

Atlantic

The original record holder

Still turning heads after a century, William Gardner-designed *Atlantic* was the fastest transatlantic sailboat for over 75 years

BY JACK GIFFORD

Her illustrious history aside (the subject for a much longer article), here we seek to plumb the depths of *Atlantic's* 1903 design, which has endured through living legend status to her 2010 reincarnation, and is still turning heads.

Wilson Marshall entrusted the design of his next yacht to American naval architect William Gardner – a man exceptionally well travelled, well educated and broadly experienced, whose resumé reveals an inquisitive and intelligent character with a true passion for his field of expertise. Gardner was known to be a creative and artistic designer, but rarely a proponent of rule-cheating freaks or experiments. *Atlantic* cuts a figure not dissimilar to the sailing ships, fishing schooners and large yachts of her time, and was launched a well honed (even conservative) combination of tried and tested design themes. Gardner had faith that in purposeful and well engineered design, beauty would follow. Appreciation of such an approach is key to understanding the nature of this vessel. Without the confines of a rating rule, you would be forgiven for thinking that her lines are the result of some good maths and a trained eye, but *Atlantic's* success goes a lot deeper than that. Her hull lines are much more refined than her commercial contemporaries.

With no concern given to payable deadweight, only comfort and speed (she was not designed to race), a tight turn of the bilge is permitted, giving an almost vertical-sided keel in an effort to maximise upwind performance and minimise wetted surface area. Unlike the slack-bilged fishing schooners or softer curves in the midbody of *Westward* (1910), *Atlantic* carries the same depth of bilge but wastes nothing around the keel. This concern for upwind performance is evident in the fact that despite being launched with a centreboard (not uncommon at the time), it was soon to be removed. Perhaps Gardner realised what is now widely accepted – that they just don't work on large-displacement yachts.

She was subsequently modified prior to the 1905 Kaiser's Cup Transatlantic Race to carry all external ballast in works that further defined her keel and no doubt greatly improved her righting moment. The stiffening effect almost certainly paid dividends in windward ability compared with the negligible effects of a centreboard.



Above: *Atlantic's* designer, the American naval architect William Gardner – well travelled, well educated, broadly experienced, and with a true passion for his field of expertise

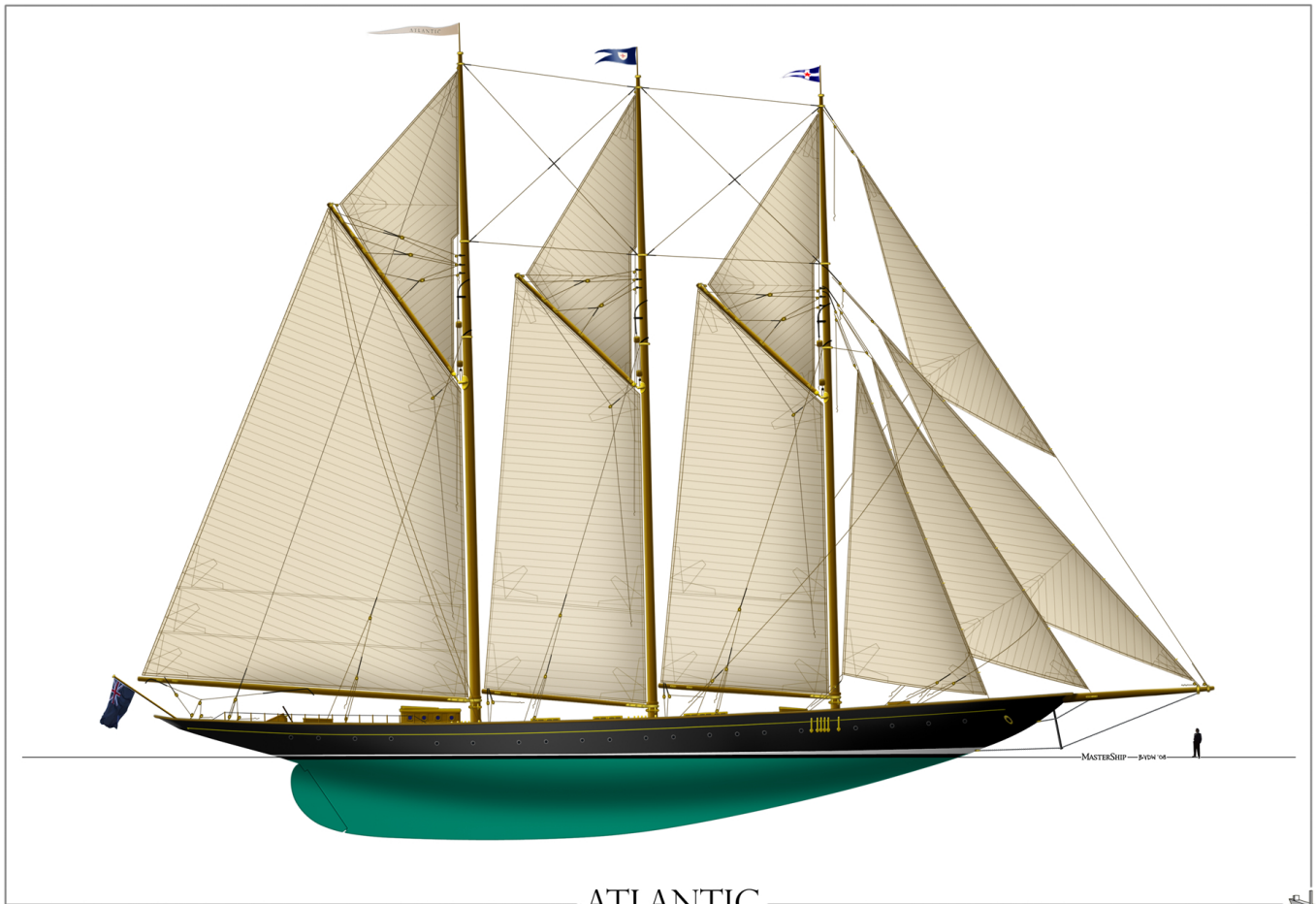
The lack of excess volume in the midbody is clear when studying the lines plan and even more obvious on the water from the conspicuous absence of a large midship trough in the wave train. In a fashion not uncommon to schooners but perhaps more pronounced in *Atlantic*, the 'centre' of the hull is in fact well aft of midships. The centre of buoyancy, centre of lateral resistance and centre of the waterplane are all between 5 and 13 per cent of the waterline length aft of midships. By comparison, in a modern-day racing gaff cutter, a figure in the region of 5-7 per cent might be expected aft of midships. The elongated pear shape of

the waterplane, with its fine entry and long run aft to her large maximum beam, places the centre of volume well aft of midships, promoting surfing and the quick transition into the quarter wave. It is easy to see how this boat can just run and run for days on end along ocean swells. The long, fine run of the waterlines creates so little disturbance in the water that by the time the quarter wave has formed past the maximum beam (at 63 per cent of the waterline) to roll up under the counter, it is soon dispersed and gone. True efficiency.

The brilliant Doug Peterson put it best while lying on deck staring aft, muttering: "This boat pushes the ocean apart, adds a fine layer of foam and then folds it back together at the other end without the slightest fuss."

Centred (not uncommonly) directly above midships, the full upwind sail plan has a geometric lead of 11 per cent, more commonly displayed by short-course racers than ocean passage makers. The combination of a powerful and versatile rig with the directional stability of a long-raking keel makes for the perfect combination, which is not only able to deal with, but even perform in, all oceanic conditions. Such dependable characteristics have well served the crews of *Atlantic*.

L Francis Herreshoff noted of one renowned skipper who took her to victory in 1905: "Charlie Barr wasn't a man who drove a boat unnecessarily, though he did wear thigh waders at the helm of *Atlantic*." When he was done, *Atlantic* had set a transatlantic sailing record that would stand outright for over 75 years.



ATLANTIC



ATLANTIC
 DESIGNED
 William Gardner
 BUILT
 Townsend and
 Downey shipyard,
 Shooters Island,
 New York
 TYPE
 Three-mast gaff-
 rigged schooner
 LOD
 222ft 8in (69.4m)
 BEAM
 29ft (8.8m)
 DRAUGHT
 16ft 1in (4.9m)
 SAIL AREA
 18,500sq ft
 (1,720m²)

Clockwise from above: The final days of *Atlantic* at dock in Norfolk, Virginia in 1982; Barr at the helm of *Atlantic* with owner Wilson Marshall (centre); crossing the finishing line; Charlie Barr

