

Photo. by J. R. Johnston, N. Y.

THE THIRTY-FOOT CLASS.

By R. B. Burghard.

*"Finished now from keel to carline,
Never yet was seen in Norway
Such a wondrous thing."
Saga of King Olaf.*

THE thirty-foot class sprung suddenly into existence at the opening of this season as the result of a well-directed plan conceived by certain members of the Larchmont Yacht Club to develop competitions between one-design yachts; to eliminate as far as possible the factor of boat differences and to excite emulation among helmsmen competing on equal terms.

A wonderful fleet of small yachts has resulted, the Herreshoff Manufacturing Company having built about a dozen of them, all from one design and precisely alike in model and rig. The fleet was augmented by the addition of boats from the designs of William Gardner and H. C. Wintringham, but the Herreshoff model is *facile princeps* in speed. Indeed it may be safely said that these boats are the fastest of their size ever built. They are faster in a good sailing breeze than the old forty-footers, and they are almost equal to the very fast thirty-fours.

The racing of identical, or similar boats, has been in vogue of late, and good sport has been the result. The special classes, known as the thirty-four-footers, of which *Dragoon* and *Acushla* are the champions, and the twenty-one-footers, including the *Celia*, *Houri*, and *Vaquero*, not to mention

the "knockabouts" of Boston Bay, the Seawanhaka one-design cat-boats and the half-raters of the New York Canoe Club and the Tappan Zee Yacht Club—these have all afforded lively racing.

It occurred to the racing geniuses of Larchmont that there lay great possibilities in a one-design class of racing yachts of thirty or thirty-five feet racing-length. Boats of such size would develop the capabilities necessary to the handling of a large yacht, and yet could be worked by a small crew; a fleet of them could readily be kept together through a long season, provided the interest held out, without great expense of maintenance for each boat.

The scheme was discussed and developed, and soon a sufficient number of yachtsmen volunteered to build; and a set of rules for the class was drawn up. It appears that the original intention was to develop the existing thirty-four-foot class, and, although the results have been far to the contrary, to build healthy, seaworthy boats, fit to live on.

Mr. Herreshoff was consulted, and his advice materially altered the original plan. It is said that the famous designer refused to have anything to do with the thirty-four-foot class, as it existed under the Larchmont rules, on the ground that he was unwilling to build a thirty-four footer which could be beaten by a twenty-five-footer. Taking a thirty-foot water-line as a basis he suggested a set of restrictive rules, which, instead of barring racing machines, have encouraged their production.

The following rules were formulated:

Length of wafer-line between twenty-nine and thirty feet with crew and all racing equipment on board. Boats to be marked on how and stern by measurer.

Sail area to be between nine hundred and fifty and one thousand square feet.

No time allowance.

Length over all not to exceed forty-three feet. Cockpit and cabin house to cut away deck not more than fourteen nor less than thirteen feet in length, with cabin trunk not less than six feet nine inches long. Breadth of cockpit and cabin trunk to be two-thirds beam of yacht. Top of crown of cabin trunk to be not less than twenty inches above deck at gunwale for two-thirds of the length of cabin trunk. Cockpit to have a rising around it not less than seven inches high, unless cockpit has floor above water-line and is water-tight.

Crew limited to four, three of whom may be paid hands. A lady, however, may also be carried.

Ballast to be permanent and all outside of hull.

A metallic centerboard, or one weighted for the purpose of increasing the stability, not allowed.

Draft of water, without centerboard, not to exceed seven feet two inches.

Rig to be "jib and mainsail," with the mainsail not more than seventy-seven per cent of sail area. Sail area to be the area of mainsail

Racing equipment to include: Anchor of not less than thirty-two pounds, forty fathoms of one and three-quarter inch cable, pump, bucket, boat-hook, five life-preservers, signal light, compass, fog-horn, sounding lead and line, and two cushions not less than six feet long, one and a half feet wide and three inches thick.

While these restrictions appear, to call for a boat with trunk-cabin and ample cockpit, and carrying a simple, handy rig, and while they naively suggest the inviting of lady passengers, yet as far as encouraging a handy or comfortable boat is concerned, they are a delusion. The rules even go so far as to practically make fin-keels imperative, although the home waters of the fleet were to be in the western end of Long

Island Sound, where the safest harbors for small yachts are nearly all shallow. Ballast must all be outside, and weighted centerboards are barred.

The result has been that while these boats are confessedly the fastest of their size now built, they have, in nearly all cases, failed to attract the personal interest of their owners.

They have been sailed by paid skippers or turned

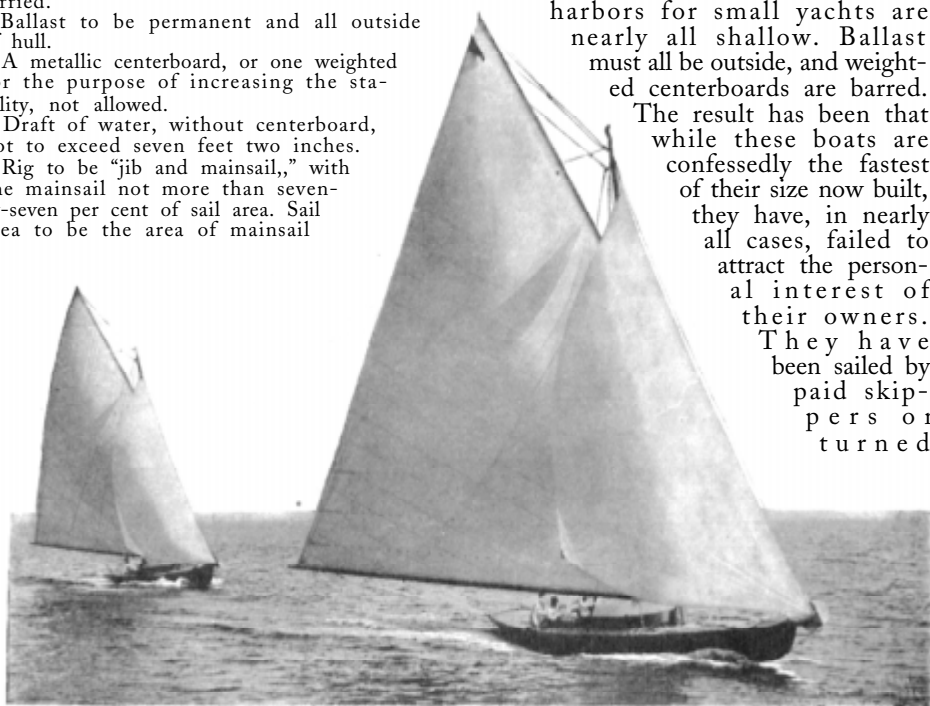


Photo by J. S. Johnston, N. Y.
MUSME.

MAI.

when dry and well stretched—boom and gaff to be marked by measurer—plus area of forward triangle. The measurements for forward triangle to be: Base, distance from tack attachment for jib to forward side of mast. Altitude: deck to bottom of highest block, or sheave, used to set jib or spinnaker.

A spinnaker may be used, and the length of the spinnaker boom, from outhaul attachment to center line of boat, when swung out square, must not be more than length of base of forward triangle.

over to expert amateurs by their owners, who, as a rule, seldom go aboard of them. The notable exceptions to this practice are those of Mr. Herman B. Duryea, who has sailed the *Vaquero III.* throughout the season, and Mr. Ralph N. Ellis, who has sailed the *Hera* in many of her races and *Puck* sailed by her owner, E. D. Morgan. When one views the accommodations on these boats, and

witnesses their performances in any kind of water other than a smooth sea, the apathy of the owners, who are accustomed to sea-worthy yachts—and are for most part owners of them—is to be condoned.

These boats are simply large, decked canoes, without bulkheads, open from end to end, with no interior fittings save

Added to these drawbacks the Herreshoff thirties—I know some of them and believe all of them—were turned out with a lee helm. Every sailor-man knows what a source of annoyance this condition affords.

It is decidedly unpleasant for one to drop his tiller for a moment in an emergency, and have his boat fly off

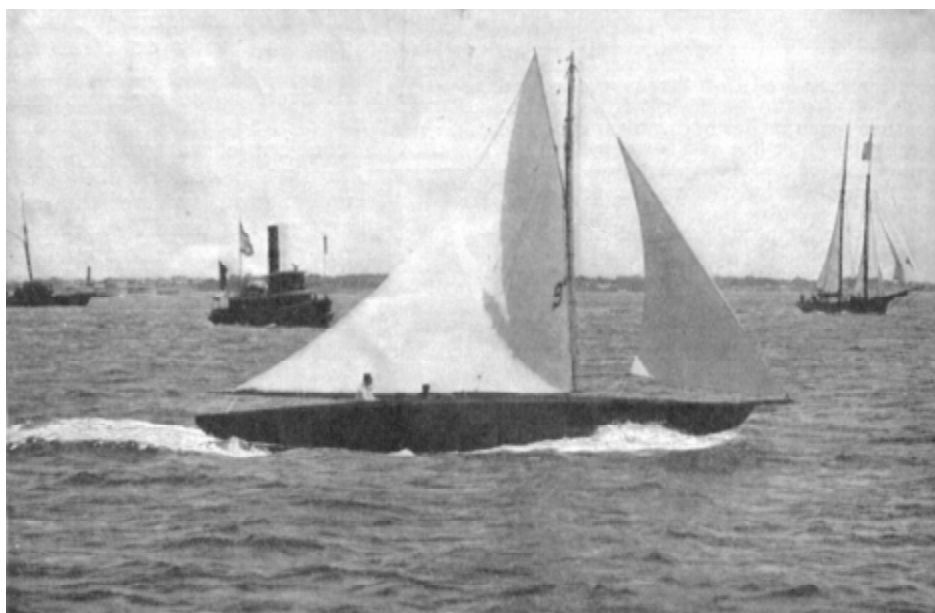


Photo by J. S. Johnston, N. Y.

MUSME.

a couple of seats. There is not sufficient head-room to stand erect. One would never stay in such a cabin except to keep out of the wet. But in these boats the skipper is never out of the wet when the win blows. It is safe to say that they are about the wettest boats afloat. To windward or to leeward, in a sea, the wash from under the bows breaks over both decks; the back-stays plowing through the sea send a shower of spray into the cockpit and over the unhappy helmsman. One who has served successfully as the skipper of one of these boats has admitted that at times he has scarcely been able to see the cabin-house, eight feet ahead of him, through the drenching sheet of spray. In view of these facts, the cordial suggestion of the rules that "a lady, however, may also be carried" is very comforting.

the wind and jibe on its own account. Old-fashioned writers used to say that this would be all wrong and positively dangerous; that such a boat was out of trim, or her centers incorrectly figured.

The Herreshoff boats which have entered the races in Long Island Sound and their owners are as follows: *Asahi*, Bayard Thayer; *Mai*, O. G. Jennings; *Musme*, J. M. Macdonough; *Hera*, Ralph N. Ellis; *Esperansa*, A. S. Van Wickle; *Carolina*, Pembroke Jones; *Wawa*, James Stillman; *Vaquero III*, Herman B. Duryea; *Raccoon*, Th. R. Hostetter, and *Dorothy II*, H. P. Whitney. The boat designed by William Gardner is the *Departure*, owned by Clinton B. Seeley, and that from the plans of H. C. Wintringham is the *Argonaut*.

The Herreshoff boats, which constitute a majority of the class, are of a

type which would anywhere attract notice. It cannot be claimed that they are beautiful boats, though their mahogany top sides and clean, natural-wood decks give them an up-to-date appearance.

The accompanying photographs and diagrams offer a fair conception of a boat of this class.

Denuded of mast and sails, its long, straight sides might give it the semblance of some new-fangled torpedo chaser. The cabin-house is fat and ugly, and probably would not have been as prominent as it is had it not been for the stipulated requirements.

A long, slender hull, very long, pointed bow, as seen on the deck plan, but not long on the sheer plan. That is, the sides of the boat begin to come together just forward of the mast, and

The bottom is round and smooth like a Peterborough canoe. There is no visible keel. It represents the canoe type as opposed to the old-fashioned keel type, or the flat-bottomed sharpie type, of which *Departure* is an example. The bow is of the type familiar in Long Island Sound in such boats as *Dragon*, the cat-boats *Volsung* and *Presto*, and the Herreshoff half-raters *Olita* and *Gnome*. It is not spoon-shaped nor "shovel-nosed," but is long and sharp like that of a sailing canoe or racing gig, and it terminates in a sharp, round stem. The stem itself overhangs the water and does not enter it while sailing on a smooth sea. Thus the entrance is always on the curved lines of the bow, and no matter how the boat is heeled she sails on easy curved lines, there being no angle at keel or bilge—

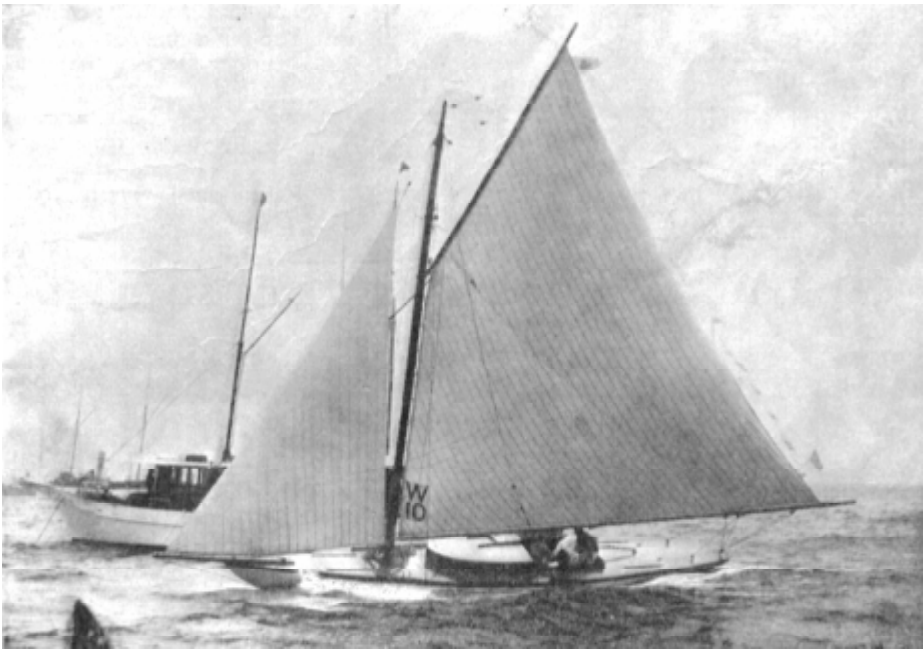


Photo by J. S Johnston, N. Y.

ARGONAUT.

the fore-deck forms a long, acute angle; looked at from the side, the boat has not a very long overhang compared with other modern boats, and it shows a gracefully rounded stem. The stern is well modeled and ends in a neat oval transom. The water-line length is a little less than thirty feet; the fore-overhang about six feet, and the aft-overhang about seven feet.

nothing to offer resistance until the gunwale goes into the water. It would seem as though there were an inconsistency in fining down the lines with such nicety to reduce friction and then have rail and backstays tearing through the water. Perhaps the next move will be on the line of Huntington's half-rater *Paprika*, in which a pronounced tumble-home is designed to keep the

deck as much as possible out of the water.

Where the long, straight sides of the bow round in to the sides of the hull, which are also nearly straight for a third of the length of the boat, there is an awkward swelling of the sides just above the water-line. The topsides of the boat are nearly straight, having no flare outward, and with a minimum freeboard of twenty-two inches.

The Herreshoff boats are built on a plank keel of oak two by ten inches at its widest, into which the outside planking is rabbeted so as to make a smooth surface. keel runs from the stem in- to which it is tapered to the stern which it joins.

The ribs are oak one and one-quarter by seven-eighths. There is an inner planking of three-eighths inch white pine, and an outer skin of one-half inch mahogany; the latter is smoothed

has been replaced with gratings to carry off the wet.

Above the floor timbers are two keelsons which support the weight of the fin. The fin itself is of three-quarter inch bronze plate supported by two curved V-shaped plates which are bolted vertically through keel and keelsons above and horizontally through the fin. The fin itself is six feet eight inches long and five feet six inches deep. The bulb is carefully molded. It is salmon-shaped, being blunt forward, widening at the center and terminating in a narrow, vertical blade. It is cast around the fin in one piece. The weight of the fin is in the vicinity of four thousand pounds.

The forward edge of the fin is placed about five inches abaft the middle of the boat. The boats are fitted with a balance rudder; that is, the rudder runs forward of the rudder-stock. This device accounts, in part,

for the great quickness of the boat in handling and sensitivity to the helm.

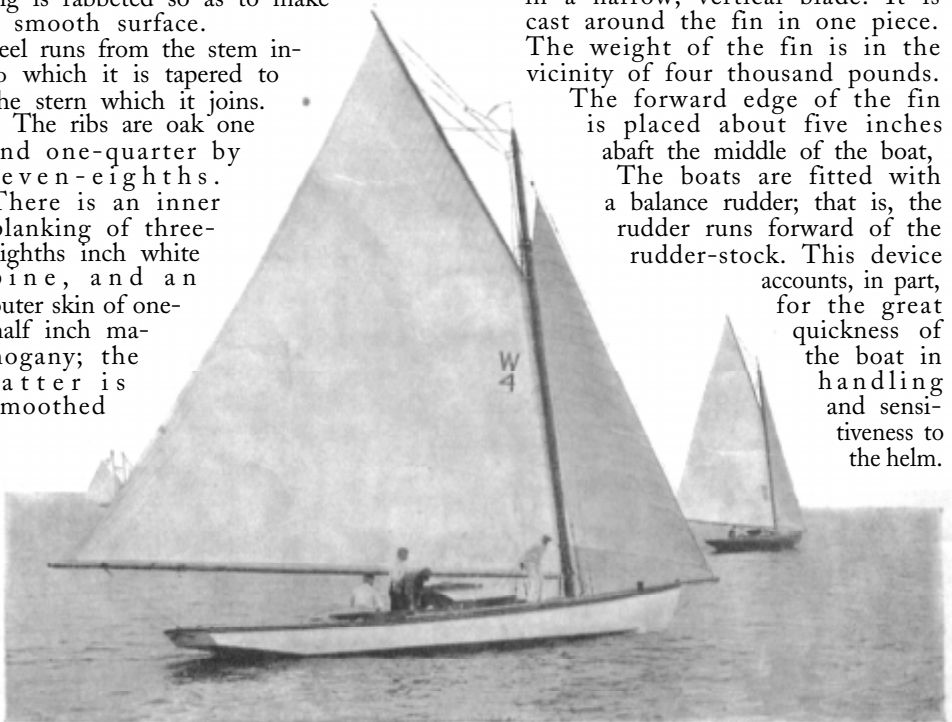


Photo by J. S. Johnston.

DEPARTURE.

down so as to make the double planking about three-quarters of an inch in thickness. Between the two skins is a layer of cotton laid in varnish.

In the construction and fittings everything is sacrificed to lightness. The deck is a single planking of white pine. In the case of the *Mai* this was, after building, covered with canvas to stop the leaking. The cabin house is rounded on top and canvas-covered. There is no companion slide. The woodwork is all of cheap pine. In some cases the planking of the cockpit floor

The general dimensions of these boats are as follows:

| | Ft. | in. |
|--------------------------------------|-----|-------|
| Length over all..... | 43 | |
| Length, water-line..... | 30 | |
| Beam, extreme..... | 8 | 1 |
| Beam, extreme at water-line..... | 7 | 10 |
| Beam, opposite the mast..... | 6 | 3 1/2 |
| Forward-overhang, about..... | 6 | |
| After-overhang, about..... | 7 | |
| Length of fin..... | 6 | 8 |
| Draught of hull..... | 1 | 8 |
| Extreme draught..... | 7 | 2 |
| Bulb projects from fin, forward..... | 9 | |
| Bulb projects from fin, aft..... | 16 | |
| Width of bulb..... | 14 | |
| Least freeboard..... | 22 | |

| | <i>Ft.</i> | <i>in.</i> |
|----------------------------------|------------|------------|
| Width of stern..... | 3 | |
| Length of cabin-house..... | 6 | 11 |
| Width of cabin-house..... | 5 | 5 |
| Length of cockpit..... | 8 | 4 |
| Width of cockpit..... | 5 | 5 |
| Height of house..... | | 12 |
| Height of cockpit coaming..... | 7 | |
| Length of rudder..... | 3 | |
| Height of rudder..... | 2 | 9 |
| Rudder is aft of fin..... | 6 | 3 |
| Width of deck along house..... | | 16 |
| Height of mast..... | 36 | 6 |
| Mast from round-band to top..... | | 20 |
| Length of boom..... | 33 | 6 |
| Length of gaff..... | 21 | 6 |
| Length of bowsprit..... | 3 | |
| Hoist of sail..... | 20 | |
| Leach of sail..... | 45 | |
| Sail area, about..... | 3,000 | sq. ft. |

The mast is stepped so that its forward part is twelve feet eleven inches from the outside of the stem-head. The mast is six inches in diameter. It is two feet from the fore-side of the house to the after-part of the mast.

The sail plan constitutes a simple jib-and-mainsail rig. There are two fore-stays, one leading to the end of the bow-

boats as two plans laid down to the same measurements will allow. She is a scientific modification of the sharpie type. Where the Herreshoff boats have only fairly-rounded lines under their bilges the *Departure* has hard angles from stem to stern. But, general appearance to the contrary notwithstanding, her sides are not straight nor is her bottom flat.

As a look at the lines herewith given will show, she is built on carefully studied curves, on a principle similar to that employed in the Huntington half-raters, and is made to sail on her side so that, when heeled over, either side will form a powerful hull. Look at the midship section. Lay a rule from the keel at an angle of forty-five degrees. Let that represent the water-line and the angle below will show what the submerged portion of the boat would be.

The double-hull principle is carried out in a peculiar way in the construction

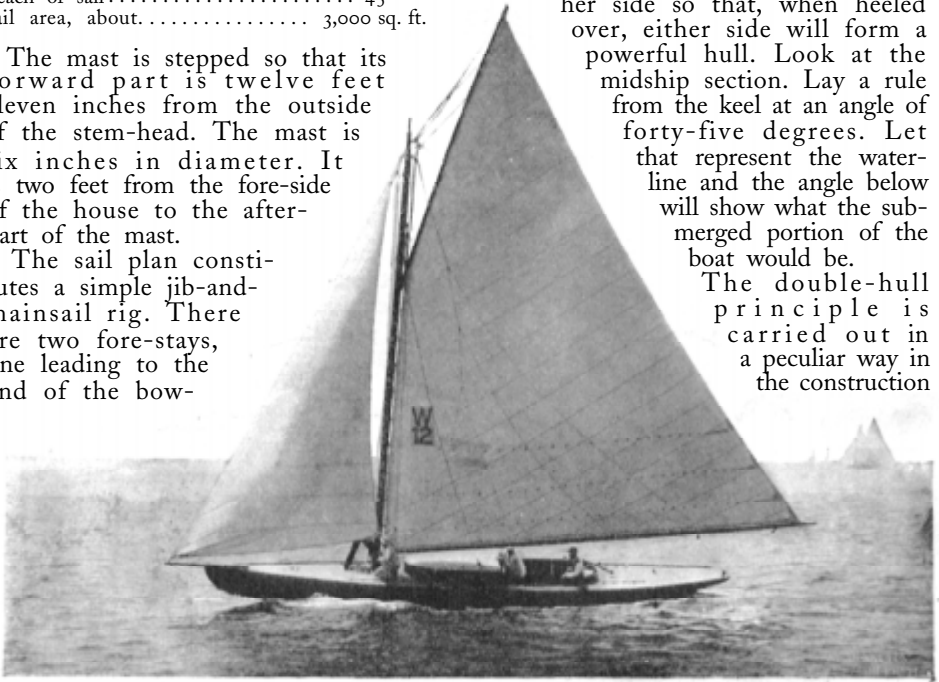


Photo by J. S. Johnston, N. Y.

DOROTHY II.

sprit and one half-way in to accommodate large or small jibs.

Spinnakers are carried in accordance with the rules, but no topsails. All the spars are solid sticks.

The Gardner yacht *Departure* is in many respects a remarkable boat. She was built by W. E. Hunt, of Bridgeport, Connecticut. She has pluckily maintained an unequal fight throughout the season against the large fleet of Herreshoff boats with a creditable showing. She is sailed by her owner, Mr. C. Barnum Seeley. Her design is about as different from that of the Herreshoff

of the boat. The bottom of the boat at the midship line, from bow to stern, is smooth and rounded, save for the fin. The keel, like that of the Herreshoff boats, is a flat, oak plank, one and a quarter inches in thickness, and flush with the planking. Inside of either bilge there is a separate, heavy, oak timber running from the foot of the stem-piece to the stern—a separate keel, as it were, on each side of the bottom of the boat. These are fundamental parts of the construction, in that the floor-timbers are joined into these bilge-pieces below, and the ribs along the sides

of the boat are set into them from above. The bottom and the side-timbers, joining these fore-and-aft timbers, or bilge-keels, are quite similar to the ribs on the opposite sides of a vessel joining a central keel. In the usual construction, as in the Herreshoff thirties, the ribs run from keel to gunwale. So, in the *Departure*, we have, not only in design,

plate; five feet two and a half inches deep at its forward end and five feet four and three-quarter inches deep aft. It is five feet six and a half inches long. Its ends are not perpendicular, as in the Herreshoff fins, but have a slight rake aft. The fin and bulb draw seven feet. The fin weighs eleven hundred pounds. The bulb originally weighed six thou-

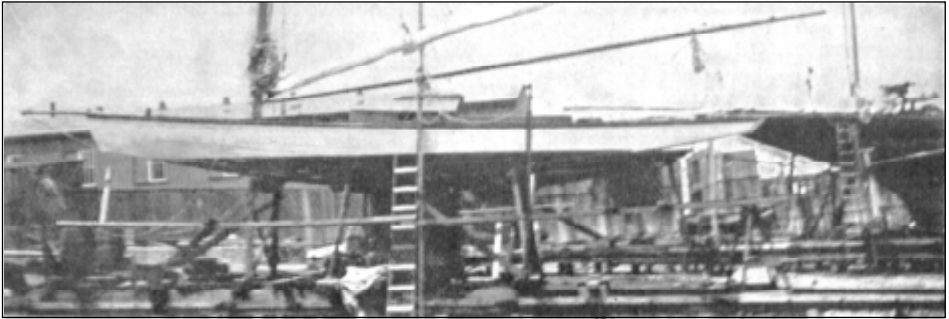


Photo by R. B. Burchard.

DEPARTURE.

but in construction, two boats joined by a central keel.

As in the other boats, above described, there are two keelsons laid above the floor-timbers, about a foot apart amidships and tapering together at the stern. The bolts, which hold the

sand pounds, but it has been cut down to four thousand pounds.

The topsides of *Departure* are double planked; cedar outside, pine within. The bottom consists of a single pine planking. The deck is pine; the cabin house and cockpit arrangements are

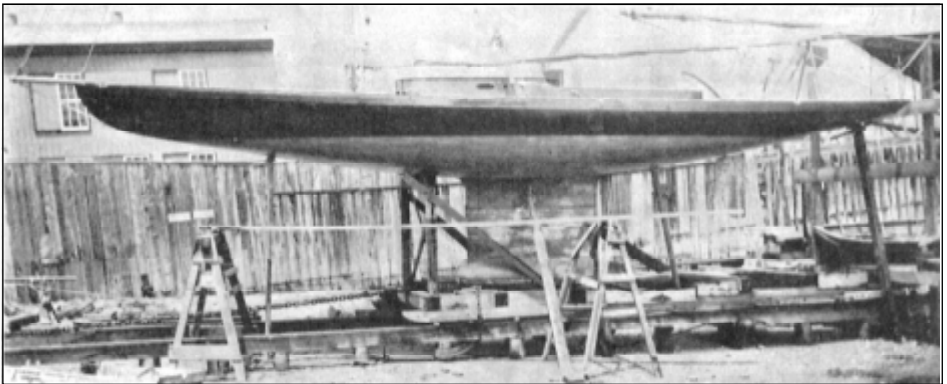


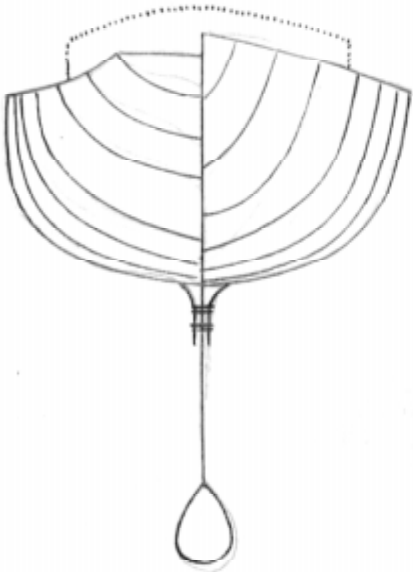
Photo by R. B. Burchard.

HERRESHOFF BOAT, "MAL."

iron flanges, which in turn support the fin, pierce the floor-timbers and the keelsons on either side of the central line of the boat. There is a short overhang of the flat bottom forward and a long overhang aft.

Inside, all is open and unfinished, as are the other boats of the class. The fin consists of a three-quarter inch steel

similar to the other boats of the class and built in conformity with the rules. The boat is fitted out with Sawyer's sails and hollow spars. The general dimensions are the same as those of the Herreshoff boats. Length over all, forty-three feet; extreme beam, eight feet one inch. Draught of hull, two feet; extreme draught, seven feet.



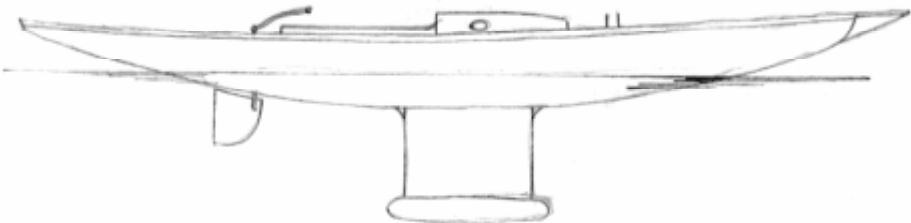
CROSS SECTION. HERRESHOFF BOATS.



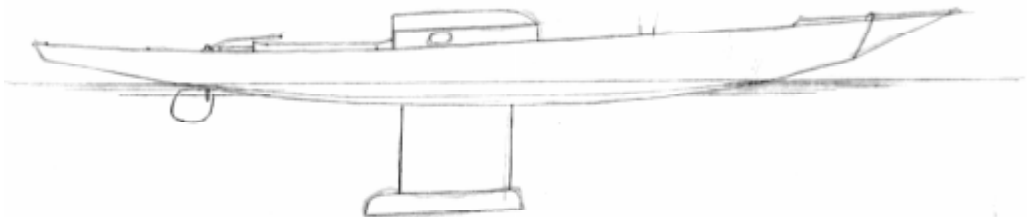
CROSS SECTION. GARDNER BOAT, "DEPARTURE."

In the first races throughout June on New York Bay and the western part of the Sound, *Asahi* won a majority of the races. In July she was taken to Newport where she continued her successes over the boats in that locality. After her departure from the vicinity of Larchmont, the *Mai* underwent certain changes of trim, under the direction of B. Frank Wood and L. D. Huntington, Jr., which corrected her lee-helm and so increased her speed that she was generally first at the finish.

The *Musme* was generally sailed by John F. Lovejoy, chairman of the Regatta Committee of the Larchmont Club; *Raccoon* is handled by Al. Gomacho; *Wawa*, by Edmund Fish; *Mat*, by L. D. Huntington, Jr., the designer and builder. The other boats, excepting *Hera* and *Vaquero III.*, which are sailed by their owners as above noted, are all sailed by professional skippers, Capt. Aubrey Crocker having charge of *Esperanza* and Capt. Nathan Watson sailing *Asahi*.



SHEER PLAN. HERRESHOFF BOATS.



SHEER PLAN. GARDNER BOAT, "DEPARTURE."