



## PILGRIM AND JUBILEE: INNOVATION 100 YEARS BEFORE THE AMERICA'S CUP CLASS

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*"They are all built with hulls of shallow draught and the lightest possible construction, the smallest possible displacement, with stability afforded by a heavy weight bolted to a deep keel or fin."*

### The Boat

**The most 'popular' boat | Building the dream | Innovation 100 years before | Building speed | The twin-keel, a hundred year-old dream | One boat or two? | Taking up the challenge | The Balance of Power**

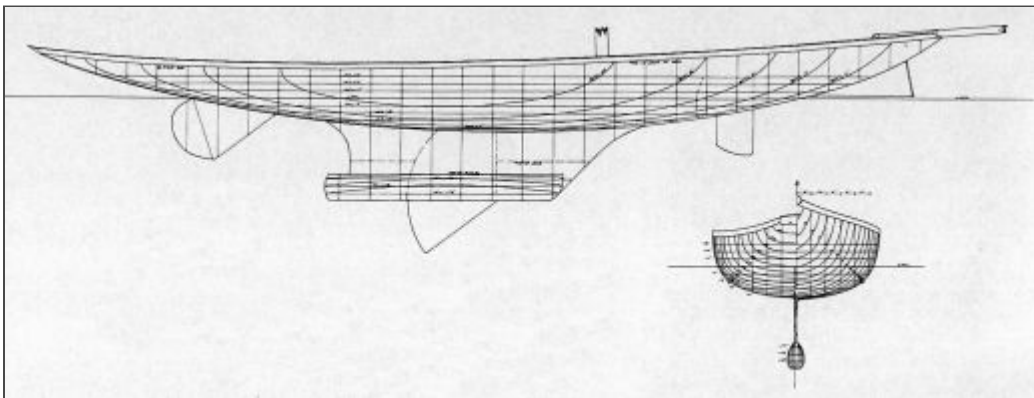
Those were the terms that described the fin keels used at the end of the 19th century, but it's a description that would be apt for the America's Cup Class boats sailed today as well.

### 1893: Four defence candidates were designed in the greatest secrecy

When Royal Yacht Squadron member and owner of *Valkyrie II* (George L. Watson design) Lord Dunraven challenged for the 1893 America's Cup, the Americans set up the biggest America's Cup defence campaign since 1870. Four candidates were built in the greatest secrecy.

George A. Stewart, the designer of one of the defenders, *Pilgrim*, explained, *"Secrecy, at least in the primary stages of a yacht's development has become a rule among designers."* That hasn't changed since.

It was in this context of paranoia that Nathanael Greene Herreshoff modelled two boats for two rival New York groups - *Colonia* for Archibald Rogers's syndicate and *Vigilant* (future 1893 America's Cup winner) for a group lead by Edwin D. Morgan and C. Oliver Iselin. Also, two rival Boston teams also undertook defence candidates; Bayard Thayer's Boston Syndicate which placed an order for what would become *Pilgrim* to Stewart & Binney's design office and General Charles Jackson Paine, who had three victorious Cup defences with *Puritan* in 1885, *Mayflower* in 1886 and *Volunteer* in 1887. He asked to his son John B. Paine to draw up *Jubilee*.



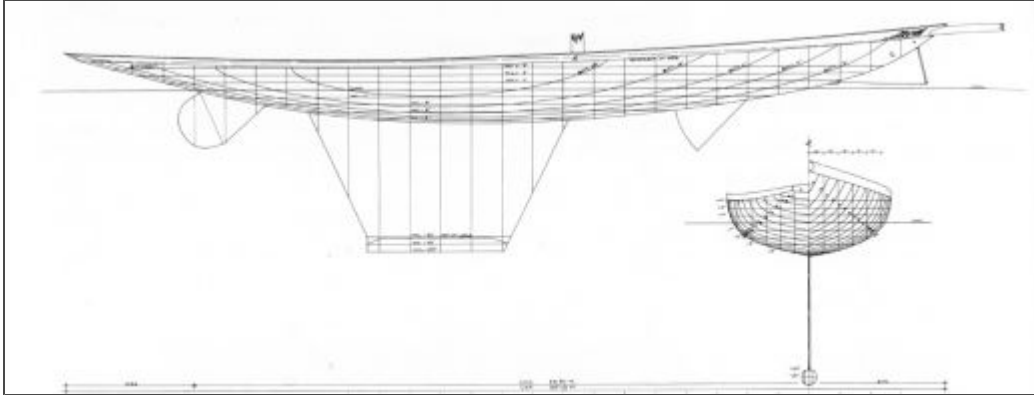
Jubilee

### *Jubilee and Pilgrim: back to the future*

Thus, in the greatest secrecy the boats were conceived and then built. When the two Bostonian yachts were revealed, the surprise was general: these boats, both revolutionary in their concept, appeared to be of the same

family, despite each group working independently of the other. By comparison, the two other candidates that came from Nat Herreshoff's imagination were almost conventional.

But **Jubilee** and **Pilgrim** had been inspired by another Herreshoff creation, the small **Dilemma**, modelled in 1891 (and **Jubilee** could be seen to have been influenced by another Herreshoff model, the 1892 **Wasp**). **Dilemma** was the first modern fin-keel deserving of this name, a floating testament to its designers inventiveness, the skill of the builders and the boldness of the yachtsmen who set sail aboard her.



Pilgrim

**Jubilee** and **Pilgrim** were immense steel fin-keels: their body was canoe shaped, a beautiful example of early light displacement, and the hull was fitted with a keel formed by a veil at the end of which was fixed a lead bulb of ballast shaped like a cigar. The rudder was separated from the keel.

This approach was futuristic and constituted a remarkable breakthrough, especially by the shown dimensions. These were, for time, stunning: 37.13 m LOA and 25.90 m LWL, 923 metres<sup>2</sup> sail area and 90 tons displacement for **Pilgrim**.

**Jubilee** was similar at LOA 38.18 m and LWL 25.45 m, 1030 metres<sup>2</sup> sail area and 95 tons of displacement. By comparison, the LOA of an America's Cup Class is 24 metres. Regrettably, after 1901 (the Universal Rule) and especially 1906 (with the International Rule) and for most of the next 60 years, yacht design and naval architecture was restricted by very tight and conservative design rules, favouring heavy displacement boats and discouraging innovation. The 12-Metre boats that next reigned over the America's Cup between 1958 and 1987 were a perfect illustration of this.

But returning to **Jubilee** and **Pilgrim**, they were, in 1893, exceptional and audacious crafts. To observe closely their modern offspring such as the Tempest class, the Soling and the America's Cup Class, is to see the power of this early design breakthrough.

#### Racers with great potential, victims of their fragility



Pilgrim

This curious pair of America's Cup defence candidates were also fitted with a small forward centreboard just set back from the bow. This appendage was intended to strengthen the course stability of the boat in light wind conditions. **Jubilee** distinguished itself from **Pilgrim** by having a second steel centerboard, which moved inside the veil of the fin-keel and worked through the lead ballast.

*"These two Boston boats show the possibilities of the fin-keel design. It is the form which gives the maximum of sail carrying power to the minimum of displacement,"* was the assessment from a delighted George Stewart. And early tests on the water proved that in light winds, these sloops easily reached 13 to 14 knots of boatspeed, an impressive achievement.

But Stewart also noted, *"All of these experiments, while adding greatly to the potential speed of the boat, also increase the possibility of failure."*

Regrettably, the facts were going to prove him prescient. On September 7th, 9th and 11th, 1893, Defender selection trials were sailed off Sandy Hook. More reliable, **Vigilant** dominated all three times over the Boston boats which suffered various incidents. They succeeded in finishing only in the second race when **Jubilee** earned second place and **Pilgrim** finished third.

Extreme racers and deserving ancestors to the current America's Cup Class of boats, these two were truly a technological breakthrough. But the materials of the time did not allow the boats to reach the necessary

reliability that would allow them to sail at full potential. The experiment was not in vain for Herreshoff and other designers were inspired by it, in many facets of their future designs.

*Pilgrim* was altered for use as a steam yacht and acquired by the US Navy in 1917. It disappeared in 1935 having been used for fishing. *Jubilee* remained rigged for sailing, but its record is lost after 1911. Despite having sunk into oblivion, these two fantastic sloops are nevertheless a part of the most surprising and the most spectacular boats the America's Cup has inspired.

Jacques Taglang / pr

Photo credit: collection Chevalier-Taglang

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