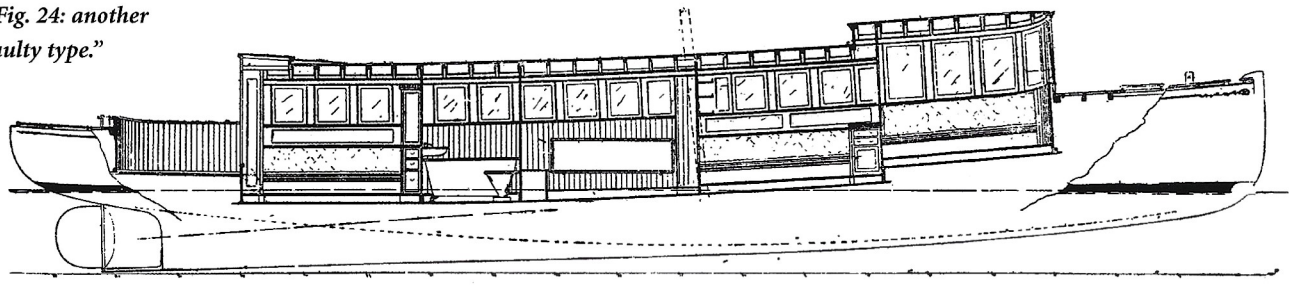
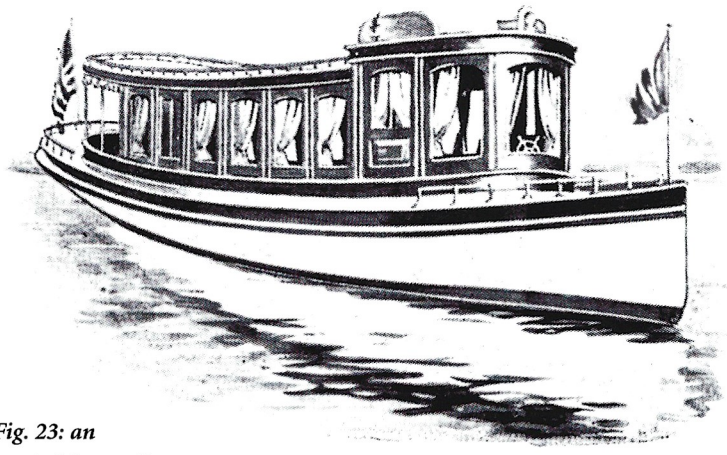
The designers

The French hydroplane and Harmsworth Trophy winner of 1904, *Trèfle à Quatre*, was something special. Essentially flat-bottomed, she also had a broad transom stern and "travels wonderfully clean through the water, making very little bow wave, and leaving practically no quarter wash." She was engined by Brasier and built by Sayler, but, mused *The Motor Boat*, "it would be interesting to know who the designer really is." It was a far cry from more recent revolutions, when designers have often sought the credit due to them – and the magazine has always given it.

Motor Boat & Yachting has always been fascinated by boat design, whether for speed, seaworthiness or style. Its very first issue saw the launch of a major series of articles outlining the many 'Types of Power Craft' that even in 1904 could bewilder the novice with their variety and complexity. River launches, towing craft and cabin cruisers were described and illustrated, while the particular characteristics that made them suitable for their designed tasks were examined in detail. And like his modern counterparts, the

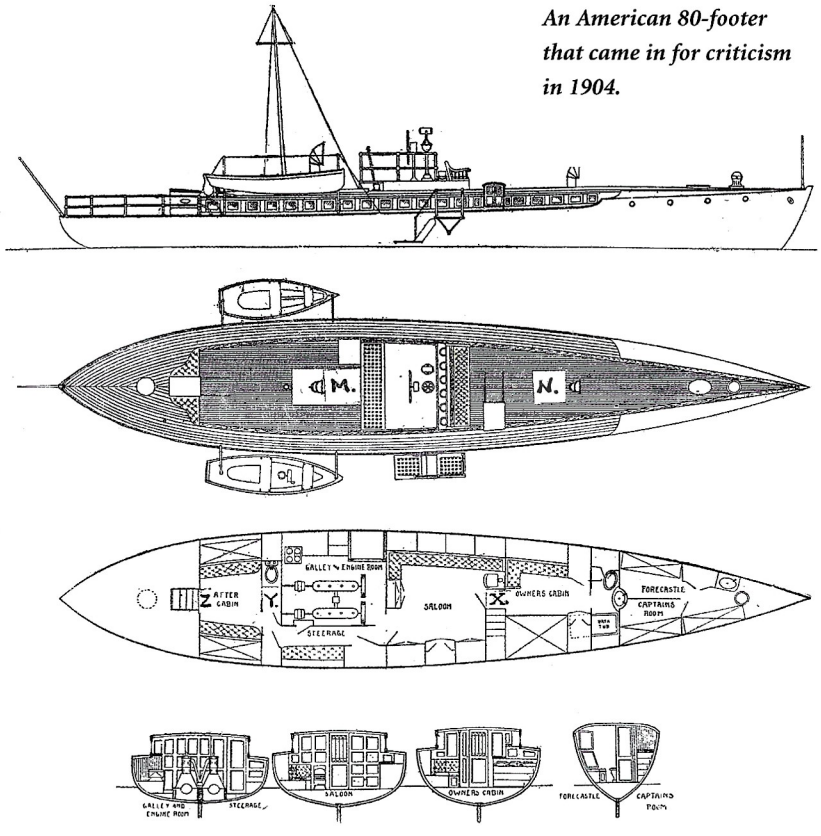
"Fig. 24: another faulty type."





"Fig. 23: an unsuitable type."

An American 80-footer that came in for criticism in 1904.



author was not shy of expressing an opinion.

"Let us just analyse her for a moment," he wrote in the August 18 issue, of a vessel that would have the modern enthusiast of classic boats in raptures. "In the first place, the steersman, who will need to stand with his legs at five o'clock to keep his balance when she rolls, will undoubtedly be able to see clear ahead. But no-one else will: which does not enhance the interest of a run aboard such a boat. A railway journey would be just as exciting." The caption was dismissive: "Fig 23. An unsuitable type."

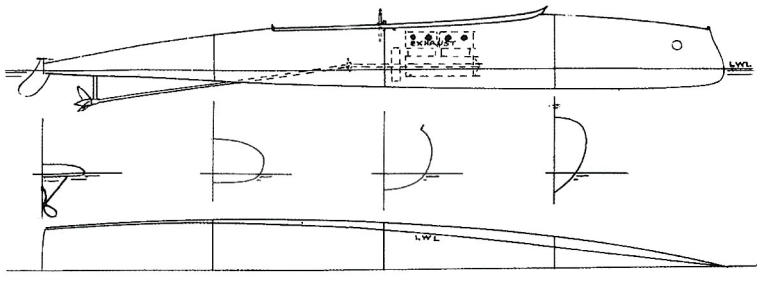
The series also discussed designs for big motor yachts of up to 100ft (30.48m), all from the United States. No British yards were yet building on such a scale – but the Americans could not always be relied upon to get things quite right. "The position of her two 40hp Standard motors – which drive her at a speed of over 13.5 knots – would appear very much open to question," the magazine remarked sniffily on the plans of an 80-footer (24.38m) from Stearns & McKay of Marblehead, Massachusetts, which showed the engines just aft of midships, between the saloon and aft cabin, at the widest point of the hull. This would never do: *The Motor Boat* felt that the propeller shafts would be at too steep an angle. Far better to place the engines well forward, "at the point marked 'x', or even in the space marked off as the owner's cabin". Although the propeller shafts would then have been about 40ft (12.19m) long, their angle would indeed be much reduced. And this change would bring another, unstated benefit, which perhaps a mere American could not be expected to understand. Installing the engines next to the paid hand's cabin would keep both engines and paid hand safely segregated from the owner and his guests – neatly restoring

the Edwardian Englishman's sense of order.

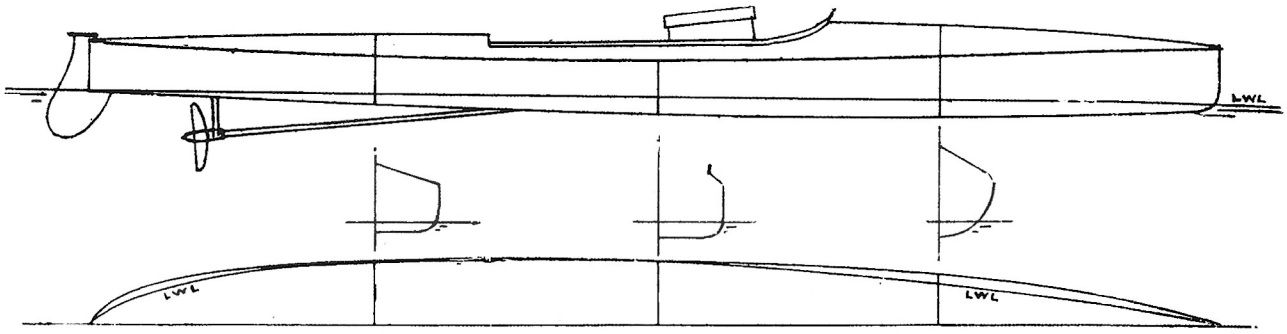
The new motor boating terminology in those earliest days was still a matter for debate and negotiation. The French were felt to have hit the nail on the head with their phrase *embarcation de promenade*, which, the magazine thought, was "far better than our somewhat vague term 'river launch' or still more vague 'river cruiser'."

Apart from the very largest American motor yachts, many of which were probably paper projects in any case, virtually all the 'Types of Power Craft' described by the magazine's acerbic correspondent would look to modern eyes like classic river launches. Even racing boats of the time shared their narrow beam and slippery, rounded sections, because that was believed to be the way to ensure efficiency and speed. But things were changing. Racing was the cutting edge, and a feature entitled 'Developments in Motor Boat Design' in January 1905 acknowledged the role of Selwyn Edge's flat-bottomed racer *Napier I* in kick-starting the revolution that was under way.

Edge got the credit for the basic principle, but it was Linton Hope who got the job of making it work. An established yacht designer with a reputation for fast, lightweight structures, Hope took the new ideas on board and made a name for himself as one of the earliest English pioneers of the hydroplane. The principles were only vaguely understood. "The greatest objection to a boat with such an extreme flat bottom as that of *Napier I* is that the bow sections must of necessity be more or less U-shaped," stated the article, in the issue of January 5, 1905. "Such sections of the forebody tend to make the bow lift when the boat is driven at any great speed." In fact, as the piece almost goes on to say, lack of lift from *Napier's*



Trèfle à Quatre ***of 1904: 30ft (9.14m), built (and designed) by Seyler, with an 82hp Brasier engine.***



***The lines of the pioneering British racer* Napier.**

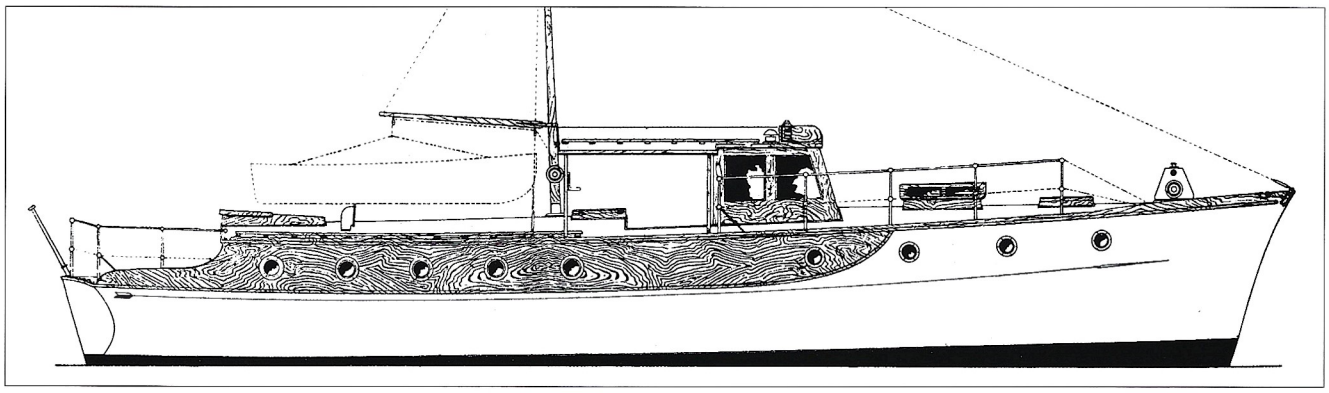
canoe stern is more likely to have been the main factor behind this tendency to wave her nose in the air. The broad transom stern of *Trèfle à Quatre* seemed to be a definite development – even if the magazine was rather vague about who was responsible.

Other designers caught on fast, and *The Motor Boat* did its best to keep up with developments. William Henry Fauber himself, the Franco-American hydroplane pioneer, contributed a technical article in 1909 about his recent towing trials with stepped-hull models. "Constructors are keenly alive to the situation," he wrote, "and appreciate that a type of craft in which 125hp can compete in speed with boats having the advantage of 600hp to 800hp, of double the length, and increased propeller efficiency, are possibilities that must be reckoned with.

William Henry Fauber's towing trials, described in an article of 1909.

"The advantages of the hydroplane principle in speed are conceded and proven; the problem is to perfect the type so that it will meet at least the average conditions of sea." Fauber was very influential. The great Saunders-built double-Harmsworth winner *Maple Leaf IV* was built to a Fauber patent.

While racing boats were seeing the most radical developments in design, at the other end of the speed spectrum – and the other end of the kingdom – another, quieter, design revolution was taking place. Glasgow naval architects led by John McCallum, and Scottish boatyards like Dickies of Tarbert, Robertsons in the Holy Loch and McAlisters at Dumbarton, were busy making Scotland the birthplace of the British motor yacht. *The Motor Boat's* Scottish correspondent was kept busy most weeks reporting on new designs, and would often supply several updates on the same vessel as work progressed in the yard.



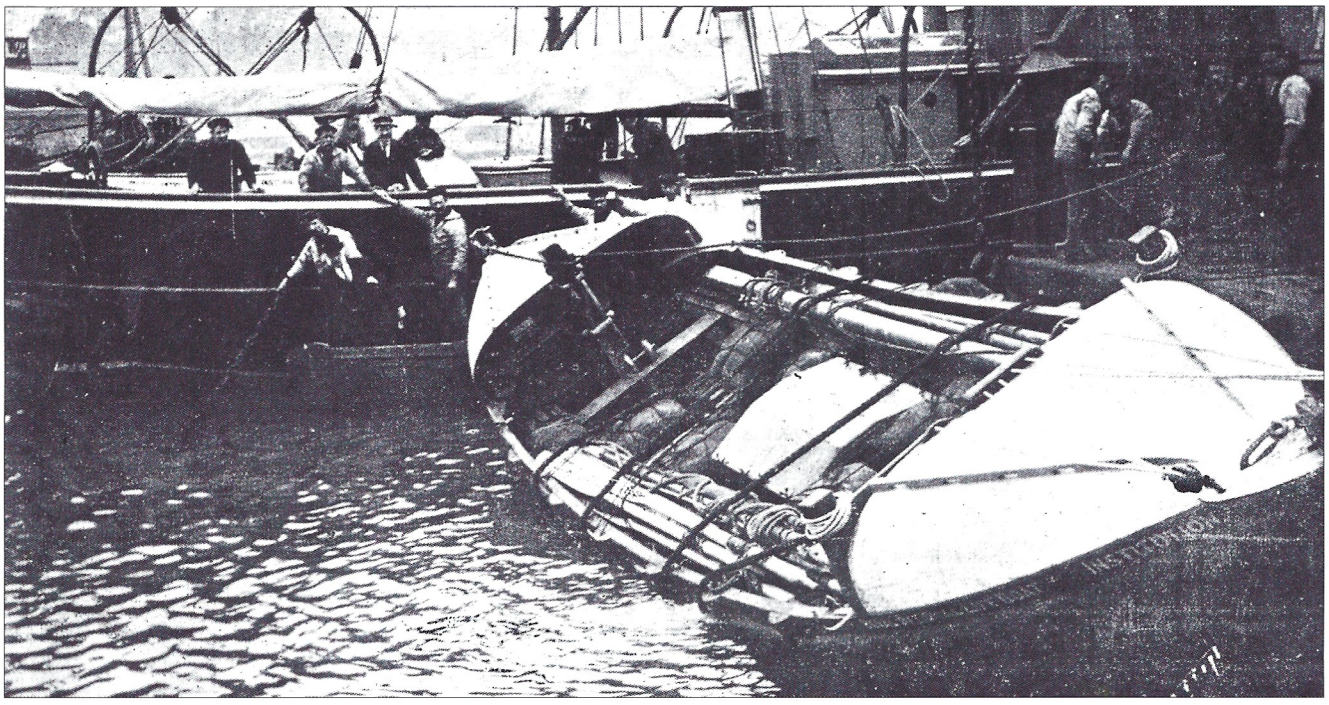
Silver's 40ft Blue Bird cruiser class.

One typical example was *Kami no Michi*, built at Dickies in 1911, an elegant 52-footer (15.85m) with an upright centre wheelhouse and a single petrol-paraffin motor. In true Edwardian fashion this was mounted well forward, just aft of the skipper's cuddy, keeping them both well clear of the owner's accommodation – and her prop shaft was over 25ft (7.62m) long. She featured again in the magazine 75 years later, and was praised again as a classic of her type.

The Gareloch yard of James A. Silver is now perhaps the best-known of the era, but it took time to find its stride. John Bain joined the firm as yard manager in 1916, and after taking over as managing director showed himself to be a designer of rare ability, as well as something of a visionary when it came to the economics of production-line boatbuilding. His boats, from the budget-priced Silverettes to the stately Ormidale class motor yachts, were to feature regularly in *The Motor Boat* for years to come. He knew how to manage publicity, too. In 1929 two Brown Owls, a 42 and a 52 (12.82 and 15.85m), were delivered by sea to the London agent via the Forth & Clyde Canal and the East Coast. Bain skippered one, and Capt O. M. Watts of chandlery fame was the navigator, who wrote an account of the voyage for the magazine. "Surely this is advancement when designers will actually go a voyage in their own vessels!" he joked.

Noting the historic importance of Silvers, and the significance of Bain's designs to current classic boat enthusiasts, *Motor Boat & Yachting* has featured several restored Silver motor yachts in recent years, and published a historical feature about the yard in 1986. More recently still, in 2001, the old Silvers yard featured again in the magazine, when the circumnavigator David

Kami no Michi ***of 1911, pictured in 1986.***



The RNLI's first motor lifeboat undergoes self-righting trials in 1904.

Cowper engaged the then tenants, New Century Marine, to build his Arctic exploration vessel *Polar Bound.* She was designed by another local firm, the naval architects Murray, Cormack Associates.

The best-known Glasgow design office in the early days of the century was that of G. L. Watson, already a long-established practice, famous for royal yachts and America's Cup challengers but also perfectly at home drafting handsome motor yachts and motor sailers. Since 1887 the firm had been engaged by the RNLI in lifeboat design, and in the summer of *The Motor Boat's* launch, experiments were under way with the first motor lifeboat for the Institution. It was the old Folkestone boat, a 38ft 12-oared double-ender, which had been fitted at Guy's yard with a 10hp, two-cylinder petrol engine. Sea trials in April 1904 were successful: "She could be driven fairly well against a sea by means of the motor alone; but when it was used to assist the sails the true use of the motor as an auxiliary became apparent, and the boat would work to windward in a way previously unobtainable."

Next, then as now, came self-righting trials, which *The Motor Boat* attended in Folkestone harbour. "She must not lose her self-righting qualities owing to the weight and position of the machinery," the magazine pointed out in the August 25 issue – adding that the engine should also stop automatically when the boat heeled beyond a certain point, and the engine should of course always be willing to start, even after long periods of idleness. The trials were a complete success, and the boat was placed on station for an experimental period at nearby Newhaven. Also in attendance were the chief inspector of lifeboats, "together with Mr Barnett, representing Mr G. L. Watson, who was unfortunately prevented from attending owing to ill-health." George Watson died later that year. Many RNLI lifeboat designs were named after him, and after his successor at the head of the firm, James Barnett.

Watsons produced many other successful designs for the RNLI, and the magazine has remained a staunch supporter of the Institution, reporting on new types as they emerged and frequently attending sea trials. Erroll Bruce had even served as a crewman on the Longhope boat in Scotland before joining the magazine as editor (1962-67), and wrote movingly in the magazine after the boat and all eight crew were lost on service in March 1969.

The realities of professional life at sea, and the contrasting qualities of boats built for pleasure

Nothing new under the sun

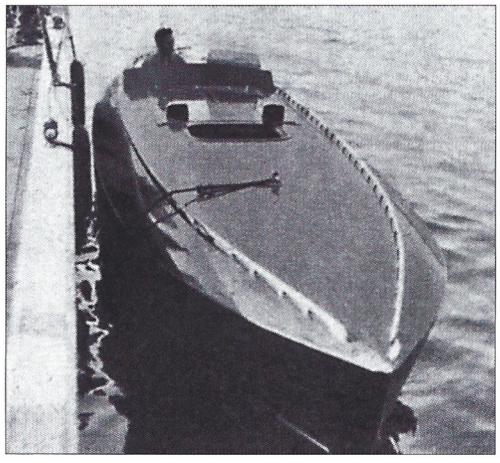
Surface propellers, long the preserve of racing boats, but quite the latest thing for sports cruisers in the 21st century, were first discussed in *The Motor Boat* in 1916 – "although we believe a patent for this was taken out by Thornycrofts many years ago, probably differing, however, in detail."

The boat which inspired this interest was a Sea Sled, a genuinely innovative design by a Canadian, William Hickman. Nowadays we would describe its shape as a 'cathedral' hull, similar to Dell Quay Dories and the smaller Boston Whalers, but there was one important difference: the inverted-vee shaped tunnel between the two sponsons flattened out and descended as it ran aft, and finished up flat along the bottom edge of the transom. This formed a cavity under the boat, open only at the bow, which was designed to trap air and create lift.

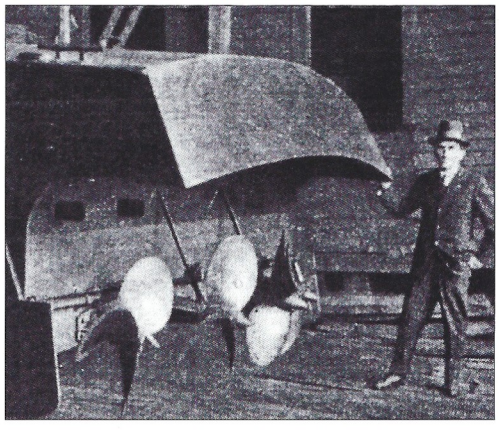
As if this entirely new hull shape were not radical enough, the Sea Sled's twin propeller shafts – the 26-footer illustrated was fitted with two 100hp motors – emerged at the base of the transom, keeping half the propeller disc out of the water when the boat was on the plane – which, as modern enthusiasts of Arneson, Levi and Buzzi drives will know, dramatically reduces appendage drag. It was certainly efficient. Hickman's 26-footer was capable of 30 knots, and *The Motor Boat* was also intrigued by its load-carrying potential, for the boat was beamy by the standards of the day. The idea had not escaped Hickman either. "Some of the largest boats yet built are craft of 48ft (14.63m) in length, with a beam of 11ft (3.35m), built with steel frames and fitted with engines of 750hp, which give them a speed of 40 miles per hour," the magazine reported. These boats were built for the US Navy, but Hickman had yet more ambitious plans. "A design has been prepared for an 80ft (24.38m) boat with 5,500hp to carry torpedoes and guns at an estimated speed of 75mph, whilst other designs have been made for a ferry boat to carry 300 passengers at 40mph."

A later surface-propeller design that intrigued the magazine was a racer owned by another Canadian, Harry Greening. *Rainbow IV*, was a bizarre-looking double-ender, almost as pointed aft as forward, and completely flat-bottomed. "Specially interesting is the fact that a surface propeller is used, and the boss is above water when the boat is running, as is also the shaft, the object being, of course, to reduce frictional resistance. When the boat is running at top speed she is actually lower at the bows than when at rest, and rides on the water as if it were ice, drawing probably less than 1in (2.54cm) of water."

Rainbow IV won the 1924 Gold Cup in Detroit, only to be disqualified after a protest. In one of powerboat racing's regular bouts of political idiocy, hydroplanes were banned at that time, to counter – it was assumed – the dominance of Gar Wood. In spite of its odd planform, Greening's boat was clearly a hydroplane.



The flat-bottomed, double-ended American racer* Rainbow IV *of 1924.



The Canadian designer William Hickman with his 26ft Sea Sled.

The magazine has always admired Nelsons. Lord Montagu's 35-footer (10.67m) was featured in 1984.

and boats built to earn a living, have always been capable of stirring the magazine's curiosity. Nowhere are these two strands brought together more appositely than in the Nelson marque, which in its various guises has probably enjoyed rather more than its fair share of column inches, ever since Cdr Peter Thornycroft's first 40-footer (12.19m) emerged from the Bembridge yard of Keith, Nelson & Co in 1964.

Local legend had it that the hull of an earlier wooden launch had hogged before completion and gone on to prove somewhat faster than expected, but however Thornycroft arrived at his fast yet seakindly semi-displacement shape, it proved a world-beater, and formed the basis of thousands of working craft worldwide. Recognising that history had been made in those Bembridge sheds, the magazine told the full Nelson story in February 1991.

History was also made by Thornycroft's contemporaries, the designers of the 1950s and 60s who translated and developed the motor cruiser principle into the fibreglass era. But theirs is a history without an end, their story less easy to tell, because it's still going on. In boatyards everywhere the work begun by men like Mudie, Bennett and their US and European rivals is continuing, led by the likes of Olesinski, Shead and Tucker in the UK, and Righini and De Simoni in Italy. In every issue the magazine examines, evaluates and, where necessary, criticises their work. And unlike 100 years ago, the modern reader is never left thinking "it would be interesting to know who the designer really is".

Cooper, Selman and Du Cane

The careers of three of the most significant British designers of the first half of the century were curiously intertwined.

Fred Cooper was apprenticed to Saunders in Cowes, and in 1926 Hubert Scott-Paine commissioned the yard to design and build him a 30ft stepped-hull one-design that he patriotically hoped would stem the tide of American imports and help rebuild British raceboat expertise. Fitted with a single 240hp engine and designed to be built and raced cheaply, *Puma* was capable of 40 knots.

Scott-Paine soon afterwards bought the Hythe yard that was to become his British Power Boat Co, and head-hunted Cooper to work for him. After first designing a successful 23ft hull, he set to work in 1929 on *Miss England*, built by BPB for its owner, Castrol millionaire Lord Wakefield, and driven by Sir Henry Segrave. The boat was a great success, and dealt Gar Wood his first defeat in nine years when Segrave took the Duke of York's Trophy in Miami. However, irked by Scott-Paine's repeated boasts to have designed the boat himself, Cooper left later that year and took the client with him: his famous record-breaker *Miss England II* was built by Saunders, and his even more successful *Miss England III* by Thornycroft.

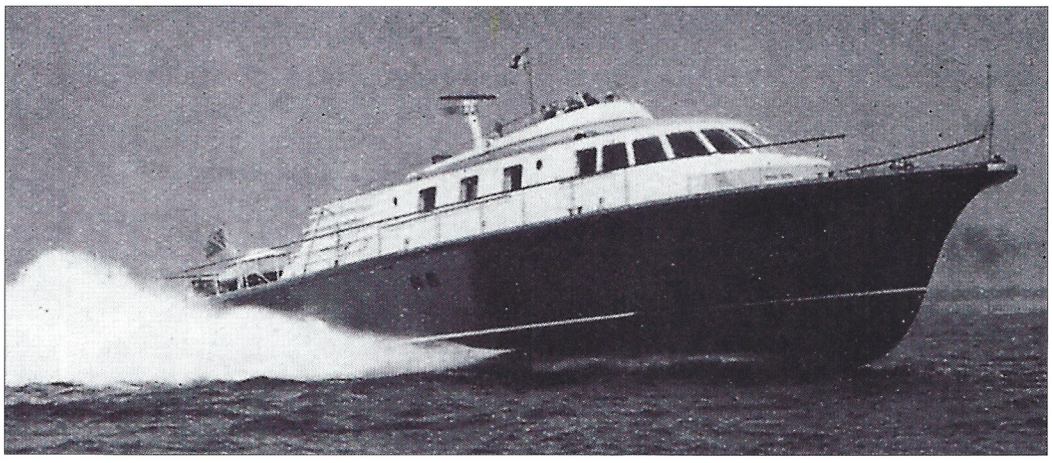
Cooper's track record ensured that Sir Malcolm Campbell sought him out for his Saunders-built *Bluebird K3* in 1937, which raised the world water speed record to over 130mph. But after some preliminary design work by Cooper on its successor, the *Bluebird K4* project was transferred to Vospers and their chief designer, Peter du Cane.

Vospers were not especially known for high-speed craft at the time, but in Du Cane they had a brilliant technical director who had recently designed the prototype MTB *102*, his company's answer to Scott-Paine's 60-footers. Many more excellent designs throughout WW2 firmly established the company's reputation, and when in 1952 Du Cane was asked to design a new

jet-powered record-breaker for John Cobb, he was already working on the gas-turbine successors to the wartime MTBs, which reached their ultimate expression in the Brave class boats, and Stavros Niarchos's 102ft (31.10m), 50-knot Brave class motor yacht *Mercury* of 1961.

After years of basing most of his company's designs on Fred Cooper's work, in 1936 Scott-Paine hired George Selman as BPB's chief designer, a propeller expert who had worked on Scott-Paine's *Miss Britain III* a few years before. The rivalry between Vospers and British Power Boats in the late 30s, and throughout the war, was intense. Selman's 70ft BPB prototype *PV70* of 1938 proved to be a superb sea boat, and led Selman in 1941 to design the improved 71ft 6in (21.79m) class, acknowledged by experts as the best 'short boat' of the war. Numerous other types were developed by Selman and his team in the most efficient and modern boatyard in the country. He was working on a 111ft (33.83) long-range rescue craft for the Pacific when the war ended. It was cancelled. The hull ended its days as a houseboat in Poole Harbour.

The Selman-designed 71ft 6in gunboat* MGB 81, *privately restored in 2002.



The Vosper motor yacht* Mercury, *designed by Peter du Cane.