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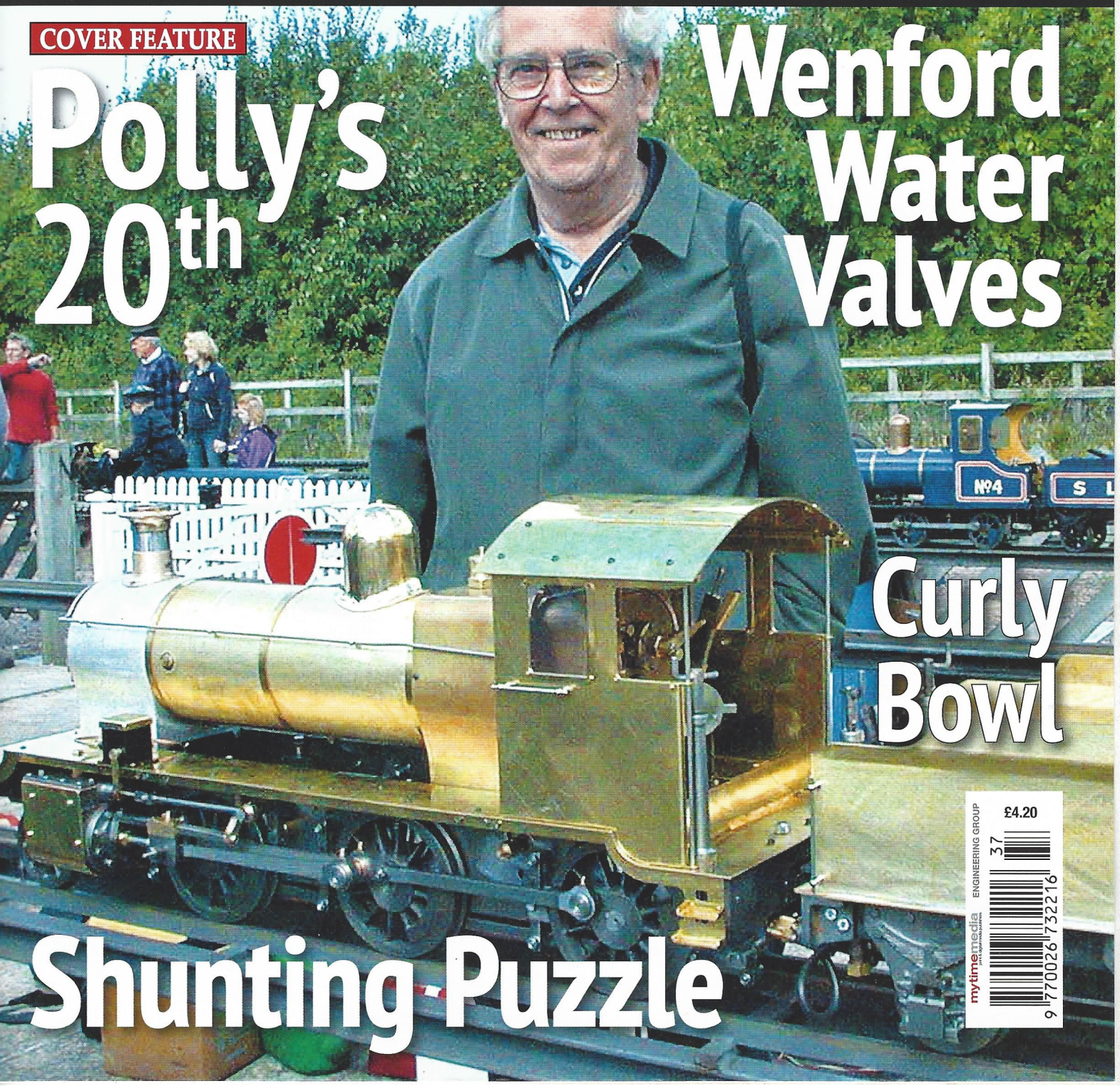

COVER FEATURE

Polly's 20th

Wenford Water Valves

Curly Bowl

Shunting Puzzle

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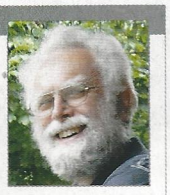
20 Years of Polly
The Inside Story



Pete Thomas looks back over 20 very productive years.

Polly Model Engineering is a well known name in the hobby, renowned not just for the Polly range of kit built locomotives, but also as a major supplier of all the bits and pieces to the model engineering hobby. Polly also supplies a wide range of drawings, castings and parts for fine scale models. Yet Polly is a relatively new company having been founded just 20 years ago.

Team photo: the Polly team!

How time flies, it doesn't seem long ago that Pete met Andy Clarke in his garage in 1999, soon after Andy had acquired the rights to the Polly locomotive range and all the jigs and fixtures. With Pete's purchase of some parts and drawings for a riding truck, neither realised how things would develop. With his toolmaker background, Andy set up a workshop and re-started production of the models which John Clark had so successfully designed and made some years earlier.

As Andy rebuilt the reputation, and the popularity of the models grew, it soon became apparent that manually controlled machines and sub-contractors constrained the business and did not give the control necessary in order to produce quality models in a timely manner. Accordingly Andy explored the possibility of acquiring a CNC lathe. The acquisition of a brand new Colchester Tornado CNC lathe might not have been the expectation of most observers, but it immediately provided an invaluable capability to the company and still does sterling work.

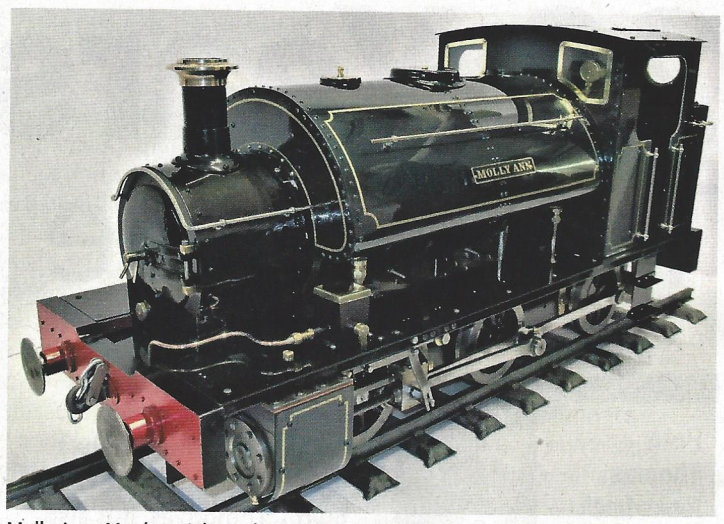
Pete acquired a Bridgeport CNC mill and placed it in the workshop alongside the CNC lathe; this gave the capability to produce, more efficiently and accurately, the major parts needed for Polly locomotives. Andy's skill in using more conventional machines, especially the old capstan lathe, made the outfit pretty much self-sufficient.

Production of tanks and tenders was still very labour intensive but Pete had in his home workshop a CNC flatbed machine from the company, Pacer, which he had founded some years earlier. Having done work for his own models, Pete showed how this machine could take the donkey work out of the 'brass origami' of making tanks, etc. Pete's machine could also be quite useful when it came to pattern making.

With the manufacture of the existing range of Polly I – IV established, thoughts turned to updating the range. John had done a great job in designing the Polly locomotives which were easy to assemble and very forgiving for the novice builder/driver. Geerlig Voogd, a Polly enthusiast and friend of Andy, came up with the

JGSC tribute. An exhibition display at the Midlands Engineering Exhibition as a tribute to John Clark, designer of the original Polly locomotives.

John Clark POLLY 6. John Clark in 2005 showing his enthusiastic support for the continuing development of Polly locomotives, seen here with the Polly 6 prototype.



Molly Ann. *Matthew Johnson's very attractive 0-6-0 saddle tank; a recent addition to the Polly locomotive range.*

concept design for Polly V, a development with slightly larger wheels and a larger boiler, giving the appearance more of a standard gauge model. Andy and Pete 'production engineered' Geerlig's prototype and built the model which is so often seen out and about on the tracks in the UK and further afield.

With the performance of the Polly V prototype proven, including a visit to Sinsheim in Germany when the model was just a few weeks old, kit production started in 2002. Feedback was sought from early builders in order that production and assembly could be refined. Polly V remains a popular model in the range and each year the local club asks if they can use it for their Santa Specials!

With kit production established, the opportunity arose to acquire the model engineers' supplies business of Bruce and Gerry Davey. Bruce, himself a well-known enthusiast, had been in the forefront of promoting the hobby. At that time, kit locomotives were frowned upon in many circles, not being the 'proper way to build an engine'. Derogatory terms such as 'cheque book model engineering' and 'cheating', meant it was generally wise to check with a club before turning up at the track with one of these models.

On acquiring Bruce Engineering, though, Polly successfully moved into the mainstream. Jayne Clarke joined Andy and Pete as founder directors of the new limited company, Polly Model Engineering Limited. Jayne assumed control of day to day sales and despite the steep learning curve moving from childcare into engineering, quickly gained an understanding of the requirements within the hobby.

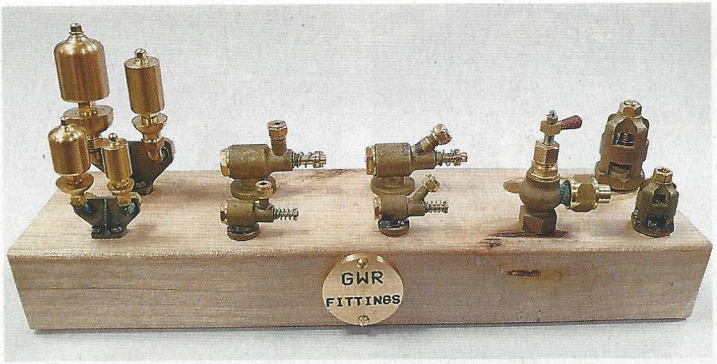
An enquiry from a customer, Neville Evans, offered Pete the opportunity to develop his real interest - that of fine scale locomotive models. Working with Neville, the design of GWR *Penrhos Grange* emerged with Neville producing the design and Pete producing patterns for castings. Considerable innovation was employed and manufacture introduced the widespread use of lost wax castings and laser cut and CNC machined parts to facilitate the build of a fine scale model.

Innovation within the field of kit locomotive manufacture and the fine scale locomotive parts was recognised as Pete was frequently invited to give lectures to model engineering societies, exhibition audiences and to the London based Society of Model and Experimental Engineers. Pete's background as a Professor of Industrial Computing gave him the insight into CAD and 3D modelling, which - though at the time in its infancy - had a useful part to play in model engineering.

As business grew, more machinery was added to the workshop, a team of engineers was assembled and it was not long before the company

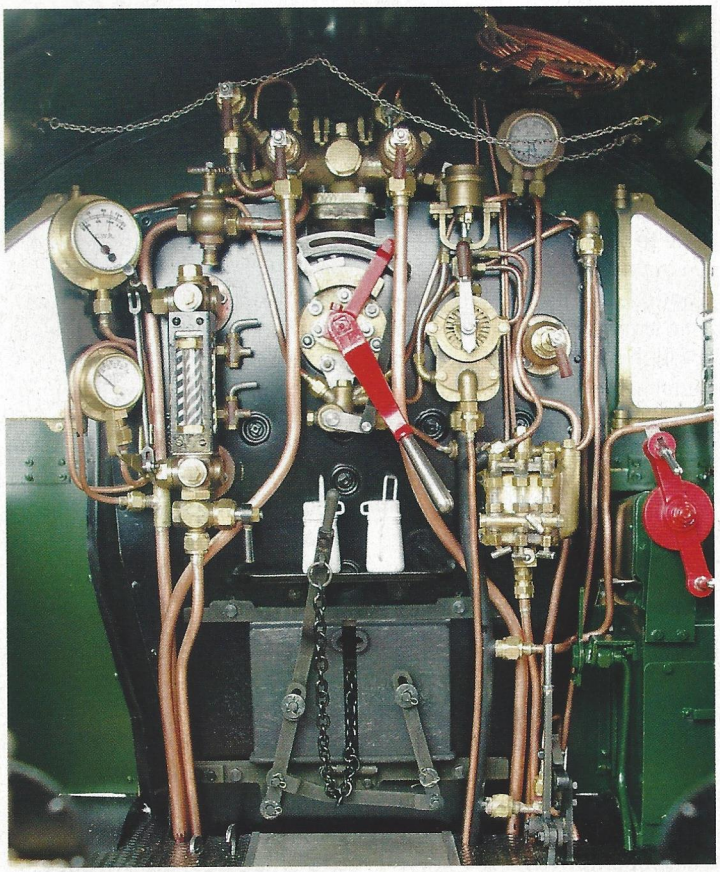
Matt Tornado. Matthew Andrews, an apprentice trained at Polly, confidently setting the tools in a Tornado CNC lathe.

Star. A major investment in the future of model engineering added to the well equipped workshop. A 7-axis sliding head lathe, capable of accurately producing the most intricate parts.

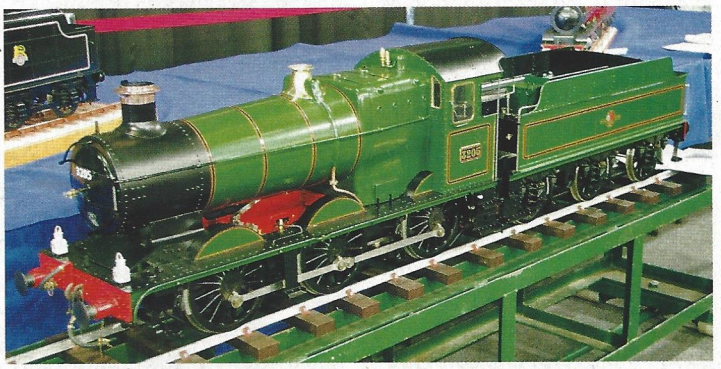


GWR bits: examples of some of the fiddly bits produced in-house.

LMS/BR safety valves: example of the precision parts which can be produced using the Star machine.



Backhead cropped. The detailed backhead of Pete's 7¼ inch gauge Collett Goods.



Collett Goods. Pete's finely detailed Collett Goods on display at Doncaster where it was awarded a 1st Certificate.

moved to larger workshop premises in an old lace mill.

With the success of Polly V, and following in the spirit of earlier Polly locomotives having both tank and tender locomotive variants, the development of Polly VI was inevitable. This produced a larger tender locomotive which, whilst still a freelance design, looked typical of the bigger engines which would have been found at the front of express trains or excursion trains of yesteryear. The beauty of Polly locomotives is the scope they give for customisation and many Polly VI's have been built to represent locomotives from mainstream British railway companies and some 'might have been' foreign locomotives.

Geerlig exercised his design imagination further and came up with an 0-4-0 Koppel outline locomotive. Whilst still based on a majority of standard Polly parts, this new design was a departure for Polly, closely representing the outline of a real life locomotive and having a very different valve gear to the rugged Stevenson valve gear of the other Polly engines. The brass origami manufacturing techniques of Polly lent themselves well to the realisation of the enlarged cab and characteristic tanks of the Koppel. The 0-4-0 tank, christened *Caroline*, was soon followed by big sister 0-6-0 tank, *Suzanne*. Both these locomotives are popular, especially with garden railway enthusiasts where the enlarged cabs are well suited to ground level operation and the 0-4-0 is particularly suited to very sharp curves.

Alongside the development of the Polly kit locomotives, the finescale model range of drawings, parts and castings grew. It was never our intention to supply old designs, which are catered for adequately by our fellow traders; instead we wanted to introduce new designs, taking advantage of technology and available resources.

Neville's Grange was quickly followed by his Schools locomotive. In developing this three cylinder locomotive, we were fortunate to have Derek Tulley working with us, building a prototype model which many will have seen at exhibitions as work in progress. Neville had already designed and built the Highland locomotives, *Loch* and the Jones Goods, and these were followed by his last locomotive, GWR 0-4-2 tank *Fair Rosamund* where, again, Derek helped in building a prototype model.

Working with another well known designer, Pete Rich, we were pleased to be able to make further GWR locomotive drawings and parts widely available. Pete's drawings with a wealth of prototypical detail are works of art but the level of detail is not for the novice. Increasingly it could be seen that Polly spanned the skill range, with kit designs to suit the inexperienced and fine scale designs for the most discerning modellers.

As we started to make fine scale bits for 5 inch gauge

locomotives, our work came to the attention of Dave Aitken, a professional 7¼ inch gauge model builder. We made some parts for Dave and from that friendship developed the collaboration for Dave and Pete to design and build the 7¼ inch gauge GWR Collett Goods 0-6-0 tender locomotive. This award winning, finescale 7¼ inch gauge model has been serialised in *EIM* magazine and drawings, castings and parts are available from Polly. Though a very long way from its kit built 5 inch gauge cousins, there are common features. The precision machine tools of the Polly workshop are used to make parts, should builders choose to use them. Although far more complex, with some 10,000 rivet holes in the tender tank alone, the platework owes much to the brass origami origins of making tanks for Polly locomotives.

Our work with Neville and Dave attracted the attention of other designers, including John Smith with his 7¼ inch gauge 1400 and Nick Feast with his 3½ inch gauge SR Q1. Derek Brown has now entrusted to us the supply of his drawings and castings, as has Ken Swan. Andy, together with colleagues, Brian and Walter, has worked to complete Ken's final design – the 7¼ inch narrow gauge 0-6-0 Koppel. Prototype models have been successfully completed with drawings and parts now available.

Pete had long thought that the 0-4-0 Polly tank chassis lent itself to a Polly saddle tank and the opportunity to realise this came about with his son, Matthew having a little time to spare (and a lifelong enthusiasm for small saddle tanks!). A visit to the Didcot Railway Centre for inspiration ensued and very soon *Trojan*, based on the outline of the Alexandra Docks Railway locomotive was designed. Matt and partner, Julia can frequently be seen out with *Trojan* at tracks around the country.

In true Polly style, the 0-4-0 saddle tank inspired others and before long, Polly produced the 0-6-0 saddle tank, *Molly Ann*. Typical of so many industrial tanks, Matt Johnson's locomotive continues the Polly principle of producing attractive but simple locomotive models of realistic appearance. *Molly Ann* still embodies the proven mechanics of earlier Polly locomotives.

Whilst the in-house Polly developments were taking place, Geerlig had not been idle and building on the successful Polly V, Polly introduced the 'Prairie', a 5 inch gauge 2-6-2 large tank engine, with strong GWR styling.

Alongside the success of the kit built and fine scale models, the supplies business continued to grow, as did the team to support it all. By 2017 the Polly team had grown to 10 people and popularity of products meant the workshop and office were always busy.

Looking to the future, Polly had the foresight to engage an apprentice and Matthew Andrews completed his studies to become a most valued member of the team. With a strong team and demand for their products, the board took the decision for a major investment in innovative machinery; a 7-axis sliding head lathe from the Japanese Star company. This machine has the potential to make many of the small, complex parts and fittings which are otherwise so time consuming to produce.

Unfortunately, in 2017 Andy suffered a serious motorcycle accident just as the new machine was to be delivered. Andy's accident was a major set-back for the company and in the aftermath efforts had to be expended to support day to day customer requirements rather than product development. Fortunately, the commitment of the workshop team, strongly supported by Lucy and Gemma in the office - and inspired by Andy's determination, despite his disability - means that things are again going forward.

Looking back on 20 years, Polly has made a big impact on the model engineering hobby. The kit built locomotives, which might have been the unwelcome 'cheats' of yesteryear, are frequently the mainstay of many club operations. The innovation of Polly working with designers to produce new locomotive designs and economically produce fine scale parts, facilitating the building of these superb models, has been an inspiration to many. Whilst no new Polly locomotives are due for imminent launch, much has been happening in the workshop with improved manufacturing processes maintaining Polly locomotives at the forefront of quality and performance. Investment in further computer technology, 3D printing, etc means Polly can more effectively produce some of the fine scale parts and the future of model engineering, and Polly Model Engineering in particular, is secure.

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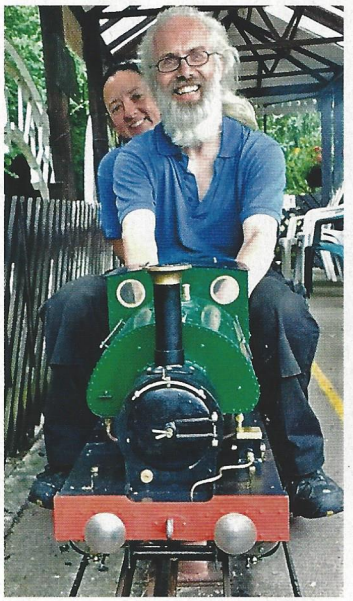

Matt Trojan. Matthew Thomas enjoying driving the Polly Trojan which he developed.

Managing Director, Andy Clark's highlight of the year; a Polly rally where he can still enjoy driving the locomotives he has helped to create.

Involving the family: young Peter (Pete's grandson) proudly displays the Polly 6 prototype which he 'helped' his dad, Simon to build.