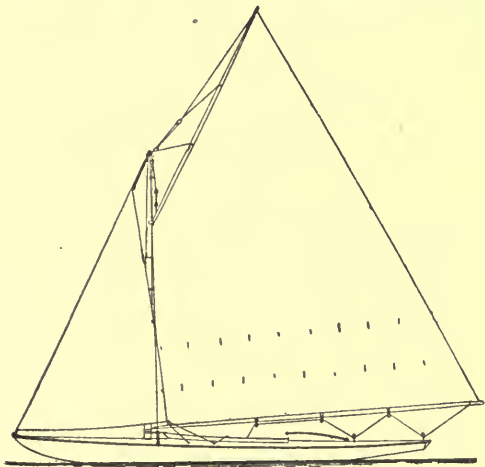
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